Pentameris acinosa (Stapf) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 329 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis acinosa* Stapf, *Dyer, Fl. Cap.* vii. 495 (1899). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Zeyher 4539*, South Africa: Cape: Appelskraal (K; ILT: B, P, SAM). LT designated by ?. ST: *Burchell 7068*, South Africa: Cape: Kampsche Berg (K).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955).

Derivation (Clifford & Bostock 2007): L. *acinus*, berry; *-osa*, abundance. Inflorescence a contracted panicle resembling a bunch of grapes.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, cushion forming or caespitose. Butt sheaths glabrous. Glands absent. Culms 15–30 cm long, 20–200 -noded. Lateral branches ample. Leaves cauline. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs ciliate. Ligule a fringe of hairs. Leaf-blades 4 cm long, 4 mm wide, stiff, eglandular. Leaf-blade surface glabrous. Leaf-blade margins smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 5–15 fertile spikelets. Panicle open, ovate, 2–4 cm long, 1–3 cm wide, bearing few spikelets. Panicle branches eglandular, bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.8–1.2 length of fertile spikelet, eglandular, smooth.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 9–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 9–10 mm long, 1 length of upper glume, membranous, yellow, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 9–10 mm long, 2.2 length of adjacent fertile lemma, membranous, yellow, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 4–4.5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous, hairy on veins. Lemma apex lobed, 2 -fid, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 10–15 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 3–7 mm long, equalling glumes, shorter than principal. Palea surface pubescent.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 4 mm long, brown. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris airoides Nees. *Sem. Hort. Bot. Vratisl.* (1834).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from South Africa.

Recent Synonyms: *Danthonia airoides* Nees, *Fl. Afr. Austr.* 284 (1841). *Pentaschistis airoides* (Nees) Stapf, *Dyer, Fl. Cap.* vii. 511. (1899).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (270, Fig 242), G.E.Gibbs Russell el al, *Grasses of Southern Africa* (1990) (253, Fig 160 as subsp. *airoides*), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (307, Fig 240), C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (523, Fig 102), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (335), K.O.Mallett (ed.), *Flora of Australia*, Vol 44B. *Poaceae* (2004) (28, Fig 4), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002) (as subsp. *airoides*).

Images: F.van Oudtshoorn, *Guide to Grasses of Southern Africa* (1999).

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resembling. Inflorescences resemble those of *Aira*.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Annual or perennial, short-lived, caespitose. Glands raised crateriform. Culms 6–35 cm long, 2–4 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades 3–6 cm long, 1–3 mm wide, flaccid, glandular. Leaf-blade surface hirsute, hairy adaxially, with tubercle-based hairs. Leaf-blade margins smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 30–100 fertile spikelets. Panicle open, ovate, 2–6 cm long, 2–5 cm wide. Panicle branches glabrous in axils or pubescent in axils or bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.75–1.5 length of fertile spikelet, glandular, glabrous or pubescent.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 2.5–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 2.5–5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 2.5–5 mm long, 1.6–2 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume primary vein smooth or scaberulous. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma oblong, 1.5–2.5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface glabrous or villous, hairy all along or at base. Lemma apex lobed, 2 -fid, truncate, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 5–8 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 2–3 mm long, exserted or equalling glumes, shorter than principal.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 0.3–1 mm long, pallid or yellow. Caryopsis with adherent pericarp.

n = 7 (1 ref TROPICOS), or 14 (1 ref TROPICOS), or 28 (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe (*), Africa, Australasia (*).

Region. **Northern Europe** (*).

Country /Province /State. : GB Aliens (Ryves et al). **Southern Africa**. Namibia, Free State, Lesotho, Northern Cape, Western Cape, Eastern Cape. **Australia** (*). Western Australia (*), South Australia (*), New South Wales (*), Victoria (*).

Eremean, South-West. Southern. Tablelands, Western Slopes, Western Plains.

Pentameris alticola (H.P. Linder) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 330 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis alticola* H.P. Linder, *Contrib. Bolus Herb.,* 12: 79 (1990). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *Linder 4486*, 20 Nov 1987, South Africa: Cape: Ceres, Milner Vlakte in the Hex River Mountains, 3319AD (MO).

Illustrations (Journals): *Contrib. of the Bolus Herbarium* No. 12 (1990) (80).

Derivation (Clifford & Bostock 2007): L. *altus*, lofty; -*cola*, dweller. Grows at high altitudes.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, short-lived, cushion forming. Butt sheaths light brown, glabrous. Glands absent. Culms geniculately ascending, 10–30 cm long, 3–5 -noded. Lateral branches sparse. Leaves mostly basal. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs ciliate. Ligule a fringe of hairs. Leaf-blades curled, filiform, convolute, 3–8 cm long, 0.2–0.5 mm wide, firm or flaccid, eglandular. Leaf-blade surface pilose, hairy abaxially, with tubercle-based hairs. Leaf-blade margins smooth. Leaf-blade apex obtuse or acute.

Inflorescence. Inflorescence a panicle, comprising 3–20 fertile spikelets. Panicle open, ovate, 1.5–3 cm long, 1–2 cm wide, bearing few spikelets. Panicle branches eglandular, bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1.5 length of fertile spikelet, eglandular, smooth or scaberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile.

Spikelets cuneate, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 4–6 mm long, 1 length of upper glume, membranous, light brown, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 4–6 mm long, 1.6–2 length of adjacent fertile lemma, membranous, light brown, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 2.5–3 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous, hairy at base. Lemma margins eciliate or ciliate, hairy at base. Lemma apex lobed, 2 -fid, with lobes 0.3 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 7–10 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 1.5–3 mm long, equalling glumes, shorter than principal.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2 mm long, brown. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris ampla (Nees) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 330 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Eriachne ampla* Nees, *Fl. Afr. Austral. Ill.* 277 (1841). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Drége 1674*, South Africa: Cape: between Paarlberg and Du Toits Kloof (B). ST: *Drége s.n.*, South Africa: Cape: on Simonsberg (BM, K, SAM).

Recent Synonyms: *Pentaschistis ampla* (Nees) McClean, *S. Afr. Journ. Sc.* 1926, 23: 282 (1926).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (266, Fig 236).

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012)

(*Contrib. from the Bolus Herbarium* No. 12 : 8 (1990)).

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths herbaceous, pallid, glossy, glabrous, persistent and investing base of culm. Glands elongated. Culms 40–70 cm long, 3–5 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheath oral hairs lacking or ciliate. Ligule a fringe of hairs. Leaf-blades 30 cm long, 1–6 mm wide, flaccid, glandular. Leaf-blade surface glabrous or pilose, hairy adaxially. Leaf-blade margins smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 100 fertile spikelets. Panicle open, ovate, 7–17 cm long, 6–17 cm wide. Panicle branches glabrous in axils or pubescent in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1.5 length of fertile spikelet, glandular, smooth or scaberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 3.4–4.6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 3.4–4.6 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface smooth or asperulous, rough above. Lower glume apex acute or acuminate. Upper glume elliptic, 3.4–4.6 mm long, 1.5 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface smooth or asperulous, rough above. Upper glume apex acute or acuminate.

Florets. Fertile lemma oblong, 2–3 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma midvein eciliate or ciliate. Lemma surface glabrous. Lemma margins eciliate or ciliate. Lemma apex entire or dentate, 3 -fid, muticous. Palea surface glabrous or pilose, hairy on back.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 1.5–2.2 mm long, brown. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Northern Cape (?), Western Cape, Eastern Cape.

Pentameris andringitrensis (A. Camus) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 330 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Madagascar. **Basionym or Replaced Name**: *Pentaschistis andringitrensis* A.Camus, *Bull. Soc. Bot. France,* 74: 689 (1928). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Perrier de la Bathie 10832*, Madagascar: massif d'Andringitra (P). LT designated by Linder & Ellis, Contr. Bolus Herb. 12: 104 (1990). ST: *Humbert 3919*, Madagascar (B, P).

Illustrations: None found.

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012)
(*Contrib. from the Bolus Herbarium* No. 12 : 16 (1990)).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Andringitra, Madagascar.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths glabrous. Glands absent. Culms 35–50 cm long, 10–30 -noded. Lateral branches lacking. Leaves cauline. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades 7 cm long, 2.5 mm wide, stiff, eglandular. Leaf-blade surface glabrous. Leaf-blade margins smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 60 fertile spikelets. Panicle open, ovate, 10–15 cm long, 8–10 cm wide. Panicle branches eglandular, glabrous in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1.2 length of fertile spikelet, eglandular, smooth.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 8 mm long, 1 length of upper glume, membranous, yellow or purple, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 8 mm long, 1.7 length of adjacent fertile lemma, membranous, yellow or purple, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma oblong, 4.5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous, hairy at base. Lemma apex lobed, 2 -fid, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 8–9 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 0.5 mm long, enclosed by glumes, shorter than principal. Palea surface glabrous.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2.6 mm long, brown. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Pentameris argentea (Stapf) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 330 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis argentea* Stapf, *Dyer, Fl. Cap.* 7: 487 (1899). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Wolley Dod 3342*, South Africa: Cape: Orange Kloof (K; ILT: PRE (fragm. ex K)). LT designated by Linder & Ellis, Contr. Bolus Herb. 12: 68 (1990).

ST: *MacGillivray 406*, South Africa: Cape: Cape Peninsula (K, fragm. PRE).

ST: *Spielhaus 1878*, South Africa: Cape: Table Mtn. (B).

ST: *Milne 247*, South Africa: Cape: Simons Bay (K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. silvery. Glumes or lemmas silvery.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Stolons present. Butt sheaths thickened and forming a bulb, villous, persistent and investing base of culm, with compacted dead sheaths. Glands elongated. Culms 30–80 cm long, 3–5 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades 25 cm long, 2 mm wide, stiff. Leaf-blade surface glabrous. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 200 fertile spikelets. Panicle open, ovate, 5–12 cm long, 2–5 cm wide. Panicle branches glabrous in axils or bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.75 length of fertile spikelet, glandular.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 9–12 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 9–12 mm long, 1 length of upper glume, membranous, pallid or yellow, 1-keeled, 1 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 9–12 mm long, 2.2–2.4 length of adjacent fertile lemma, membranous, pallid or yellow, 1-keeled, 1 -veined. Upper glume primary vein smooth or scaberulous. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 4–5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface glabrous or villous. Lemma apex lobed, 2 -fid, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 15–20 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 8–10 mm long, exserted, shorter than principal. Palea surface pubescent or pilose.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2.7–3 mm long, brown. Caryopsis with adherent pericarp.

n = 21 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris aristidoides (Thunb.) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 330 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Avena aristidoides* Thunb., *Prodr. Pl. Cap.* 22 (1794). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Thunberg 2577*, South Africa: Cape Prov. (UPS).

ST: *Thunberg 2578*, South Africa: Cape Prov. (UPS). Possible type..

Recent Synonyms: *Pentaschistis aristidoides* (Thunb.) Stapf, *Dyer, Fl. Cap.* 7: 485 (1899).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955), C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952) (53, Pl 13).

Derivation (Clifford & Bostock 2007): Gk. *-oides* resembling. With spikelets or inflorescences resembling those of *Aristida*.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, culms solitary. Rhizomes short. Butt sheaths thickened and forming a bulb, light brown, villous. Glands elongated. Culms 50–100 cm long, 3–5 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface or pubescent, outer margin hairy. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades 30 cm long, 5–10 mm wide, flaccid. Leaf-blade surface glabrous or pilose, hairy adaxially. Leaf-blade margins smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 100 fertile spikelets. Panicle open, ovate, 10–20 cm long, 12–15 cm wide. Panicle branches glabrous in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.75–1 length of fertile spikelet, glandular.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 12–20 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 12–20 mm long, 1 length of upper glume, membranous, light brown, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface puberulous. Lower glume apex acuminate. Upper glume elliptic, 12–20 mm long, 2.1–2.8 length of adjacent fertile lemma, membranous, light brown, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface puberulous. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 5.5–7 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous, hairy on veins. Lemma apex lobed, 2 -fid, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 20–25 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 7–11 mm long, exserted or equalling glumes, shorter than principal. Palea surface pubescent, hairy above.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 4.5 mm long, brown or purple. Caryopsis with adherent pericarp.

n = 7 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Northern Cape, Western Cape.

Pentameris aristifolia (Schweickerdt) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 330 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis aristifolia* Schweickerdt, *Fedde Repert.* 43: 89 (1938). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Hutchinson 981*, 18 Oct 1928, South Africa: Cape: Fraserburg Distr.: 40 mi SE of Williston (K).

Illustrations: None found.

Images: F.van Oudtshoorn, *Guide to Grasses of Southern Africa* (1999).

Derivation (Clifford & Bostock 2007): L. *arista*, bristle; *folium*, leaf. The leaf-blades terminate in a fine bristle.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Annual, caespitose. Glands absent. Culms 25 cm long, 4–6 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths hirsute, with tubercle-based hairs. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades 6 cm long, 4 mm wide, flaccid, eglandular. Leaf-blade surface hirsute, with tubercle-based hairs. Leaf-blade margins scabrous. Leaf-blade apex acute, filiform.

Inflorescence. Inflorescence a panicle, comprising 200 fertile spikelets. Panicle open, ovate, 6–10 cm long, 6–8 cm wide. Panicle branches glabrous in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1.5 length of fertile spikelet, eglandular, smooth.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 2.5–3 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 2.5–3 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 2.5–3 mm long, 1.4–1.7 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile florets all alike or with the lowest dissimilar. Lowest fertile lemma muticous or awned. Fertile lemma oblong, 1.8 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous. Lemma apex lobed, 2 -fid, acute, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 5–7 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 1.2–2 mm long, exserted, shorter than principal.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 0.6 mm long, pallid. Caryopsis with adherent pericarp.

n = 14 (2 refS TROPICOS).

Distribution (TDWG). Continent. Europe (*), Africa.

Region. **Northern Europe** (*).

Country /Province /State. : GB Aliens (Ryves et al). **Southern Africa**. Northern Cape.

Pentameris aspera (Thunb.) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 330 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Holcus asper* Thunb., *Prodr. Pl. Cap.* 20 (1794). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Thunberg s.n.*, South Africa: Cape:"crescit in summis lateribus montium urbis (UPS; IT: BM?).

Recent Synonyms: *Pentaschistis aspera* (Thunb.) Stapf, *Dyer, Fl. Cap.*7: 500 (1899).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (263, Fig 231).

Derivation (Clifford & Bostock 2007): L. rough. Plants with rough pedicels or leaf-blades.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, cushion forming. Butt sheaths glabrous. Glands wart-like. Culms 30–60 cm long, 5–20 -noded. Lateral branches sparse. Leaves cauline. Leaf-sheaths pilose, with tubercle-based hairs. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades 4–100 cm long, 3–6 mm wide, flaccid, glandular. Leaf-blade surface ribbed, glabrous to hirsute, hairy abaxially, with tubercle-based hairs. Leaf-blade margins glandular, scaberulous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 100 fertile spikelets. Panicle open, ovate, 3–9 cm long, 1.5–6 cm wide. Panicle branches glabrous in axils or bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1.5 length of fertile spikelet, glandular, scaberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 5–7 mm long, 1 length of upper glume, membranous, yellow, glandular, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface smooth or asperulous. Lower glume apex acute. Upper glume elliptic, 5–7 mm long, 2 length of adjacent fertile lemma, membranous, yellow, glandular, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface smooth or asperulous. Upper glume apex acute.

Florets. Fertile lemma oblong, 2.5–3.5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous. Lemma apex lobed, 2 -fid, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 8–10 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 3 mm long, equalling glumes, shorter than principal. Palea surface pubescent, hairy above.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2.5–2.8 mm long, yellow. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris aurea (Steud.) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 330 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Aira aurea* Steud., *Flora* 12(2): 470 (1829). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *U.J. Ecklon 915*, Dec, South Africa: Cape of Good Hope (P; IT: BM, K, MO-2977487).

Recent Synonyms: *Pentaschistis aurea* (Steud.) McClean, *S. Afr. Journ. Sc.* 23: 282 (1926).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (266, Fig 238 as *P. pilosogluma*).

Derivation (Clifford & Bostock 2007): L. golden-yellow. With spikelets or pedicels or other parts invested in golden-yellow hairs.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths pallid, glossy, glabrous, persistent and investing base of culm. Glands elongated. Culms 30–70 cm long, 3–5 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface or hirsute. Leaf-sheath oral hairs bearded. Ligule a

fringe of hairs. Leaf-blades 35 cm long, 1–5 mm wide, flaccid. Leaf-blade surface glabrous or hirsute, hairy abaxially. Leaf-blade margins smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 100–150 fertile spikelets. Panicle open, ovate, 6–14 cm long, 5–12 cm wide. Panicle branches glabrous in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1.5 length of fertile spikelet, glandular, smooth.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 4–5 mm long, 1 length of upper glume, membranous, yellow or mid-green, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface asperulous, rough at apex. Lower glume apex acute. Upper glume elliptic, 4–5 mm long, 1–1.5 length of adjacent fertile lemma, membranous, yellow or mid-green, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface asperulous, rough at apex. Upper glume apex acute.

Florets. Fertile lemma oblong, 3–5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface glabrous or villous. Lemma apex dentate, 3 -fid, muticous. Palea surface glabrous or villous. Palea apex dentate, 3 -fid.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2–3 mm long, brown. Caryopsis with adherent pericarp.

n = 7 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Free State, Kwazulu-Natal, Lesotho, Western Cape, Eastern Cape.

Pentameris bachmanii (Nees) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 331 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis bachmannii* McClean, *S. African J. Sci.* 23: 282 (1926)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: TYPE: South Africa. Western Cape Prov., nr. Hopefield, *F.E. Bachmann 1017* (holo B!; isotype K!).

Recent Synonyms: *Pentaschistis ecklonii* (Nees) McClean, *S. African J. Sci.* 23: 282 (1926). *Eriachne ecklonii* Nees, *Fl. Afr. Austral. Ill.* 1: 273 (1841).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (268, Fig 239).

Derivation (Clifford & Bostock 2007): in honor of Christian Frederick Ecklon (1795–1868) German-born South African apothecary and plant collector.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths light brown. Glands raised crateriform. Culms 20–30 cm long, 10–20 -noded. Lateral branches ample. Leaves cauline. Leaf-sheath oral hairs lacking. Ligule a fringe of hairs. Leaf-blades convolute, 6 cm long, 2 mm wide, stiff. Leaf-blade surface glabrous. Leaf-blade margins smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 100 fertile spikelets. Panicle spiciform, linear, 2–6 cm long, 0.5–0.7 cm wide. Panicle branches pubescent in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.75 length of fertile spikelet, glandular, scaberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 3–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 3–4 mm long, 1 length of upper glume, membranous, yellow, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface asperulous, rough at apex. Lower glume apex acute. Upper glume elliptic, 3–4 mm long, 1.6 length of adjacent fertile lemma, membranous, yellow, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface asperulous, rough at apex. Upper glume apex acute.

Florets. Fertile lemma oblong, 1.8–2.5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface glabrous. Lemma margins ciliate. Lemma apex entire, truncate, muticous.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 1.5–2 mm long, brown. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris barbata (Nees) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 331 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Danthonia barbata* Nees, *Fl. Afr. Austral. Ill.* 301 (1841). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Ecklon s.n.*, South Africa:Cape: Tulbagh(Tulbagh Waterfall,Winterhoek, (B, fragm.PRE, SAM). LT designated by Linder & Ellis, Contr. Bolus Herb.12:30.1990.. ST: *Ecklon s.n.*, South Africa: Cape: Olifants River.

Recent Synonyms: *Pentaschistis barbata* (Nees) H.P. Linder, *Contrib. Bolus Herb.,* 12: 30 (1990).

Illustrations: None found.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Butt sheaths light brown, glabrous. Glands wart-like. Culms geniculately ascending, 30–60 cm long, 4–10 -noded. Culm-nodes bearded. Lateral branches lacking. Leaves basal and cauline. Leaf-sheaths glabrous on surface or hirsute, with simple hairs or tubercle-based hairs. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades 20 cm long, 12 mm wide, flaccid, glandular. Leaf-blade surface glabrous or hirsute, with simple hairs or tubercle-based hairs. Leaf-blade margins scaberulous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 200 fertile spikelets. Panicle open, ovate, 11 cm long, 7 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1.5 length of fertile spikelet, glandular, puberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 5–6 mm long, 1 length of upper glume, membranous, glandular, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface glabrous or puberulous. Lower glume apex acuminate. Upper glume elliptic, 5–6 mm long, 2.5 length of adjacent fertile lemma, membranous, glandular, 1-keeled, 1 -veined. Upper glume primary vein smooth or scaberulous. Upper glume lateral veins absent. Upper glume surface glabrous or pubescent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 2–2.5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous. Lemma apex lobed, 2 -fid, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 8–11 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 3 mm long, exserted, shorter than principal. Palea surface pubescent, hairy above.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 1.8–2 mm long, yellow. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Northern Cape (?), Western Cape.

Pentameris basutorum (Stapf) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 330 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis basutorum* Stapf, *Kew Bull.* 1914, 26. (1914). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Dieterlen 222*, South Africa: Lesotho: Leribe (K; IT: BM, P, SAM, STE).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of the Basuti people in southern Africa.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths glabrous, persistent and investing base of culm, with compacted dead sheaths. Glands absent. Culms 50–70 cm long, 3 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades filiform, convolute, 60 cm long, 0.5 mm wide, stiff, eglandular. Leaf-blade surface woolly, hairy adaxially. Leaf-blade margins smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 100 fertile spikelets. Panicle contracted, oblong, 12 cm long, 3 cm wide. Panicle branches eglandular, bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.8–1.2 length of fertile spikelet, eglandular, smooth.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 7–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 7–10 mm long, 1 length of upper glume, membranous, yellow, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute or acuminate. Upper glume elliptic, 7–10 mm long, 1.7–2 length of adjacent fertile lemma, membranous, yellow, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acute or acuminate.

Florets. Fertile lemma oblong, 4–5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma midvein without distinctive roughness. Lemma surface villous. Lemma apex lobed, 2 -fid, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 10–20 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 5–6 mm long, exserted, shorter than principal. Palea surface glabrous.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2 mm long, brown. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Free State, Lesotho, Eastern Cape.

Pentameris borussica (K.Schum.) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 331 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from Tanzania. **Basionym or Replaced Name**: *Danthonia borussica* K. Schum., *Pflanzenw. Ost-Afrikas* 5(C): 109 (1895). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Volkens 1368*, Tanzania: Mt. Kilimanjaro (B; IT: BM, K). ST: *Kifinita & Volkens 1859*, Tanzania: Kilimandscharo.

Recent Synonyms: *Pentaschistis borussica* (K.Schum.) Pilger, *Notizbl. Bot. Gart. Berlin,* 9: 517 (1926).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. Borussia, Prussia; -*ica*, belonging to. From a part of East Africa at the time administered by Germany.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths coriaceous, pallid, glossy, glabrous or pubescent or villous. Glands absent, or raised crateriform. Culms 15–75 cm long, 3–5 -noded. Leaves mostly basal. Leaf-sheaths glabrous on surface or hirsute. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades 6–25 cm long, 2–4 mm wide. Leaf-blade surface glabrous or hirsute. Leaf-blade margins glandular, smooth.

Inflorescence. Inflorescence a panicle. Panicle open, oblong or ovate, effuse, 4–12 cm long, 1–15 cm wide. Primary panicle branches ascending or spreading. Panicle branches capillary, glandular, bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, glandular.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension or with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 3.5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 3.5–8 mm long, 1 length of upper glume, membranous, glandular, 1-keeled, 1 -veined. Lower glume

primary vein smooth or scaberulous. Lower glume lateral veins absent. Lower glume apex acute or acuminate. Upper glume elliptic, 3.5–8 mm long, 1.5–2.5 length of adjacent fertile lemma, membranous, glandular, 1-keeled, 1 -veined. Upper glume primary vein smooth or scaberulous. Upper glume lateral veins absent. Upper glume apex acute or acuminate.

Florets. Fertile lemma oblong, 2.2–3 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface glabrous or pubescent. Lemma apex dentate, 2 -fid, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 6–11 mm long overall, with twisted column. Column of lemma awn 2–4 mm long. Lateral lemma awns present, arising on inner edge of lobes, 2–3 mm long, shorter than principal. Palea 1 length of lemma. Rhachilla extension 0–0.05 length of fertile floret.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2–3 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Northeast Tropical Africa**, **East Tropical Africa**. Ethiopia (inc. Eritrea). Kenya, Tanzania, Uganda.

Pentameris calcicola (H.P. Linder) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 331 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis calcicola* H.P. Linder, *Contrib. Bolus Herb.*, 12: 81 (1990). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South Africa: Cape: Bredasdorp, farm wydgelee, 3420AD, *Linder 4365* (HT: BOL; IT: K, PRE).

Illustrations (Journals): *Contrib. of the Bolus Herbarium* No. 12 (1990) (84).

Derivation (Clifford & Bostock 2007): L. *calx,* lime; *-cola*, dweller. Growing on limestone.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths light brown, glabrous. Glands absent. Culms geniculately ascending, 20–30 cm long, 3–5 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface or puberulous. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades filiform, convolute, 3–10 cm long, 0.3–0.5 mm wide, stiff, eglandular. Leaf-blade surface glabrous or puberulous, hairy abaxially. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 30–50 fertile spikelets. Panicle open or contracted, ovate, 1.5–6 cm long, 0.5–4 cm wide. Panicle branches eglandular, glabrous in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.8–1 length of fertile spikelet, eglandular, glabrous or puberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 5–7 mm long, 1 length of upper glume, membranous, pallid or light brown, 1-keeled, 1 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 5–7 mm long, 2.5 length of adjacent fertile lemma, membranous, pallid or light brown, 1-keeled, 1 -veined. Upper glume primary vein smooth or scaberulous. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 2–3 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous, hairy on veins. Lemma apex lobed, 2 -fid, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 10–12 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 4–5 mm long, exserted, shorter than principal.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris capensis (Nees) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 331 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Triraphis capensis* Nees, *Fl. Afr. Austral. Ill.* 271–272 (1841). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Drège s.n.*, South Africa: Cape: Du Toits Kloof (B; IT: BM, K, MO, P, SAM).

Recent Synonyms: *Pentaschistis capensis* (Nees) Stapf, *Dyer, Fl. Cap.* 7: 494 (1899).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (258, Fig 225).

Derivation (Clifford & Bostock 2007): L. *-ense*, denoting origin. From the Cape of Good Hope, South Africa.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial. Stolons present. Butt sheaths pallid, glossy, glabrous, persistent and investing base of culm. Glands absent. Culms rambling, 30–35 cm long, 3–5 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs lacking. Ligule a fringe of hairs. Leaf-blades 12 cm long, 4 mm wide, flaccid, eglandular. Leaf-blade surface glabrous. Leaf-blade margins smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 60 fertile spikelets. Panicle open, ovate, 5–12 cm long, 3–5 cm wide. Panicle branches eglandular, glabrous in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.8–1 length of fertile spikelet, eglandular, smooth.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 6–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 6–9 mm long, 1 length of upper glume, membranous, mid-green, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 6–9 mm long, 2 length of adjacent fertile lemma, membranous, mid-green, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 3–5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface puberulous to villous, hairy all along or in the middle. Lemma apex lobed, 2 -fid, with lanceolate lobes, with lobes 1 mm long, awned, 3 -awned. Principal lemma awn from a sinus, curved, spreading, 15–23 mm long overall, without a column. Lateral lemma awns present, arising on inner edge of lobes, 6–10 mm long, exserted, shorter than principal. Palea 1.1 length of lemma. Palea keels puberulous. Palea apex with excurrent keel veins.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 1.7 mm long, yellow or brown. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris capillaris (Stapf) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 331 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Holcus capillaris* Thunb., *Prodr. Pl. Cap.* 20 (1794). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Thunberg 23845*, South Africa (UPS).

Recent Synonyms: *Pentaschistis capillaris* (Stapf) McClean, *S. Afr. Journ. Sc.* 23: 281 (1926).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (269, Fig 241).

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Annual, caespitose. Glands raised crateriform. Culms 8–40 cm long, 3–5 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths hirsute, with simple hairs or tubercle-based hairs. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades 5 cm long, 5 mm

wide, flaccid, glandular. Leaf-blade surface hirsute, hairy adaxially. Leaf-blade margins scabrous, glabrous or ciliate. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 100–300 fertile spikelets. Panicle open, ovate, 4–10 cm long, 3–8 cm wide. Panicle branches bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1 length of fertile spikelet, glandular, smooth.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 3 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 3 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface asperulous, rough generally. Lower glume apex obtuse. Upper glume elliptic, 3 mm long, 1.6–2 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface asperulous, rough generally. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 1.5–2 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface glabrous. Lemma apex entire, truncate, muticous.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 1.5–2 mm long, brown. Caryopsis with adherent pericarp.

n = 7 (1 ref TROPICOS), or 14 (2 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Northern Cape, Western Cape.

Pentameris caulescens (H.P. Linder) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 332 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis caulescens* H.P. Linder, *Contrib. Bolus Herb.*, 12: 99 (1990). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *Esterhuysen 26349*, 8 Oct 1956, South Africa: Cape: Ceres, Buffelshoek Pk in the Hexriver Mts., 3319AD (MO).

Illustrations (Journals): *Contrib. of the Bolus Herbarium* No. 12 (1990) (100).

Derivation (Clifford & Bostock 2007): L. *caulesco*, develop a stem. Culms stout and leafy.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial. Butt sheaths glabrous. Glands absent. Culms rambling, 15–30 cm long, 30 -noded. Lateral branches ample. Leaves cauline. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs lacking. Ligule a fringe of hairs. Leaf-blades 3–5 cm long, 1–2 mm wide, stiff, eglandular. Leaf-blade surface glabrous. Leaf-blade margins smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 5–10 fertile spikelets. Panicle open, ovate, 3–5 cm long, 2–4 cm wide, bearing few spikelets. Panicle branches eglandular, bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1 length of fertile spikelet, eglandular, smooth, puberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 8–12 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 8–12 mm long, 1 length of upper glume, membranous, much thinner above, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 8–12 mm long, 2.5–4 length of adjacent fertile lemma, membranous, much thinner above, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 3 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface glabrous. Lemma apex lobed, 2 -fid, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 16–19 mm long overall, with twisted column. Lateral lemma awns present, arising on apex of lobes, 6–8 mm long, exserted, shorter than principal. Palea keels puberulous.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 1.2 mm long, brown. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.
Country /Province /State. **Southern Africa**. Western Cape.

Pentameris chippindalliae (H.P. Linder) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 332 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis chippindalliae* H.P. Linder, *Contrib. Bolus Herb.*, 12: 92 (1990). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South Africa: Transvaal: Dullstroom, 2530AC, *Linder 4711* (HT: BOL; IT: M, MO, NBG, PRE, K, S).

Illustrations (Journals): *Contrib. of the Bolus Herbarium* No. 12 (1990) (93).

Derivation (Clifford & Bostock 2007): in honor of Kathleen Armitage Chippendall (1913–1992) South African agrostologist.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths glabrous, persistent and investing base of culm, with compacted dead sheaths. Glands absent. Culms 30–50 cm long, 3–5 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths hirsute. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades filiform, convolute, 20 cm long, 0.5 mm wide, stiff, eglandular. Leaf-blade surface hirsute, hairy abaxially. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 50 fertile spikelets. Panicle open, ovate, 7–9 cm long, 5–8 cm wide. Panicle branches eglandular, bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1.2 length of fertile spikelet, eglandular, smooth.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 4.5–7.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 4.5–7.5 mm long, 1 length of upper glume, membranous, yellow, 1-keeled, 1 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 4.5–7.5 mm long, 1.8–2.5 length of adjacent fertile lemma, membranous, yellow, 1-keeled, 1 -veined. Upper glume primary vein smooth or scaberulous. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma oblong, 2.5–3 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous. Lemma apex lobed, 2 -fid, with lobes 0.5 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 7–10 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 2–3 mm long, equalling glumes or enclosed by glumes, shorter than principal. Palea surface glabrous.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 3 mm long, yellow or brown. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.
Country /Province /State. **Southern Africa**. Limpopo, Mpumalanga.

Pentameris chrysurus (K. Schum.) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 332 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from Tanzania. **Basionym or Replaced Name**: *Danthonia chysurus* K. Schum., *Pflanzenw. Ost-Afrikas* 5(C): 110 (1895)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Volkens 1826a*, Tanzania: Mt. Kilimanjaro (B, photo. K).

Recent Synonyms: *Pentaschistis chrysurus* (K. Schum.) Peter, *Repert. Spec. Nov. Regni Veg. Beih.* 40(1): 303 (1931).

Illustrations: None found.

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012)

(*Contrib. from the Bolus Herbarium* No. 12 : 12 (1990)).

Derivation (Clifford & Bostock 2007): Gk. *chrysos*, yellow; *oura*, tail. Inflorescence a yellow spicate panicle.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short, scaly. Butt sheaths glabrous or villous. Glands absent. Culms 100–150 cm long. Leaves mostly basal. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades flat or involute, 20–45 cm long, 4–7 mm wide, stiff. Leaf-blade surface glabrous. Leaf-blade margins scabrous. Leaf-blade apex acute, hardened.

Inflorescence. Inflorescence a panicle. Panicle open, oblong or ovate, 10–24 cm long, 3–8 cm wide. Panicle branches pubescent in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1–8 mm long.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension or with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 7.5–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 7.5–9 mm long, 1 length of upper glume, membranous, yellow, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 7.5–9 mm long, 1.8 length of adjacent fertile lemma, membranous, yellow, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 4–5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface pilose. Lemma apex lobed, 2 -fid, incised 0.25–0.33 of lemma length, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 9–15 mm long overall, with a straight or slightly twisted column. Column of lemma awn 1–2 mm long. Lateral lemma awns present, arising on inner edge of lobes, 4–5 mm long, shorter than principal. Palea 1 length of lemma. Rhachilla extension 0–0.05 length of fertile floret.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2–2.5 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **East Tropical Africa**. Tanzania.

Pentameris cirrhulosa (Nees) Steud. *Nomencl. Bot.(Steudel) ed. 2.* 2: 298 (1841).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Danthonia cirrhulosa* Nees, *Fl. Afr. Austr.* 309 (1841). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South Africa, Swellendam: Ecklon (B holo).

Recent Synonyms: *Pentaschistis cirrhulosa* (Nees) H.P. Linder, *Contrib. Bolus Herb.,* 12: 42 (1990).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *cirrus*, curl; *-ula*, diminutive; *-osa*, abundance. Leaf-apices coiled like a watch spring.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths glabrous. Glands raised crateriform. Culms 15–30 cm long, 3–7 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glandular. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades convolute, 3–7 cm long, 0.5–3 mm wide, stiff. Leaf-blade surface glabrous. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle, comprising 50 fertile spikelets. Panicle open, ovate, 3–6 cm long, 1.5–5 cm wide. Panicle branches bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1 length of fertile spikelet, glandular.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 5–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 5–9 mm long, 1 length of upper glume, membranous, glandular, 1-keeled, 1 -veined. Lower glume lateral

veins absent. Lower glume apex acuminate. Upper glume elliptic, 5–9 mm long, 1.5–3 length of adjacent fertile lemma, membranous, glandular, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 3 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous, hairy all along or below. Lemma apex lobed, 2 -fid, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 7–20 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 1–7 mm long, exserted or equalling glumes, shorter than principal. Palea surface glabrous.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2–2.5 mm long, purple. Caryopsis with adherent pericarp.

n = 7 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Northern Cape, Western Cape.

Pentameris clavata (Galley) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 332 (2010).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis clavata* Galley, *Bothalia* 36: 159 (2006). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: TYPE: South Africa. Western Cape Prov., Koue Bokkeveld south of Hex Berg, 7 Nov. 2004, *C.A. Galley 567* (holotype, Z!; isotypes, BOL!, E!, G!, K!, MO!, NBG!, NSW!, NY!, PRE!, S!, UPS!, W!).

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Illustrations: None found.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Pentameris colorata (Steud.) Stapf. *Ann. Mo. Bot. Gard.* 97 (3): 332 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Avena colorata* Steud., *Flora* 12(2): 481–482 (1829). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Ecklon 931*, South Africa: Cape: Cape Town, Table Mtn. (P; IT: B, K, MO).

Recent Synonyms: *Pentaschistis colorata* (Steud.) Stapf, *Dyer, Fl. Cap.* 7: 491 (1899).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (260, Fig 228).

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012)

(*Contrib. from the Bolus Herbarium* No. 12 : 10 (1990) as *Danthonia crispa*).

Derivation (Clifford & Bostock 2007): L. *color*, color; *-ata*, possessing. Colored unusually, especially with reference to lemmas.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, cushion forming or mat forming. Stolons present. Butt sheaths pallid, glossy, glabrous, persistent and investing base of culm. Glands absent. Culms 3–60 cm long, 15–30 -noded. Lateral branches lacking or sparse or ample. Leaves mostly basal. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs lacking. Ligule a fringe of hairs. Leaf-blades curled, filiform, convolute, 15–30 cm long, 0.3–1 mm wide, stiff, eglandular. Leaf-blade surface glabrous. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 4–25 fertile spikelets. Panicle open, ovate, 5–12 cm long, 2–6 cm wide, bearing few spikelets. Panicle branches eglandular, glabrous in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1–1.5 length of fertile spikelet, eglandular, smooth or scaberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 8–13 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 8–13 mm long, 1 length of upper glume, membranous, yellow, 1-keeled, 1 -veined. Lower glume lateral veins absent.

Lower glume apex acuminate. Upper glume elliptic, 8–13 mm long, 2 length of adjacent fertile lemma, membranous, yellow, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 4–5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous, hairy on veins. Lemma apex lobed, 2 -fid, with lobes 1.5–2 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 13–21 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 5–9 mm long, equalling glumes, shorter than principal. Palea surface glabrous or pubescent, hairy above.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2.5–4 mm long, brown or purple. Caryopsis with adherent pericarp.

n = 14 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape, Eastern Cape.

Pentameris curvifolia (Schrad.) Nees. *Linnaea* 7: 313 (1832).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Danthonia curvifolia* Schrad., *Mant.* 2: 386 (1824)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *Hesse s.n.*, South Africa: Cape Provinse (?).

Recent Synonyms: *Pentaschistis curvifolia* (Schrad.) Stapf, *Dyer, Fl. Cap.* 7: 491 (1899).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (259, Fig 226), G.E.Gibbs Russell el al, *Grasses of Southern Africa* (1990) (259, Fig 161).

Illustrations (Journals): *Ann. Missouri Bot. Gard*. (97: 327, Fig.5 (2010)).

Images: F.van Oudtshoorn, *Guide to Grasses of Southern Africa* (1999).

Derivation (Clifford & Bostock 2007): L. *curvus*, bent; *folium*, leaf. The leaf-blades become spirally coiled in senescence, or on drying.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Stolons absent or present. Butt sheaths pallid, glossy, glabrous, persistent and investing base of culm. Glands absent. Culms 40–50 cm long, 6 -noded. Lateral branches sparse. Leaves mostly basal. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs lacking or woolly. Ligule a fringe of hairs. Leaf-blades straight or curled, 30 cm long, 4 mm wide, stiff, eglandular. Leaf-blade surface glabrous. Leaf-blade margins cartilaginous, smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 100 fertile spikelets. Panicle contracted, oblong, 4–9 cm long, 2–5 cm wide. Panicle branches eglandular, glabrous in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.8 length of fertile spikelet, eglandular, scaberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 8–12 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 8–12 mm long, 1 length of upper glume, membranous, pallid, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume surface smooth or asperulous. Lower glume apex acuminate. Upper glume elliptic, 8–12 mm long, 2.6–3 length of adjacent fertile lemma, membranous, pallid, 1-keeled, 1 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent. Upper glume surface smooth or asperulous. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 3–4 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous, hairy on veins. Lemma apex lobed, 2 -fid, with lobes 1 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 10–17 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 4–7 mm long, equalling glumes or enclosed by glumes, shorter than principal. Palea surface pubescent.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2–2.3 mm long, brown. Caryopsis with adherent pericarp.

n = 7 (2 refS TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape, Eastern Cape.

Pentameris densifolia (Nees) Steud. *Nomencl. Bot. (Steudel) ed 2*. 2: 298 (1841).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Danthonia densifolia* Nees, *Fl. Afr. Austral.*3: 291 (1841). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Ecklon s.n.*, South Africa: Cape: Tulbagh Waterfall (B; IT: K, MO).

Recent Synonyms: *Pentaschistis densifolia* (Nees) Steud., *Nomencl. Bot. (Steudel) ed 2*. 2: 298 (1841).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (263, Fig 232).

Derivation (Clifford & Bostock 2007): L. *densus,* dense; *folium*, leaf. Leaves densely imbricate.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, cushion forming. Stolons present. Butt sheaths light brown. Glands raised crateriform. Culms 9–25 cm long, 15–50 -noded. Lateral branches ample. Leaves cauline. Leaf-sheaths glabrous on surface or hirsute, with tubercle-based hairs. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades 4 cm long, 1.5 mm wide, stiff, glandular. Leaf-blade surface hirsute, hairy adaxially, with tubercle-based hairs. Leaf-blade margins smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 10–50 fertile spikelets. Panicle open, ovate, 1–5 cm long, 0.5–3.5 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1.5 length of fertile spikelet, glandular, smooth or scaberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 3.5–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 3.5–4.5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acute or acuminate. Upper glume elliptic, 3.5–4.5 mm long, 1.7–2 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 2–2.5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface glabrous. Lemma margins ciliate. Lemma apex dentate, 2 -fid, with lobes 0.3–0.5 mm long, incised 0.1–0.2 of lemma length, truncate, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 3–6 mm long overall, with a straight or slightly twisted column. Lateral lemma awns present, arising on inner edge of lobes, 1–2 mm long, equalling glumes, shorter than principal. Palea surface pubescent, hairy above.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 1.5–1.8 mm long, brown. Caryopsis with adherent pericarp.

n = 7 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris dentata (L.f.) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 332 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Phalaris dentata* L. f., *Suppl. Pl.* 106 (1781) [1782]. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: TYPE: South Africa. Cape, Bockland, 1773. *C.P. Thunberg* (holotype, UPS 1773).

Prionanthium dentatum (L.f.) Henrard, *Blumea,* 4: 530 (1941).

Illustrations (Journals): *Bothalia* (18:145, Fig,1C (1988)).

Derivation (Clifford & Bostock 2007): L. *dens*, tooth; *-ata,* possessing. Glume apices obliquely truncate, unidentate, mucronate or rarely awned.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 3–43 cm long. Ligule a fringe of hairs. Leaf-blades 1.5–10.5 cm long, 0.5–3 mm wide.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear, 0.5–7.5 cm long. Spikelets appressed, solitary. Fertile spikelets pedicelled or sessile. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.2–5.2 mm long, 1–1.2 mm wide, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, firmer than fertile lemma. Lower glume oblong, asymmetrical, 3.2–5.2 mm long, 1 length of upper glume, coriaceous, much thinner on margins, 1-keeled, 5 -veined. Lower glume primary vein with pectinate knobs. Lower glume apex obtuse. Upper glume oblong, 3.2–5.2 mm long, 1.1–1.3 length of adjacent fertile lemma, coriaceous, with membranous margins, 1-keeled, 3 -veined. Upper glume primary vein with pectinate knobs. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 2.5–4.5 mm long, membranous, keeled, 3 -veined, 0–3 -veined. Lemma surface pubescent. Lemma apex acute. Palea 1 length of lemma, 2 -veined. Palea keels approximate. Palea surface pubescent.

Flower and Fruit. Lodicules 2, fleshy. Anthers 3.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Northern Cape, Western Cape.

Pentameris distichophylla (Lehm) Nees. *Dyer, Fl. Cap.* vii. 515. (1899).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from South Africa. **Basionym or Replaced Name**: Danthonia distichophylla Lehm, *Pugill.*3: 41 (1831). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South Africa, Cape: Lehman.

Recent Synonyms: *Pentameris dregeana* Stapf, in Dyer, *Fl. Cap.* 7:. 515. (1899).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (253, Fig 224).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Johann Franz Drhge (1794–1881) German horticulturalist and plant collector in South Africa.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 30–100 cm long. Lateral branches sparse, arising from lower culm. Leaf-sheaths pubescent or woolly. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades curled, flat or conduplicate or convolute, 10–25 cm long, 1–1.5 mm wide, coriaceous, firm. Leaf-blade surface ribbed, glabrous or pubescent.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, 5–10 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 12–17 mm long, 6–10 mm wide, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent, obtuse, disarticulating obliquely.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume lanceolate, 12–15 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface glabrous or pubescent. Lower glume apex attenuate. Upper glume lanceolate, 12–15 mm long, 2 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface glabrous or pubescent. Upper glume apex attenuate.

Florets. Fertile lemma oblong, 6–8 mm long, membranous, without keel, 7–9 -veined, more than 3-veined. Lemma surface pilose. Lemma apex lobed, 2 -fid, with lobes 1.5–3 mm long, incised 0.5 of lemma length, acuminate, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 10–15 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 4–5 mm long, shorter than principal. Palea oblong, 1 length of lemma, 2 -veined. Palea surface pubescent, hairy on back or on flanks. Rhachilla extension 0.2 mm long.

Flower and Fruit. Lodicules 2, glabrous or ciliate. Caryopsis with free brittle pericarp.

$2n = 36$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Northern Cape, Western Cape, Eastern Cape.

Pentameris dolichochaeta (S.M. Phillips) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 332 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from Ethiopia. **Basionym or Replaced Name**: *Pentaschistis dolichochaeta* S.M. Phillips, *Kew Bull.*, 50(3): 615 (1995). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Ethiopia: Shewa Province: Ancobere, 3000 m (9900 ft), 12 Jun 1965, *Lemma G. Selassie 887* (HT: ETH).

Illustrations (Journals): *Kew Bulletin* (50: 616, Fig.1 (1995) as *Pentaschistis*).

Derivation (Clifford & Bostock 2007): Gk. *dolichos* , narrow; *chaete*, bristle. Upper lemma lobes aristulate.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial. Culms erect, 100 cm long. Ligule a fringe of hairs. Leaf-blades involute, 40–80 cm long, 2–4 mm wide, stiff. Leaf-blade surface pilose, hairy adaxially. Leaf-blade margins scabrous. Leaf-blade apex filiform.

Inflorescence. Inflorescence a panicle. Panicle contracted, elliptic, 15–20 cm long. Panicle branches eglandular. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 8.2–9.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume linear or lanceolate, 8.2–9.5 mm long, 1 length of upper glume, scarious, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface glabrous or pubescent. Lower glume apex setaceously acuminate. Upper glume linear or lanceolate, 8.2–9.5 mm long, 2.7 length of adjacent fertile lemma, scarious, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface glabrous or pubescent. Upper glume apex setaceously acuminate.

Florets. Fertile lemma oblong, 3–3.5 mm long, membranous, without keel, 7 -veined, more than 3-veined. Lemma surface pilose. Lemma apex lobed, 2 -fid, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 2–15 mm long overall, with twisted column. Column of lemma awn 1.5–2 mm long. Lateral lemma awns present, arising on inner edge of lobes, 5.5–6.5 mm long. Palea 1 length of lemma.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2.7 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Northeast Tropical Africa**. Ethiopia (inc. Eritrea).

Pentameris ecklonii (Nees) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 332 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Prionachne ecklonii* Nees, *Nat. Syst. Bot.* (1836). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: TYPE: South Africa. "ad Olifantsrivier fluviam alt. I, Clanwilliam", s.d. *C.F. Ecklon s.n.* (lectotype, designated by Davidse (1988: 151), MO nv; isotypes, BM - frag PRE, US nv, Z).

Recent Synonyms: *Prionanthium ecklonii* (Nees) Stapf, *Fl. Cap. (Harvey)* 7: 456 (1899).

Illustrations (Journals): *Bothalia* (18:145, Fig,1A-B (1988)).

Derivation (Clifford & Bostock 2007): in honor of Christian Frederick Ecklon (1795–1868) German-born South African apothecary and plant collector.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 19–37 cm long. Ligule a fringe of hairs. Leaf-blades 4–16 cm long, 0.5–1.5 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, unilateral, 3–9.5 cm long. Rhachis subterete. Spikelet packing broadside to rhachis, regular, 2 -rowed. Spikelets appressed, in pairs. Fertile spikelets sessile, 2 in the cluster.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4.4–6.1 mm long, 1–1.5 mm wide, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, firmer than fertile lemma. Lower glume oblong, asymmetrical, 4.4–6.1 mm long, 1 length of upper glume, coriaceous, 1-keeled, 5 -veined. Lower glume primary vein with pectinate knobs. Lower glume lateral veins ribbed. Lower glume apex obtuse. Upper glume oblong, 4.4–6.1 mm long, 1 length of adjacent fertile lemma, coriaceous, 1-keeled, 5–8 -veined. Upper glume primary vein with pectinate knobs. Upper glume lateral veins ribbed. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 4.4–6 mm long, membranous, keeled, 3 -veined, 0–3 -veined. Lemma apex obtuse. Palea 1 length of lemma, 2 -veined. Palea keels approximate.

Flower and Fruit. Lodicules 2, fleshy. Anthers 3, 3 mm long.

n = 7 (2 refs TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris elegans (Nees) Steud. *Nomencl. Bot. (Steudel) ed. 2*. 2: 298 (1841).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Danthonia elegans* Nees, *Fl. Afr. Austral. Ill.* 296–297 (1841). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Ecklon s.n.*, South Africa: Cape: Kleiriviersberge (B, fragm.PRE; IT: H, K, SAM).

Recent Synonyms: *Pentaschistis elegans* (Nees) Stapf, *Dyer, Fl. Cap.* vii. 496 (1899).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. elegant. Inflorescence attractive.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Stolons present. Butt sheaths light brown, glabrous. Glands absent. Culms 20–30 cm long, 10 -noded. Lateral branches sparse. Leaves mostly basal. Leaf-sheaths hirsute, with tubercle-based hairs. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades 2–3 cm long, 1 mm wide, flaccid, eglandular. Leaf-blade surface hirsute, hairy abaxially, with tubercle-based hairs. Leaf-blade margins smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 2–10 fertile spikelets. Panicle open, ovate, 4–5 cm long, 1.5–2.5 cm wide, bearing few spikelets. Panicle branches eglandular, glabrous in axils or pubescent in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1.2 length of fertile spikelet, eglandular, scaberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 7–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 7–9 mm long, 1 length of upper glume, membranous, yellow or mid-green, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 7–9 mm long, 2.5–3 length of adjacent fertile lemma, membranous, yellow or mid-green, 1-keeled, 1 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 3 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous, hairy above. Lemma apex lobed, 2 -fid, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 15 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 2 mm long, enclosed by glumes, shorter than principal.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, brown. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris ellisii H.P. Linder. *Bothalia* 40: 191 (2010).

TYPE from South Africa. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Western Cape, Jonkaskop, 24 January 2008, *H.P.Linder 7898* (Z, holo; K, PRE, BOL, MO).

Illustrations (Journals): *Bothalia* (40 (2): 192, Fig.18 (2010)).

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths light brown, glabrous. Basal innovations intravaginal. Glands wart-like. Culms erect, 40–60 cm long, 8 -noded. Culm-internodes distally glabrous. Lateral branches lacking. Leaves cauline. Leaf-sheaths outer margin hairy. Ligule a fringe of hairs, 0.2–0.5 mm long. Leaf-blades convolute, 5–15 cm long, 0.5–0.7 mm wide. Leaf-blade surface hirsute, sparsely hairy. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle, comprising 30–100 fertile spikelets. Panicle open, lanceolate or ovate, 5–10 cm long, 4–6 cm wide. Panicle branches glandular, glabrous, bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, glandular.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 5.5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pilose, hairy in 2 tufts, truncate.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 5.5–6 mm long, 1 length of upper glume, membranous, purple, glandular, 1-keeled, 5 -veined. Lower glume lateral veins obscure. Lower glume apex acute or acuminate. Upper glume elliptic, 5.5–6 mm long, 2.5 length of adjacent fertile lemma, membranous, purple, glandular, 1-keeled, 5 -veined. Upper glume primary vein conspicuous. Upper glume lateral veins obscure. Upper glume apex acute or acuminate.

Florets. Fertile lemma oblong, 2.5–2.8 mm long, chartaceous, dull, keeled, 9 -veined, more than 3-veined. Lemma midvein pubescent, hairy below. Lemma surface smooth, glabrous. Lemma margins ciliate, hairy below. Lemma apex dentate, 2 -fid, with lobes 0.25–0.3 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 7–8 mm long overall, with 3.5–4.5 mm long limb, with twisted column. Column of lemma awn 3.5–4.5 mm long. Lateral lemma awns present, arising on inner edge of lobes, 2–2.5 mm long, shorter than principal. Palea linear, 3 mm long. Palea apex truncate or obtuse.

Flower and Fruit. Lodicules 2, cuneate, veined, glabrous. Anthers 3, 3 mm long, yellow. Ovary glabrous. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris eriostoma (Nees) Steud.,. *Nomencl. Bot. (Steudel) ed. 2*. 2: 298 (1841).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Danthonia eriostoma* Nees, *Fl. Afr. Austral. Ill.* 304–305 (1841). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Ecklon s.n.*, Oct, South Africa: Cape: Cannaland between Cogmanskloof and (B; ILT: MO, PRE, SAM). IT designated by Linder & Ellis, Contr. Bolus Herb.12:106.1990.. ST: *Ecklon s.n.*, Nov, South Africa: Cape: Albany, Bothasberg (Albany), alt. ad 2000' circiter (B; IST: MO, SAM).

Recent Synonyms: *Pentaschistis eriostoma* (Nees) Stapf, *Dyer, Fl. Cap. 7:* 489 (1899). *Pentameris juncifolia* (Stapf) Galley & H.P. Linder, *Ann. Mo. Bot. Gard.* 97 (3): 333 (2010).

Pentaschistis juncifolia Stapf, *Fl. Cap. (Harvey)* 7: 490 (1899).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (259, Fig 227).

Derivation (Clifford & Bostock 2007): Gk. *erion*, wool; *stoma*, mouth. Orifice of leaf-sheath wooly-tomentose.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Stolons present. Butt sheaths pallid, glossy, glabrous, persistent and investing base of culm. Glands absent. Culms 30–90 cm long, 3–10 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs woolly. Ligule a fringe of hairs. Leaf-blades convolute, 40 cm long, 1.5 mm wide, stiff, eglandular. Leaf-blade surface glabrous. Leaf-blade margins smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 100 fertile spikelets. Panicle contracted, oblong, 5–15 cm long, 2–3.5 cm wide. Panicle branches eglandular, pubescent in axils or bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1 length of fertile spikelet, eglandular, smooth or scaberulous, glabrous or puberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 8–12 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 8–12 mm long, 1 length of upper glume, membranous, yellow or mid-green, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume surface smooth or asperulous, glabrous or villous. Lower glume apex acuminate. Upper glume elliptic, 8–12 mm long, 2.2–2.6 length of adjacent fertile lemma, membranous, yellow or mid-green, 1-keeled, 1 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent. Upper glume surface smooth or asperulous, glabrous or villous. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 3.5–4.5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous, hairy all along. Lemma apex lobed, 2 -fid, with lobes 1.5 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 10–17 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 4–6 mm long, equalling glumes, shorter than principal. Palea surface villous.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2.7–3.5 mm long, brown. Caryopsis with adherent pericarp.

n = 26 (1 ref TROPICOS). 2n = 96 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Northern Cape, Western Cape, Eastern Cape.

Pentameris exserta (H.P. Linder) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 332 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis exserta* H.P. Linder, *Contrib. Bolus Herb.,* 12: 92 (1990). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South Africa: Natal: Cathedral Peak Forest Reserve, Organ Pipes Pass, 2929AA, *Linder 4685* (HT: BOL).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. exserted. Lateral awns of the glumes are exserted.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Stolons present. Butt sheaths pallid, glossy, glabrous, persistent and investing base of culm. Glands absent. Culms 60 cm long, 3–5 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheath oral hairs ciliate. Ligule a fringe of hairs. Leaf-blades filiform, convolute, 30 cm long, 0.5 mm wide, stiff, eglandular. Leaf-blade surface hirsute, hairy adaxially. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 100 fertile spikelets. Panicle open, ovate, 6–11 cm long, 5–8 cm wide. Panicle branches eglandular, bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1.2 length of fertile spikelet, eglandular, smooth.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 7–8.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 7–8.5 mm long, 1 length of upper glume, membranous, mid-green, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 7–8.5 mm long, 1.7–2 length of adjacent fertile lemma, membranous, mid-green, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 3.5–5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous. Lemma margins ciliate. Lemma apex lobed, 2 -fid, with lobes 1.5 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 7–11 mm long overall, with twisted

column. Lateral lemma awns present, arising on inner edge of lobes, 3–4 mm long, exserted, shorter than principal. Palea surface pubescent, hairy above.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2–3 mm long, yellow. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Free State, Kwazulu-Natal, Lesotho, Eastern Cape.

Pentameris galpinii (Stapf) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 332 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Achneria galpinii* Stapf, *Bull. Misc. Inform. Kew* 1910: 59 (1910)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South Africa: Cape: Cape Colony: Barkly East Division; slope of Ben McDhui (Wittebergen), 2955m., *Galpin 6915* (HT: K; IT: B, BOL, GRA, SAM).

Recent Synonyms: *Pentaschistis galpinii* (Stapf) McClean, *S. Afr. Journ. Sc.* 23: (1926).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (265, Fig 234).

Derivation (Clifford & Bostock 2007): in honor of Ernest Edward Galpin (1858–1941) banker and amateur botanist.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, cushion forming. Stolons present. Butt sheaths pallid, glossy, glabrous, persistent and investing base of culm. Glands raised crateriform. Culms 15–30 cm long, 4 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheath oral hairs lacking or ciliate. Ligule a fringe of hairs. Leaf-blades 6–18 cm long, 2–8 mm wide, stiff. Leaf-blade margins glandular, smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 70 fertile spikelets. Panicle contracted, elliptic, 2–5 cm long, 1–3 cm wide. Panicle branches bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.75 length of fertile spikelet, glandular, glabrous or puberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 4–6 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 4–6 mm long, 1.3–2 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma oblong, 3 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface villous, hairy at base. Lemma margins ciliate. Lemma apex entire or dentate, 2 -fid, muticous or awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 0–4 mm long overall, with twisted column. Lateral lemma awns absent or present, arising on apex of lobes, 0–0.5 mm long, enclosed by glumes, shorter than principal.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 1.6 mm long, brown. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Free State, Kwazulu-Natal, Lesotho, Eastern Cape.

Pentameris glacialis N.P. Barker. *Bothalia,* 23(1): 44 (1993).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from South Africa. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South Africa: Cape: Oudtshoorn, Waboomsberg, growing in humic gullies on S slopes, 14 Dec 1991, *N.P. Barker 995* (HT: PRE; IT: B, CANB, G, GRA, J, K, NBG, NSW, NU, P, PRE, STE).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. frozen. Growing at high altitudes.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial. Culms decumbent, 30–55 cm long. Leaf-sheaths loose, outer margin glabrous or hairy. Ligule a fringe of hairs. Leaf-blades filiform, convolute, 5–10 cm long, 1–1.5 mm wide, indurate.

Inflorescence. Inflorescence a panicle, comprising 6–12(–15) fertile spikelets. Panicle open, ovate, 4–7 cm long, 1–3 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 13–14.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume lanceolate, 13–14.5 mm long, 1 length of upper glume, membranous. Lower glume apex attenuate. Upper glume lanceolate, 13–14.5 mm long, membranous. Upper glume apex attenuate.

Florets. Fertile lemma oblong, 3.5–5 mm long, membranous, without keel, more than 3-veined. Lemma surface pilose. Lemma apex lobed, 2 -fid, with lobes 1–1.9 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 11–14 mm long overall, with twisted column. Column of lemma awn 3.5–5.5 mm long. Lateral lemma awns present, arising on inner edge of lobes, 3.5–4.5 mm long, shorter than principal. Palea 3.5–4.2 mm long, 2 -veined.

Flower and Fruit. Lodicules 2, cuneate, glabrous. Anthers 3. Caryopsis with free brittle pericarp, fusiform, 2.5 mm long, hairy at apex.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris glandulosa (Schrad.) Steud. *Nomencl. Bot. (Steudel) ed. 2.* 2: 298 (1841).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Danthonia glandulosa* Schrad., *Mant.* 2: 385 (1824)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: NT: *Bergius s.n.*, South Africa: Cape (B). NT designated by Linder & Ellis, Contr. Bolus Herb. 12:60.1990.. ST: *Hesse s.n.*, South Africa: Cape (?).

Recent Synonyms: *Pentaschistis glandulosa* (Schrad.) H.P. Linder, *Contrib. Bolus Herb.*, 12: 60 (1990).

Illustrations: None found.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths pallid, glossy, glabrous, persistent and investing base of culm. Glands sunken crateriform. Culms 10–35 cm long, 3–5 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths pilose. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades straight or curled, involute (U-shaped), 8–30 cm long, 1–3 mm wide, stiff, glandular. Leaf-blade surface glabrous. Leaf-blade margins smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 200 fertile spikelets. Panicle open, ovate, 4–10 cm long, 3–10 cm wide. Panicle branches bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.75 length of fertile spikelet, glandular.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 4–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 4–5.5 mm long, 1 length of upper glume, membranous, light brown, glandular, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acute or acuminate. Upper glume elliptic, 4–5.5 mm long, 2 length of adjacent fertile lemma, membranous, light brown, glandular, 1-keeled, 1 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent. Upper glume apex acute or acuminate.

Florets. Fertile lemma oblong, 2–3 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface glabrous or villous, hairy at base. Lemma apex lobed, 2 -fid, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 5–10 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 2–3 mm long, exserted or equalling glumes, shorter than principal.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 1.5–2.8 mm long, yellow. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape, Eastern Cape.

Pentameris heptameris (Nees) Steud. *Nomencl. Bot. (Steudel) ed. 2.* 2: 298 (1841).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Danthonia heptamera* Nees, *Fl. Afr. Austral. Ill.* 309 (1841). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Ecklon s.n.*, South Africa: Cape: Uitenhage, in primaeval forest at (B; IT: BM, BOL, K, MO, PRE, SAM).

Recent Synonyms: *Pentaschistis heptamera* (Nees) Stapf, *Dyer, Fl. Cap.* vii. 504 (1899).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (258, Fig 225).

Derivation (Clifford & Bostock 2007): Gk. *hepta*, seven; *meros,* part. Origin uncertain not given by author.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Glands absent. Culms 20–30 cm long, 8–10 -noded. Leaves cauline. Leaf-sheath oral hairs lacking. Ligule a fringe of hairs. Leaf-blades filiform, convolute, 6–8 cm long, 0.5 mm wide, stiff. Leaf-blade surface glabrous. Leaf-blade margins smooth. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong, 3–5 cm long, 1–3 cm wide. Panicle branches pubescent in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension or with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 5–6 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 5–6 mm long, 2.5–3 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 2 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface pilose. Lemma apex lobed, 2 -fid, awned, 3–5 -awned. Principal lemma awn from a sinus, geniculate, 10–15 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 6–10 mm long, shorter than principal. Palea 1 length of lemma. Palea apex awned. Rhachilla extension 0–0.05 length of fertile floret.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 1.5–2.1 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Eastern Cape.

Pentameris hirtiglumis N.P. Barker. *Bothalia,* 23(1): 39 (1993).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from South Africa. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South Africa: Cape: Boskoukloof, Jonkershoek, locally very common, attractive, 980 ft (600 m), Oct 1967, *Kerfoot 6092* (HT: PRE).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *hirtus*, hairy; *gluma*, husk. The upper lemma is densely hairy.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, cushion forming or caespitose, clumped densely. Culms decumbent, 20–75 cm long. Leaf-sheaths loose, glabrous on surface or pubescent, outer margin hairy. Ligule a fringe of hairs. Leaf-blades curved, convolute, 10–20 cm long, 1–1.5 mm wide, indurate.

Inflorescence. Inflorescence a panicle, comprising 15–20 fertile spikelets. Panicle open, lanceolate, 7.5–11 cm long, 2–3.5 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 14.5–21.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume lanceolate, 14.5–21.5 mm long, 1 length of upper glume, membranous. Lower glume surface hirsute. Lower glume apex attenuate. Upper glume lanceolate, 14.5–21.5 mm long, membranous. Upper glume surface hirsute. Upper glume apex attenuate.

Florets. Fertile lemma oblong, 3.8–5.7 mm long, membranous, without keel, more than 3-veined. Lemma apex lobed, 2 -fid, with lobes 1–2 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 11.5–17 mm long overall, with twisted column. Column of lemma awn 4–6 mm long. Lateral lemma awns present, arising on inner edge of lobes, 3–6.5 mm long, shorter than principal. Palea 4–4.5 mm long, 2 -veined.

Flower and Fruit. Lodicules 2, cuneate, glabrous. Anthers 3, 3.5–5 mm long. Caryopsis with free brittle pericarp, fusiform, 2.4 mm long, hairy at apex.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris holciformis (Nees) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 333 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Danthonia holciformis* Nees, *Fl. Afr. Austral. Ill.* 326 (1841). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Ecklon s.n.*, South Africa: Cape: Palmietriver at Grietjiesgat (B).

Recent Synonyms: *Pentaschistis holciformis* (Nees) H.P. Linder, *Contrib. Bolus Herb.,* 12: 91 (1990).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *forma*, appearance. Inflorescence a dense panicle as with *Holcus*.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Stolons present. Butt sheaths glabrous, persistent and investing base of culm, with compacted dead sheaths. Glands absent. Culms 40–80 cm long, 3–5 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades filiform, convolute, 15–20 cm long, 0.5 mm wide, stiff, eglandular. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 100 fertile spikelets. Panicle open, ovate, 7–15 cm long, 3–10 cm wide. Panicle branches eglandular, bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1.2 length of fertile spikelet, eglandular, smooth.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 6–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 6–7 mm long, 1 length of upper glume, membranous, yellow, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface asperulous, rough at apex. Lower glume apex acuminate. Upper glume elliptic, 6–7 mm long, 1.3–1.4 length of adjacent fertile lemma, membranous, yellow, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface asperulous, rough at apex. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 4.5–5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous. Lemma apex lobed, 2 -fid, with lobes 0.5 mm long, awned, 3 -awned. Principal lemma awn from a sinus, straight, 3–4 mm long overall, without a column. Lateral lemma awns present, arising on inner edge of lobes, 0.3 mm long, enclosed by glumes, shorter than principal. Palea surface villous.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 3–3.5 mm long, yellow. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris horrida (Galley) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 333 (2010).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis horrida* Galley, *Bothalia* 36: 160 (2006). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: TYPE: South Africa. Western Cape: Ceres, Baviaansberg, 26 Oct. 1997, *H.P. Linder 6799* (holotype, Z!; isotypes, BOL, E, G, K, MO, NBG, NSW, PRE).

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Illustrations: None found.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, mat forming or caespitose. Butt sheaths pallid, glossy, glabrous, persistent and investing base of culm. Basal innovations intravaginal. Culms erect, 15–40 cm long. Culm-nodes glabrous. Lateral branches lacking. Leaves cauline. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs lacking. Ligule a fringe of hairs, 0.5–1 mm long. Leaf-blades filiform, convolute, 15–20 cm long, 1 mm wide, stiff, eglandular. Leaf-blade surface glabrous, hairless except near base. Leaf-blade margins smooth. Leaf-blade apex acute, pungent.

Inflorescence. Inflorescence a panicle, comprising 30–60 fertile spikelets. Panicle open, ovate, 7–9 cm long, 2.5–5 cm wide. Panicle branches scaberulous, pubescent in axils or bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 7.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 6.5–7.5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface asperulous, rough on flanks. Lower glume apex acute or acuminate. Upper glume elliptic, 4.5–5.5 mm long, 2.5–2.8 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acute or acuminate.

Florets. Fertile lemma oblong, 2.25–3 mm long, membranous, without keel, 7 -veined, more than 3-veined. Lemma lateral veins transversely connected at apex. Lemma surface pilose. Lemma apex lobed, 2 -fid, with lobes 1.1 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 8 mm long overall, with twisted column. Column of lemma awn 3 mm long. Lateral lemma awns present, 3 mm long, shorter than principal. Palea 3.5 mm long.

Flower and Fruit. Lodicules 2, veined. Anthers 3, 2.1–2.8 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris humbertii (A. Camus) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 333 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*).

TYPE from Madagascar. **Basionym or Replaced Name**: *Pentaschistis humbertii* A.Camus, *Bull. Soc. Bot. France,*70: 690 (1928). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Humbert 3310*, Madagascar: Pic d'Ivohibe (Bara) (P; IT: B, K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Jean Henri Humbert (1887–1967) French botanist who collected in Madagascar.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, mat forming. Glands absent. Culms 40–50 cm long, 8–10 -noded. Leaves cauline. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades 10–15 cm long, 1–3 mm wide. Leaf-blade surface glabrous. Leaf-blade margins smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 12 cm long, 8 cm wide. Panicle branches bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension or with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 8 mm long, 1 length of upper glume, membranous, yellow, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 8 mm long, 1.6 length of adjacent fertile lemma, membranous, yellow, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma oblong, 5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface pilose, hairy below. Lemma apex lobed, 2 -fid, incised 0.25–0.33 of lemma length, awned, 1 -awned. Principal lemma awn from a sinus, straight, 6 mm long overall. Lateral lemma awns absent. Palea 1 length of lemma. Rhachilla extension 0–0.05 length of fertile floret.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Pentameris insularis (Hemsl.) H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 333 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*).

TYPE from St. Paul Is. **Basionym or Replaced Name**: *Trisetum insulare* Hemsl., *Rep. Challenger, Bot.* 1(2): 267, t. 52 (1884). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Macgillivray & Milne s.n.*, Dec 1874, Indian Ocean: St. Paul Island (K). LT designated by Linder & Ellis, Contr. Bolus Herb. 12:104.1990. ST: *Smith s.n.*, (K). ST: *De l'Isle 1*, St. Paul (K; IST: US-878227 (ex P)).

Recent Synonyms: *Pentaschistis insularis* (Hemsl.) H.P. Linder, *Contrib. Bolus Herb.*, 12: 103 (1990).

Illustrations (Journals): *Ann. Missouri Bot. Gard.* (97: 333, Fig.6 (2010)).

Derivation (Clifford & Bostock 2007): L. *insula*, island; *-are,* pertaining to. Island species.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, cushion forming. Stolons present. Butt sheaths pallid, glossy, glabrous, persistent and investing base of culm. Glands absent. Culms 35–45 cm long, 10 -noded. Lateral branches sparse. Leaves mostly basal. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs lacking. Ligule a fringe of hairs. Leaf-blades 8 cm long, 4 mm wide, stiff, eglandular. Leaf-blade surface glabrous. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 30–50 fertile spikelets. Panicle open, ovate, 3.5–7 cm long, 2–4 cm wide. Panicle branches eglandular, glabrous in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.8 length of fertile spikelet, eglandular, scaberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 6.5–7.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 6.5–7.5 mm long, 1 length of upper glume, membranous, yellow, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 6.5–7.5 mm long, 2.6 length of adjacent fertile lemma, membranous, yellow, 1-keeled, 1 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 2.5–2.8 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous, hairy at base. Lemma apex lobed, 2 -fid, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 7.5–12 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 2–2.5 mm long, enclosed by glumes, shorter than principal. Palea surface glabrous.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 1.3 mm long, yellow. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Antarctica.
Country /Province /State. **Subantarctic islands**. Amsterdam-St Paul Is.

Pentameris lima (Nees) Steud. *Bot. (Steudel) ed. 2.* 2: 299 (1841).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Danthonia lima* Nees, *Fl. Afr. Austral. Ill.* 312–313 (1841). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Drège 8117*, South Africa: Cape: Kamiesberg, Krakkalkraal (B; IT: K, MO(s.n.), OXF, BM).

Recent Synonyms: *Pentaschistis lima* (Nees) Stapf, *Dyer, Fl. Cap.*7: 496 (1899).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *lima*, file. Leaves or glumes scabrid.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Stolons present. Butt sheaths pallid, glossy, villous, persistent and investing base of culm. Glands raised crateriform. Culms 45 cm long, 2 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades filiform, convolute, 30 cm long, 0.5 mm wide, stiff, eglandular. Leaf-blade surface hirsute, hairy adaxially. Leaf-blade margins scabrous. Leaf-blade apex acute, muticous or pungent.

Inflorescence. Inflorescence a panicle, comprising 100 fertile spikelets. Panicle contracted, lanceolate, 8–12 cm long, 1.5 cm wide. Panicle branches pubescent in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.75 length of fertile spikelet, glandular, scaberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 6–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 6–7 mm long, 1 length of upper glume, membranous, glandular, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface asperulous, rough generally. Lower glume apex acuminate. Upper glume elliptic, 6–7 mm long, 2 length of adjacent fertile lemma, membranous, glandular, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface asperulous, rough generally. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 3 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface smooth or scaberulous, glabrous. Lemma apex lobed, 2 -fid, acute, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 6 mm long overall, with twisted column. Lateral lemma awns present, arising on apex of lobes, 2 mm long, enclosed by glumes, shorter than principal.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 3 mm long, yellow. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.
Country /Province /State. **Southern Africa**. Northern Cape.

Pentameris longiglumis (Nees) Steud. *Nom. ed.* II. ii. 299 (1841).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Danthonia longiglumis* Nees, *Fl. Afr. Austral. Ill.* 1: 306 (1841). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Bergius s.n.*, South Africa: Cape: in summo monte tabulare (B (fragm. & photo, PRE)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *longus*, long; *gluma,* husk. Spikelets with long glumes and or lemmas.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm. Culms 120–170 cm long. Lateral branches lacking. Leaf-sheaths loose, 12 cm long, pubescent. Ligule a fringe of hairs. Leaf-blades curled, filiform, convolute, 20–55 cm long, 2–4 mm wide, coriaceous, stiff. Leaf-blade surface ribbed, glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, globose, 17–30 cm long. Primary panicle branches spreading. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 16–25 mm long, 8–10 mm wide, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent, obtuse, disarticulating obliquely.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume lanceolate, 15–25 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex setaceously acuminate. Upper glume lanceolate, 15–25 mm long, 2.5–3 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex setaceously acuminate.

Florets. Fertile lemma oblong, 6–8 mm long, membranous, without keel, 7–9 -veined, more than 3-veined. Lemma surface pilose. Lemma apex lobed, 2 -fid, with lobes 1.5–3 mm long, incised 0.5 of lemma length, acuminate, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 20–25 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 5–8 mm long, shorter than principal. Palea oblong, 1 length of lemma, 2 -veined. Palea surface pubescent, hairy on back or on flanks.

Flower and Fruit. Lodicules 2, glabrous. Caryopsis with free brittle pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris longipes (Stapf) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.*.

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis longipes* Stapf, *Dyer, Fl. Cap.*7: 509 (1899). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Bowie s.n.*, South Africa: Cape: Albany (K).

Illustrations: None found.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths light brown. Glands raised crateriform. Culms 25–70 cm long, 2–3 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths hirsute, with tubercle-based hairs. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades 15 cm long, 4 mm wide, flaccid. Leaf-blade surface hirsute, hairy adaxially, with tubercle-based hairs. Leaf-blade margins glandular, smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 100 fertile spikelets. Panicle open, ovate, 13 cm long, 5 cm wide. Panicle branches bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1.5 length of fertile spikelet, eglandular, scaberulous, glabrous or puberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 4.5–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 4.5–5 mm long, 1 length of upper glume, membranous, glandular, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 4.5–5 mm long, 2 length of adjacent fertile lemma, membranous, glandular, 1-keeled, 1 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 2.2 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface villous, hairy at base. Lemma margins ciliate. Lemma apex lobed, 2 -fid, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 7 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 1.5–2 mm long, equalling glumes, shorter than principal. Palea surface pubescent, hairy above.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 1.6 mm long, anther tip apiculate. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Eastern Cape.

Pentameris macrocalycina (Steud.) Schweickerdt. *Fedde, Repert.* xliii. 91 (1938).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from South Africa. **Basionym or Replaced Name**: *Avena macrocalycina* Steud., *Flora* 12(2): 482 (1829)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Ecklon 932*, South Africa: Cape: in summitate Montis Tabularis (OXF; ILT: PRE (fragm. ex OXF), S). LT designated by Barker, Bothalia 23: 41 (1993).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (253, Fig 223), G.E.Gibbs Russell el al, *Grasses of Southern Africa* (1990) (251, Fig 159).

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 40–110 cm long. Lateral branches sparse, arising from lower culm. Leaf-sheaths tight, glabrous on surface. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades curled, filiform, convolute, 15–30 cm long, 1–1.5 mm wide, coriaceous, stiff. Leaf-blade surface ribbed, pubescent, hairy adaxially. Leaf-blade apex muticous or pungent.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, 6–12 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 17–25 mm long, 5–10 mm wide, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent, obtuse, disarticulating obliquely.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume lanceolate, 18–24 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex setaceously acuminate. Upper glume lanceolate, 18–24 mm long, 3 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex setaceously acuminate.

Florets. Fertile lemma oblong, 6–8 mm long, membranous, without keel, 7–9 -veined, more than 3-veined. Lemma surface pilose. Lemma apex lobed, 2 -fid, with lobes 1.5–3 mm long, incised 0.33–0.5 of lemma length, acuminate, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 15–20 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 7–10 mm long, shorter than principal. Palea oblong, 1 length of lemma, 2 -veined. Palea surface pubescent, hairy on back or on flanks. Rhachilla extension 0.5–1 mm long.

Flower and Fruit. Lodicules 2, glabrous. Ovary pubescent on apex. Caryopsis with free brittle pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa** (*). Northern Cape (?), Western Cape, Eastern Cape.

Pentameris malouinensis (Steud.) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 333 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from Falkland Is. **Basionym or Replaced Name**: *Eriachne malouinensis* Steud., *Syn. Pl. Glumac.* 1: 236 (1854)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Falkland Islands: Ins. Malouinis, *Urville s.n.*[an evident error for a South African taxon, see Clayton, Kew Bull. 23(2): 294 (1969)].

Recent Synonyms: *Pentaschistis malouinensis* (Steud.) Clayton, *Kew Bull.* 23: 294 (1969).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (269, fig 240 as *P. steudelii*), G.E.Gibbs Russell el al, *Grasses of Southern Africa* (1990) (261, Fig 162).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Malouin, now Falkland Islands.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Stolons present. Butt sheaths pallid, glossy, glabrous, persistent and investing base of culm. Glands absent. Culms geniculately ascending, 15–30 cm

long, 5–10 -noded. Lateral branches ample. Leaves mostly basal. Leaf-sheaths scaberulous, glabrous on surface. Leaf-sheath oral hairs lacking. Ligule a fringe of hairs. Leaf-blades filiform, flat or convolute, 15 cm long, 0.5 mm wide, flaccid, eglandular. Leaf-blade surface scaberulous, glabrous. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 5–50 fertile spikelets. Panicle open or contracted, oblong, 2–8 cm long, 0.5–3 cm wide. Panicle branches eglandular, bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1.5 length of fertile spikelet, eglandular, smooth.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 3.5–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 3.5–4.5 mm long, 1 length of upper glume, membranous, yellow or mid-green, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface puberulous, hairy at apex. Lower glume apex obtuse. Upper glume elliptic, 3.5–4.5 mm long, 1.5 length of adjacent fertile lemma, membranous, yellow or mid-green, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface puberulous, hairy at apex. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 2.5–3 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous, hairy on veins. Lemma apex entire, acute, muticous. Palea keels ciliate.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2–2.2 mm long, brown. Caryopsis with adherent pericarp.

n = 7 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Northern Cape, Western Cape, Eastern Cape.

Pentameris microphylla (Nees) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 334 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Eriachne microphylla* Nees, *Fl. Afr. Austral. Ill.* 277–278 (1841). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Drège 3891*, South Africa: Cape: Stormsberg (B; IT: BM, K, L [Drege s.n.], MO, SAM).

Recent Synonyms: *Pentaschistis microphylla* (Nees) McClean, *S. Afr.Journ. Sc.* 23: 282 (1926).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (267&, Fig 237).

Derivation (Clifford & Bostock 2007): Gk. *mikros,* small; *phyllon*, leaf. Leaf-blades short.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, cushion forming or mat forming. Rhizomes elongated. Butt sheaths light brown, glabrous. Glands raised crateriform. Culms 30 cm long, 20 -noded. Lateral branches ample. Leaves mostly basal. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades 5 cm long, 3 mm wide, stiff. Leaf-blade surface glabrous. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 50 fertile spikelets. Panicle open, ovate, 6–7 cm long, 6–8 cm wide. Panicle branches glabrous in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1.5 length of fertile spikelet, glandular, glabrous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 3 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 3 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 3 mm long, 1.2–1.5 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume primary vein smooth or scaberulous. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma oblong, 2–2.5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous, hairy at base. Lemma apex entire, truncate, muticous.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 1 mm long, yellow or brown. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Eastern Cape.

Pentameris minor (Ballard & C.E.Hubb) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 334 (2010).

TYPE from Tanzania. **Basionym or Replaced Name**: *Pentaschistis borussica* (K. Schum.) Pilg. var. *minor* Ballard & C.E. Hubb, *Bull. Misc. Inform. Kew* 1930: 121 (1930). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: TYPE: Tanzania. Mt. Kilimanjaro, near Peters Hut, s.d., *A.D. Cotton & A.S. Hitchcock 64* (holotype, K).

Recent Synonyms: *Pentaschistis minor* (Ballard & C.E. Hubb.) Ballard & C.E. Hubb., *Fl. Trop. Afr. (Oliver et al.)* 10: 132 (1937).

Illustrations: None found.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Pentameris montana (H.P. Linder) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 334 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis montana* H.P. Linder, *Contr. Bolus Herb.* 12: 83 (1990). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South Africa: Cape: Worcester, Keeromsberg, 3319AD, *Linder 4413* (HT: BOL).

Illustrations (Journals): *Contrib. of the Bolus Herbarium* No. 12 (1990) (86).

Derivation (Clifford & Bostock 2007): L. *mons*, mountain; *-ana*, indicating location. Growing on mountains.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, mat forming or caespitose. Stolons present. Butt sheaths pallid, glossy, glabrous, persistent and investing base of culm. Glands absent. Culms 15–20 cm long, 2–4 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades filiform, convolute, 4 cm long, 0.5 mm wide, stiff, eglandular. Leaf-blade surface glabrous. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 50 fertile spikelets. Panicle open, ovate, 2–5 cm long, 2–3 cm wide. Panicle branches eglandular, pubescent in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.8–1 length of fertile spikelet, eglandular, scaberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 4.5–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 4.5–5 mm long, 1 length of upper glume, membranous, yellow, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface asperulous. Lower glume apex acuminate. Upper glume elliptic, 4.5–5 mm long, 2–2.5 length of adjacent fertile lemma, membranous, yellow, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface asperulous. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 2 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface glabrous or villous. Lemma margins ciliate. Lemma apex lobed, 2 -fid, with lobes 0.1 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 5–6 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 1–1.5 mm long, exserted or equalling glumes, shorter than principal. Palea surface pubescent, hairy above.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 1.8 mm long, yellow. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Northern Cape, Western Cape.

Pentameris natalensis (Stapf) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 334 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis natalensis* Stapf, *Dyer, Fl. Cap.* 7: 493 (1899). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Buchanan 283*, South Africa: Natal: Riet Vlei (K; IT: B, BOL).

Recent Synonyms: *Pentaschistis perrieri* A.Camus, *Bull. Soc. Bot. France* 64: 691 (1928).

Illustrations (Books): R.M.Polhill, F.T.E.A., *Gramineae* (1(1970):126, Fig.40), G.V.Pope et al., *Flora Zambesiaca* 10 (2(1999):6, t. 2), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (258, Fig 225), J.Bosser, *Graminees des Paturage et des Cultures a Madagascar (*1969) (181, Fig 63 as P. perrieri).

Images: F.van Oudtshoorn, *Guide to Grasses of Southern Africa* (1999).

Derivation (Clifford & Bostock 2007): L. *-ense*, denoting origin. From Natal, South Africa.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths herbaceous, glabrous or pilose. Glands absent. Culms erect or decumbent, 30–70 cm long, 2–5 -noded. Leaves mostly basal. Ligule a fringe of hairs. Leaf-blades filiform, 10–30 cm long, 0.5–2 mm wide. Leaf-blade surface glabrous or pilose. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 10–18 cm long, 6–10 cm wide. Primary panicle branches spreading. Panicle branches capillary, eglandular. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 5–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, similar to fertile lemma in texture, shiny, gaping. Lower glume elliptic, 5–9 mm long, 1 length of upper glume, membranous, yellow or purple, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 5–9 mm long, 2 length of adjacent fertile lemma, membranous, yellow or purple, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 2.5–4.5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface pilose. Lemma apex lobed, 2 -fid, incised 0.2 of lemma length, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 7–15 mm long overall, with twisted column. Column of lemma awn 3–5 mm long. Lateral lemma awns present, arising on inner edge of lobes, 2–4 mm long, shorter than principal. Palea 1 length of lemma. Rhachilla extension 0.05 length of fertile floret.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2–2.5 mm long. Caryopsis with adherent pericarp.

n = 7 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **East Tropical Africa**, **South Tropical Africa**, **Southern Africa**, **Western Indian Ocean**. Tanzania. Malawi, Zimbabwe. Limpopo, Mpumalanga, Swaziland, Kwazulu-Natal, Eastern Cape. Madagascar.

Pentameris obtusifolia (Hochst.) Schweickerdt. Fedde, *Repert.* xliii. 91 (1938).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from South Africa. **Basionym or Replaced Name**: *Danthonia obtusifolia* Hochst., *Flora* 29: 120 (1846)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: A Barone de Ludwig e Capite bonae spei missam,.

Recent Synonyms: *Pseudopentameris obtusifolia* (Hochst.) N.P.Barker, Bothalia 25:(2): 145 (1995).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *obtusus*, blunt; *folium*, leaf. Apices of leaf-blades rounded.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial. Culms decumbent, 20–50 cm long, woody. Lateral branches ample. Leaf-sheaths tight, 7 cm long. Ligule a fringe of hairs. Leaf-blades convolute, 50–150 cm long, 2–4 mm wide, indurate, stiff. Leaf-blade surface ribbed.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, 70–130 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 20–26 mm long, 5–10 mm wide, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent, obtuse, disarticulating obliquely.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume lanceolate, 18–25 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume lateral veins distinct. Lower glume apex acuminate. Upper glume lanceolate, 18–25 mm long, 2.5 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume lateral veins distinct. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 7–9 mm long, membranous, without keel, 7–9 -veined, more than 3-veined. Lemma surface pilose. Lemma apex lobed, 2 -fid, incised 0.5 of lemma length, acuminate, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 15–18 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 5–7 mm long, shorter than principal. Palea oblong, 1 length of lemma, 2 -veined. Palea surface pubescent, hairy on back and on flanks.

Flower and Fruit. Lodicules 2, ciliate. Caryopsis with free brittle pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris oreodoxa (Schweick.) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 334 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis oreodoxa* Schweickerdt, *Repert. Spec. Nov. Regni Veg.*43: 90 (1938). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Bayer & McClean 273*, 22 Feb. 1926, South Africa: Natal: Bergville, Mont aux Sources (K). near summit of the mountain, 10500 ft.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *oros,* mountain; *doxa*, splendour. Possibly a reference to the species adorning the high altitude pastures in which it grows.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, cushion forming or caespitose. Butt sheaths pallid, glossy, glabrous, persistent and investing base of culm. Glands absent, or raised crateriform. Culms 20–50 cm long, 3–5 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths pilose, with tubercle-based hairs. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades 15–30 cm long, 2–4 mm wide, eglandular or glandular. Leaf-blade surface glabrous or pilose, sparsely hairy, hairy adaxially. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 200 fertile spikelets. Panicle open, ovate, 7–10 cm long, 7–20 cm wide. Panicle branches glabrous in axils or bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1 length of fertile spikelet, glandular, glabrous or puberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 4–6 mm long, 1 length of upper glume, membranous, yellow, eglandular or glandular, 1-keeled, 1 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 4–6 mm long, 1.3–2 length of adjacent fertile lemma, membranous, yellow, eglandular or glandular, 1-keeled, 1 -veined. Upper glume primary vein smooth or scaberulous. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma oblong, 3–3.5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous, hairy on veins. Lemma apex lobed, 2 -fid, awned, 3 -awned. Principal

lemma awn from a sinus, geniculate, 6–10 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 1–3 mm long, exserted or equalling glumes or enclosed by glumes, shorter than principal. Palea surface pubescent, hairy on back, hairy above.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2–2.2 mm long, yellow. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Free State, Kwazulu-Natal, Lesotho, Eastern Cape.

Pentameris oreophila N.P. Barker. *Bothalia,* 23(1): 41 (1993).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from South Africa. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South Africa: Cape: Worcester Div., Jona's Kop, common on shale band, or on peaty slopes, after fire, in different aspects but not on steep southern slopes, forming dense and, in some places, quite extensive patches, leaf tips very sharp, 5000 ft (1500 m), 19 Dec 1971, *Esterhuysen 32681* (HT: PRE; IT: BOL).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *oros*, mountain; *phileo*, love. Mountain species.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, cushion forming or caespitose, clumped densely. Culms erect or geniculately ascending, 30–53 cm long. Leaf-sheaths outer margin hairy. Ligule a fringe of hairs. Leaf-blades curved, convolute, 5–10 cm long, 1–1.5 mm wide, indurate, stiff. Leaf-blade apex pungent.

Inflorescence. Inflorescence a panicle, comprising 8–20 fertile spikelets. Panicle open, lanceolate, 3–8 cm long, 2–4 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 14–20 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume lanceolate, 14–20 mm long, 1 length of upper glume, membranous. Lower glume apex attenuate. Upper glume lanceolate, 14–20 mm long, membranous. Upper glume apex attenuate.

Florets. Fertile lemma oblong, 4.6–7 mm long, membranous, without keel, more than 3-veined. Lemma apex lobed, 2 -fid, with lobes 1.6–3 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 15.5–24 mm long overall, with twisted column. Column of lemma awn 6–11 mm long. Lateral lemma awns present, arising on inner edge of lobes, 7–10.5 mm long, shorter than principal. Palea 5.5–8.5 mm long, 2 -veined.

Flower and Fruit. Lodicules 2, cuneate, glabrous. Anthers 3, 4–5.5 mm long. Caryopsis with free brittle pericarp, orbicular, isodiametric, 3.5–4 mm long.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris pallescens (Schrad.) Nees. *Linnaea* 7: 312 (1832).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Danthonia pallescens* Schrad., *Mant.* 2: 386 (1824). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *Hesse s.n.*, South Africa (?).

Recent Synonyms: *Pentaschistis pallescens* (Schrad.) Stapf, Dyer, Fl. Cap.7: 486 (1899).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (258, Fig 225).

Derivation (Clifford & Bostock 2007): L. *pallesco*, become pale. Losing color at maturity, especially spikelets.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths pallid, glossy, glabrous, persistent and investing base of culm, with compacted dead sheaths. Glands elongated. Culms decumbent, 60–120 cm long, 3–5 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface or

hirsute. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades 10–18 cm long, 7–10 mm wide, flaccid. Leaf-blade surface glabrous or hirsute. Leaf-blade margins smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 200 fertile spikelets. Panicle open, ovate, 10–18 cm long, 7–10 cm wide. Panicle branches bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.75 length of fertile spikelet, glandular, smooth.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 10–12 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 10–12 mm long, 1 length of upper glume, membranous, mid-green, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume surface smooth or asperulous. Lower glume apex acuminate. Upper glume elliptic, 10–12 mm long, 2–2.5 length of adjacent fertile lemma, membranous, mid-green, 1-keeled, 1 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent. Upper glume surface smooth or asperulous. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 4–6 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous. Lemma apex lobed, 2 -fid, with lobes 2.5 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 9–15 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 3 mm long, enclosed by glumes, shorter than principal. Palea surface pubescent, hairy on back, hairy above.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 3.5–4 mm long, purple. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris pallida Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 334 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*), D.Sharp, D. & B.K.Simon, *AusGrass* (2002) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Avena pallida* Thunb., *Prodr. Pl. Cap.* 22 (1794). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Thunberg 2610*, South Africa: Cape: Verkeerde Vlei (UPS). LT designated by Linder & Ellis, Contr. Bolus Herb.12: 36 (1990). ST: *Thunberg 2609*, South Africa: Cape: Verkeerde Vlei (UPS). ST: *Thunberg 2611*, South Africa: Cape: Verkeerde Vlei (UPS). ST: *Thunberg 2612*, South Africa: Cape: Verkeerde Vlei (UPS).

Recent Synonyms: *Pentaschistis pallida* (Thunb.) H.P. Linder, *Contrib. Bolus Herb.,* 12: 36 (1990).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (258, Fig 225–4 as *P. imperfecta,* Fig 225–5 as *P. angustifolia*), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (308, Fig 241).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);, G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012)

(*Contrib. from the Bolus Herbarium* No. 12 : 14 (1990) as *P. heterochaete*), F.van Oudtshoorn, *Guide to Grasses of Southern Africa* (1999).

Derivation (Clifford & Bostock 2007): L. pale-colored. Spikelets or grain pale-green.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths pallid, glossy, persistent and investing base of culm. Glands absent, or raised crateriform. Culms 15–40 cm long, 2–5 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface or hirsute, with simple hairs or tubercle-based hairs. Leaf-sheath oral hairs lacking or bearded. Ligule a fringe of hairs. Leaf-blades 10 cm long, 5 mm wide, flaccid, eglandular or glandular. Leaf-blade surface glabrous. Leaf-blade margins smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 30–100 fertile spikelets. Panicle open or contracted, elliptic, 2–8 cm long, 1–7 cm wide. Panicle branches bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.7–1 length of fertile spikelet, eglandular or glandular, smooth or scaberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 3–5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume surface smooth or asperulous. Lower glume apex acuminate. Upper glume elliptic, 3–5 mm long, 1.5–2 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent. Upper glume surface smooth or asperulous. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 2–2.5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface villous, hairy at base. Lemma margins ciliate. Lemma apex dentate, 2 -fid, with lobes 0.1 mm long, truncate, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 6–7 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 2 mm long, exserted or equalling glumes, shorter than principal. Palea surface glabrous or villous, hairy above.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 1.5–2 mm long, yellow or brown. Caryopsis with adherent pericarp.

n = 14 (1 ref TROPICOS), or 21 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa, Australasia (*).

Country /Province /State. **Southern Africa**. Northern Cape, Western Cape, Eastern Cape. **Australia** (*). Western Australia (*), South Australia (*).

South-West. Southern.

Pentameris patula (Nees) Steud. *Nomencl. Bot. (Steudel) ed. 2.* 2: 299 (1841).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from South Africa. **Basionym or Replaced Name**: *Danthonia patula* Nees, *Fl. Afr. Austral.* 285 (1841). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South Africa, *Drege*.

Recent Synonyms: *Pentaschistis patula* (Nees) Stapf, *Dyer, Fl. Cap.* 7: 510. (1899).

Illustrations: None found.

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012)

(*Contrib. from the Bolus Herbarium* No. 12 : 6 (1990) as *Pentameris patula*), F.van Oudtshoorn, *Guide to Grasses of Southern Africa* (1999).

Derivation (Clifford & Bostock 2007): L. outspread. Inflorescence an open panicle.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Annual, caespitose. Glands absent, or raised crateriform. Culms 15–30 cm long, 3–5 -noded. Culm-nodes bearded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface or hirsute, with simple hairs or tubercle-based hairs. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades 5–12 cm long, 3–4 mm wide, flaccid. Leaf-blade surface hirsute, with simple hairs or tubercle-based hairs. Leaf-blade margins eglandular or glandular, smooth or scaberulous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 200 fertile spikelets. Panicle open, ovate, 5–10 cm long, 4–9 cm wide. Panicle branches bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.75–1.5 length of fertile spikelet, eglandular or glandular, smooth or scaberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 3.5–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 3.5–5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent. Lower glume apex acute or acuminate. Upper glume elliptic, 3.5–5 mm long, 1.6–2 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined.

Upper glume primary vein smooth or scaberulous. Upper glume lateral veins absent. Upper glume apex acute or acuminate.

Florets. Fertile lemma oblong, 3.5–5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous. Lemma hairs 0.6 mm long. Lemma apex lobed, 2 -fid, acute, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 4–12 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 1–3 mm long, enclosed by glumes, shorter than principal. Palea surface glabrous or villous.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 1.9–2.5 mm long, yellow. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Northern Cape, Western Cape.

Pentameris pholiuroides (Stapf) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 334 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Prionanthium pholiuroides* Stapf, *Dyer, Fl. Cap.* 7: 456. (1899). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Coast Region: Cape Div.; damp hollows in Fish Hook Valley, *Wolley-Dod 3394*.

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (271, Fig 243), G.E.Gibbs Russell el al, *Grasses of Southern Africa* (1990) (276, Fig 173).

Illustrations (Journals): *Bothalia* (18:145, Fig,1D (1988)).

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resembling. The inflorescence resembles that of *Pholiurus*.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Annual. Culms 5–30 cm long. Ligule a fringe of hairs. Leaf-blades convolute, 1–4 cm long, 0.5 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, unilateral, 1.5–5 cm long. Rhachis flattened. Spikelet packing broadside to rhachis, regular, 2 -rowed. Spikelets appressed, solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4.5–7 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, firmer than fertile lemma, gaping. Lower glume oblong, 4.5–7 mm long, 1 length of upper glume, coriaceous, 1-keeled, 5–8 -veined. Lower glume primary vein smooth or tuberculate. Lower glume apex acute. Upper glume oblong, 4.5–7 mm long, 1.1 length of adjacent fertile lemma, coriaceous, 1-keeled, 5–8 -veined. Upper glume primary vein smooth or tuberculate. Upper glume apex acute.

Florets. Fertile lemma oblong, 4–6.5 mm long, membranous, keeled, 3 -veined, 0–3 -veined. Lemma apex acute. Palea 1 length of lemma, 2 -veined. Palea keels approximate. Rhachilla extension 0.1 length of fertile floret.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris pictigluma (Steud.) Pilger. *Ann. Mo. Bot. Gard.* 97 (3): 334 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from Ethiopia. **Basionym or Replaced Name**: *Aira pictigluma* Steud., *Syn. Pl. Glumac.* 1: 221 (1854). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *Schimper*, Ethiopia.

Recent Synonyms: *Pentaschistis pictigluma* (Steud.) Pilger, *Notizbl. Bot. Gart. Berlin-Dahlem* 9: 517 (1926). *Pentaschistis mannii* Stapf ex Maitland, *Fl. W. Trop. Afr.* 2: 528 (1936).

Pentaschistis minor.

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (152, Fig. 77 as *P. mannii*), S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (72, Fig. 31).

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths pallid, glossy, glabrous. Glands absent. Culms erect, 8–45 cm long, 2–3 -noded. Leaves mostly basal. Leaf-sheaths glabrous on surface or pubescent. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades filiform or linear, flat or convolute, 2–10 cm long, 1–3 mm wide, stiff. Leaf-blade surface glabrous or pubescent. Leaf-blade margins scabrous. Leaf-blade apex acute, hardened.

Inflorescence. Inflorescence a panicle. Panicle contracted or spiciform, linear, 2–8 cm long, 0.8–2 cm wide. Panicle branches glabrous in axils or bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, glandular.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension or with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 4.5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 4.5–8 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 4.5–8 mm long, 2–3 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume primary vein smooth or scaberulous. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 2–3 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface pubescent. Lemma apex lobed, 2 -fid, incised 0.25 of lemma length, acute, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 4–7 mm long overall, with twisted column. Column of lemma awn 1.5–3 mm long. Lateral lemma awns present, arising on inner edge of lobes, 1.5–3 mm long, shorter than principal. Palea 0.8–0.9 length of lemma. Rhachilla extension 0–0.05 length of fertile floret.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 0.4–0.9 mm long. Caryopsis with adherent pericarp.

$2n = 56$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa, Temperate Asia.

Country /Province /State. **West-Central Tropical Africa**, **Northeast Tropical Africa**, **East Tropical Africa**. Cameroon, Rwanda. Ethiopia (inc. Eritrea), Sudan. Kenya, Tanzania, Uganda. **Arabian Peninsula**. Yemen.

Pentameris praecox (H.P. Linder) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 329 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis praecox* H.P. Linder, *Contrib. Bolus Herb.*, 12: 95 (1990). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South Africa: Natal: National Park area, Inner Tower Ravine, *Esterhuysen 30242* (HT: BOL).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. early. Flowering early in the spring.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths glabrous, persistent and investing base of culm, with compacted dead sheaths or fibrous dead sheaths. Glands absent. Culms 30–60 cm long, 3 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs ciliate. Ligule a fringe of hairs. Leaf-blades filiform, convolute, 30 cm long, 0.5 mm wide, stiff, eglandular. Leaf-blade surface glabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 30 fertile spikelets. Panicle contracted, linear, 4–12 cm long, 1–2 cm wide. Panicle branches eglandular, glabrous in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.8 length of fertile spikelet, eglandular, smooth.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile.

Spikelets cuneate, laterally compressed, 8.5–11 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 8.5–11 mm long, 1 length of upper glume, membranous, light brown, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 8.5–11 mm long, 1.8 length of adjacent fertile lemma, membranous, light brown, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 4.5–6 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous, hairy in lines. Lemma apex lobed, 2 -fid, with lobes 1.8–2.2 mm long, incised 0.5 of lemma length, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 8–10 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 3–5 mm long, equalling glumes, shorter than principal.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2–3 mm long, brown. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Lesotho.

Pentameris pseudopallescens (H.P. Linder) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 335 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis pseudopallescens* H.P. Linder, *Contrib. Bolus Herb.,* 12: 72 (1990). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *Linder 4483*, 20 Nov 1987, South Africa: Cape: Ceres, Milner Vlakte in the Hex River Mountains, 3319AD (MO).

Illustrations (Journals): *Contrib. of the Bolus Herbarium* No. 12 (1990) (73).

Derivation (Clifford & Bostock 2007): Gk *pseudos*, false. Resembling *Pentaschistis pallescens*.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, short-lived, caespitose. Rhizomes elongated. Butt sheaths light brown, glabrous, persistent and investing base of culm, with curly dead sheaths. Glands elongated. Culms 40–80 cm long, 3–5 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths hirsute, with simple hairs or tubercle-based hairs. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades 30 cm long, 6 mm wide, flaccid. Leaf-blade surface hirsute, hairy adaxially. Leaf-blade margins glandular, smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 100 fertile spikelets. Panicle open, ovate, 8–12 cm long, 4–8 cm wide. Panicle branches bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.75–1 length of fertile spikelet, glandular, scaberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 8–12 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 8–12 mm long, 1 length of upper glume, membranous, yellow, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface asperulous, glabrous to villous. Lower glume apex acuminate. Upper glume elliptic, 8–12 mm long, 3 length of adjacent fertile lemma, membranous, yellow, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface asperulous, glabrous to villous. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 3–4 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous. Lemma apex lobed, 2 -fid, with lobes 0.3 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 12–17 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 4–8 mm long, equalling glumes, shorter than principal. Palea surface glabrous.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2.7–3 mm long, purple. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris pungens (H.P. Linder) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 335 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis pungens* H.P. Linder, *Contrib. Bolus Herb.,* 12: 97 (1990). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South Africa: Cape: Clanwilliam district, Uitkyk Pk in the Cedarberg, 3218AC, *Esterhuysen 34010* (HT: BOL; IT: K, PRE).

Illustrations (Journals): *Contrib. of the Bolus Herbarium* No. 12 (1990) (98).

Derivation (Clifford & Bostock 2007): L. *pungo*, prick. Leaf-blades sharp-pointed.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, short-lived, caespitose. Butt sheaths pallid, glossy, glabrous or sparsely hairy, persistent and investing base of culm. Glands absent. Culms erect, 20–50 cm long, 10–20 -noded. Lateral branches ample. Leaves mostly basal. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs lacking. Ligule a fringe of hairs. Leaf-blades 12 cm long, 4 mm wide, stiff, eglandular. Leaf-blade surface glabrous. Leaf-blade margins scabrous. Leaf-blade apex acute, muticous or pungent.

Inflorescence. Inflorescence a panicle, comprising 20–50 fertile spikelets. Panicle open, ovate, 4–8 cm long, 1.5–2.5 cm wide. Panicle branches eglandular, pubescent in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.8 length of fertile spikelet, eglandular, smooth or scaberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 11–15 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 11–15 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface smooth or asperulous. Lower glume apex acuminate. Upper glume elliptic, 11–15 mm long, 2.5 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface smooth or asperulous. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 4.5–5.5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous, hairy on veins. Lemma apex lobed, 2 -fid, with lobes 1–1.5 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 17–20 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 7–9 mm long, equalling glumes, shorter than principal. Palea surface pubescent, hairy above.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 3.3–4 mm long, brown. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris pusilla (Nees) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 335 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from South Africa. **Basionym or Replaced Name**: *Colpodium pusillum* Nees, *Fl. Afr. Austral. Ill.* 149–150 (1841)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.F. Drège s.n.*, South Africa: Cape: Cap Bonne Espérance, "in den Kraenzen" [Table Mtn.] (B; IT: K, LE, MO, US-3168560 (ex CAEN [poa annua], ex ? [the type])).

Recent Synonyms: *Pentaschistis pusilla* (Nees) H.P. Linder, *Contrib. Bolus Herb.*, 12: 89 (1990). *Poagrostis pusilla* (Nees) Stapf, *Dyer, Fl. Cap.* vii. 760 (1900).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (272, Fig 244).

Derivation (Clifford & Bostock 2007): L. very small. Plants of small stature.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Annual. Culms 5–25 cm long. Ligule a fringe of hairs. Leaf-blades 1–5 cm long, 0.5–1 mm wide, flaccid.

Inflorescence. Inflorescence a panicle or comprising only a few spikelets, comprising 1–2 fertile spikelets. Panicle open, elliptic, effuse, 1–5 cm long. Panicle branches capillary. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2–3 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets or reaching apex of florets, thinner than fertile lemma. Lower glume elliptic, 2–3 mm long, 1 length of upper glume, hyaline, 1-keeled, 1–3 -veined. Lower glume apex obtuse. Upper glume elliptic, 2–3 mm long, 1–1.2 length of adjacent fertile lemma, hyaline, 1-keeled, 1–3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma elliptic, 2–2.5 mm long, membranous, without keel, 7 -veined, more than 3-veined. Lemma surface pubescent. Lemma apex obtuse. Palea 1 length of lemma.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris pyrophila (H.P. Linder) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 335 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis pyrophila* H.P. Linder, *Contrib. Bolus Herb.*, 12: 81 (1990). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *Linder 4477*, 20 Nov 1987, South Africa: Cape: Ceres, Milner Peak in the Hex River Mountains, 3319AD (MO).

Illustrations (Journals): *Contrib. of the Bolus Herbarium* No. 12 (1990) (82).

Derivation (Clifford & Bostock 2007): Gk *pyre*, fire; *philos*, friend. Regenarates well and flowers after fire.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths glabrous or sparsely hairy, persistent and investing base of culm, with compacted dead sheaths. Glands absent. Culms 20–60 cm long, 3 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs lacking or ciliate. Ligule a fringe of hairs. Leaf-blades filiform, convolute, 6–20 cm long, 0.5–1.5 mm wide, stiff, eglandular. Leaf-blade margins smooth. Leaf-blade apex acute, muticous or pungent.

Inflorescence. Inflorescence a panicle, comprising 50 fertile spikelets. Panicle contracted, linear or lanceolate, 2.5–8 cm long, 1.5–6 cm wide. Panicle branches eglandular, glabrous in axils or pubescent in axils or bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.8 length of fertile spikelet, eglandular, smooth or scaberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 10–12 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 10–12 mm long, 1 length of upper glume, membranous, yellow, 1-keeled, 1 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 10–12 mm long, 2 length of adjacent fertile lemma, membranous, yellow, 1-keeled, 1 -veined. Upper glume primary vein smooth or scaberulous. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 4.5–6 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous. Lemma apex lobed, 2 -fid, with lobes 1 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 12–13 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 4–6 mm long, equalling glumes, shorter than principal. Palea surface pubescent.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 3.5–4 mm long, brown. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris reflexa (H.P. Linder) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 335 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis reflexa* H.P. Linder, *Contrib. Bolus Herb.,* 12: 53 (1990). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South Africa: Cape: Cedarberg, slopes below middelberg at Algeria, 3219AC, *Linder 4531* (HT: BOL; IT: K, MO, PRE, STE).

Illustrations (Journals): *Contrib. of the Bolus Herbarium* No. 12 (1990) (54).

Derivation (Clifford & Bostock 2007): L. bent sharply backwards. Panicle branches reflexed.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, persisting, cushion forming or mat forming. Stolons present. Butt sheaths light brown. Glands raised crateriform. Culms 10–35 cm long, 10 -noded. Lateral branches ample. Leaves cauline. Leaf-sheaths pilose, with tubercle-based hairs. Leaf-sheath oral hairs lacking or ciliate. Ligule a fringe of hairs. Leaf-blades flat or convolute, 3 cm long, 1.5 mm wide, stiff. Leaf-blade surface pilose, with tubercle-based hairs. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 10–150 fertile spikelets. Panicle open, ovate, 2–6 cm long, 1.5–3 cm wide. Panicle branches pubescent in axils. Spikelets deflexed, solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.75 length of fertile spikelet, glandular, scaberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 3–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 3–4 mm long, 1 length of upper glume, membranous, yellow, glandular, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 3–4 mm long, 1.8–2 length of adjacent fertile lemma, membranous, yellow, glandular, 1-keeled, 1 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 1.6–2 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous, hairy below, with clavate hairs. Lemma apex entire or erose, acute, muticous.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 1.1–2 mm long, brown. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris rigidissima (H.P. Linder) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 335 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis rigidissima* H.P. Linder, *Contrib. Bolus Herb.,* 12: 85 (1990). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South Africa: Cape: Worcester, Milner Pk in the Hex River Mountains, 3319AD, *Esterhuysen 14903* (HT: BOL; IT: NBG, PRE, SAM).

Illustrations (Journals): *Contrib. of the Bolus Herbarium* No. 12 (1990) (88).

Derivation (Clifford & Bostock 2007): L. *rigidus*, stiff; *-issimus*, most. Leaf-blades rolled, rigid.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, cushion forming. Stolons absent or present. Butt sheaths pallid, glossy, glabrous, persistent and investing base of culm. Glands absent. Culms erect, 10–30 cm long, 3 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs lacking. Ligule a fringe of hairs. Leaf-blades filiform, convolute, 4–10 cm long, 0.5 mm wide, stiff, eglandular. Leaf-blade margins smooth. Leaf-blade apex acute, muticous or pungent.

Inflorescence. Inflorescence a panicle, comprising 5–30 fertile spikelets. Panicle contracted, linear or oblong, 2–6 cm long, 0.7–1.5 cm wide, bearing few spikelets. Panicle branches eglandular, bearded in axils.

Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.8–1.5 length of fertile spikelet, eglandular, smooth.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 7–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 7–8 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 7–8 mm long, 2.5 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 3 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous. Lemma apex lobed, 2 -fid, with lobes 1 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 8–12 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 2–5 mm long, equalling glumes, shorter than principal.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 1.6–1.8 mm long, brown. Caryopsis with adherent pericarp.

n = 7 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Northern Cape, Western Cape, Eastern Cape.

Pentameris rosea (H.P. Linder) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 335 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: Pentaschistis rosea H.P. Linder, *Contrib. Bolus Herb.,* 12: 70 (1990). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South Africa: Cape: Porterville mountains, Groot Winterhoek forest reserve, Suurvlakte, 3319AA, *Linder 4777* (HT: BOL).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. pink. Inflorescences pink.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, short-lived, cushion forming or caespitose. Butt sheaths light brown, glabrous. Glands elongated. Culms decumbent, 150–400 cm long, 3–100 -noded. Lateral branches lacking or sparse or ample. Leaves basal and cauline. Leaf-sheaths glabrous on surface or hirsute. Leaf-sheath oral hairs lacking or ciliate. Ligule a fringe of hairs. Leaf-blades 50–100 cm long, 1–5 mm wide, firm or flaccid. Leaf-blade surface glabrous or hirsute, hairy abaxially. Leaf-blade margins glandular, smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 5–30 fertile spikelets. Panicle open, ovate, 2–6 cm long, 1–6 cm wide. Panicle branches bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.75–1 length of fertile spikelet, glandular, smooth or scaberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 8–12 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 8–12 mm long, 1 length of upper glume, membranous, yellow, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface asperulous, pilose, with tubercle-based hairs. Lower glume apex acuminate. Upper glume elliptic, 8–12 mm long, 3–3.5 length of adjacent fertile lemma, membranous, yellow, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface asperulous, pilose, with tubercle-based hairs. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 2.5–3.5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous. Lemma apex lobed, 2 -fid, with lobes 0.6–1 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 10–17 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 6–9 mm long, equalling glumes or enclosed by glumes, shorter than principal. Palea surface pubescent, hairy above.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2.5–4 mm long, yellow or purple. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris rupestris (Nees) Steud. *Nomencl. Bot. (Steudel) ed. 2.* 2: 299 (1841).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Danthonia rupestris* Nees, *Fl. Afr. Austral. Ill.* 300 (1841). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Drége 1682b*, South Africa: Cape: Cedarberg, Blaauwberg, (B).

Recent Synonyms: *Pentaschistis rupestris* (Nees) Stapf, *Dyer, Fl. Cap.* 7: 498. (1899).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *rupes*, rock; *-estre,* place of growth; Growing amongst rocks.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths pallid, glossy, villous, persistent and investing base of culm. Glands raised crateriform. Culms 60–100 cm long, 3–5 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths hirsute. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades 40 cm long, 6 mm wide, flaccid, eglandular or glandular. Leaf-blade surface glabrous. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 300 fertile spikelets. Panicle open, ovate, 10 cm long, 9 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1.5 length of fertile spikelet, glandular.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 7–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 7–8 mm long, 1 length of upper glume, membranous, glandular, 1-keeled, 1 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 7–8 mm long, 2–2.5 length of adjacent fertile lemma, membranous, glandular, 1-keeled, 1 -veined. Upper glume primary vein smooth or scaberulous. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 3 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous. Lemma apex lobed, 2 -fid, with lobes 0.3 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 10 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 2–3 mm long, equalling glumes, shorter than principal. Palea surface glabrous.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 3 mm long, brown. Caryopsis with adherent pericarp.

n = 14 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris scabra (Nees) Steud.,. *Nomencl. Bot. (Steudel) ed.* 2. 2:299 (1841).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Avena papillosa* Steud., *Flora* 12(2): 484 (1829) non Schrad., *Gött. Gel. Anz.* 3: 2075 (1821)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *Ecklon 936*, South Africa: Cape [Cape of Good Hope]: Cape Town, Table Mountain (K, MO). Left-hand specimen only.

Recent Synonyms: *Pentaschistis papillosa* (Steud.) H.P. Linder, *Contr. Bolus Herb.* 12: 32 (1990).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *papilla*, nipple; *-osa,* abundance. With papillae on the glumes or lemmas.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Butt sheaths glabrous. Glands wart-like, or raised crateriform. Culms geniculately ascending, 10–40 cm long, 20–50 -noded. Lateral branches ample. Leaves cauline. Leaf-sheaths glabrous on surface or hirsute. Leaf-sheath oral hairs scanty or bearded. Ligule a fringe of hairs. Leaf-blades 3.5–10 cm long, 3–6 mm wide, stiff. Leaf-blade surface glabrous or hirsute, hairy abaxially. Leaf-blade margins eglandular or glandular, smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 5–150 fertile spikelets. Panicle open, ovate, 1.5–4 cm long, 1–4 cm wide. Panicle branches glabrous in axils or bearded in axils (rarely). Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1.5 length of fertile spikelet, glandular, glabrous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 5–7 mm long, 1 length of upper glume, membranous, glandular, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface smooth or asperulous, rough below. Lower glume apex acuminate. Upper glume elliptic, 5–7 mm long, 2 length of adjacent fertile lemma, membranous, glandular, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface smooth or asperulous, rough below. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 2.5–3 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous. Lemma apex lobed, 2 -fid, with lobes 0.3 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 12–14 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 5–6 mm long, exserted, shorter than principal. Palea surface glabrous or villous.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2.3–3 mm long, brown or purple. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris scandens (H.P. Linder) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 336 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis scandens* H.P. Linder, *Contrib. Bolus Herb.,* 12: 101 (1990). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South Africa: Cape: Bredasdorp, Bontebok Park, 3420CA, *Acocks 22619* (HT: PRE).

Illustrations (Journals): *Contrib. of the Bolus Herbarium* No. 12 (1990) (102).

Derivation (Clifford & Bostock 2007): L. *scando*, climb up. Of scrambling habit.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial. Stolons present. Butt sheaths glabrous. Glands absent. Culms rambling, 30–50 cm long, 100 -noded. Lateral branches ample. Leaves cauline. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs ciliate. Ligule a fringe of hairs. Leaf-blades curled, 15 cm long, 0.5 mm wide, stiff, eglandular. Leaf-blade surface glabrous. Leaf-blade margins smooth. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle, comprising 10 fertile spikelets. Panicle open, ovate, 4 cm long, 2 cm wide, bearing few spikelets. Panicle branches eglandular, glabrous in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.8 length of fertile spikelet, eglandular, smooth.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 10–11 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 10–11 mm long, 1 length of upper glume, membranous, yellow or purple, 1-keeled, 1 -veined. Lower glume

primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 10–11 mm long, 2.5 length of adjacent fertile lemma, membranous, yellow or purple, 1-keeled, 1 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 4 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous. Lemma apex lobed, 2 -fid, with lobes 0.2 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 14 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 6 mm long, equalling glumes, shorter than principal. Palea surface pubescent, hairy above.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 3 mm long, yellow. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris setifolia (Thunb.) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 336 (2010).

TYPE from South Africa. **Basionym or Replaced Name**: *Holcus setifolius* Thunb., *Fl. Cap.* 1: 413 (1813). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: TYPE: South Africa. *Thunberg* in herb. *C.P. Thunb. 23857* (holotype, UPS - microfiche BOL).

Recent Synonyms: *Pentaschistis setifolia* (Thunb.) McClean, *S. Afr.Journ. Sc.* 23: 282 (1926).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (26, Fig 233).

Derivation (Clifford & Bostock 2007): L. *seta*, bristle; *folium*, leaf. Leaf-blades bristle-like.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths pallid, glossy, glabrous, persistent and investing base of culm, with compacted dead sheaths. Glands absent, or raised crateriform. Culms 15–40 cm long, 3–5 -noded. Leaves mostly basal. Leaf-sheaths glabrous on surface or hirsute, with simple hairs or tubercle-based hairs. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades curled, filiform, convolute, 30 cm long, 0.8 mm wide, stiff. Leaf-blade surface glabrous or hirsute, hairy abaxially, with simple hairs or tubercle-based hairs. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 3–7 cm long, 2–5 cm wide. Panicle branches bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, eglandular or glandular.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension or with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 3.5–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 3.5–5 mm long, 1 length of upper glume, membranous, eglandular or glandular, 1-keeled, 1 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume elliptic, 3.5–5 mm long, 1.2–1.4 length of adjacent fertile lemma, membranous, eglandular or glandular, 1-keeled, 1 -veined. Upper glume primary vein smooth or scaberulous. Upper glume lateral veins absent. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 3–3.5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous, hairy all along or below. Lemma apex dentate, 2 -fid, muticous. Palea 0.9 length of lemma. Palea keels puberulous, adorned above. Rhachilla extension 0–0.05 length of fertile floret.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 1.6–2 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Free State, Kwazulu-Natal, Lesotho, Eastern Cape.

Pentameris swartbergensis N.P. Barker. *Bothalia,* 23(1): 43 (1993).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from South Africa. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South Africa: Cape: Toverkop, Swartberg near Ladismith, broad ledges at base of high cliffs on S side of

peak, appears to be locally dominantbelow cave, 6500 ft (1875 m), 17 Dec 1956, *Esterhuysen 26755* (HT: PRE; IT: BOL).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Swartberg, South Africa.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 30–56 cm long. Leaf-sheaths glabrous on surface, outer margin glabrous. Ligule a fringe of hairs. Leaf-blades conduplicate or convolute, 10–23 cm long, 1–3 mm wide, indurate. Leaf-blade surface glabrous, hairless except near base.

Inflorescence. Inflorescence a panicle, comprising 22–56 fertile spikelets. Panicle open, ovate, 8–9 cm long, 2–3.5 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 11.5–13 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume lanceolate, 11.5–13 mm long, 1 length of upper glume, membranous. Lower glume apex attenuate. Upper glume lanceolate, 11.5–13 mm long, membranous. Upper glume apex attenuate.

Florets. Fertile lemma oblong, 4.2–4.5 mm long, membranous, without keel, more than 3-veined. Lemma apex lobed, 2 -fid, with lobes 1.4–1.5 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 8.5–10 mm long overall, with twisted column. Column of lemma awn 3 mm long. Lateral lemma awns present, arising on inner edge of lobes, 2.5–3.5 mm long, shorter than principal. Palea 4.5–5 mm long, 2 -veined.

Flower and Fruit. Lodicules 2, cuneate, ciliate. Anthers 3. Caryopsis with free brittle pericarp, fusiform, 2–2.4 mm long.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape, Eastern Cape.

Pentameris thuarii Beauv. *Agrost.* 93. t. 18 (1812).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from South Africa. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Du Petit-Thouars s.n.*, Feb 1793, South Africa: Cape (P). LT designated by Barker, Bothalia 23: 36 (1993).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (252, Fig 222).

Derivation (Clifford & Bostock 2007): in honor of Louis Marie Aubert du Petit-Thouars (1758–1831), French botanist.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial. Culms 100–300 cm long, woody. Leaf-sheaths inflated. Leaf-sheath auricles erect. Ligule a fringe of hairs. Leaf-blades convolute, 20–40 cm long, 2–5 mm wide. Leaf-blade surface ribbed.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 8–20 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 15–20 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus bearded, obtuse. Floret callus hairs 0.25 length of lemma.

Glumes. Glumes persistent, similar, exceeding apex of florets, similar to fertile lemma in texture. Lower glume lanceolate, 15–20 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume lanceolate, 15–20 mm long, 5 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 3–3.5 mm long, membranous, without keel, 11 -veined, more than 3-veined. Lemma apex lobed, 2 -fid, incised 0.2 of lemma length, obtuse, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 14–18 mm long overall, with twisted column. Lateral lemma awns present,

arising on inner edge of lobes, 4–5 mm long, shorter than principal. Palea oblong, 1 length of lemma, 2 -veined. Palea surface pubescent, hairy on back or on flanks. Palea apex dentate, 2 -fid.

Flower and Fruit. Lodicules 2, glabrous. Caryopsis with free brittle pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris tomentella (Stapf) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 336 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis tomentella* Stapf, *Dyer, Fl. Cap.* 7: 502. (1899). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Drége s.n.*, South Africa: Cape: Namaqualand, Modderfonteinsberg (K).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (258, Fig 225 as *P. brachyathera*).

Derivation (Clifford & Bostock 2007): L. *tomentum*, stuffing material of a pillow; *-ella,* diminutive. Plant invested in part or totally with short hairs.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, cushion forming or caespitose. Butt sheaths pallid, glossy, persistent and investing base of culm. Glands raised crateriform. Culms 10–30 cm long, 3–5 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glandular. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades 5 cm long, 3 mm wide, flaccid. Leaf-blade surface hirsute. Leaf-blade margins smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 100 fertile spikelets. Panicle contracted, elliptic, 3–5 cm long, 3–4 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.75 length of fertile spikelet, glandular, smooth or scaberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 4–5 mm long, 1 length of upper glume, membranous, glandular, 1-keeled, 1 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 4–5 mm long, 2 length of adjacent fertile lemma, membranous, glandular, 1-keeled, 1 -veined. Upper glume primary vein smooth or scaberulous. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma oblong, 2–2.5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface pubescent. Lemma apex lobed, 2 -fid, acute, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 3–5 mm long overall, with a straight or slightly twisted column. Lateral lemma awns present, arising on apex of lobes, 1–1.5 mm long, enclosed by glumes, shorter than principal. Palea surface glabrous.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2 mm long, yellow or purple. Caryopsis with adherent pericarp.

n = 7 (1 ref TROPICOS), or 14 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Northern Cape, Western Cape.

Pentameris tortuosa (Trin.) Nees. *Linnaea* 7: 310, 311 (1832).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Danthonia tortuosa* Trin., *Sp. Gram.* 1(6): , t. 68 (1827). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Sp. Gram. 1: tab. 68. 1827.*, South Africa LT designated by Linder & Ellis, *Contr. Bolus Herb*. 12:78.1990.

Recent Synonyms: *Pentaschistis tortuosa* (Trin.) Stapf, *Flora Capensis* 7: 488 (1899).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *tortus*, twisted; *-osa,* abundance. With conspicuously twisted leaf-blades or awns.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Stolons present. Butt sheaths pallid, glossy, glabrous, persistent and investing base of culm. Glands absent. Culms 60–100 cm long, 3–5 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs lacking. Ligule a fringe of hairs. Leaf-blades curled, flat or convolute, 50 cm long, 4 mm wide, stiff, eglandular. Leaf-blade surface smooth or scaberulous, glabrous. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 200 fertile spikelets. Panicle contracted, lanceolate, nodding, 8–20 cm long, 2–4 cm wide. Panicle branches eglandular, glabrous in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1–1.5 length of fertile spikelet, eglandular, smooth or scaberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 7–11 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 7–11 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 7–11 mm long, 1.8 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume primary vein smooth or scaberulous. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 4–6 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous. Lemma apex lobed, 2 -fid, with lobes 1 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 10–15 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 4–5 mm long, equalling glumes, shorter than principal. Palea surface pubescent, hairy above.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 3 mm long, yellow. Caryopsis with adherent pericarp.

n = 7 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape, Eastern Cape.

Pentameris trifida (Galley) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.*.

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis trifida* Galley, *Bothalia* 36:157 (2006). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South Africa: Westerm Cape, 3319 (Ceres): Baviaansberg, north of the Hex River Mountains, 1050 m, 33?2'14.6"S, 19?7'04.5"E, (-BA), 11 Nov 2004, *C.A. Galley 577* (HTZH; IT: BOL, K, NBG, PRE).

Illustrations: None found.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, culms solitary. Butt sheaths pallid, glossy, glabrous, persistent and investing base of culm. Basal innovations intravaginal. Glands elongated. Culms erect, 8–20 cm long. Culm-nodes glabrous. Lateral branches lacking. Leaves cauline. Leaf-sheaths puberulous. Leaf-sheath oral hairs lacking. Ligule a fringe of hairs, 0.25 mm long. Leaf-blades filiform, convolute, 2–5 cm long, 0.5–1 mm wide, eglandular. Leaf-blade margins scaberulous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 15–35 fertile spikelets. Panicle open, ovate, 5–7.5 cm long, 4–6 cm wide. Panicle branches eglandular, glabrous, glabrous in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 4.5–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, 0.6–0.8 mm long, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 4.5–5.5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface puberulous. Lower glume apex acute. Upper glume elliptic, 4.5–5.5 mm long, 1.8–2

length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface puberulous. Upper glume apex acute.

Florets. Fertile lemma oblong, 2.4–2.8 mm long, membranous, without keel, 5 -veined, more than 3-veined. Lemma surface pilose, hairy between veins. Lemma apex dentate, 2 -fid, with lobes 0.5 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 18–24 mm long overall, with twisted column. Column of lemma awn 5.5 mm long. Lateral lemma awns present, 6–8 mm long, shorter than principal. Palea 3 mm long.

Flower and Fruit. Lodicules 2, veined. Anthers 3, 0.9–1.2 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**.

Pentameris triseta (Thunb.) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 336 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Avena triseta* Thunb., *Prodr. Pl. Cap.*. 22 (1794). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Thunberg 2632*, South Africa (UPS).

Recent Synonyms: *Pentaschistis triseta* (Thunb.) Stapf, *Dyer, Fl. Cap.* 7: 495. (1899).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (262, Fig 229).

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Annual, caespitose. Glands elongated. Culms erect, 20–60 cm long, 3–5 -noded. Leaves mostly basal. Leaf-sheaths hirsute. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades 8 cm long, 4 mm wide. Leaf-blade surface hirsute. Leaf-blade margins smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 5–15 fertile spikelets. Panicle open, ovate, 7–10 cm long, 3–9 cm wide, bearing few spikelets. Panicle branches bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, glandular, glabrous or puberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension or with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 15–18 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus elongated, 2.5 mm long, pubescent, pungent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 15–18 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume surface pilose, hairy on veins, with tubercle-based hairs. Lower glume apex acuminate. Upper glume elliptic, 15–18 mm long, 2–2.5 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume surface pilose, hairy on veins, with tubercle-based hairs. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 6–8 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface pubescent, hairy above. Lemma apex lobed, 2 -fid, acute, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 23–35 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 12–17 mm long, shorter than principal. Palea 1 length of lemma. Rhachilla extension 0–0.05 length of fertile floret.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 3.5 mm long. Caryopsis with adherent pericarp.

n = 7 (2 refS TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Northern Cape, Western Cape.

Pentameris trisetoides (Hochst. ex Steud.) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 336 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from Ethiopia. **Basionym or Replaced Name**: *Danthonia trisetoides* Hochst. ex Steud., *Syn. Pl. Glumac.* 1: 244 (1854). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Schimper 109*, Ethiopia: near Debra Eski (P; IT: K).

Recent Synonyms: *Pentaschistis trisetoides* (Hochst. ex Steud.) Pilger, *Notizbl. Bot. Gart. Berlin,* 9:. 516 (1926).

Illustrations (Books): S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (72, Fig 31).

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resemblance. Resembling *Trisetum*.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Annual, caespitose. Glands raised crateriform. Culms 30–60 cm long, 2–3 -noded. Leaves mostly basal. Leaf-sheaths glabrous on surface or hirsute, with tubercle-based hairs. Leaf-sheath oral hairs lacking. Ligule a fringe of hairs. Leaf-blades 10 cm long, 2 mm wide, stiff. Leaf-blade surface glabrous or hirsute, hairy adaxially, with tubercle-based hairs. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, dense or loose, 3–7 cm long, 1–4 cm wide. Panicle branches glabrous in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, glandular.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension or with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 4–5 mm long, 1 length of upper glume, membranous, glandular, 1-keeled, 1 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 4–5 mm long, 2–2.5 length of adjacent fertile lemma, membranous, glandular, 1-keeled, 1 -veined. Upper glume primary vein smooth or scaberulous. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 2 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous. Lemma apex dentate, 2 -fid, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 6–7 mm long overall, with twisted column. Lateral lemma awns present, arising on apex of lobes, 1–2 mm long, shorter than principal. Palea 0.9 length of lemma. Rhachilla extension 0–0.05 length of fertile floret.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 0.5–0.7 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Northeast Tropical Africa**. Ethiopia (inc. Eritrea).

Pentameris tysonii (Stapf) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 329 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis tysonii* Stapf, *Dyer, Fl. Cap*. 7: 493. (1899). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Tyson 1312*, South Africa: Natal: Mt. Currie (K; IT: BOL, SAM).

Illustrations (Books): G.E.Gibbs Russell el al, *Grasses of Southern Africa* (1990) (264, Fig 163).

Derivation (Clifford & Bostock 2007): in honor of William Tyson (1851–1920) Jamaican-born South African teacher and plant collector.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Stolons present. Butt sheaths glabrous, persistent and investing base of culm, with compacted dead sheaths. Glands absent. Culms 30–50 cm long, 3–5 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades filiform, convolute, 30 cm long, 0.5–2 mm wide, stiff, eglandular. Leaf-blade surface hirsute, hairy adaxially. Leaf-blade margins smooth. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle, comprising 50 fertile spikelets. Panicle open, ovate, 6–10 cm long, 6–9 cm wide. Panicle branches eglandular, glabrous in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1.2 length of fertile spikelet, eglandular, smooth.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 6–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume elliptic, 6–10 mm long, 1 length of upper glume, membranous, mid-green, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 6–10 mm long, 1.7–2.8 length of adjacent fertile lemma, membranous, mid-green, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma oblong, 3.5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous. Lemma apex lobed, 2 -fid, with lobes 2 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 3–11 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 1–5 mm long, equalling glumes or enclosed by glumes, shorter than principal. Palea surface villous, hairy above.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 3.2–4 mm long, brown. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Free State, Kwazulu-Natal, Eastern Cape.

Pentameris uniflora N.P. Barker. *Bothalia,* 23 (1): 35 (1993).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from South Africa. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South Africa: Cape: Riverdale, Sleeping Beauty Peak, along edges of overgrown ledges or on steep south slopes, dense, 4200 ft (1275 m), 29 Oct 1967, *Esterhuysen 31771* (HT: PRE; IT: BOL).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *unus,* one; *flos*, flower. Spikelets with one fertile floret.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial. Culms decumbent, 30–65 cm long. Lateral branches ample. Leaf-sheaths glabrous on surface, outer margin glabrous or hairy. Ligule a fringe of hairs. Leaf-blades filiform, flat or conduplicate or convolute, 6–12.5 cm long, 1–1.5 mm wide, indurate.

Inflorescence. Inflorescence a panicle, comprising 5–20 fertile spikelets. Panicle open, lanceolate, 4–6 cm long, 1–2 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 11–12 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume lanceolate, 11–12 mm long, 1 length of upper glume, membranous. Lower glume apex attenuate. Upper glume lanceolate, 11–12 mm long, membranous. Upper glume apex attenuate.

Florets. Fertile lemma oblong, 7–9 mm long, membranous, without keel, more than 3-veined. Lemma apex lobed, 2 -fid, with lobes 1.5–3 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 8.5–10.5 mm long overall, with twisted column. Column of lemma awn 2–3.5 mm long. Lateral lemma awns present, arising on inner edge of lobes, 2.5–4.5 mm long, shorter than principal. Palea 5.5–6 mm long, 2 -veined.

Flower and Fruit. Lodicules 2, cuneate, glabrous. Anthers 3, 4 mm long. Caryopsis with free brittle pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris velutina (H.P. Linder) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 336 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis velutina* H.P. Linder, *Contrib. Bolus Herb.* 12: 66 (1990). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT:

Linder 4791, 14 Oct 1988, South Africa: Cape: Porterville mountains, on ridge on Berghof farm, 3319AA (MO).

Illustrations (Journals): *Contrib. of the Bolus Herbarium* No. 12 (1990) (67).

Derivation (Clifford & Bostock 2007): L. velvety. Plant in whole or in part covered with dense short hairs.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths thickened and forming a bulb, light brown, villous. Glands elongated. Culms 30–60 cm long, 3 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades convolute, 18 cm long, 1 mm wide, stiff. Leaf-blade surface glabrous or pilose, hairy adaxially. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 100 fertile spikelets. Panicle open, ovate, 9–18 cm long, 6–11 cm wide. Panicle branches glabrous in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1–1.5 length of fertile spikelet, glandular.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 12–15 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 12–15 mm long, 1 length of upper glume, membranous, yellow, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface puberulous to villous, hairy generally or below. Lower glume apex acuminate. Upper glume elliptic, 12–15 mm long, 3.5–4 length of adjacent fertile lemma, membranous, yellow, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface puberulous to villous, hairy generally or below. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 3–4 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous, hairy on veins. Lemma apex lobed, 2 -fid, with lobes 0.3 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 20–25 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 9–13 mm long, exserted, shorter than principal. Palea surface pubescent, hairy above.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2.5 mm long, brown. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pentameris veneta (H.P. Linder) Galley & H.P. Linder. *Ann. Mo. Bot. Gard.* 97 (3): 336 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Pentaschistis veneta* H.P. Linder, *Contrib. Bolus Herb.* 12: 29 (1990). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South Africa: Cape: Cedarberg, Blaauwberg, *Drege 1682b* (HT: K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. sea-green. Foliage glaucous.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths pallid, glossy, glabrous, persistent and investing base of culm. Glands raised crateriform. Culms 20–40 cm long, 3–6 -noded. Culm-nodes bearded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths hirsute, with tubercle-based hairs. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades 10 cm long, 4 mm wide, flaccid, glandular. Leaf-blade surface pilose, hairy adaxially, with simple hairs. Leaf-blade margins glandular, smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 100 fertile spikelets. Panicle open, ovate, 3–8 cm long, 2–5 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1.5 length of fertile spikelet, glandular, scaberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile.

Spikelets cuneate, laterally compressed, 5–6.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 5–6.5 mm long, 1 length of upper glume, membranous, glandular, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface smooth or asperulous. Lower glume apex acuminate. Upper glume elliptic, 5–6.5 mm long, 2 length of adjacent fertile lemma, membranous, glandular, 1-keeled, 1 -veined. Upper glume primary vein smooth or scaberulous. Upper glume lateral veins absent. Upper glume surface smooth or asperulous. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 2.8–3 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface villous. Lemma apex lobed, 2 -fid, with lobes 0.6 mm long, incised 0.2 of lemma length, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 8–10 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 2–3.5 mm long, equalling glumes, shorter than principal. Palea surface glabrous.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 2–3 mm long, brown. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Northern Cape, Western Cape.

Pentameris viscidula (Nees) Stapf. *Ann. Mo. Bot. Gard.*.

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Pentaschistis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Pentaschistis*).

TYPE from South Africa. **Basionym or Replaced Name**: *Danthonia viscidula* Nees, *Fl. Afr. Austral.* 303 (1841). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Drége 2579*, South Africa: Cape: Ezelbank (B). LT designated by Linder & Ellis, Contr. Bolus Herb. 12:68.1990.. ST: *Ecklon s.n.*, South Africa: Cape: Tulbagh Waterfall (B). ST: *Drége s.n.*, South Africa (?).

Recent Synonyms: *Pentaschistis viscidula* (Nees) Stapf, *Dyer, Fl. Cap.* 7: 486. (1899).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *viscida*, sticky; *-ula,* diminutive. Invested with small glandular tubercules.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, culms solitary. Butt sheaths thickened and forming a bulb, villous, persistent and investing base of culm, with compacted dead sheaths. Glands elongated. Culms 20–50 cm long, 3 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface or hirsute. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades filiform, convolute, 10 cm long, 0.8 mm wide, flaccid. Leaf-blade surface glabrous. Leaf-blade margins smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 200 fertile spikelets. Panicle open or contracted, ovate, 3–6 cm long, 2–4 cm wide. Panicle branches glabrous in axils or bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1 length of fertile spikelet, glandular.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 7–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny, gaping. Lower glume elliptic, 7–10 mm long, 1 length of upper glume, membranous, pallid, 1-keeled, 1 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 7–10 mm long, 1.75–2 length of adjacent fertile lemma, membranous, pallid, 1-keeled, 1 -veined. Upper glume primary vein smooth or scaberulous. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 4–5 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma surface pubescent. Lemma apex lobed, 2 -fid, with lobes 1 mm long, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 15–20 mm long overall, with twisted column. Lateral lemma awns present, arising on inner edge of lobes, 6–12 mm long, exserted, shorter than principal. Palea surface glabrous or pilose.

Flower and Fruit. Lodicules 2, cuneate, fleshy, glabrous. Anthers 3, 3–4 mm long, brown or purple. Caryopsis with adherent pericarp.

2*n* = 21 (1 ref TROPICOS).
Distribution (TDWG). Continent. Africa.
Country /Province /State. **Southern Africa**. Western Cape.

Pentapogon quadrifidus (Labill.) Baill. *Hist. des pl.* xii. 280 (1894).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. **Basionym or Replaced Name**: *Agrostis quadrifida* Labill., *Nov. Holl. Pl.* 1: 20, t. 22 (1804). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Tasmania: Coll?.

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (236, Fig 180 as var. *quadrifidus*), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (490, Fig 95), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (335), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (236, Fig 33 as var. *quadrifidus*), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *quatuor*, four; *findo*, divide. Lemma apex terminating in four awns.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Culms 10–70 cm long. Ligule an eciliate membrane. Leaf-blades filiform, convolute, 2–10 cm long, 0.5–1.5 mm wide. Leaf-blade surface ribbed. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Panicle open, linear, 2–10 cm long. Panicle branches pubescent. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 4.5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus bearded. Floret callus hairs 0.25 length of lemma.

Glumes. Glumes persistent, similar, reaching apex of florets, thinner than fertile lemma. Lower glume lanceolate, 4.5–6 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume surface asperulous. Lower glume apex acuminate, awned, 1 -awned, awn 0.5–1.5 mm long. Upper glume lanceolate, 4.5–6 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent. Upper glume surface asperulous. Upper glume apex acuminate, awned, 1 -awned, awn 0.5–1.5 mm long.

Florets. Fertile lemma elliptic, 4.5–6 mm long, coriaceous, without keel, 5 -veined, more than 3-veined. Lemma surface asperulous. Lemma margins convolute, covering most of palea. Lemma apex truncate, awned, 5 -awned. Principal lemma awn dorsal, arising 0.75 way up back of lemma, geniculate, 7–15 mm long overall, with twisted column. Lateral lemma awns present, 2–6 mm long, shorter than principal. Palea 0.75 length of lemma.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**, **New Zealand** (*). South Australia, New South Wales, A.C.T., Victoria, Tasmania. New Zealand South I.

Southern. Tablelands.

Periballia involucrata (Cav.) Janka. *Termez. Fuzetek,* 97 (1877).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from Spain. **Basionym or Replaced Name**: *Aira involucrata* Cav., *Ic. l.* 33. t. 44 (1791). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Spain, Mentrida: Coll?.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *involucrum*, cover; *-ata*, possessing. Inflorescence subtended by bracts.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms 15–40 cm long. Leaf-sheaths antrorsely scabrous. Ligule an eciliate membrane, 2–4 mm long. Leaf-blades convolute, 2–6 cm long, 0.5–1 mm wide. Leaf-blade surface scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic or ovate, 3–15 cm long. Primary panicle branches sterile at lowest node. Panicle branches capillary. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, glabrous, tip pyriform.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 2.5–3 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes definite, pubescent. Floret callus pubescent.

Glumes. Glumes persistent, similar, reaching apex of florets or shorter than spikelet, thinner than fertile lemma, shiny. Lower glume lanceolate, 2–2.5 mm long, 1 length of upper glume, hyaline, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2–2.5 mm long, 0.9–1 length of adjacent fertile lemma, hyaline, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma oblong, 2–2.5 mm long, membranous, without keel, 3 -veined, 0–3 -veined. Lemma surface asperulous. Lemma apex acute, muticous or awned, 1 -awned. Principal lemma awn dorsal, arising 0.1 way up back of lemma, straight, 0–1 mm long overall, not or scarcely exserted from spikelet. Palea 1 length of lemma. Palea surface asperulous.

Flower and Fruit. Anthers 3, 0.1–0.3 mm long. Endosperm farinose.

n = 7 (1 ref TROPICOS). 2n = 14 (3 refs TROPICOS).

Distribution (TDWG). Continent. Europe.

Region. **Southwestern Europe**.

Country /Province /State. : Portugal, Spain.

Periballia laevis (Brot.) Asch. & Graebn. *Syn. Mitteleur. Fl.* 2:297 (1899).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980) (as *Molineriella*), N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *Molinieriella*).

TYPE from Portugal. **Basionym or Replaced Name**: *Aira laevis* Brot., *Fl. Lusit.*1: 90 (1804). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Portugal, Coimbra: Coll?.

Recent Synonyms: *Molineriella laevis* (Brot.) Rouy., *Fl. France* 14: 103 (1913).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. smooth. Lacking hairs or roughness, usually of leaf-blades or lemmas.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms 10–35 cm long. Ligule an eciliate membrane. Leaf-blades 1–4 cm long, 1–2 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 2–6 cm long. Panicle branches capillary. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, glabrous, tip pyriform.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 2 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes definite. Floret callus pilose. Floret callus hairs 0.1–0.2 length of lemma.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma, shiny. Lower glume elliptic, 1.5–1.7 mm long, 1 length of upper glume, hyaline, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 1.5–1.7 mm long, 0.8 length of adjacent fertile lemma, hyaline, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma oblong, 2 mm long, membranous, without keel, 5 -veined, more than 3-veined. Lemma midvein scaberulous. Lemma apex obtuse, awned, 1 -awned. Principal lemma awn dorsal, arising 0.5–0.6 way up back of lemma, straight, 1 mm long overall, not or scarcely exserted from spikelet. Palea 1 length of lemma.

Flower and Fruit. Anthers 3, 0.1–0.3 mm long. Endosperm farinose.

2n = 8 (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Africa.

Region. **Southwestern Europe**, **Eastern Europe**.

Country /Province /State. : Portugal, Spain. **Northern Africa**, **Western Indian Ocean**. Morocco. Mauritius.

Periballia minuta (L.) Aschers. & Graebn. *Mittel-Eur. Fl.* ii. 298 (1899).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), T.G.Tutin et al, *Flora Europaea* 5 (1980) (as *Molineriella*).

TYPE from Spain. **Basionym or Replaced Name**: *Aira minuta* L., *Sp. Pl.* 1: 64 (1753). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Loefling s.n.*, Spain: near Madrid (LINN-85.4). LT designated by Scholz in Cafferty et al., Taxon 49(2): 244 (2000).

Recent Synonyms: *Molineriella minuta* (L.) Parl., *Fl. Ital.* i. 237 (1848).

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (461, Fig 90 as *Molineriella*), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (302 as *Molineriella*), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (138, Fig 21 as *Molineriella*), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. very small. Smaller than usual in some respect.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms erect or decumbent, 3–20 cm long. Ligule an eciliate membrane, 2–2.5 mm long. Leaf-blades 1–4 cm long, 1–2 mm wide. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 1.5–4 cm long, 1.2–4 cm wide. Primary panicle branches 1.5–3 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 2–7.5 mm long, glabrous, tip pyriform.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 1.5–2 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes definite, 0.7 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet, shiny. Lower glume lanceolate, 1.3–1.6 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse or acute. Upper glume lanceolate, 1.5–1.7 mm long, 0.9–1.1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex obtuse or acute.

Florets. Fertile lemma ovate, 1.3–1.8 mm long, membranous, without keel, 5–7 -veined, more than 3-veined. Lemma surface pubescent, hairy below. Lemma apex obtuse.

Flower and Fruit. Anthers 3, 0.1–0.3 mm long. Endosperm farinose.

$2n = 8$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Australasia (*).

Region. **Southwestern Europe**, **Southeastern Europe**.

Country /Province /State. : Corsica, France, Portugal, Sardinia, Spain. : Albania, Bulgaria, Greece, Italy, Turkey Europe, Yugoslavia. **Northern Africa**, **Southern Africa** (*). Algeria, Morocco, Tunisia. Western Cape. **Western Asia**. Turkey. **Australia** (*). Western Australia (*), South Australia (*), New South Wales (*), Victoria (*).

South-West. Southern. Western Slopes, Western Plains.

Peridictyon sanctum (Janka) Seberg, Fred. & Baden. *Willdenowia* 21(1–2): 96 (1991).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Elymus*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980) (as *Festucopsis*).

TYPE from Greece. **Basionym or Replaced Name**: *Festuca sancta* Janka, *Oesterr. Bot. Z.* 21: 250 (1871). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Janka s.n.*, 25 Jul 1871, Greece: in regionis alpinae m. Athos declivitate meridionali (BP-28429; ILT: B, BP-28424–28428, BRNM, C, COI, K, LE, W, WU). LT designated by Schippmann & Guth, Willdenowia 19: 99 (1990).

Recent Synonyms: *Festucopsis sancta* Seberg, Fred. & Baden, *Willdenowia* 21(1–2): 96 (1991).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. sacred. Origin uncertain.

Classification. Subfamily Pooideae. Tribe: Triticeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths persistent and investing base of culm, with reticulate dead sheaths. Culms 45–110 cm long. Ligule an eciliate membrane. Leaf-blades aciculate, involute, 7–30 cm long, 2–3 mm wide, coriaceous. Leaf-blade surface scaberulous, rough adaxially.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, bilateral, 7–9 cm long, bearing 5–8 fertile spikelets on each. Rhachis flattened. Spikelet packing broadside to rhachis. Rhachis internodes linear. Spikelets solitary. Fertile spikelets sessile or pedicelled. Pedicels present, oblong, 1 mm long.

Fertile Spikelets. Spikelets comprising 5–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic to oblong, laterally compressed, compressed slightly, 10–12 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 6–7 mm long, 0.75 length of upper glume, coriaceous, without keels, 1–3 -veined. Lower glume apex acute, awned, 1 -awned, awn 1–1.5 mm long. Upper glume lanceolate, 8–9 mm long, 0.9 length of adjacent fertile lemma, coriaceous, without keels, 3–5 -veined. Upper glume apex acute, awned, 1 -awned, awn 1–1.5 mm long.

Florets. Fertile lemma oblong, 9–10 mm long, coriaceous, 5 -veined, more than 3-veined. Lemma apex acute, awned, 1 -awned. Principal lemma awn 4.5–9 mm long overall. Palea 1 length of lemma. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 4 mm long. Stigmas 2. Ovary pubescent on apex. Caryopsis with adherent pericarp.

n = 7 (1 ref TROPICOS). 2n = 14 (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe.

Region. **Southeastern Europe**.

Country /Province /State. : Bulgaria, Greece.

Perotis acanthoneuron T.A. Cope. *Kew Bull.*, 50(3): 611 (1995).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Somalia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Somalia: 44 km N of Mogadisho on road to Bulo Burti, 22 Dec 1972, *Bally & Melville 15273* (HT: K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk *akantha*, prickle or thorn; *neuron,* nerve. Glume nerves bear conspicuous curved spines.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect or geniculately ascending, 30–70 cm long. Ligule an eciliate membrane. Leaf-blade base amplexicaul. Leaf-blades lanceolate or ovate, 2–3.5 cm long, 4–7 mm wide, stiff. Leaf-blade apex acute, pungent.

Inflorescence. Inflorescence composed of racemes, embraced at base by subtending leaf. Racemes 1, single, multilateral, 12–17 cm long. Spikelets ascending, solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear or lanceolate, subterete, 5.5–7.6 mm long, falling entire. Spikelet callus linear, 2–2.3 mm long.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma. Lower glume lanceolate, 3.6–5.2 mm long, 1 length of upper glume, membranous, without keels, 1 -veined. Lower glume primary vein spinulose. Lower glume lateral veins absent. Lower glume surface scabrous, rough in lines. Lower glume apex acuminate, awned, 1 -awned, awn 10–20 mm long. Upper glume lanceolate, 3.6–5.2 mm long, membranous, without keels, 1 -veined. Upper glume primary vein depressed, spinulose. Upper glume lateral veins absent. Upper glume surface scabrous, rough in lines. Upper glume apex acuminate, awned, 1 -awned, awn 10–20 mm long.

Florets. Fertile lemma lanceolate, hyaline, without keel, 1 -veined, 0–3 -veined, one-veined. Lemma apex acute. Palea hyaline.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp, fusiform, flattened.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Northeast Tropical Africa**. Somalia.

Perotis arenacea Judz.) P.M.Peterson. Taxon 63 (2) 284 (2014).

Basionym or Replaced Name: *Toliara arenacea* Judz., *Adansonia ser. 3,* 31 (2): 274–276 (2009).

Illustrations: None found.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Perotis clarksonii J.F. Veldkamp. *Austrobaileya* 3(4): 609 (1992).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.R. Clarkson 6802*, 7 Mar 1987, Australia: Queensland, Cook, 90 m (L).

Illustrations (Journals): *Austrobaileya* (3:611, Fig.1 (1992)).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): in honor of John Richard Lindsay Clarkson (1950-) Scots-born Australian botanist.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Annual. Culms 20–40 cm long. Culm-nodes glabrous. Leaves distichous. Leaf-sheath oral hairs ciliate. Ligule a fringe of hairs. Leaf-blades spreading, lanceolate, flat or involute, 1.7–2.5 cm long, 1.7–2.3 mm wide. Leaf-blade surface glabrous. Leaf-blade margins ciliate, hairy at base.

Inflorescence. Inflorescence composed of racemes, embraced at base by subtending leaf. Racemes 1, single, multilateral, 12–27 cm long. Spikelet packing distant, irregular. Spikelets spreading, solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear or lanceolate, subterete, 47.5–55 mm long, falling entire. Spikelet callus linear, 0.75–1.5 mm long, pubescent, base acute.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma. Lower glume subulate, 1 length of upper glume, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume margins ciliate. Lower glume hairs 1 mm long. Upper glume subulate, 47.5–55 mm long, 1 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent. Upper glume margins ciliate. Upper glume hairs 1 mm long.

Florets. Fertile lemma lanceolate, 8–9 mm long, membranous, without keel, 1 -veined, 0–3 -veined, one-veined. Lemma apex obtuse.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp, linear, flattened, sulcate on hilar side.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. Queensland.

North.

Perotis flavinodula Mez. *Fedde, Repert.* xvii. 145 (1921).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Tanzania. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Tanzania: Herb. Amani 2328 (B holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *flavidus*, pale-yellow; *-ula*, diminutive. Spikelets yellow.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Perennial, mat forming. Rhizomes elongated. Culms decumbent, 30–90 cm long. Ligule an eciliate membrane. Leaf-blades lanceolate, 4–6 cm long, 3–5 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, multilateral, 7–15 cm long. Spikelet packing contiguous, irregular. Spikelets spreading or ascending, solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 0.2 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear or lanceolate, subterete, 3.3–4.5 mm long, falling entire. Spikelet callus oblong, 0.3–0.5 mm long.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma. Lower glume lanceolate, 3–4 mm long, 1 length of upper glume, membranous, without keels, 1 -veined. Lower glume primary vein spinulose. Lower glume lateral veins absent. Lower glume surface asperulous. Lower glume apex acuminate, awned, 1 -awned, awn 7–10 mm long. Upper glume lanceolate, 3–4 mm long, 2–3 length of adjacent fertile lemma, membranous, without keels, 1 -veined. Upper glume primary vein conspicuous, spinulose. Upper glume lateral veins absent. Upper glume surface asperulous. Upper glume apex acuminate, awned, 1 -awned, awn 7–10 mm long.

Florets. Fertile lemma lanceolate, 1–2 mm long, hyaline, without keel, 1 -veined, 0–3 -veined, one-veined. Lemma apex acute. Palea hyaline.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp, fusiform, dorsally compressed.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **East Tropical Africa**. Tanzania.

Perotis hildebrandtii Mez. *Fedde, Repert.* xvii. 145 (1921).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Zanzibar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Hildebrandt s.n.*, East Africa ST: *Kassner s.n.*, East Africa ST: *Host s.n.*, East Africa.

Illustrations (Books): R.M.Polhill, F.T.E.A., *Gramineae* (2(1974):396, Fig.106), T.A.Cope, in M.Thulin, *Poaceae* (Gramineae). *Flora of Somalia* (1995) (217, Fig 123).

Derivation (Clifford & Bostock 2007): in honor of Johann Maria Hildebrandt (1847–1881) German-born traveller and plant collector.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Annual, caespitose. Culms decumbent, 15–50 cm long, wiry. Ligule an eciliate membrane. Leaf-blades linear or lanceolate, 1–7 cm long, 1.5–5 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, multilateral, 2–20 cm long. Spikelet packing lax, irregular. Spikelets spreading, solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 0.2 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear or lanceolate, subterete, 3–4.5 mm long, falling entire. Spikelet callus linear, 0.5–1 mm long.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma. Lower glume lanceolate, 2.5–3.5 mm long, 1 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume surface puberulous or hispidulous. Lower glume apex acuminate, awned, 1 -awned, awn 5–15 mm long. Upper glume lanceolate, 2.5–3.5 mm long, 2–3 length of adjacent fertile lemma, membranous, without keels, 1 -veined. Upper glume primary vein conspicuous, depressed, spinulose. Upper glume lateral veins absent. Upper glume surface puberulous or hispidulous. Upper glume apex acuminate, awned, 1 -awned, awn 5–15 mm long.

Florets. Fertile lemma lanceolate, 1–1.5 mm long, hyaline, without keel, 1 -veined, 0–3 -veined, one-veined. Lemma apex acute. Palea hyaline.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp, fusiform, flattened.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **West Tropical Africa**, **Northeast Tropical Africa**, **East Tropical Africa**, **Western Indian Ocean**. Benin, Ghana, Liberia, Nigeria, Sierre Leone. Ethiopia (inc. Eritrea), Somalia. Kenya, Tanzania, Uganda. Madagascar, Seychelles.

Perotis hordeiformis Nees, in obs. *Hook. & Arn. Bot. Beechey Voy.* 247, 248 (1838).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: India: "Himalayas", *Royle 280* (HT: LIV; IT: K, KUH).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 704).

Derivation (Clifford & Bostock 2007): L. *forma*, appearance. Inflorescence resembling that of *Hordeum*.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Annual. Culms geniculately ascending, (5–)15–40 cm long. Ligule an eciliate membrane. Leaf-blades lanceolate or ovate, 1.5–4(–5.5) cm long, 4–7.5 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, multilateral, 5–15(–20) cm long. Spikelet packing crowded or contiguous, irregular. Spikelets spreading or ascending, solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear or lanceolate, subterete, 1.5–2.5 mm long, falling entire. Spikelet callus square, 0.2 mm long.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma. Lower glume lanceolate, 1.5–2.5 mm long, 1 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume surface hispidulous, hairy in lines. Lower glume apex acuminate, awned, 1 -awned, awn 5–15 mm long. Upper glume lanceolate, 1.5–2.5 mm long, 1.5–2.5 length of adjacent fertile lemma, membranous, without keels, 1 -veined. Upper glume primary vein distinct. Upper glume lateral veins absent. Upper glume surface hispidulous, hairy in lines. Upper glume apex acuminate, awned, 1 -awned, awn 5–15 mm long.

Florets. Fertile lemma lanceolate, 0.5–1 mm long, hyaline, without keel, 1 -veined, 0–3 -veined, one-veined. Lemma apex acute. Palea hyaline, 0 -veined, without keels.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**, **Eastern Asia**. China South Central, China North-Central, China Southeast. Taiwan. **Indian Subcontinent**, **Indo-China**, **Malesia**, **Papuasia**. Nepal, Pakistan, Sri Lanka. Myanmar, Thailand. Lesser Sunda Is, Moluccas, Philippines, Sulawesi. New Guinea PNG. New Guinea.

Hebei. Guangdong, Jiangsu. Yunnan. Rajasthan, Uttah Pradesh, West Bengal.

Perotis humbertii A. Camus. *Bull. Soc. Bot. France*, 107: 206 (1960).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar, Delta de la Linta: Humbert & Swingle 5442.

Illustrations: None found.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Annual. Culms geniculately ascending, 25–30 cm long. Culm-internodes 6 cm long. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane. Leaf-blades linear or lanceolate, 1–2 cm long, 1.5–5 mm wide. Leaf-blade margins serrulate.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, flexuous, multilateral, 3–8(–10) cm long, 3–4 mm wide. Spikelet packing lax, irregular. Spikelets spreading, solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then

both fertile or the upper sterile. Spikelets linear, subterete, 5–6 mm long, falling entire. Spikelet callus linear.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma. Lower glume lanceolate, 5–6 mm long, 1 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume surface puberulous. Lower glume apex acuminate, awned, 1 -awned, awn 5–6 mm long. Upper glume lanceolate, 5–6 mm long, 2 length of adjacent fertile lemma, membranous, without keels, 1 -veined. Upper glume primary vein conspicuous, depressed. Upper glume lateral veins absent. Upper glume surface puberulous. Upper glume apex acuminate, awned, 1 -awned, awn 5–6 mm long.

Florets. Fertile lemma lanceolate, 2–3 mm long, hyaline, without keel, 1 -veined, 0–3 -veined, one-veined. Lemma apex acute.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Perotis indica (L.) Kuntze. *Rev. Gen. Pl.* 2: 787 (1891).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from Sri Lanka. **Basionym or Replaced Name**: *Anthoxanthum indicum* L., *Sp. Pl.* 1: 28 (1753). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Sri Lanka:, *Hermann s.n.* (HT: BM).

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (230, Fig. 155), T.Koyama, *Grasses of Japan and its neighbouring regions* (1987) (286, Fig. 110), C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (434), C-C Hsu,*Taiwan Grasses* (1975) (497, Pl. 1408), N.L.Bor, *The grasses of Burma, Ceylon, India and Pakistan* (1960) (612, Fig. 72), K.M.Matthew, Illustrations on the *Flora of Tamilnadu Carnatic* (1982) (Pls. 912 & 913), H.J.Noltie, *The Grasses of Bhutan* (2000) (677, Fig. 36), H.B.Gilliland, *Grasses of Malaya* (1971) (115, Fig. 20), H.Duistermaat, *Field Guide to the Grasses of Singapore* (2005) (113, Fig. 114), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 685), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Fig. 289).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);, H.B.Gilliland et al., *Flora of Malaya Vol. 3 Grasses* (1971);, G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012)

(Pl. 24).

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From India.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Annual, caespitose. Culms geniculately ascending, 10–40 cm long. Ligule an eciliate membrane. Leaf-blades lanceolate or ovate, 1–3 cm long, 2–7 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, multilateral, 2–15 cm long. Spikelet packing crowded or contiguous, irregular. Spikelets spreading or ascending, solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 0.2 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear or lanceolate, subterete, 1.7–3 mm long, falling entire. Spikelet callus oblong, 0.2–0.5 mm long.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma. Lower glume lanceolate, 1.5–2.5 mm long, 1 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume surface hispidulous. Lower glume apex acuminate, awned, 1 -awned, awn 5–15 mm long. Upper glume lanceolate, 1.5–2.5 mm long, 2–3 length of adjacent fertile lemma, membranous, without keels, 1 -veined. Upper glume primary vein distinct. Upper glume lateral veins absent. Upper glume surface hispidulous. Upper glume apex acuminate, awned, 1 -awned, awn 5–15 mm long.

Florets. Fertile lemma lanceolate, 0.5–1 mm long, hyaline, without keel, 1 -veined, 0–3 -veined, one-veined. Lemma apex acute. Palea hyaline.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp, fusiform, isodiametric.

Distribution (TDWG). Continent. Africa, Temperate Asia, Tropical Asia, Australasia.

Country /Province /State. **West Tropical Africa**, **West-Central Tropical Africa**, **East Tropical Africa**, **Western Indian Ocean**. Nigeria, Sierre Leone. Central African Republic, DRC. Tanzania. Madagascar. **China**, **Eastern Asia**. China South Central, Hainan, China North-Central, China Southeast. Taiwan. **Indian Subcontinent**, **Indo-China**, **Malesia**, **Papuasia**. Bangladesh, Eastern Himalaya, India, Nepal, Sri Lanka. Cambodia, Laos, Myanmar, Thailand, Vietnam. Java, Lesser Sunda Is, Malaya, Singapore, Moluccas, Philippines, Sulawesi, Sumatra. New Guinea PNG. New Guinea. **Australia** (*). Queensland.

Shandong. Guangdong. Yunnan. Darjeeling, Bhutan. Assam. Andhra Pradesh, Bihar, Diu, Daman, Karnataka, Kerala. Madhya Pradesh, Orissa, Tamilnadu, Uttah Pradesh, West Bengal. North.

Perotis inermis Judz. ms.

Illustrations: None found.
Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.
Distribution (TDWG). Continent. Africa.
Country /Province /State. **Western Indian Ocean**. Madagascar.

Perotis leptopus Pilger. *Notizbl. Bot. Gart. Berlin,* xi. 804 (1933).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Tanzania. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *J.J. Schlieben 2316*, 11 Jun 1932, Afrika: Tanganjika Terr.: Mahenge Bezirk (LE, MO, US-2207496). Herb. Missouri Botanical Garden.

Illustrations (Books): G.V.Pope et al., *Flora Zambesiaca* 10 (2(1999):252, t. 78).

Derivation (Clifford & Bostock 2007): Gk. *leptos*, narrow; *pous*, foot. Spikelet with narrow, acute callus.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Annual, caespitose. Culms geniculately ascending or decumbent, 25–60 cm long. Ligule an eciliate membrane. Leaf-blades lanceolate, 1–4 cm long, 2–5 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, multilateral, 2–10 cm long. Spikelet packing crowded, irregular. Spikelets appressed, solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 0.2 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear or lanceolate, subterete, 2.3–3 mm long, falling entire. Spikelet callus oblong, 0.3–0.7 mm long.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma. Lower glume lanceolate, 2–2.4 mm long, 1 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume surface hispidulous. Lower glume apex acuminate, awned, 1 -awned, awn 20–40 mm long. Upper glume lanceolate, 2–2.4 mm long, 2–3 length of adjacent fertile lemma, membranous, without keels, 1 -veined. Upper glume primary vein distinct. Upper glume lateral veins absent. Upper glume surface hispidulous. Upper glume apex acuminate, awned, 1 -awned, awn 20–40 mm long.

Florets. Fertile lemma lanceolate, 0.5–1 mm long, hyaline, without keel, 1 -veined, 0–3 -veined, one-veined. Lemma apex acute. Palea hyaline.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp, fusiform, isodiametric.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **East Tropical Africa**, **South Tropical Africa**, **Southern Africa**. Tanzania. Angola, Malawi, Mozambique, Zambia, Zimbabwe. Namibia, Botswana.

Perotis ornithocephala (Hook.) P.M.Peterson. *Taxon* 63 (2): 284 (2014).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. **Basionym or Replaced Name**: *Holboellia ornithocephala* Hook., *Bot. Misc.* 2: 144 (1831)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: India, Madura Mts.: Wight 1741 (K syn) ; India, Madura Mts.: Wight 8881 (K syn).

Recent Synonyms: *Lopholepis ornithocephala* (Hook.) Steud., *Syn. Pl. Gram.* 112. (1854).

Illustrations (Books): N.L.Bor, *The grasses of Burma, Ceylon, India and Pakistan* (1960) (682, Fig 80).

Derivation (Clifford & Bostock 2007): Gk. *ornithos*, bird; *kephale*, head; *chloa*, grass. The spikelets bear a fanciful resemblance to birds' heads.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Annual, caespitose. Culms geniculately ascending, 20–50 cm long. Ligule an eciliate membrane. Leaf-blade base broadly rounded. Leaf-blades lanceolate, 1–2.5 cm long, 3–5 mm wide, glaucous. Leaf-blade margins spinulose. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes, subtended by an inflated leaf-sheath. Racemes 1, single, erect, multilateral, 3–15 cm long. Rhachis angular, puberulous on surface. Spikelets spreading, solitary. Fertile spikelets pedicelled. Pedicels present, linear, terete, 0.3–0.5 mm long, puberulous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong (like a comical bird's head), laterally compressed, gibbous, 2.5–2.75 mm long, falling entire. Spikelet callus cuneate, 1.5 mm long, pilose, base truncate.

Glumes. Glumes dissimilar, with lower wider than upper, exceeding apex of florets, firmer than fertile lemma, gaping. Lower glume elliptic, gibbous, 2.5–2.75 mm long, 1.2–1.3 length of upper glume, coriaceous, dark brown, 1-keeled, 1 -veined. Lower glume primary vein pectinately ciliate. Lower glume lateral veins absent. Lower glume surface scabrous, transversely waisted. Lower glume apex acute. Upper glume oblong, 2 mm long, 1.6–2 length of adjacent fertile lemma, coriaceous, dark brown, 1-keeled, 1 -veined. Upper glume primary vein pectinately ciliate. Upper glume surface scabrous. Upper glume apex acute.

Florets. Fertile lemma oblong, 1–1.25 mm long, hyaline, without keel, 0 -veined, 0–3 -veined, without veins. Lemma apex acute. Palea 0.8 length of lemma, hyaline, 0 -veined, without keels.

Flower and Fruit. Anthers 2, 0.2–0.3 mm long. Stigmas 2, sparsely hairy. Caryopsis with adherent pericarp, oblong, 1.25 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indian Subcontinent**. India, Sri Lanka.

Tamilnadu.

Perotis patens Gandoger, in clavi. *Bull. Soc. Bot. France,* lxvi. 301 (1920).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from South Africa. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.M. Wood 5925*, 1896, South Africa: Natal: Berea (LY; IT: K, US-1109779).

Illustrations (Books): F.N.Hepper, *F.W.T.A.* 3(2) (1972) (412, Fig.436), G.V.Pope et al., *Flora Zambesiaca* 10 (2(1999):252, t. 78), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (109, Fig 82), M.A.N.Muller, *Grasses of South West Africa/Namibia* (1984), G.E.Gibbs Russell el al, *Grasses of Southern Africa* (1990) (266, Fig 164), J.Bosser, *Graminees des Paturage et des Cultures a Madagascar (*1969) (109, Fig 32), S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (182, Fig 76).

Images: F.van Oudtshoorn, *Guide to Grasses of Southern Africa* (1999).

Derivation (Clifford & Bostock 2007): L. *pateo*, lie open. Panicle branches spreading or reflexed or habit open.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Annual or perennial, short-lived, caespitose. Culms geniculately ascending, 30–60 cm long, wiry. Ligule an eciliate membrane, erose. Leaf-blade base amplexicaul. Leaf-blades lanceolate to ovate, 1–7 cm long, 3–12 mm wide, glaucous. Leaf-blade margins ciliate.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, multilateral, 5–30 cm long. Rhachis angular, scabrous on surface. Spikelet packing crowded, irregular. Spikelets spreading or ascending, solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 0.5 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear to lanceolate, subterete, 1.2–2.7 mm long, falling entire. Spikelet callus brief, base obtuse.

Glumes. Glumes similar, subequal in width, exceeding apex of florets, firmer than fertile lemma. Lower glume lanceolate, 1.2–2.7 mm long, 1 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume surface scabrous. Lower glume apex acuminate, awned, 1 -awned, awn 9–17 mm long. Upper glume lanceolate, 1.2–2.7 mm long, 2–3 length of adjacent fertile lemma, membranous, without keels, 1 -veined. Upper glume primary vein distinct. Upper glume lateral veins absent. Upper glume surface scabrous. Upper glume apex acuminate, awned, 1 -awned, awn 9–17 mm long.

Florets. Fertile lemma lanceolate, 0.5–1 mm long, hyaline, without keel, 1 -veined, 0–3 -veined, one-veined. Lemma apex acute. Palea hyaline.

Flower and Fruit. Anthers 3, 0.3–1 mm long. Caryopsis with adherent pericarp, fusiform, isodiametric, biconvex, 1.7 mm long. Embryo 0.3 length of caryopsis.

n = 20 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **West Tropical Africa**, **West-Central Tropical Africa**, **Northeast Tropical Africa**, **East Tropical Africa**, **South Tropical Africa**, **Southern Africa**, **Western Indian Ocean**. Benin, Burkina, Ghana, Nigeria, Togo. Rwanda, DRC. Chad, Eritrea, Ethiopia (inc. Eritrea), Somalia, Sudan. Kenya, Tanzania. Angola, Malawi, Mozambique, Zambia, Zimbabwe. Namibia, Botswana, Limpopo, North-West, Gauteng, Mpumalanga, Swaziland, Free State, Kwazulu-Natal. Madagascar.

Perotis pilosa T.A. Cope. *Kew Bull.,* 50(3): 613 (1995).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Kenya. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Kenya: Garissa District: Modo Gash-Garissa, 63 km S of Modo Gash, 0.14N 3923E, 290 m, 12 Dec 1977, *Stannard & Gilbert 985* (HT: K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *pilus*, a hair; *-osa*, abundance. The whole plant or any of its organs invested with long spreading hairs.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect or geniculately ascending, 25–50 cm long. Ligule an eciliate membrane. Leaf-blade base amplexicaul. Leaf-blades lanceolate, 1–4.5 cm long, 2–8 mm wide. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, multilateral, 7–9 cm long. Spikelets spreading, solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear or lanceolate, subterete, 2.5–2.9 mm long, falling entire. Spikelet callus linear, 0.4–0.6 mm long.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma. Lower glume lanceolate, 2.1–2.3 mm long, 1 length of upper glume, membranous, without keels, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume surface pilose. Lower glume apex acuminate, awned, 1 -awned, awn 3–4 mm long. Upper glume lanceolate, 2.1–2.3 mm long, membranous, without keels, 1 -veined. Upper glume primary vein depressed, scaberulous. Upper glume lateral veins absent. Upper glume surface pilose. Upper glume apex acuminate, awned, 1 -awned, awn 3–4 mm long.

Florets. Fertile lemma lanceolate, hyaline, without keel, 1 -veined, 0–3 -veined, one-veined. Lemma apex acute. Palea hyaline.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp, fusiform, flattened.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **East Tropical Africa**. Kenya.

Perotis rara R. Br. *Prod.* 172. (1810).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia, NSW. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: *Brown 6149* (K iso).

Illustrations (Books): C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (436), C-C Hsu,*Taiwan Grasses* (1975) (as *P. macrantha*), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (392, Fig 325), C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952), J.R.Wheeler et al, *Flora of the Kimberley Region* (1992) (1205, Fig 341), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (336), J.C.Tothill,& J.B.Hacker. *The grasses of southern Queensland* (1983) (340), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989) (190, Fig. 29), K.O.Mallett (ed.), *Flora of Australia*, Vol 44B. *Poaceae* (2004) (267, Fig 40), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 704).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);, K.O.Mallett (ed.). *Flora of Australia*, Vol 44 A (2002) & Vol 44B (2004). *Poaceae*;.

Derivation (Clifford & Bostock 2007): L. far apart. Spikelets far apart in panicle.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Annual. Culms erect or geniculately ascending, 15–35 cm long. Culm-nodes glabrous. Leaves cauline. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades lanceolate, 2–5 cm long, 2–3 mm wide. Leaf-blade surface glabrous. Leaf-blade margins ciliate.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, multilateral, 10–20 cm long. Spikelet packing crowded or contiguous, irregular. Spikelets ascending or spreading or deflexed, solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear or lanceolate, subterete, 7–9 mm long, falling entire. Spikelet callus linear, 0.5–0.7 mm long, pubescent, base pungent.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma. Lower glume linear, 7–9 mm long, 1 length of upper glume, membranous, without keels, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume margins ciliolate. Lower glume apex acuminate, awned, 1 -awned, awn 30–40 mm long. Upper glume linear, 7–9 mm long, 2–3.5 length of adjacent fertile lemma, membranous, without keels, 1 -veined. Upper glume primary vein distinct, scaberulous. Upper glume lateral veins absent. Upper glume margins ciliolate. Upper glume apex acuminate, awned, 1 -awned, awn 30–40 mm long.

Florets. Fertile lemma lanceolate, 2–4 mm long, hyaline, without keel, 1 -veined, 0–3 -veined, one-veined. Lemma apex obtuse. Palea hyaline, 0 -veined, without keels.

Flower and Fruit. Anthers 3, 0.3 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia, Australasia.

Country /Province /State. **China**, **Eastern Asia**. Hainan, China Southeast. Taiwan. **Indo-China**, **Malesia**, **Papuasia**. Thailand, Vietnam. Lesser Sunda Is, Malaya, Philippines. New Guinea PNG. New Guinea. **Australia**. Western Australia, Northern Territory, South Australia, Queensland, New South Wales.

Fujian, Guangdong, Guangxi. Kimberley, Eremean. Darwin & Gulf, Victoria R & Barkly Tableland, Central Australia. NW & Lake Eyre. North, Central, South East, Inland. Coast, Western Slopes, Western Plains.

Perotis scabra Willd. ex Trin. Gram. Unifl. 172. (1824).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Senegal. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Senegal: Herb. Willd. (B holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. rough or gritty to the touch. Plants with rough leaf-blades, spikelets or stems.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Annual, caespitose. Culms decumbent, 30–60 cm long. Ligule an eciliate membrane. Leaf-blade base broadly rounded. Leaf-blades lanceolate, 1–2.5 cm long, 2–7 mm wide. Leaf-blade margins ciliate.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, multilateral, 4–17 cm long. Spikelet packing crowded, irregular. Spikelets ascending, solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 0.2 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear or lanceolate, subterete, 3–3.5 mm long, falling entire. Spikelet callus oblong, 0.5–0.6 mm long.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma. Lower glume lanceolate, 2.5–3 mm long, 1 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume surface hispidulous, hairy in lines. Lower glume apex acuminate, awned, 1 -awned, awn 20–35 mm long. Upper glume lanceolate, 2.5–3 mm long, 2–3 length of adjacent fertile lemma, membranous, without keels, 1 -veined. Upper glume primary vein conspicuous, smooth. Upper glume lateral veins absent. Upper glume surface hispidulous, hairy in lines. Upper glume apex acuminate, awned, 1 -awned, awn 20–35 mm long.

Florets. Fertile lemma lanceolate, 2–2.5 mm long, hyaline, without keel, 1 -veined, 0–3 -veined, one-veined. Lemma apex acute. Palea hyaline.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp, fusiform, dorsally compressed.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **West Tropical Africa**. Gambia, Senegal, Sierre Leone.

Perotis somalensis Chiov. *Result. Sc. Miss. Stefan.-Paoli Somal. Ital.* i. 182 (1916).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Somalia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Somalia: Paoli 624 (FT holo, K.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. -*ensis*, denoting origin. From Somalia.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Annual. Culms erect, 20–45 cm long. Ligule an eciliate membrane. Leaf-blades linear or lanceolate, 3–6 cm long, 4–6 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, multilateral, 8–10 cm long. Spikelet packing crowded or contiguous, irregular. Spikelets ascending, solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear or lanceolate, subterete, 2.5–3.5 mm long, falling entire. Spikelet callus linear, 0.5–0.7 mm long, pubescent, base obtuse.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma. Lower glume lanceolate, 2.5–3.5 mm long, 1 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume surface pilose, hairy generally. Lower glume apex obtuse, awned, 1 -awned, awn 35–45 mm long. Upper glume lanceolate, 3.5–4.5 mm long, 1.5–2.5 length of adjacent fertile lemma, membranous, without keels, 1 -veined. Upper glume primary vein distinct. Upper glume lateral veins absent. Upper glume surface pilose, hairy generally. Upper glume apex acuminate, awned, 1 -awned, awn 35–45 mm long.

Florets. Fertile lemma lanceolate, 1.5 mm long, hyaline, without keel, 1 -veined, 0–3 -veined, one-veined. Lemma apex acute. Palea hyaline, 0 -veined, without keels.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp, laterally compressed.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Northeast Tropical Africa**. Somalia.

Perotis vaginata Hack. *Bull. Herb. Boiss. Ser.* II. vi. 704 (1906).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Namibia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Namibia, Ondonga to Uukuanyama: Rautanen (Z holo).

Illustrations (Books): G.V.Pope et al., *Flora Zambesiaca* 10 (2(1999):252, t. 78).

Derivation (Clifford & Bostock 2007): L. *vagina*, sheath; *-ata*, possessing. Leaf-sheaths conspicuous.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Annual, caespitose. Culms decumbent, 12–40 cm long. Ligule an eciliate membrane. Leaf-blades lanceolate, 1–4 cm long, 1.5–6 mm wide.

Inflorescence. Inflorescence composed of racemes, embraced at base by subtending leaf. Racemes 1, single, multilateral, 3–15 cm long. Spikelet packing crowded, irregular. Spikelets ascending, solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 0.1–0.2 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear or lanceolate, subterete, 4.7–7 mm long, falling entire. Spikelet callus linear, 0.7–1.5 mm long.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma. Lower glume lanceolate, 4–5.5 mm long, 1 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume surface glabrous or hispidulous. Lower glume apex acuminate, awned, 1 -awned, awn 13–25 mm long. Upper glume lanceolate, 4–5.5 mm long, 2–3 length of adjacent fertile lemma, membranous, without keels, 1 -veined. Upper glume primary vein conspicuous, scabrous. Upper glume lateral veins absent. Upper glume surface glabrous or hispidulous. Upper glume apex acuminate, awned, 1 -awned, awn 13–25 mm long.

Florets. Fertile lemma lanceolate, 2–2.5 mm long, hyaline, without keel, 1 -veined, 0–3 -veined, one-veined. Lemma apex acute. Palea hyaline.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp, fusiform, dorsally compressed.

$2n = 40$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **West-Central Tropical Africa**, **East Tropical Africa**, **South Tropical Africa**, **Southern Africa**. DRC. Tanzania. Angola, Zambia, Zimbabwe. Namibia, Botswana.

Perrierbambus madagascariensis A. Camus. *Bull. Soc. Bot. France* 71: 699 (1924).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.M.H.A. Perrier de la Bathie 11284*, 1909, Madagascar: (P; IT: US-2876341).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ense*, denoting origin. From Madagascar.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, culms solitary. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 500–600 cm long, 20–30 mm diam., woody. Culm-internodes terete, thin-walled. Lateral branches dendroid. Branch complement many, thinner than stem. Culm-sheaths present. Ligule a ciliolate membrane. Leaf-blades deciduous at the ligule, elliptic or ovate.

Inflorescence. Synflorescence bractiferous, scanty, dense, with foliaceous subtending bracts, without axillary buds at base of spikelet, with ultimate bract subtending a compact bracteolate fascicle of spikelets.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, dorsally compressed, 10 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 5 mm long, 0.8 length of upper glume, chartaceous, without keels, 11 -veined. Lower glume apex acuminate. Upper glume ovate,

6–6.5 mm long, 0.6–0.7 length of adjacent fertile lemma, chartaceous, without keels, 13–15 -veined. Upper glume margins ciliolate. Upper glume apex acuminate.

Florets. Fertile lemma ovate, 9 mm long, chartaceous, without keel, 17 -veined, more than 3-veined. Lemma surface puberulous. Lemma apex acute. Palea lanceolate, 1 length of lemma, chartaceous, 10–12 -veined, without keels.

Flower and Fruit. Lodicules 3. Anthers 6. Stigmas 2. Ovary umbonate. Caryopsis with adherent pericarp, obovoid.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Perrierbambus tsarasaotrensis A.Camus. *Bull. Soc. Bot. France,* lxxi. 700 (1924).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: "Madagascar septentr. centr.: Tsarasaotra; nov. 1897", *Perrier de la Bâthie 389* (HT: P).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ense*, denoting origin. From Mt Tsaratanana, Madagascar.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, culms solitary. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 500–600 cm long, 20–30 mm diam., woody. Culm-internodes terete, thin-walled. Lateral branches dendroid. Branch complement thinner than stem. Culm-sheaths present. Leaf-sheaths striately veined, glabrous on surface, outer margin hairy. Ligule a ciliolate membrane, 0.5 mm long. Leaf-blades deciduous at the ligule, lanceolate, 4.5–6 cm long, 4–5 mm wide. Leaf-blade venation with 6–8 secondary veins, with distinct cross veins. Leaf-blade surface glabrous. Leaf-blade margins scaberulous. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, scanty, dense, with foliaceous subtending bracts, without axillary buds at base of spikelet, with ultimate bract subtending a compact bracteolate fascicle of spikelets.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 14 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes one the lower absent or obscure, persistent, shorter than spikelet. Upper glume oblong, 11 mm long, chartaceous, without keels, 17 -veined. Upper glume lateral veins with cross-veins. Upper glume surface asperulous, rough at apex. Upper glume apex acuminate.

Florets. Fertile lemma lanceolate, 12–13 mm long, chartaceous, without keel, 19 -veined, more than 3-veined. Lemma lateral veins with cross-veins. Lemma surface scaberulous, rough above. Lemma apex acuminate. Palea lanceolate, 14 mm long, chartaceous, 12–14 -veined. Palea apex pubescent.

Flower and Fruit. Lodicules 3. Anthers 6. Stigmas 2. Ovary pubescent on apex. Caryopsis with adherent pericarp, obovoid, apex rostrate.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Peyritschia conferta (Pilg.) Finot. *Contr. U. S. Natl. Herb.* 48: 478 (2003).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Ecuador. **Basionym or Replaced Name**: *Trisetum confertum* Pilg., *Bot. Jahrb. Syst.* 25(5): 714 (1898). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *A. Stübel 152*, no date, Ecuador: Imbabura: 2100–2300 m (US-81771).

Recent Synonyms: Deschampsia conferta (Pilger) Valencia, *Rev. Argent. Agron.* 8: 127 (1941).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): inflorescence branches densely crowded.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Culms slender, 50–100 cm long. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane. Leaf-blades 20–30 cm long, 2–3 mm wide. Leaf-blade surface scabrous, glabrous or pubescent, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 15 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 5 mm long, 0.9–1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 6 mm long, 1.7 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate, subterete, 3 mm long, membranous, without keel, 5 -veined, more than 3-veined. Lemma apex dentate, 2 -fid, with lobes 0.5 mm long, obtuse, awned, 1 -awned. Principal lemma awn dorsal, arising 0.4–0.5 way up back of lemma, geniculate, 5–6 mm long overall, with twisted column. Column of lemma awn 2 mm long. Palea gaping, hyaline.

Flower and Fruit. Lodicules 2, obovate. Anthers 3. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Northern South America** and **Western South America**. Venezuela. Bolivia, Ecuador.

Peyritschia deyeuxioides (Kunth) Finot. *Contr. U. S. Natl. Herb.* 48: 478 (2003).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Mexico. **Basionym or Replaced Name**: *Avena deyeuxioides* Kunth, *Nov. Gen. Sp. (quarto ed.)* 1: 147 (1815) [1816]. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: (LE-TRIN-1913.05). 173. *Pteropodium arundinaceum* Willd. herb. 1766 Humb.: *Trisetum* (*Avena*) *deyeuxioides* Kth, ipso teste. HT: *Humboldt & Bonpland s.n.*, Mexico: México: crescit in uliginosis temperatis ad ripam Lacus Tezcucensis, alt 1165 hexap. (P; IT: BM (2 sheets), LE-TRIN-1913.05, US-865589 (fragm. ex P)).

Illustrations (Books): W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (578, Fig 217 as *Trisetum*).

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resembling. Resembling *Deyeuxia* in some respect.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms decumbent, weak, 50–100 cm long. Culm-nodes glabrous. Lateral branches lacking. Leaf-sheaths glabrous on surface or pubescent. Ligule an eciliate membrane, 0.5–3.5 mm long. Leaf-blades 8–16 cm long, 2–6 mm wide. Leaf-blade surface scabrous, glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, nodding, 10–20 cm long, 1–4 cm wide, contracted about primary branches. Primary panicle branches ascending, 3–7 cm long, bearing spikelets almost to the base. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1.5 mm long, villous, hairy all along but hairs longer above, with 2–3 mm long hairs. Floret callus pubescent, disarticulating obliquely. Floret callus hairs 0.2–0.5 mm long.

Glumes. Glumes persistent, similar, reaching apex of florets, thinner than fertile lemma, shiny, gaping. Lower glume linear, 4.2–5.5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume linear, 4.9–5.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume primary vein scabrous. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 4.2–5 mm long, membranous, shiny, keeled, 5 -veined, more than 3-veined. Lemma apex dentate, 2 -fid, awned, 1 -awned. Principal lemma awn dorsal, arising 0.5 way up back of lemma, geniculate, 5–7 mm long overall, with twisted column. Palea gaping, 1 length of lemma, hyaline.

Flower and Fruit. Anthers 2, 1.5 mm long, yellow. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform. Endosperm soft.

Distribution (TDWG). Continent. North America and South America.

Country /Province /State. **Mexico**. Central Mexico, Northeast Mexico, Gulf (Mexico), Southwest Mexico, Southeast Mexico. **Mesoamerica**, **Northern South America**, and **Western South America**. El Salvador, Guatemala, Honduras, Nicaragua, Panama. Venezuela. Colombia, Ecuador.

Distrito Federal, Mexico State, Morelos, Puebla. Aguascalientes, Coahuila, Chihuahua, Durango, Guanajuato, Hidalgo, Neuvo Leon, Queretaro, San Luis Potosi, Zacatecas. Veracruz. Guerrero, Jalisco, Michoacan, Oaxaca. Chiapas.

Peyritschia howellii (Hitchc.) Finot & P.M. Peterson. *Sida* 22(2): 897 (2006).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Galapagos Island. **Basionym or Replaced Name**: *Trisetum howellii* Hitchcock, *Proc. Calif. Acad. Sc. Ser.* IV. 21: 296 (1935). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Galapagos Is., Indefatigable Is., Mt. Crocker: Howell 9208 (CAS holo, US).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of John Thomas Howell (fl. 1932–1954) United States botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Culms erect, slender, 70 cm long. Culm-internodes distally glabrous. Leaf-sheaths striately veined, glabrous on surface or pubescent. Ligule an eciliate membrane, 1–2 mm long. Leaf-blades 10–15 cm long, 1–3 mm wide. Leaf-blade surface smooth or scaberulous, rough adaxially, glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 10–15 cm long. Primary panicle branches appressed, 1–3 cm long. Panicle axis smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long, pilose. Floret callus pubescent. Floret callus hairs 0.2–0.5 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet or reaching apex of florets, thinner than fertile lemma, gaping. Lower glume lanceolate, 4 mm long, 1 length of upper glume, hyaline, 1-keeled, 1 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent. Lower glume apex setaceously acuminate. Upper glume lanceolate, 4 mm long, 0.75 length of adjacent fertile lemma, hyaline, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex acuminate.

Florets. Fertile lemma elliptic, 3–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface glabrous. Lemma apex awned, 1 -awned. Principal lemma awn dorsal, arising 0.66 way up back of lemma, geniculate, 5 mm long overall, with twisted column. Rhachilla extension 1 mm long, pilose, with 1 mm long hairs.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Galapagos.

Peyritschia humilis (Louis-Marie) Finot. *Contr. U. S. Natl. Herb.* 48: 478 (2003).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Mexico. **Basionym or Replaced Name**: *Trisetum humile* Louis-Marie, *Rhodora* 30: 244 (1928) [1929].

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Liebmann 602*, Mexico: Mirador (P; IT: C, US-3048345 (fragm. ex hb. Haun.)). FInot et al. (2004) cites holotype at C.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. low growing. Short-statured in comparison with related species often prostrate.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 5–12 cm long. Ligule an eciliate membrane, lacerate. Leaf-blades 2.5–3.5 cm long, 1–2 mm wide.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear, 2.5 cm long, 0.5 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, glabrous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5 mm long, pilose, with 0.5–0.8 mm long hairs. Floret callus pubescent, obtuse.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma, shiny. Lower glume lanceolate, 4 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 4 mm long, 1.2–1.3 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma oblong, 3–3.5 mm long, cartilaginous, 5 -veined, more than 3-veined. Lemma margins involute. Lemma apex lobed, 2 -fid, obtuse, awned, 1 -awned. Principal lemma awn dorsal, arising 0.33–0.5 way up back of lemma, geniculate, 4–5 mm long overall, with twisted column.

Flower and Fruit. Caryopsis with adherent pericarp, fusiform, 2 mm long.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Mexico**. Central Mexico, Gulf (Mexico).

Mexico State. Veracruz.

Peyritschia koelerioides (Peyr.) Fourn. *Mex. Pl. Enum., Gram.* 110 (1886).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Mexico. **Basionym or Replaced Name**: *Aira koelerioides* Peyr., *Linnaea* 30(1): 5–6 (1859)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *C. Heller 311*, 1846, Mexico: México: Volcan de Toluca (P; IT: US-1647945, US-s.n. (fragm. ex P-DRAKE)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resembling. Similar to *Koeleria* especially with respect to the inflorescence.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 30–60 cm long. Ligule an eciliate membrane. Leaf-blades 4–15 cm long, 1–3 mm wide.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 5–20 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–3.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma, shiny. Lower glume elliptic, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 1.2–1.5 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma oblong, 2–3 mm long, cartilaginous, keeled, keeled above, 5 -veined, more than 3-veined. Lemma apex lobed, 2 -fid, with oblong lobes, incised 0.2 of lemma length, obtuse, awned, 1 -awned. Principal lemma awn dorsal, arising 0.75 way up back of lemma, 0.5 mm long overall, not or scarcely exserted from spikelet.

Flower and Fruit. Anthers 2.

2*n* = 28 (1 ref TROPICOS).

Distribution (TDWG). Continent. North America, South America.

Country /Province /State. **Mexico**. Central Mexico, Northeast Mexico, Gulf (Mexico), Southwest Mexico. **Mesoamerica**. Guatemala.

Distrito Federal, Mexico State, Puebla. Guanajuato. Veracruz. Michoacan, Oaxaca.

Peyritschia pinetorum (Swallen) Finot & P.M. Peterson. *Sida* 22(2): 899 (2006).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online.

TYPE from Guatemala. **Basionym or Replaced Name**: *Trisetum pinetorum* Swallen, *Phytologi* 4: 424 (1953). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Steyermark 34824*, 22 Jan 1940, Guatemala: Quezaltenango: Volcan Santo Tomas, on pine-abies-clad slope (F-1048257; IT: MO (fragm. ex F), US-2236478 (fragm. ex F)).

Illustrations (Journals): *Sida* (22 (2): 900, Fig.2 (2006)).

Derivation (Clifford & Bostock 2007): L. of the pines. Growing in pine woods.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 35–70 cm long. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1.5–3 mm long. Leaf-blades 1–2 mm wide. Leaf-blade surface scaberulous, glabrous or puberulous.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, dense, 8–20 cm long, 0.7–1.5 cm wide. Primary panicle branches appressed. Panicle axis scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5.9–6.1 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes pilose, with 1.5–2.2 mm long hairs. Floret callus pilose. Floret callus hairs 0.8–1.5 mm long.

Glumes. Glumes persistent, similar, reaching apex of florets, thinner than fertile lemma, shiny, gaping. Lower glume elliptic, 5.9–7.1 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 5.9–7.1 mm long, 1.2 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 4.9–6 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface scaberulous, rough above. Lemma apex dentate, 4 -fid, awned, 1 -awned. Principal lemma awn dorsal, arising 0.5 way up back of lemma, geniculate, 7–12 mm long overall, with twisted column. Column of lemma awn 0.5 length of limb. Palea gaping, hyaline. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 2, 1.7–2.2 mm long. Caryopsis with adherent pericarp, 1.8 mm long. Hilum punctiform. Endosperm liquid.

Distribution (TDWG). Continent. North America, South America.

Country /Province /State. **Mexico**. Southeast Mexico. **Mesoamerica**. Guatemala.

Chiapas.

Peyritschia pringlei (Scribner) S.D. Koch. *Taxon,* 28(13): 233 (1979).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Mexico. **Basionym or Replaced Name**: *Deschampsia pringlei* Scribn., *Proc. Acad. Nat. Sci. Philadelphia* 43(2): 300–301, t. 13, f. 1, 1a (1891)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *C.G. Pringle 1429*, 7 Oct 1887, Mexico: Chihuahua: wet places, pine plains, base of Sierra Madre (US-747292; IT: LL, MEXU, MICH, MO, US-867629, US-821538, VT).

Illustrations (Books): W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (173, Fig 56 as *Deschampsia pringlei*).

Derivation (Clifford & Bostock 2007): in honor of Cyrus Guernsey Pringle (1838–1911) United States botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms (30–)60–100 cm long. Ligule an eciliate membrane, 2–4 mm long, truncate. Leaf-blades flat or involute, 5–15 cm long, 1–3 mm wide.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear, continuous or interrupted, tapering above, 5–10(–18) cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes pilose. Floret callus pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma, shiny. Lower glume lanceolate, 4–5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume lanceolate, 4–5 mm long, 1.2–1.3 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 3.3–4 mm long, cartilaginous, keeled, keeled above, 5 -veined, more than 3-veined. Lemma apex lobed, 2 -fid, obtuse, awned, 1 -awned. Principal lemma awn dorsal, arising 0.25–0.33 way up back of lemma, geniculate, 6–7 mm long overall, with twisted column. Palea 0.7–0.8 length of lemma. Rhachilla extension 0.2 length of fertile floret, pilose.

Flower and Fruit. Anthers 2, 0.8 mm long. Caryopsis with adherent pericarp, fusiform, 1.5–1.6 mm long. Embryo 0.3 length of caryopsis. Endosperm liquid.

Distribution (TDWG). Continent. North America, South America.

Country /Province /State. **Mexico**. Central Mexico, Northeast Mexico, Northwest Mexico, Southwest Mexico. **Mesoamerica**, **Northern South America**, **Western South America**. Costa Rica. Venezuela. Ecuador.

Distrito Federal, Mexico State, Puebla, Tlaxcala. Aguascalientes, Chihuahua, Durango, Guanajuato, Hidalgo, San Luis Potosi, Zacatecas. Baja California, Sonora. Jalisco.

Phacelurus cambogiensis (Balansa) Clayton. *Kew Bull.,* 33(2): 177 (1978).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Cambodia. **Basionym or Replaced Name**: *Vossia cambogiensis* Balansa, *J. Bot. (Morot)* 4: 109 (1890). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *A. Godfrey-Lebeuf 129*, Jun 1875, Kampuchea: Tule-sap (P; IT: K, US-1062382). T: Cambodia (L).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Cambogia, Indo-China.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Rottboelliinae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 60–100 cm long. Ligule a fringe of hairs. Leaf-blades 30–50 cm long, 6–8 mm wide. Leaf-blade surface scaberulous, rough on both sides.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, 3.5–5 cm long. Rhachis semiterete, glabrous on surface. Rhachis internodes oblong. Rhachis internode tip transverse, flat. Spikelets in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, linear, semiterete.

Sterile Spikelets. Companion sterile spikelets well-developed, comprising 2 subequal glumes without lemmas or containing empty lemmas, lanceolate, laterally compressed, 20–40 mm long, longer than fertile, separately deciduous. Companion sterile spikelet callus linear (5–10mm), truncate. Companion sterile spikelet glumes coriaceous, winged on keels, attenuate. Companion sterile spikelet lemmas 0–2, enclosed by glumes.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets ovate, dorsally compressed, 22–24 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus pubescent, base truncate, attached transversely.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume ovate, 1 length of spikelet, coriaceous, 2-keeled, winged on keel, winged narrowly, winged above, 10–12 -veined. Lower glume apex caudate. Upper glume oblong, 12–15 mm long, chartaceous, 1-keeled. Upper glume apex acuminate.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret oblong, 0.7–1 mm long, hyaline, 5–7 -veined, acuminate, mucronate. Fertile lemma oblong, 0.5–1 mm long, hyaline, without keel. Lemma apex acuminate. Palea hyaline.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indo-China**. Cambodia.

Phacelurus digitatus (Sibth. & Smith) Griseb. *Spicil. Fl. Rumel.* ii. 424 (1844).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from Greece. **Basionym or Replaced Name**: *Rottboellia digitata* Sibth. & Sm., *Fl. Graec.* 1: 73, f. 92 (1806)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Sibthorp s.n.*, Greece: Mt. Olympus (?).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *digitus*, finger; *-ata*, possessing. Inflorescence branches finger-like.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Rottboelliinae.

Habit, Vegetative Morphology. Perennial. Rhizomes short. Culms 80–130 cm long. Ligule a fringe of hairs. Leaf-blades (16–)20–75 cm long, (0.5–)3–7 mm wide, glaucous. Leaf-blade midrib widened. Leaf-blade margins scabrous. Leaf-blade apex attenuate, filiform.

Inflorescence. Inflorescence composed of racemes. Racemes 1–7, single or digitate or borne along a central axis, 13–32 cm long. Central inflorescence axis 0–15 cm long. Rhachis semiterete, glabrous on surface. Rhachis internodes columnar, 15–22 mm long. Rhachis internode tip transverse, flat. Spikelets appressed, in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, linear or columnar, semiterete, 5–12 mm long.

Sterile Spikelets. Companion sterile spikelets well-developed, male, lanceolate, laterally compressed, 10–20 mm long, as long as fertile, separately deciduous. Companion sterile spikelet callus square or oblong, 1–2.5 mm long, truncate. Companion sterile spikelet lemmas 2, enclosed by glumes.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, dorsally compressed, 10–20 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus square, base truncate, attached transversely.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume lanceolate, 1 length of spikelet, coriaceous, 2-keeled. Lower glume surface smooth. Lower glume apex acuminate. Upper glume lanceolate, chartaceous, 1-keeled, 3 -veined. Upper glume apex acuminate.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret hyaline. Fertile lemma lanceolate, hyaline, without keel. Palea hyaline.

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Southeastern Europe**.

Country /Province /State. : Albania, Bulgaria, Greece, Turkey Europe, Yugoslavia. **Western Asia**. East Aegean Is, Palestine, Israel & Jordan, Turkey.

Phacelurus franksae (J.M. Wood) Clayton. *Kew Bull.,* 33(2): 178 (1978).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from South Africa. **Basionym or Replaced Name**: *Ischaemum franksae* J.M. Wood, *Bull. Misc. Inform. Kew* 1908: 226 (1908). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Wylie in Wood 10540*, South Africa: Natal: Tabanhlope (K).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (489, Fig 399 as *Ischaemum*), G.E.Gibbs Russell el al, *Grasses of Southern Africa* (1990) (267, Fig 165).

Derivation (Clifford & Bostock 2007): in honor of Millicent Franks (1886–1961) South African botanical artist.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Rottboelliinae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Culms 20–60 cm long. Culm-nodes glabrous or bearded. Leaf-sheaths keeled, outer margin hairy. Ligule a fringe of hairs. Leaf-blades filiform, terete, 15–30 cm long, 0.5–1 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 2–3, paired or digitate, 3–6.5 cm long. Rhachis semiterete, glabrous on surface or pubescent on surface, ciliate on margins. Rhachis internodes clavate. Rhachis internode tip transverse, cupuliform, with simple rim or hairy rim. Raceme-bases linear, 5–15 mm long. Spikelets in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, clavate, semiterete, glabrous or pubescent, hairy all along or all along but hairs longer above, tip cupuliform.

Sterile Spikelets. Companion sterile spikelets well-developed, male, oblong, laterally compressed, 6–8 mm long, as long as fertile, separately deciduous. Companion sterile spikelet callus indistinct. Companion sterile spikelet lemmas 2, enclosed by glumes.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets ovate, dorsally compressed, 6–8 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus pubescent, base truncate, with central peg, attached transversely.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume ovate, 1 length of spikelet, coriaceous, purple, 2-keeled. Lower glume primary vein spinulose. Lower glume intercarinal veins obscure. Lower glume surface convex or flat or concave, smooth or spinose, rough on veins. Lower glume apex acute. Upper glume oblong, chartaceous, 1-keeled, 3 -veined. Upper glume primary vein spinulose.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret hyaline. Fertile lemma lanceolate, hyaline, without keel. Palea hyaline.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **West-Central Tropical Africa**, **South Tropical Africa**, **Southern Africa**. DRC. Zambia, Zimbabwe. Kwazulu-Natal.

Phacelurus gabonensis (Steud.) Clayton. *Kew Bull.,* 35(4): 817 (1981).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Gabon. **Basionym or Replaced Name**: *Jardinea gabonensis Syn. Pl. Glumac.*1: 360 (1854). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Jardin s.n.*, Gabon (P).

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (278, Fig. 212 as *Jardinia congoensis*), W. Robyns (1929 and 1934). Flora Agrostologique du Congo Belge et du Ruanda-Urundi, I. Maydees et Andropgonees and II. Panicees. Bruxelles, Goemaere (57, Pl 1 as *Jardinea congoensis*), G.V.Pope et al., *Flora Zambesiaca* 10 (4(2002):161, t. 52).

Illustrations (Journals): *Hooker's Icones Plantarum* (t.3079 (1922) as *Jardinea*).

Derivation (Clifford & Bostock 2007): L. *-ense*, denoting origin. From Gabon.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Rottboelliinae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 150–250 cm long. Ligule a ciliolate membrane. Leaf-blades 15–40 cm long, 3–8 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 4–14, borne along a central axis, 6–25 cm long. Central inflorescence axis 2–15 cm long. Rhachis angular, glabrous on surface, scabrous on margins. Rhachis internodes cuneate. Rhachis internode tip transverse, flat. Spikelets in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, linear, angular, scabrous.

Sterile Spikelets. Companion sterile spikelets rudimentary or well-developed, comprising 2 subequal glumes without lemmas or containing empty lemmas or male, dorsally compressed, shorter than fertile or as long as fertile, separately deciduous. Companion sterile spikelet glumes coriaceous, muticous or mucronate. Companion sterile spikelet lemmas 0–2, enclosed by glumes.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, dorsally compressed, 4–7 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus pubescent, base truncate, attached transversely.

Glumes. Glumes dissimilar, reaching apex of florets, firmer than fertile lemma. Lower glume lanceolate, 1 length of spikelet, coriaceous, purple, 2-keeled, wingless. Lower glume primary vein spinulose. Lower glume intercarinal veins obscure. Lower glume surface flat, muricate. Lower glume apex acute or acuminate, muticous or mucronate. Upper glume lanceolate, chartaceous, 1-keeled, 3 -veined.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret hyaline, 2 -veined, ciliolate on margins. Fertile lemma lanceolate, hyaline, without keel, 3 -veined, 0–3 -veined. Palea hyaline.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **West Tropical Africa**, **West-Central Tropical Africa**, **Northeast Tropical Africa**, **South Tropical Africa**. Ghana, Nigeria, Togo. Congo, Gabon, DRC. Chad, Sudan. Angola, Zambia.

Phacelurus huillensis (Rendle) Clayton. *Kew Bull.*, 33(2): 177 (1978).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Angola. **Basionym or Replaced Name**: *Rottboellia huillensis* Rendle, *Cat. Afr. Pl.* 2(1): 140 (1899). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Welwitsch 2648*, Angola: Mumpulla (?; IT: BM).

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (a277, 241 as *Thyrsia undulatifolia*), R.M.Polhill, F.T.E.A., *Gramineae* (3(1982):846, Fig. 199), G.V.Pope et al., *Flora Zambesiaca* 10.

Illustrations (Journals): *Hooker's Icones Plantarum* (t.3078 (1922) as *T. inflata*).

Derivation (Clifford & Bostock 2007): L. *-ense*, denoting origin. From Huilla, Angola.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Rottboelliinae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 60–180 cm long. Ligule a ciliolate membrane. Leaf-blades 15–40 cm long, 2–7 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 4–14, borne along a central axis, 8–20 cm long. Central inflorescence axis 2–9 cm long. Rhachis semiterete, glabrous on surface. Rhachis internodes cuneate or inflated. Rhachis internode tip transverse, flat. Spikelets in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, cuneate or inflated, semiterete.

Sterile Spikelets. Companion sterile spikelets rudimentary or well-developed, comprising 2 subequal glumes without lemmas or containing empty lemmas or male, dorsally compressed, shorter than fertile or as long as fertile, separately deciduous. Companion sterile spikelet glumes winged on keels. Companion sterile spikelet lemmas 0–2, enclosed by glumes.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets oblong (shield-shaped), dorsally compressed, 3.5–5

mm long, falling entire, deciduous with accessory branch structures. Spikelet callus base truncate, attached transversely.

Glumes. Glumes dissimilar, reaching apex of florets, firmer than fertile lemma. Lower glume ovate, 1 length of spikelet, coriaceous, pallid or purple, 2-keeled, winged on keel, winged all along. Lower glume intercarinal veins obscure. Lower glume surface flat. Lower glume apex emarginate or obtuse. Upper glume oblong, chartaceous, without keels, 3 -veined.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret hyaline, 2 -veined. Fertile lemma lanceolate, hyaline, without keel, 3 -veined, 0–3 -veined. Palea hyaline.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **West-Central Tropical Africa**, **East Tropical Africa**, **South Tropical Africa**. DRC. Tanzania. Angola, Malawi, Mozambique, Zambia.

Phacelurus latifolius (Steud.) Ohwi. *Acta Phytotax. & Geobot.* iv. 59 (1935).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from Japan. **Basionym or Replaced Name**: *Rottboellia latifolia* Steud., *Flora* 29: 21 (1846). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Japan:, *Goering 400* (HT: ?).

Illustrations (Books): T.Koyama, *Grasses of Japan and its neighbouring regions* (1987), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (fig. 892).

Derivation (Clifford & Bostock 2007): L. *latus*, broad; *folium*, leaf. Leaf-blades broad or relatively broad with respect to related species.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Rottboelliinae.

Habit, Vegetative Morphology. Perennial, culms solitary or caespitose. Rhizomes elongated, scaly. Culms erect, 80–130 cm long, 4–6 mm diam. Ligule an eciliate membrane or a ciliolate membrane, 1–2 mm long. Leaf-blades linear or lanceolate, 20–40 cm long, 10–35 mm wide, coriaceous. Leaf-blade midrib widened. Leaf-blade apex attenuate, filiform.

Inflorescence. Inflorescence composed of racemes. Racemes 5–12, digitate, 10–23 cm long. Central inflorescence axis 2–5 cm long. Rhachis angular, glabrous on surface. Rhachis internodes columnar or oblong, 8–15 mm long. Rhachis internode tip transverse, flat. Spikelets appressed, in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, columnar or clavate, angular.

Sterile Spikelets. Companion sterile spikelets well-developed, male, lanceolate, laterally compressed, 7–9 mm long, shorter than fertile, separately deciduous. Companion sterile spikelet callus indistinct. Companion sterile spikelet glumes chartaceous, spinulose (on keel), acute. Companion sterile spikelet lemmas 2, enclosed by glumes.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, dorsally compressed, obtuse, 9–11 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus square or oblong, 0.7 mm long, base truncate, attached transversely.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume lanceolate, 1 length of spikelet, coriaceous, 2-keeled. Lower glume primary vein spinulose. Lower glume surface flat or concave. Lower glume apex obtuse. Upper glume lanceolate, chartaceous, 1-keeled, 3 -veined. Upper glume primary vein spinulose. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret hyaline. Fertile lemma lanceolate, hyaline, without keel. Palea hyaline.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**, **Eastern Asia**. Manchuria, China North-Central, China Southeast. Japan Hokkaido, or Honshu, or Shikoku, or Kyushu. Japan, Korea.

Hebei, Shandong. Anhui, Fujian, Jiangsu, Zhejiang.

Phacelurus schliebenii (Pilger) Clayton. *Kew Bull.*, 33(2): 178 (1978).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Tanzania. **Basionym or Replaced Name**: *Thyrsia schliebenii* Pilg., *Notizbl. Bot. Gart. Berlin-Dahlem* 11: 649 (1932). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Schlieben 1252*, Tanzania: Lupembe (B+).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Hans Joachim Schlieben (1902–1975) German plant collector in Tanzania.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Rottboelliinae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations flabellate. Culms erect, 30–90 cm long. Ligule a ciliolate membrane. Leaf-blades 15–30 cm long, 3–5 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 2–8, borne along a central axis, 3–9 cm long. Central inflorescence axis 1–5 cm long. Rhachis semiterete, pubescent on surface. Rhachis internodes cuneate. Rhachis internode tip transverse, flat. Spikelets in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, cuneate or inflated, semiterete, pubescent.

Sterile Spikelets. Companion sterile spikelets rudimentary or well-developed, comprising 2 subequal glumes without lemmas or containing empty lemmas or male, dorsally compressed, shorter than fertile or as long as fertile, separately deciduous. Companion sterile spikelet lemmas 0–2, enclosed by glumes.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets ovate, dorsally compressed, 4–5 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus base truncate, attached transversely.

Glumes. Glumes dissimilar, reaching apex of florets, firmer than fertile lemma. Lower glume ovate, 1 length of spikelet, chartaceous, purple, 2-keeled, wingless. Lower glume primary vein ciliate. Lower glume intercarinal veins distinct. Lower glume surface flat, pilose, hairy on veins. Lower glume apex emarginate or obtuse or acute. Upper glume oblong, chartaceous, without keels, 3 -veined.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret hyaline, 2 -veined. Fertile lemma lanceolate, hyaline, without keel, 3 -veined, 0–3 -veined. Palea hyaline.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **West-Central Tropical Africa**, **East Tropical Africa**, **South Tropical Africa**. DRC. Tanzania. Malawi, Zambia.

Phacelurus speciosus (Steud.) C.E.Hubb. *Kew Bull.* 1928, 35 (1928).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from Nepal. **Basionym or Replaced Name**: *Andropogon speciosus* Steud., *Syn. Pl. Glumac.* 1: 375 (1854). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Nepal, *Royle hrbr. 263* (HT: B).

Illustrations (Books): T.A.Cope, *Flora of Pakistan* 143: *Poaceae* (1982) (340, Fig. 37).

Derivation (Clifford & Bostock 2007): L. *species*, beauty; *-osa*, abundance. Showy in some respect, in particular the inflorescence.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Rottboelliinae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms 30–150 cm long. Ligule a ciliolate membrane. Leaf-blades conduplicate or convolute, 10–45 cm long, (1–)3–9(–15) mm wide, mid-green or glaucous. Leaf-blade surface glabrous or pilose, with simple hairs or tubercle-based hairs.

Inflorescence. Inflorescence composed of racemes. Racemes 1–5(–9), single or digitate, 6–15(–20) cm long. Central inflorescence axis 0–5 cm long. Rhachis semiterete, glabrous on surface or pubescent on surface. Rhachis internodes clavate. Rhachis internode tip transverse, flat. Spikelets in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, clavate, semiterete, glabrous or pubescent.

Sterile Spikelets. Companion sterile spikelets well-developed, male, ovate, laterally compressed, 4–7 mm long, shorter than fertile, separately deciduous. Companion sterile spikelet callus indistinct. Companion sterile spikelet lemmas 2, enclosed by glumes.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets ovate, dorsally compressed, 4.5–8.5 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus base truncate, with central peg, attached transversely.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume ovate, 1 length of spikelet, coriaceous, 2-keeled. Lower glume primary vein spinulose. Lower glume surface flat, glabrous to villous. Lower glume apex emarginate or obtuse. Upper glume oblong, chartaceous, 1-keeled, 3 -veined.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret hyaline. Fertile lemma lanceolate, hyaline, without keel. Palea hyaline.

Flower and Fruit. $2n = 10$ (2 refs TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **Western Asia**. Afghanistan. **Indian Subcontinent**. India, Pakistan, West Himalaya.

Himachal Pradesh, Jammu Kashmir, Uttaranchal.

Phacelurus trichophyllus S.L. Zhong. *J. Southwest. Agric. Coll. (Chongqing)*, 1982(4): 78 (1982).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from ?China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Junyang, *?* (HT: CDBI) 11 Aug 1964.

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (fig. 893).

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Rottboelliinae.

Habit, Vegetative Morphology. Perennial. Rhizomes short. Culms erect, 100–200 cm long. Lateral branches ample, arising from upper culm. Leaves cauline. Leaf-sheaths glabrous on surface or hispid, with tubercle-based hairs. Ligule a ciliolate membrane, 0.8–1 mm long. Leaf-blades linear or lanceolate, flat, 10–20 cm long, 5–18 mm wide. Leaf-blade surface hispid, sparsely hairy, with tubercle-based hairs. Leaf-blade margins scaberulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, smoothly terete, 10 cm long. Rhachis fragile at the nodes, semiterete, glabrous on surface, glabrous on margins. Rhachis internodes columnar, with the lower often bearing triads. Rhachis internode tip transverse, crateriform, with simple rim. Spikelets in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, oblong.

Sterile Spikelets. Companion sterile spikelets rudimentary or well-developed, deciduous with the fertile. Companion sterile spikelet glumes chartaceous, muticous.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate or ovate, dorsally compressed, 0.3–7 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus base truncate, with central peg, attached transversely.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume lanceolate to ovate, 1 length of spikelet, coriaceous, without keels, keel-less except near apex. Lower glume surface convex or flat, scabrous, rough at apex. Lower glume margins ciliolate. Lower glume apex acute, muticous. Upper glume lanceolate, membranous, 1-keeled. Upper glume muticous.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret lanceolate, hyaline, acute. Fertile lemma lanceolate, hyaline, without keel. Lemma apex acute.

Flower and Fruit. Anthers 3, 3–4 mm long.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China South Central.

Sichuan, Yunnan.

Phacelurus zea (C.B.Cl.) Clayton. *Kew Bull.*, 33(2): 177 (1978).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960) (as *Thyrsia*).

TYPE from India. **Basionym or Replaced Name**: *Rottboellia zea* C.B. Clarke, *J. Linn. Soc., Bot.* 25(165–169): 86–87, pl. 35 (1889). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: India: Muneypore, *C.B. Clarke 41980* (HT: K).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (827, Fig. 62), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 892).

Derivation (Clifford & Bostock 2007): resembling *Zea*.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Rottboelliinae.

Habit, Vegetative Morphology. Perennial. Culms 150–200 cm long. Culm-nodes pubescent. Ligule a ciliolate membrane. Leaf-blades flat or involute, 50–100 cm long, 10–20 mm wide. Leaf-blade midrib widened. Leaf-blade surface scabrous, rough adaxially. Leaf-blade margins scabrous.

Inflorescence. Inflorescence composed of racemes. Racemes numerous, 30–60, borne along a central axis, simply spaced or in several whorls, 5–15 cm long. Central inflorescence axis 25–40 cm long. Rhachis semiterete, glabrous on surface. Rhachis internodes oblong or cuneate, 4 mm long. Rhachis internode tip transverse, flat. Raceme-bases linear, 20–50 mm long. Spikelets in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, linear, flattened, 1.2–2 mm long.

Sterile Spikelets. Companion sterile spikelets well-developed, male, oblong, laterally compressed, 3.4–3.8 mm long, shorter than fertile, separately deciduous. Companion sterile spikelet callus indistinct. Companion sterile spikelet glumes keeled. Companion sterile spikelet lemmas 2, enclosed by glumes.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets ovate, dorsally compressed, 4 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus base truncate, attached transversely.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume oblong, 1 length of spikelet, coriaceous, 2-keeled, winged on keel, winged narrowly, winged all along, 1–3 -veined. Lower glume primary vein scabrous. Lower glume surface flat, scabrous. Lower glume apex obtuse. Upper glume ovate, chartaceous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret lanceolate, 4 mm long, hyaline, 2 -veined. Fertile lemma lanceolate, 3.5 mm long, hyaline, without keel, 2 -veined, 0–3 -veined. Palea 0.5 length of lemma, hyaline, 2 -veined.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. China South Central, China Southeast. **Indian Subcontinent**, **Indo-China**. Eastern Himalaya, India, Nepal. Myanmar, Thailand, Vietnam.

Guangxi. Yunnan. Assam, Nagaland. Uttah Pradesh.

Phaenanthoecium koestlinii (Hochst. ex A. Rich.) C.E.Hubb. *Kew Bull.* 1936, 330 (1936).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Ethiopia. **Basionym or Replaced Name**: *Danthonia koestlini* Hochst. ex A. Rich., *Tent. Fl. Abyss.* 2: 421 (1850)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Abyssinia: in rumis rupium opacis versus cacumen montis Selleuda, mense Octobre, *Schimper, pl. Schimp. Abyss., sect. I, 412* (HT:P. IT:K, B.).

Illustrations (Books): S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (75, Fig 32).

Derivation (Clifford & Bostock 2007): In honor of Kostlin.

Classification. Subfamily Arundinoideae. Tribe: Arundineae.

Habit, Vegetative Morphology. Perennial. Culms decumbent or prostrate, 10–30 cm long. Leaves cauline. Ligule a fringe of hairs. Leaf-blades spreading, flat or convolute, 0.5–4 cm long, 1–1.5 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, flexuous, 2–4 cm long, bearing few fertile spikelets, bearing 2–6 fertile spikelets on each. Rhachis scabrous on surface, puberulous on surface. Spikelet packing lax, irregular. Spikelets appressed, solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1–2 mm long.

Fertile Spikelets. Spikelets comprising 5–9 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 9–12 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas. Floret callus bearded, obtuse. Floret callus hairs 0.4–0.5 length of lemma.

Glumes. Glumes persistent, similar, shorter than spikelet, similar to fertile lemma in texture. Lower glume oblong, 2.5–3 mm long, 0.8 length of upper glume, membranous, without keels or 1-keeled, 1–3 -veined. Lower glume apex emarginate or obtuse. Upper glume oblong, 3–3.5 mm long, 0.8–0.9 length of adjacent fertile lemma, membranous, without keels, 3–4 -veined. Upper glume apex emarginate or obtuse.

Florets. Fertile lemma elliptic, 3–4 mm long, membranous, much thinner on margins, without keel, 9 -veined, more than 3-veined. Lemma surface with marginal hair tufts, bearing 4 hair tufts in all. Lemma apex lobed, 2 -fid, incised 0.25 of lemma length, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 12–18 mm long overall, with twisted column. Column of lemma awn 2–2.5 mm long. Lateral lemma awns present, arising on apex of lobes, 7–11 mm long, shorter than principal. Palea 1 length of lemma, 2 -veined. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, cuneate, fleshy, ciliate. Anthers 3, 1 mm long. Ovary glabrous. Caryopsis with adherent pericarp, oblong, concavo-convex, 2 mm long. Embryo 0.25 length of caryopsis. Hilum linear, 0.8 length of caryopsis.

Distribution (TDWG). Continent. Africa, Temperate Asia.

Country /Province /State. **Northeast Tropical Africa**. Ethiopia (inc. Eritrea), Sudan. **Arabian Peninsula**. Yemen.

Phaenosperma globosum Munro ex Oliver. *Journ. Linn. Soc.* xix. 59 (1891).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from ?China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: First received from the Jardin des Plantes at Paris where it had been raised from seeds brought from China by the Pere David, but it has since turned up among Shearer's Kiu-Kaing plants, see Conert, Bot. Jahrb. 78: 195–205 (1959).

Recent Synonyms: *Euthryptochloa longiligula* T.A. Cope, *Kew Bull.*, 42(3): 707 (1987).

Illustrations (Books): T.Koyama, *Grasses of Japan and its neighbouring regions* (1987) (143, Fig 47), C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (352), C-C Hsu,*Taiwan Grasses* (1975), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 254).

Derivation (Clifford & Bostock 2007): L. *globus*, sphere; *-osa*, abundance. Spikelets spherical.

Classification. Subfamily Pooideae. Tribe: Phaenospermateae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 100–300 cm long. Ligule an eciliate membrane. Leaf-blades inverted, lanceolate, 20–45 cm long, 15–25 mm wide. Leaf-blade venation slanting obliquely from midrib, with distinct cross veins.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 25–40 cm long. Primary panicle branches whorled at most nodes. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or orbicular (at maturity), dorsally compressed (slightly when young) or laterally compressed (as grain expands), 4–5 mm long, falling entire.

Glumes. Glumes similar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 0.75 length of upper glume, hyaline, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 0.75 length of adjacent fertile lemma, hyaline, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma obovate, 4–5 mm long, membranous, without keel, 3–7 -veined, 0–3 -veined or more than 3-veined. Lemma apex obtuse. Palea 1 length of lemma, 2 -veined. Palea apex obtuse.

Flower and Fruit. Lodicules 3. Anthers 3. Stigmas 2. Ovary glabrous. Caryopsis with tardily free pericarp, orbicular, isodiametric, 2.5 mm long. Hilum linear, 1 length of caryopsis.

$2n = 24$.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**, **Eastern Asia**. China South Central, China North-Central, China Southeast, Tibet. Japan Honshu. Japan, Korea, Taiwan. **Indian Subcontinent**. Assam, Eastern Himalaya.

Gansu, Shaanxi. Anhui, Guangxi, Jiangsu, Jiangxi, Zhejiang. Hubei, Sichuan, Yunnan. Sikkim. Assam.

Phalaris amethystina Trin. *Mem. Acad. Petersb. Ser.* VI. iii. 56. (1840).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Bertero 534*, Chile: in pascuis herbidis aquosis montis la Leona Rancagua (LE; ILT: P, US (fragm. ex P)). LT designated by Hitchcock in Jepson, Fl. Calif. 3: 96–99 (1912).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *amethysteus*, violet; *-ina*, belonging to. Spikelets dark purplish-red.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 30–60 cm long. Ligule an eciliate membrane. Leaf-blades 8–15 cm long, 2–7 mm wide.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear or oblong, 1.5–4.5 cm long, 1–1.4 cm wide. Spikelets ascending, solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets obovate, laterally compressed, compressed strongly, 4.7–6.2 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 4.7–6.2 mm long, 1 length of upper glume, chartaceous, 1-keeled, winged on keel, winged narrowly, 3–5 -veined. Lower glume primary vein scabrous. Lower glume surface scabrous, rough on veins. Lower glume apex acute or acuminate. Upper glume elliptic, 4.7–6.2 mm long, 1.5 length of adjacent fertile lemma, chartaceous, 1-keeled, winged on keel, 3–5 -veined. Upper glume primary vein scabrous. Upper glume surface scabrous, rough on veins. Upper glume apex acute or acuminate.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea, attached to and deciduous with the fertile. Lemma of lower sterile floret linear, 1.5–1.9 mm long, 0.5 length of fertile lemma, glabrous. Fertile lemma elliptic, laterally compressed, 3.2–4.2 mm long, cartilaginous, shiny, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent, hairy all along. Lemma apex acute. Palea cartilaginous, 2 -veined, without keels. Palea surface pubescent, hairy on back.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Ovary glabrous. Caryopsis with adherent pericarp, 2.1–2.2 mm long. Hilum linear.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Chile Central, Juan Fernandez Is.

Rest of Chile- Biobio, La Auracania, Maule, O'Higgins, Santado, Valpariso. Coquimbo, Valparaiso, Santiago, O'Higgins, Maule, Biobio, La Araucania.

Phalaris angusta Nees ex Trin. *Sp. Gram.* 1:t.78 (1827).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Trinius, Sp. Gram. t. 78 (1828)*, LT designated by Anderson, *Iowa St. J. Sci.* 36: ? (1961).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (279), C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952) (24, Pl. 4 & 25, Pl. 5), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (337), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (772), F.W.Gould, *The Grasses of Texas* (1975) (154, Fig. 77 as *P. angustata*), S.A.Renvoize, *Gramineas de Bolivia* (1998) (171, Fig. 41), E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (216, Fig. 64), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (564, Fig. 121 & 572, Fig. 124), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina*), Pt II, Gramineas (1969) (114, Fig. 35), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (195, Fig. 52), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (275, Fig 180), B.Rosengurtt, *Gramineas UruguayasI* (1970) (88, Fig. 28).

Derivation (Clifford & Bostock 2007): L. narrow. Narrow, with respect to leaf- blades or spicate panicles.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 70–150 cm long. Ligule an eciliate membrane. Leaf-blades 10–20 cm long, 6–10 mm wide.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear, 2.5–17 cm long, 0.6–1.5 cm wide. Spikelets appressed, solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets obovate, laterally compressed, compressed strongly, 2.9–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 2.9–5.5 mm long, 1 length of upper glume, chartaceous, 1-keeled, winged on keel, winged narrowly, winged above, 3–5 -veined. Lower glume primary vein scabrous. Lower glume surface scabrous, rough on veins. Lower glume apex truncate or obtuse. Upper glume elliptic, 2.9–5.5 mm long, 1.3–1.5 length of adjacent fertile lemma, chartaceous, 1-keeled, winged on keel, winged above, 3–5 -veined. Upper glume primary vein scabrous. Upper glume surface scabrous, rough on veins. Upper glume apex truncate or obtuse.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea, attached to and deciduous with the fertile. Lemma of lower sterile floret linear, 0.7–1.5 mm long, 0.33 length of fertile lemma, glabrous. Fertile lemma elliptic, laterally compressed, 2.2–3.8 mm long, cartilaginous, shiny, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent, hairy all along. Lemma apex acute. Palea cartilaginous, 2 -veined, without keels. Palea surface pubescent, hairy on back.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Ovary glabrous. Caryopsis with adherent pericarp, 1.4–1.6 mm long. Hilum linear.

$2n = 14$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa, Australasia (*), North America, South America.

Country /Province /State. **Southern Africa** (*), **Western Indian Ocean**. Mpumalanga, Kwazulu-Natal, Western Cape, Eastern Cape. Mauritius (*), Madagascar (*). **Australia** (*). Western Australia (*), Queensland (*), New South Wales (*). **Southwestern USA**, **South-central USA**, **Southeastern USA**, **Mexico**. Arizona, California. New Mexico, Texas. Alabama, Florida, Georgia, Louisiana, Mississippi. Northeast Mexico, Northwest Mexico. **Western South America**, **Brazil**, **Southern South America**. Bolivia, Ecuador, Peru. Brazil Southeast, Brazil South. Argentina Northeast, Argentina South, Argentina Northwest, Chile Central, Chile South, Juan Fernandez Is, Paraguay, Uruguay.

South-West. South East. Coast, Tablelands. Sao Paulo Parana, Catarina, Rio Grande do Sul. Sao Paulo. Paraná, Rio Grande do Sul, Santa Catarina. Jujuy, Santiago del Estero, Tucuman. Buenos Aires, Chaco, Cordoba, Corrientes, Distrito Federal, Entre Rios, La Pampa, Misiones, Santa Fe. Chubut, Río Negro. Rest of Chile- Biobio, La Auracania, Maule, O'Higgins, Santado, Valpariso. Valparaiso, Biobio, La Araucania. Los Lagos. Chihuahua. Baja California.

Phalaris aquatica L. *Cent. Pl. Rar.* i. 4; *Amoen. Acad.* iv. 264. (1755).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of*

Grasses (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960) (as *P. tuberosa*), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *P. tuberosa*), W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).

TYPE from Middle East. **Basionym or Replaced Name**: *Phalaris tuberosa* L., Mant. 2: 557. (1771). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Hasselquist s.n.*, Middle East (LINN-78.4). LT designated by Hubbard, *Fl Trop. E. Africa* 97 (1970).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (280), T. Cope & A. Gray, Grasses of the British Isles (88), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (90, Fig.60, as *P.tuberosa*), G.E.Gibbs Russell el al, *Grasses of Southern Africa* (1990) (268, Fig. 166), N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 282 as *P. tuberosa*), N.L.Bor, *Gramineae* in *Flora of Iraq* (1968) (367 & 369, Pl. 140 & 141 as *P.tuberosa*), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (240, Fig. 182), C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952) (24 & 25, Pl. 4 & 5 as *P.tuberosa*), J.R.Wheeler et al, *Flora of the Kimberley Region* (1992), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (466, Fig. 91), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (337), J.C.Tothill,& J.B.Hacker. *The grasses of southern Queensland* (1983) (342), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989) (137, Fig. 21), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (148, Fig. 22), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (769), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (564, Fig. 121), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina*), Pt II, Gramineas (1969) (114, Fig. 35 & 116 Fig. 36 as var. *stenoptera*), B.Rosengurtt, *Gramineas UruguayasI* (1970) (86, Fig. 27 as *P. tuberosa* var. *stenoptera*), E.Hafliger & E.Schultz, Grass Weeds, CIBA-GEIGY (2:111(1980)).

Illustrations (Journals): *Ruizia* (13:166, Fig.18j-k (1993)).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *aqua*, water; *-ica,* belonging to. Growing in or close to water.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms 100–150 cm long, not swollen at the base or swollen at the base, forming an ovoid corm. Ligule an eciliate membrane. Leaf-blades 10–30 cm long, 3–8 mm wide.

Inflorescence. Inflorescence a panicle. Panicle spiciform, oblong, 1.5–11 cm long, 1–2.5 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets obovate, laterally compressed, compressed strongly, 4.5–7.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 4.5–7.5 mm long, 1 length of upper glume, chartaceous, 1-keeled, winged on keel, winged above, 3 -veined. Lower glume apex acute. Upper glume elliptic, 4.5–7.5 mm long, 1.5–1.7 length of adjacent fertile lemma, chartaceous, 1-keeled, winged on keel, winged above, 3 -veined. Upper glume apex acute.

Florets. Basal sterile florets 2 or more, dissimilar, developed or with vestigial lower floret, barren, without significant palea, attached to and deciduous with the fertile. Lemma of lower sterile floret subulate, 0–0.5 mm long. Lemma of upper sterile floret subulate, 0.2–2.2 mm long, pubescent. Fertile lemma elliptic, laterally compressed, 3–4.5 mm long, cartilaginous, shiny, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent. Lemma apex acute. Palea cartilaginous, 2 -veined, without keels. Palea surface pubescent.

Flower and Fruit. Anthers 3. Ovary glabrous. Caryopsis with adherent pericarp, 2.2–2.5 mm long. Hilum linear.

n = 14 (2 refs TROPICOS). $2n$ = 28 (5 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Tropical Asia, Australasia (*), Pacific, North America, South America.

Region. **Northern Europe**, **Southwestern Europe**, **Southeastern Europe**.

Country /Province /State. : Great Britain (*). : Baleares, Corsica, France, Portugal, Sardinia, Spain. : Albania, Bulgaria, Italy, Crete, Malta, Sicily, Yugoslavia. **Northern Africa**, **Macaronesia**, **East Tropical Africa**, **Southern Africa** (*). Algeria, Egypt (*), Libya, Morocco, Tunisia. Canary Is, Madeira. Kenya. Gauteng, Mpumalanga, Free State, Western Cape, Eastern Cape. **Caucasus**, **Western Asia**. Iran, Iraq. **Indian Subcontinent**, **Papuasia**. Pakistan (*). New Guinea. **Australia** (*), **New Zealand** (*). Western Australia (*), South Australia (*), Queensland (*), New South Wales (*), A.C.T. (*), Victoria (*), Tasmania (*), Lord Howe-Norfolk Is (*). New Zealand North I, New Zealand South I. **North-central Pacific**. Hawaii (*). **Northwest USA**, **Southwestern USA**, **Mexico**. Idaho, Montana, Oregon. California. Northeast Mexico. **Northern South America**, **Western South America**, **Brazil**, **Southern South America**. Venezuela. Bolivia, Ecuador, Peru. Brazil South. Argentina Northeast, Chile North, Chile Central, Uruguay.

Yunnan (*). Uttah Pradesh. South-West. Southern. Central, South East. Coast, Tablelands, Western Slopes. Rio Grande do Sul, Santa Catarina. Buenos Aires, Corrientes, Entre Rios, La Pampa. Tarapaca. Coquimbo, Valparaiso, Santiago, O'Higgins, Biobio, La Araucania. Chihuahua.

Phalaris arundinacea L. *Sp. Pl.* 55. (1753).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *Phalaroides arundinacea*), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from Sweden. **Basionym or Replaced Name**: *Phalaroides arundinacea* (L.) Rauschert, *Fedde, Repert.* 74. 409, in obs. (1969). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *arundinacea 3*, (LINN-78.7). LT (as holotype) ineffectively designated by Anderson, *Iowa St. Coll. J. Sci.* 36: 37 (1961); effectively designated by Baldini & Jarvis, *Taxon* 40: 47? (1991).

Recent Synonyms: *Calamagrostis colorata* (Ait.) Sibth., *Fl. Oxon.* 37 (1794). *Phalaris caesia* Nees, *Fl. Afr. Austr.* 6 (1841).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (280), C.E.Hubbard, *Grasses* (1968) (274), T. Cope & A. Gray, Grasses of the British Isles (87), N.N.Tsvelev, *Grasses of the Soviet Union* (1983) (523 (351), Pl.6 as *Phalaroides*), R.M.Polhill, F.T.E.A., *Gramineae* (1(1970):96, Fig.32), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (89, Fig 59), S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (41, Fig 19), T.Koyama, *Grasses of Japan and its neighbouring regions* (1987) (226, Fig 82), C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (278), C-C Hsu,*Taiwan Grasses* (1975), K.M.Matthew, *Flora Palni Hills* (1996) (857, Pl 857), H.J.Noltie, *The Grasses of Bhutan* (2000) (597, Fig. 24), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (241, Fig 183 & 184 as var. *arundinacea* & var. *picta*), C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952) (24 & 25, Pl 4 & 5), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (338), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (148, Fig 22), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), K.F.Best, et al, *Prairie Grasses* (1971) (173), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (195, Fig. 52), B.Rosengurtt, *Gramineas UruguayasI* (1970) (88, Fig. 28), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (771), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 454), E.Hafliger & E.Schultz, Grass Weeds, CIBA-GEIGY (2:112(1980)).

Images: R.Darke, *Ornamental Grasses* (2004);, R.Darke, *The Encylopaedia of Grasses for Liveable Landscapes* (2007);.

Derivation (Clifford & Bostock 2007): L. *arundo*, reed; *-acea*, like. Culm tall, thereby resembling a reed.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated, scaly. Culms erect, 50–150 cm long. Leaves cauline. Ligule an eciliate membrane, 6–10 mm long. Leaf-blades 10–20 cm long, 5–15 mm wide.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, interrupted, 7–40 cm long, 1–4 cm wide. Primary panicle branches appressed, 1–5 cm long. Panicle branches scabrous. Spikelets appressed, solitary. Fertile spikelets pedicelled. Pedicels present, linear, tip cupuliform.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, compressed strongly, 3.5–7.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 3.5–7.5 mm long, 1 length of upper glume, chartaceous, 1-keeled, wingless, 3 -veined. Lower glume surface asperulous. Lower glume apex acute. Upper glume elliptic, 3.5–7.5 mm long, 1.3–1.6 length of adjacent fertile lemma, chartaceous, 1-keeled, wingless, 3 -veined. Upper glume surface asperulous. Upper glume apex acute.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea, attached to and deciduous with the fertile. Lemma of lower sterile floret subulate, 1.2–2.3 mm long, 0.4–0.5 length of fertile lemma, membranous, pilose. Fertile lemma ovate, laterally compressed, 2.7–4.5 mm long, cartilaginous, yellow to dark brown, shiny, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent. Lemma apex acute. Palea cartilaginous, 2 -veined, without keels. Palea surface pubescent, hairy on back.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.5–3 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum linear.

n = 14 (1 ref TROPICOS). $2n$ = 28 (6 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Tropical Asia, Australasia (*), North America, South America.

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Denmark, Finland, Foroyar, Great Britain, Ireland, Northern Ireland, Norway, Sweden. : Austria, Liechstenstein, Belgium, Luxembourg, Czechoslovakia, Germany, Hungary, Netherlands, Poland, Switzerland. : Corsica, Channel Islands, France, Monaco, Portugal, Sardinia, Andorra, Gibralter, Spain. : Albania, Bulgaria, Greece, Italy, San Marino, Vatican, Romania, Malta, Turkey Europe, Yugoslavia. Belarus, Estonia, Kalingrad, Latvia, Lithuania, Baltic States, Krym, Central European Russia, East European Russia, North European Russia, South European Russia, Northwest European Russia, Moldova, Ukraine. **Northern Africa**, **West-Central Tropical Africa**, **Northeast Tropical Africa**, **East Tropical Africa**, **Southern Africa** (*), **Western Indian Ocean**. Algeria, Egypt. Rwanda. Ethiopia (inc. Eritrea). Kenya, Tanzania. Gauteng, Mpumalanga, Free State, Kwazulu-Natal, Lesotho, Eastern Cape. Mauritius (*), Madagascar (*). Siberia, Russian Far East, **Middle Asia**, **Caucasus**, **Western Asia**, **China**, **Mongolia**, **Eastern Asia**. Altay, Buryatiya, Chita, Irkutsk, Krasnoyarsk, Tuva. Amur, Kamchatka, Khabarovsk, Kuril Is, Magadan, Primorye, Sakhalin. Kazakhstan, Turkmenistan, Tadzhikistan, Uzbekistan. Iran, Iraq. China South Central, Inner Mongolia, Manchuria, China North-Central, Qinghai, China Southeast, Xinjiang. Japan Hokkaido, or Honshu, or Shikoku, or Kyushu. Japan, Nansei-Shoto, Taiwan. **Indian Subcontinent**, **Malesia**. Eastern Himalaya, Pakistan, Sri Lanka, West Himalaya. Java. **Australia** (*), **New Zealand** (*). Western Australia (*), New South Wales (*), Victoria (*), Tasmania (*). New Zealand North I, New Zealand South I. **Subarctic America**, **Western Canada**, **Eastern Canada**, **Northwest USA**, **North-central USA**, **Northeast USA**, **Southwestern USA**, **South-central USA**, **Southeastern USA**, **Mexico**. Aleutian Is, Alaska, Yukon, Northwest Territories. Alberta, British Columbia, Manitoba, Saskatchewan. New Brunswick, Ontario, Prince Edward I, Quebec. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. Illinois, Iowa, Kansas, Minnesota, Missouri, North Dakota, Nebraska, Oklahoma, South Dakota, Wisconsin. Connecticut, Indiana, Maine, Massachusetts, Michigan, Ohio, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, West Virginia. Arizona, California, Nevada, Utah. New Mexico. Kentucky, North Carolina, Virginia. Northeast Mexico, Northwest Mexico. **Mesoamerica**, **Western South America**, **Brazil**, **Southern South America**. El Salvador. Colombia, Ecuador. Brazil South. Argentina Northeast, Uruguay.

Gansu, Hebei, Shaanxi, Shandong, Shanxi. Anhui, Henan, Hunan, Jiangsu, Jiangxi, Zhejiang. Sichuan, Yunnan. Darjeeling, Bhutan, Sikkim. Assam. Uttah Pradesh, West Bengal. Himachal Pradesh, Jammu Kashmir. South-West. Southern. Coast, Tablelands. Rio Grande do Sul, Santa Catarina. Buenos Aires. Chihuahua. Baja California.

Phalaris brachystachys Link. *Schrad. Neues Journ.* i. III.134. (1806).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Portugal. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Link s.n.*, Portugal: in agris prope Lisboam (LE). LT designated by Baldini, Webbia 47(1): ? (1993).

Illustrations (Books): N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 279), N.L.Bor, *Gramineae* in *Flora of Iraq* (1968) (363, Pl. 138), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007), E.Hafliger & E.Schultz, Grass Weeds, CIBA-GEIGY (2:113(1980)).

Derivation (Clifford & Bostock 2007): Gk. *brachys*, short; *stachys*, ear of corn. Inflorescence comprised of short branches or spikelets short.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect or geniculately ascending, 30–90 cm long. Ligule an eciliate membrane. Leaf-blades 10–20 cm long, 2–8 mm wide.

Inflorescence. Inflorescence a panicle. Panicle spiciform, ovate, 1.5–4 cm long, 0.8–1.8 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets obovate, laterally compressed, compressed strongly, 6.3–8.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 6.3–8.5 mm long, 1 length of upper glume, chartaceous, 1-keeled, winged on keel, winged above, 3 -veined. Lower glume surface glabrous or pilose. Lower glume apex acute. Upper glume elliptic, 6.3–8.5 mm long, 1.4–1.5 length of adjacent fertile lemma, chartaceous, 1-keeled, winged on keel, winged above, 3 -veined. Upper glume surface glabrous or pilose. Upper glume apex acute.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea, attached to and deciduous with the fertile. Lemma of lower sterile floret ovate, 0.6–1.2 mm long, 0.1–0.2 length of fertile lemma, fleshy, acute. Fertile lemma elliptic, laterally compressed, 4.5–5.5 mm long, cartilaginous, shiny, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent. Lemma apex acute. Palea cartilaginous, 2 -veined, without keels. Palea surface pubescent.

Flower and Fruit. Anthers 3. Ovary glabrous. Caryopsis with adherent pericarp, 3.5–3.9 mm long. Hilum linear.

n = 6 (1 ref TROPICOS). $2n$ = 12 (3 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Tropical Asia, North America.

Region. **Southwestern Europe**, **Southeastern Europe**.

Country /Province /State. : Baleares, Corsica, France, Portugal, Sardinia, Spain. : Albania, Greece, Italy, Crete, Sicily, Turkey Europe, Yugoslavia. **Northern Africa**, **Macaronesia**. Libya. Azores, Canary Is, Madeira. **Caucasus**, **Western Asia**. Iran, Iraq. **Papuasia**. New Guinea. **Southwestern USA**, **Mexico**. California. Northeast Mexico.

Guanajuato.

Phalaris californica Hook. & Arn. *Bot. Beech. Voy.* 161 (1841).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from California. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Beechey s.n.*, California (K; ILT: T). LT designated by Baldini, Webbia 49(2): 312 (1995).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (771).

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From California, USA.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Rhizomes absent. Culms erect, 75–150 cm long. Ligule an eciliate membrane. Leaf-blades 10–30 cm long, 8–15 mm wide.

Inflorescence. Inflorescence a panicle. Panicle spiciform, oblong or ovate, 1.5–5 cm long, 1–3 cm wide. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets obovate, laterally compressed, compressed strongly, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 5–8 mm long, 1 length of upper glume, chartaceous, 1-keeled, wingless or winged on keel, winged narrowly, 3–5 -veined. Lower glume primary vein scaberulous. Lower glume apex acute or acuminate. Upper glume elliptic, 5–8 mm long, 1.4–1.6 length of adjacent fertile lemma, chartaceous, 1-keeled, wingless or winged on keel, 3–5 -veined. Upper glume primary vein scaberulous. Upper glume apex acute or acuminate.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea, attached to and deciduous with the fertile. Lemma of lower sterile floret linear, 1.8–3.3 mm long, 0.5–0.7 length of fertile lemma, pubescent. Fertile lemma elliptic, laterally compressed, 3.5–5 mm long, cartilaginous, shiny, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent, hairy all along. Lemma apex acute. Palea cartilaginous, 2 -veined, without keels. Palea surface pubescent, hairy on back.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Ovary glabrous. Caryopsis with adherent pericarp, 2.4–2.6 mm long. Hilum linear.

$2n = 28$ (1 ref TROPICOS).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Northwest USA**, **Southwestern USA**. Oregon. California.

Phalaris canariensis L. *Sp. Pl.* 54. (1753).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983), T.Koyama, *Grasses of Japan and its neighboring regions* (1987), W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Herb. Clifford 23, Phalaris n. 1, cult.*, (BM). CT proposed by Baldini & Jarvis, *Taxon* 40: 483 (1991); LT by Anderson, *Iowa St. J. Sci.* 36: 59 (1961), inval..

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (281), C.E.Hubbard, *Grasses* (1968) (272), T. Cope & A. Gray, Grasses of the British Isles (90), H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962), G.V.Pope et al., *Flora Zambesiaca* 10, N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 278), L.Boulos, *Flora of Egypt* 4 (2005) (170, Pl. 47), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (242, Fig. 185), C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952) (24,25 & 27, Pl. 4, 5 & 6), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (338), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989) (137, Fig. 21), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (148, Fig. 22), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), K.F.Best, et al, *Prairie Grasses* (1971) (175), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (769), F.W.Gould, *The Grasses of Texas* (1975) (155, Fig. 78), A.S.Hitchcock, *Manual of the Grasses of the West Indies* (1936) (144, Fig. 91), S.A.Renvoize, *Gramineas de Bolivia* (1998) (174, Fig. 41), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (564, Fig. 121 & 569, Fig. 123), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina*), Pt II, Gramineas (1969) (114, Fig. 35), W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (476, Fig. 179), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (195, Fig. 52), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (275, Fig. 179), B.Rosengurtt, *Gramineas UruguayasI* (1970) (83, Fig. 26), E.Hafliger & E.Schultz, Grass Weeds, CIBA-GEIGY (2:114(1980)).

Illustrations (Journals): *Ruizia* (13:166, Fig.18g-i (1993)).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From the Canary Islands.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect or geniculately ascending, 20–120 cm long. Leaves cauline. Ligule an eciliate membrane, 3–8 mm long. Leaf-blades 5–25 cm long, 4–12 mm wide.

Inflorescence. Inflorescence a panicle. Panicle spiciform or capitate, ovate, 1.5–6 cm long, 1.2–2.2 cm wide. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets obovate, laterally compressed, compressed strongly, 6–10 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 6–10 mm long, 1 length of upper glume, chartaceous, 1-keeled, winged on keel, winged above, 3–5 -veined. Lower glume surface asperulous, pubescent. Lower glume apex acute. Upper glume elliptic, 6–10 mm long, 1.3–1.6 length of adjacent fertile lemma, chartaceous, 1-keeled, winged on keel, winged above, 3–5 -veined. Upper glume surface asperulous, pubescent. Upper glume apex acute.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea, attached to and deciduous with the fertile. Lemma of lower sterile floret lanceolate, 3–4.5 mm long, 0.5–0.75 length of fertile lemma, membranous, glabrous, acute. Fertile lemma elliptic, laterally compressed, 5–6 mm long, cartilaginous, shiny, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent. Lemma apex acute. Palea cartilaginous, 2 -veined, without keels. Palea surface pubescent, hairy on back.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 3–4 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum linear.

n = 6 (1 ref TROPICOS). 2n = 12 (6 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Tropical Asia, Australasia (*), Pacific, North America, South America.

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Great Britain (*). : Austria, Czechoslovakia, Germany, Hungary, Switzerland. : Baleares, Corsica, France, Portugal, Sardinia, Spain. : Albania, Bulgaria, Greece, Italy, Crete, Romania, Sicily, Turkey Europe, Yugoslavia. Belarus, Estonia, Latvia, Lithuania, Krym, Central European Russia, East European Russia, North European Russia, South European Russia, Northwest European Russia, Ukraine. **Northern Africa**, **Macaronesia**, **Southern Africa** (*), **Western Indian Ocean**. Algeria, Egypt, Libya, Tunisia. Azores, Canary Is, Madeira. North-West, Gauteng, Mpumalanga, Free State, Kwazulu-Natal, Lesotho, Eastern Cape. Mauritius (+), Madagascar (*). Siberia, Russian Far East, **Caucasus**, **Western Asia**, **Arabian Peninsula**, **China**, **Eastern Asia**. Irkutsk. Sakhalin. Gulf States. China North-Central, China Southeast. Japan Hokkaido, or Honshu, or Shikoku, or Kyushu. Japan, Taiwan. **Indian Subcontinent**, **Papuasia**. Pakistan. New Guinea. **Australia** (*), **New Zealand** (*). Western Australia (*), South Australia (*), Queensland (*), New South Wales (*), Victoria (*), Tasmania (*), Lord Howe-Norfolk Is (*). Chatham Is, New Zealand North I, New Zealand South I. **North-central Pacific**. Hawaii (*). **Subarctic America**, **Western Canada**, **Eastern Canada**, **Northwest USA**, **North-central USA**, **Northeast USA**, **Southwestern USA**, **South-central USA**, **Southeastern USA**, **Mexico**. Yukon. Manitoba, Saskatchewan. New Brunswick, Nova Scotia, Prince Edward I. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. Illinois, Iowa, Kansas, Minnesota, Missouri, North Dakota, Nebraska, Oklahoma, South Dakota, Wisconsin. Connecticut, Indiana, Maine, Massachusetts, Michigan, Ohio, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, West Virginia. Arizona, California, Nevada. New Mexico, Texas. Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, District of Columbia. Central Mexico, Northeast Mexico, Northwest Mexico, Southwest Mexico, Southeast Mexico. **Mesoamerica**, **Caribbean**, **Western South America**, **Brazil**, **Southern South America**. Costa Rica. Bermuda, Cuba. Bolivia, Colombia, Ecuador, Peru. Brazil Southeast, Brazil South. Argentina Northeast, Argentina South, Chile Central, Chile South.

Hebei. Shanghai. South-West. Southern. North, Central, South East. Coast, Tablelands, Western Slopes, Western Plains. Sao Paulo. Paraná, Rio Grande do Sul, Santa Catarina. Tucuman. Buenos Aires, Cordoba, Distrito Federal, Entre Rios, La Pampa, Santa Fe. Santa Cruz, Tierra del Fuego. Valparaiso, Santiago,

Maule, Biobio, La Araucania. Los Lagos, Magellanes. Distrito Federal, Mexico State, Puebla. Coahuila, Chihuahua, Durango, Neuvo Leon, Zacatecas. Sinaloa. Jalisco, Michoacan, Oaxaca. Campeche, Chiapas.

Phalaris caroliniana Walt. *Fl. Carol.* 74 (1788).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: NT: *Wilbur H. Duncan 9468*, 4 May 1949, USA: South Carolina: McCormick Co.: in open field of moist bottomland ca. 1 1/3 mi due N of Clark Hill Dam, elv. ca. 200 ft (US-2075588). NT designated by D.E. Anderson, Iowa State Journ. Sci. 36(1): 80 (1961).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (772), F.W.Gould, *The Grasses of Texas* (1975) (153, Fig. 76).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating location. From Carolina, USA.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 50–100 cm long. Ligule an eciliate membrane. Leaf-blades 5–15 cm long, 3–8 mm wide.

Inflorescence. Inflorescence a panicle. Panicle spiciform, ovate, 1–7 cm long, 0.8–2 cm wide. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets obovate, laterally compressed, compressed strongly, 4.2–5.6 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 4.2–5.6 mm long, 1 length of upper glume, chartaceous, 1-keeled, winged on keel, winged narrowly, winged above, 3 -veined. Lower glume primary vein scaberulous. Lower glume surface smooth. Lower glume apex acute or acuminate. Upper glume elliptic, 4.2–5.6 mm long, 1.2–1.4 length of adjacent fertile lemma, chartaceous, 1-keeled, winged on keel, winged above, 3–5 -veined. Upper glume primary vein scaberulous. Upper glume surface smooth. Upper glume apex acute or acuminate.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea, attached to and deciduous with the fertile. Lemma of lower sterile floret linear, 1.2–2.5 mm long, 0.33–0.5 length of fertile lemma, pubescent. Fertile lemma elliptic, laterally compressed, 3–4.7 mm long, cartilaginous, shiny, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent, hairy all along. Lemma apex acute. Palea cartilaginous, 2 -veined, without keels. Palea surface pubescent, hairy on back.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Ovary glabrous. Caryopsis with adherent pericarp, 2–2.3 mm long. Hilum linear.

$2n = 14$ (1 ref TROPICOS).

Distribution (TDWG). Continent. North America, South America.

Country /Province /State. **Northwest USA**, **North-central USA**, **Southwestern USA**, **South-central USA**, **Southeastern USA**, **Mexico**. Colorado, Oregon. Kansas, Missouri, Oklahoma. Arizona, California, Nevada, Utah. New Mexico, Texas. Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee. Northeast Mexico, Northwest Mexico. **Caribbean**, **Southern South America**. Chile Central.

Valparaiso. Coahuila, Chihuahua. Baja California, Sonora.

Phalaris coerulescens Desf. *Fl. Atlant.* i. 56. (1798).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from Algeria. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Herb. Desf. s.n.*, Habitat in arvis Algeriae (P). LT designated by Kerguilen, *Lejeunia* 75: ? (1975).

Illustrations (Books): C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952) (24, Pl 3), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (767).

Derivation (Clifford & Bostock 2007): L. *coerulesco*, become bluish. Foliage glaucous.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 100–150 cm long, swollen at the base, forming an ovoid corm. Ligule an eciliate membrane. Leaf-blades 5–25 cm long, 1.5–4 mm wide.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear or oblong, 3–11 cm long, 1–2.3 cm wide. Panicle axis bearing persistent branches or deciduous spikelet clusters. Spikelets solitary or subtended by an involucre. Fertile spikelets pedicelled, 1–2 in the cluster. Companion sterile spikelets pedicelled, 5–6 in the cluster. Involucre composed of imperfect spikelets. Pedicels present.

Sterile Spikelets. Companion sterile spikelets well-developed, male, oblong, laterally compressed, as long as fertile, deciduous with the fertile.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets obovate, laterally compressed, compressed strongly, 5.3–9 mm long, breaking up at maturity or falling entire, deciduous with accessory branch structures, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 5.3–9 mm long, 1 length of upper glume, chartaceous, 1-keeled, winged on keel, winged above, 3 -veined. Lower glume surface glabrous or pilose. Lower glume apex acute. Upper glume elliptic, 4.3–9 mm long, 1.2–2 length of adjacent fertile lemma, chartaceous, 1-keeled, winged on keel, winged above, 3 -veined. Upper glume surface glabrous or pilose. Upper glume apex acute.

Florets. Basal sterile florets 2 or more, similar, both vestigial, attached to and deciduous with the fertile. Fertile lemma elliptic, laterally compressed, 2.7–4.4 mm long, cartilaginous, shiny, keeled, 5 -veined, more than 3-veined. Lemma surface glabrous. Lemma apex acute. Palea cartilaginous, 2 -veined, without keels. Palea surface glabrous.

Flower and Fruit. Anthers 3. Ovary glabrous. Caryopsis with adherent pericarp, 2.8–3.3 mm long. Hilum linear.

n = 7 (2 refs TROPICOS). 2n = 14 (3 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Australasia (*), North America, South America.

Region. **Southwestern Europe**, **Southeastern Europe**.

Country /Province /State. : Baleares, Corsica, France, Portugal, Sardinia, Spain. : Albania, Greece, Italy, Crete, Sicily, Turkey Europe, Yugoslavia. **Northern Africa**, **Macaronesia**. Algeria, Egypt, Libya, Morocco, Tunisia. Canary Is, Madeira. **Western Asia**. Sinai. **Australia** (*). Western Australia (*), New South Wales (*), Victoria (*). **Southwestern USA**. California. **Southern South America**. Argentina Northeast.

South-West. Tablelands. Buenos Aires, Entre Rios.

Phalaris lemmonii Vasey. *Contrib. U. S. Nat. Herb.* iii. 42; (1892).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *J.G. Lemmon 403*, 1887, USA: California: Santa Cruz (US). LT designated by Hitchcock in Jepson, Fl. Calif. 3: 96–99 (1912). ST: *Anderson*, USA: California: Santa Cruz.

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (769).

Derivation (Clifford & Bostock 2007): in honor of John Gill Lemmon (1832–1908) United States forester and botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 70–135 cm long. Ligule an eciliate membrane. Leaf-blades 8–20 cm long, 2–12 mm wide.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear, interrupted, 4–12 cm long, 0.7–1.5 cm wide. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-

flowered - if two-flowered then both fertile or the upper sterile. Spikelets obovate, laterally compressed, compressed slightly, 4.9–6.7 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 4.9–6.7 mm long, 1 length of upper glume, chartaceous, 1-keeled, wingless, 3 -veined. Lower glume primary vein scabrous. Lower glume surface asperulous, rough on veins. Lower glume apex acuminate. Upper glume elliptic, 4.9–6.7 mm long, 1.2–1.3 length of adjacent fertile lemma, chartaceous, 1-keeled, wingless, 3 -veined. Upper glume primary vein scabrous. Upper glume surface asperulous, rough on veins. Upper glume apex acuminate.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea, attached to and deciduous with the fertile. Lemma of lower sterile floret linear, 1–1.6 mm long, 0.25–0.33 length of fertile lemma, pubescent. Fertile lemma elliptic, subterete, 4–5.1 mm long, cartilaginous, shiny, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent, hairy all along. Lemma apex acute. Palea cartilaginous, 2 -veined, without keels. Palea surface pubescent, hairy on back.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Ovary glabrous. Caryopsis with adherent pericarp, 2.1–2.3 mm long. Hilum linear.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Southwestern USA**. California.

Phalaris lindigii R.M. Baldini. *Webbia,* 49(2): 317 (1995).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Colombia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *Lindig 1862*, Aug 1859, Nouvelle Grenada (P; IT: MO-1652515).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): In honor of Alexandro M. Lindigio (fl. 1862) who collected in Colombia.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms 100–150 cm long. Ligule an eciliate membrane, 4 mm long, truncate. Leaf-blades 10–35 cm long, 3–15 mm wide.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear, continuous or interrupted, 9–15 cm long. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets obovate, laterally compressed, compressed strongly, 6.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 6.5 mm long, 1 length of upper glume, chartaceous, 1-keeled, winged on keel. Lower glume primary vein scabrous. Lower glume apex truncate. Upper glume lanceolate, 6.5 mm long, 1.4–1.6 length of adjacent fertile lemma, chartaceous, 1-keeled, winged on keel. Upper glume primary vein scabrous. Upper glume apex truncate.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea, attached to and deciduous with the fertile. Lemma of lower sterile floret linear, 1.8–2 mm long, 0.4 length of fertile lemma, pubescent. Fertile lemma elliptic, laterally compressed, 4.5 mm long, cartilaginous, shiny, keeled, 5 -veined, more than 3-veined. Lemma surface glabrous. Lemma apex acute. Palea cartilaginous, 2 -veined, without keels.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.5 mm long.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Colombia.

Phalaris maderensis (Menezes) Menezes. *Gramin. Arch. Madeira*, 23 (1906).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Madeira. **Basionym or Replaced Name**: *Phalaris coerulescens* var. *maderensis* Menezes, *Cat. Phanerogam. Madeira Porto Santo* 57 (1894)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Carlos d'Azevedo Menezes 104*, Ilheu dos Desembarcadouros (Mad.) (COI). LT designated by Baldini, Webbia 49(2): 282 (1995).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Madeira Islands.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 10–50 cm long. Ligule an eciliate membrane. Leaf-blades 6–15 cm long, 3–7 mm wide.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear or oblong or ovate, 2.5–5 cm long. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets obovate, laterally compressed, compressed strongly, 4.5–4.8 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 4.5–4.8 mm long, 1 length of upper glume, chartaceous, 1-keeled, winged on keel, winged above, 3–5 -veined. Lower glume apex truncate. Upper glume elliptic, 4.5–4.8 mm long, 1.4 length of adjacent fertile lemma, chartaceous, 1-keeled, winged on keel, winged above, 3–5 -veined. Upper glume apex truncate.

Florets. Basal sterile florets 2 or more, dissimilar, with vestigial lower floret, barren, without significant palea, attached to and deciduous with the fertile. Lemma of upper sterile floret linear, 1.3–1.4 mm long, ciliate on margins. Fertile lemma elliptic, laterally compressed, 3.2–3.4 mm long, cartilaginous, shiny, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent, hairy all along. Lemma apex acute. Palea cartilaginous, 2 -veined, without keels. Palea surface pubescent, hairy on back.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Ovary glabrous. Caryopsis with adherent pericarp, 1.8 mm long. Hilum linear.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Macaronesia**. Madeira.

Phalaris minor Retz. *Obs.* iii. 8. (1783).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983), W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).

TYPE from probably India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *Anon.*, Oriente (LD-89/31.1962). LT designated by Baldini, *Webbia* 47(1): ? (1993).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (281), T. Cope & A. Gray, Grasses of the British Isles (89), H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (130, Fig.54), G.V.Pope et al., *Flora Zambesiaca* 10 (1(1970):82, t. 25), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (90, Fig 61), N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 280 as var. *minor*), L.Boulos, *Flora of Egypt* 4 (2005) (170, Pl. 47), N.L.Bor, *Gramineae* in *Flora of Iraq* (1968) (365, Pl. 139), K.M.Matthew, *Flora Palni Hills* (1996) (858, Pl 858), H.J.Noltie, *The Grasses of Bhutan* (2000) (597, Fig. 24), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (242, Fig 186), C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952) (24 & 25, Pl. 4 & 5), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (339), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (769), S.A.Renvoize, *Gramineas de Bolivia* (1998) (171, Fig 41), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (564, Fig. 121), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina*), Pt II, Gramineas (1969) (114, Fig 35), B.Rosengurtt, *Gramineas*

UruguayasI (1970) (88, Fig. 28), E.Hafliger & E.Schultz, Grass Weeds, CIBA-GEIGY (2:115(1980)), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Fig. 290, as var. *nepalensis*).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);, F.van Oudtshoorn, *Guide to Grasses of Southern Africa* (1999), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012)

(Pl. 24).

Derivation (Clifford & Bostock 2007): L. smaller, lesser. Plants small in comparison with related species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect or geniculately ascending, 20–100 cm long. Ligule an eciliate membrane, 2–7.5 mm long. Leaf-blades 5–10 cm long, 3–12 mm wide, flaccid. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle. Panicle spiciform or capitate, oblong or ovate, 1–6 cm long, 1–2 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, compressed strongly, 4–6.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 4–6.5 mm long, 1 length of upper glume, chartaceous, 1-keeled, winged on keel, winged above, 3 -veined. Lower glume apex acute. Upper glume elliptic, 4–6.5 mm long, 1.5–1.6 length of adjacent fertile lemma, chartaceous, 1-keeled, winged on keel, winged above, 3 -veined. Upper glume apex acute.

Florets. Basal sterile florets 2 or more, dissimilar, with vestigial lower floret, attached to and deciduous with the fertile. Lemma of upper sterile floret subulate, 1–1.8 mm long. Fertile lemma elliptic, laterally compressed, 2.7–4 mm long, cartilaginous, shiny, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent. Lemma apex acute. Palea cartilaginous, 2 -veined, without keels. Palea surface pubescent.

Flower and Fruit. Anthers 3, 1–1.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp, 2.3–2.5 mm long. Hilum linear.

n = 14 (6 refs TROPICOS). $2n$ = 28 (8 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Tropical Asia, Australasia (*), Pacific, North America, South America, Antarctica.

Region. **Northern Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Great Britain (*). : Baleares, Corsica, France, Portugal, Sardinia, Spain. : Albania, Greece, Italy, Crete, Sicily, Turkey Europe, Yugoslavia. Krym. **Northern Africa**, **Macaronesia**, **Northeast Tropical Africa**, **South Tropical Africa**, **Southern Africa** (*), **Middle Atlantic Ocean**. Algeria, Egypt, Libya, Morocco, Tunisia. Azores, Canary Is, Madeira. Eritrea. Zimbabwe. North-West, Gauteng, Mpumalanga, Free State, Kwazulu-Natal, Northern Cape, Western Cape, Eastern Cape. St Helena. Russian Far East, **Middle Asia**, **Caucasus**, **Western Asia**, **Arabian Peninsula**, **China**, **Eastern Asia**. Primorye. Turkmenistan, Tadzhikistan, Uzbekistan. Iran, Iraq. Gulf States, Kuwait, Oman. China South Central. Japan Kyushu. Japan. **Indian Subcontinent**, **Malesia**. Bangladesh, Eastern Himalaya, Pakistan, West Himalaya. Philippines. **Australia** (*), **New Zealand** (*). Western Australia (*), South Australia (*), Queensland (*), New South Wales (*), A.C.T. (*), Victoria (*), Tasmania (*), Lord Howe-Norfolk Is (*). Chatham Is, Kermadec Is, New Zealand North I, New Zealand South I. **North-central Pacific**. New Caledonia (*). Hawaii (*). **Northwest USA**, **Southwestern USA**, **South-central USA**, **Southeastern USA**, **Mexico**. Oregon. Arizona, California. New Mexico. Alabama. Central Mexico, Northeast Mexico, Northwest Mexico, Southwest Mexico, Southeast Mexico. **Mesoamerica**, **Western South America**, **Brazil**, **Southern South America**. Bolivia, Colombia. Argentina Northeast, Chile Central. **Subantarctic islands**. Tristan de Cunha.

Yunnan. Bhutan. Madhya Pradesh, Uttah Pradesh. Himachal Pradesh, Jammu Kashmir. South-West. NW & Lake Eyre, Southern. North, South East, Inland. Coast, Western Slopes, Western Plains. Santa Catarina. Buenos Aires, Entre Rios. Coquimbo, Biobio. Mexico State, Puebla. Hidalgo. Baja California, Sonora. Michoacan. Chiapas.

Phalaris paradoxa L. *Sp. Pl.* ed. II. 1665. (1763).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983), W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).

TYPE from "in Orientale". T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: paradoxa HU (LINN-78.6). LT designated by Baldini & Jarvis, *Taxon* 40: 483 (1991).

Illustrations (Books): T. Cope & A. Gray, Grasses of the British Isles (91), N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 272), L.Boulos, *Flora of Egypt* 4 (2005), N.L.Bor, *Gramineae* in K.H.Rechinger, *Flora Iranica*. No. 70/30 (1970) (Tab. 52 as var. *praemorsa*), N.L.Bor, *Gramineae* in *Flora of Iraq* (1968) (367, Pl. 140 as var. *praemorsa*), T.A.Cope, *Flora of Pakistan* 143: *Poaceae* (1982) (493, Fig 54), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (243, Fig 187), C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952) (24 & 25, Pl 4 & 5), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (466, Fig 91), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (339), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989) (137, Fig. 21), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (767), S.A.Renvoize, *Gramineas de Bolivia* (1998) (Fig. 41), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina*), Pt II, Gramineas (1969) (114, Fig 35), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (195, Fig. 52), B.Rosengurtt, *Gramineas UruguayasI* (1970) (86, Fig. 27), E.Hafliger & E.Schultz, Grass Weeds, CIBA-GEIGY (2:116(1980)).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);, L.Boulos, *Flora of Egypt* 4 (2005);.

Derivation (Clifford & Bostock 2007): Gk. *para*, irregular; *doxa*, opinion. Different from the expected in regard to related species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms erect or geniculately ascending, 20–100 cm long. Ligule an eciliate membrane, 2–8 mm long. Leaf-blades 5–15 cm long, 2–9 mm wide, glaucous.

Inflorescence. Inflorescence a panicle, subtended by an inflated leaf-sheath, embraced at base by subtending leaf. Panicle spiciform, oblong, tapering below, 4–10 cm long, 1.5–2.5 cm wide. Primary panicle branches accrescent to a central axis, with evident branchlets on axis. Panicle axis with rounded ribs, scaberulous, bearing deciduous spikelet clusters. Spikelets subtended by an involucre. Fertile spikelets pedicelled or sessile, 1 in the cluster, heteromorphic (smaller and sessile at base of panicle), on shorter pedicels than sterile. Companion sterile spikelets pedicelled, 6 in the cluster. Involucre composed of imperfect spikelets, cuneate, 7–10 mm long. Pedicels present.

Sterile Spikelets. Companion sterile spikelets well-developed, containing empty lemmas, elliptic or cuneate (and deformed), 4–6 mm long, shorter than fertile, deciduous with the fertile. Companion sterile spikelet glumes chartaceous, winged on keels, acute. Companion sterile spikelet lemmas 1, enclosed by glumes, 2 mm long.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 7–8 mm long, falling entire, deciduous with accessory branch structures.

Glumes. Glumes similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 7–8 mm long, 1 length of upper glume, chartaceous, 1-keeled, winged on keel, winged in the middle, 3 -veined. Lower glume apex setaceously acuminate. Upper glume ovate, 7–8 mm long, 2–3 length of adjacent fertile lemma, chartaceous, 1-keeled, winged on keel, winged in the middle, 3 -veined. Upper glume apex setaceously acuminate.

Florets. Basal sterile florets 2 or more, similar, both vestigial. Fertile lemma ovate, 2.5–3.5 mm long, coriaceous, shiny, keeled, 5 -veined, more than 3-veined. Lemma surface glabrous or pubescent (sparsely), hairy above. Lemma apex obtuse. Palea elliptic, coriaceous, 2 -veined, without keels.

Flower and Fruit. Anthers 3, 1–1.8 mm long. Caryopsis 2.5 mm long.

n = 7 (3 refs TROPICOS). 2n = 14 (8 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Tropical Asia, Australasia (*), Pacific, North America, South America.

Region. **Northern Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Great Britain (*). : Baleares, France, Portugal, Spain. : Albania, Greece, Italy, Crete, Turkey Europe, Yugoslavia. Estonia, Latvia, Lithuania. **Northern Africa**, **Macaronesia**, **Northeast Tropical Africa**, **Southern Africa** (*). Algeria, Egypt, Libya, Morocco, Tunisia. Canary Is, Madeira. Eritrea, Ethiopia (inc. Eritrea). North-West, Gauteng, Western Cape. Russian Far East, **Middle Asia**, **Caucasus**, **Western Asia**, **Arabian Peninsula**, **China**. Kamchatka, Primorye. Tadzhikistan. Iran, Iraq. Gulf States, Oman. China South Central. **Indian Subcontinent**. Pakistan. **Australia** (*), **New Zealand** (*). Western Australia (*), South Australia (*), Queensland (*), New South Wales (*), Victoria (*), Tasmania (*). New Zealand North I, New Zealand South I. **North-central Pacific**. New Caledonia. Hawaii (*). **Northwest USA**, **Southwestern USA**, **Mexico**. Washington. Arizona, California, Nevada. Northeast Mexico, Northwest Mexico. **Western South America**, **Southern South America**. Bolivia. Argentina Northeast.

Yunnan (*). South-West. Southern. Central, South East. Coast, Tablelands, Western Slopes, Western Plains. Buenos Aires, Corrientes, Entre Rios, Santa Fe. Chihuahua. Jalisco.

Phalaris peruviana H. Scholz & P. Gutte. *Willdenowia,* 8(2): 379 (1978).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Peru: Cajamarca: Cajamarca, Cumbe Mayo, am fusse von felsen in etwas feuchter Lage, 3800 m, 19 Sep 1974, *Gutte & Gutte 4001* (HT: B; IT: LZ, SMF).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating location. From Peru.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms 100–150 cm long. Ligule an eciliate membrane. Leaf-blades 15–30 cm long, 5–10 mm wide. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle. Panicle spiciform, oblong, 5–9 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets obovate, laterally compressed, compressed strongly, 7–8 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 7–8 mm long, 1 length of upper glume, chartaceous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume elliptic, 7–8 mm long, 1.5–1.7 length of adjacent fertile lemma, chartaceous, 1-keeled, winged on keel, winged above, 3 -veined. Upper glume apex acute.

Florets. Basal sterile florets 2 or more, dissimilar, barren, without significant palea, attached to and deciduous with the fertile. Lemma of lower sterile floret subulate, 0.5 mm long. Lemma of upper sterile floret subulate, 2 mm long. Fertile lemma elliptic, laterally compressed, 4–5 mm long, cartilaginous, shiny, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent. Lemma apex acute. Palea cartilaginous, 2 -veined, without keels. Palea surface pubescent.

Flower and Fruit. Anthers 3. Ovary glabrous. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Colombia, Peru.

Phalaris platensis Henrard ex Heukels. *Geillustr. Schoolfi. Nederl., ed. Wachter,* 843 (1934).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Argentina: La Plata, station de San Vincente, prés de Buenos Aires, dans les prairies Naturelles: 5 Dec 1875, *Balansa s.n.* (HT: L-909.74–456).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (282), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina*), Pt II, Gramineas (1969) (114, Fig 35), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970), B.Rosengurtt, *Gramineas UruguayasI* (1970) (88, Fig. 28).

Derivation (Clifford & Bostock 2007): L. *-ense*, denoting origin. From La Plata Province, Argentina, or Platte River between Uruguay and Argentina.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 20–40 cm long. Ligule an eciliate membrane. Leaf-blades 5–10 cm long, 3–5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear, continuous or interrupted, 3–8 cm long. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets obovate, laterally compressed, compressed strongly, 3.9–5.1 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 3.9–5.1 mm long, 1 length of upper glume, chartaceous, 1-keeled, wingless or winged on keel, winged narrowly, winged above, 3–5 -veined. Lower glume primary vein scabrous. Lower glume surface scabrous, rough on veins. Lower glume apex acute. Upper glume elliptic, 3.9–5.1 mm long, 1.3–1.5 length of adjacent fertile lemma, chartaceous, 1-keeled, wingless or winged on keel, winged near apex, 3 -veined. Upper glume primary vein scabrous. Upper glume surface scabrous, rough on veins. Upper glume apex acute.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea, attached to and deciduous with the fertile. Lemma of lower sterile floret linear, 0.8–1.8 mm long, 0.3–0.4 length of fertile lemma, glabrous. Fertile lemma elliptic, laterally compressed, 2.7–3.6 mm long, cartilaginous, shiny, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent, hairy below. Lemma apex acuminate. Palea cartilaginous, 2 -veined, without keels. Palea surface pubescent, hairy on back.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Ovary glabrous. Caryopsis with adherent pericarp, 1.7–1.9 mm long. Hilum linear.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Brazil**, **Southern South America**. Brazil South. Argentina Northeast, Uruguay.

Rio Grande do Sul. Buenos Aires, Entre Rios, La Pampa.

Phalaris truncata Guss. *Fl. Sic. Prod. Suppl.* 18 (1827).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from Sicily. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Gussone 1822*, Sicily (BOLO). LT designated by Baldini, Webbia 49(2): 284 (1995).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *trunco*, shorten by cutting off. Truncate with respect to apices of lemmas or glumes.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Culms 100–200 cm long. Ligule an eciliate membrane. Leaf-blades 5–30 cm long, 1.5–4 mm wide.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear, 2–6 cm long, 0.8–1.6 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets obovate, laterally compressed, compressed strongly, 5.5–6.3 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 5.5–6.3 mm long, 1 length of upper glume, chartaceous, 1-keeled, winged on keel, winged above, 3 -veined. Lower glume surface glabrous or pilose. Lower glume apex truncate. Upper glume elliptic, 5.5–6.3 mm long, 1.3–1.5 length of adjacent fertile lemma, chartaceous, 1-keeled, winged on keel, winged above, 3 -veined. Upper glume surface glabrous or pilose. Upper glume apex truncate.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea, attached to and deciduous with the fertile. Lemma of lower sterile floret ovate, 0.6–1.2 mm long, 0.15–0.2 length of fertile lemma, fleshy, acute. Fertile lemma elliptic, laterally compressed, 3.7–5 mm long, cartilaginous, shiny, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent. Lemma apex acute. Palea cartilaginous, 2 -veined, without keels. Palea surface pubescent.

Flower and Fruit. Anthers 3. Ovary glabrous. Caryopsis with adherent pericarp, 2.8–3 mm long. Hilum linear.

$2n = 12$ (2 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia.

Region. **Southwestern Europe**, **Southeastern Europe**.

Country /Province /State. : Baleares, Corsica, France, Portugal, Sardinia, Spain. : Albania, Bulgaria, Italy, Crete, Sicily, Yugoslavia. **Northern Africa**. Algeria, Libya, Morocco, Tunisia. **Western Asia**. Turkey.

Phanopyrum gymnocarpon (Elliott) Nash. *Fl. S.E. U.S.* 104 (1903).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. **Basionym or Replaced Name**: *Panicum gymnocarpon* Elliott, *Sketch Bot. S. Carolina* 1(2): 117 (1816). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *W. Baldwin s.n.*, Aug-Sep, USA: Georgia: Chatham Co. (US-80751 (fragm. ex CHARL & photo)).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 25 *Poaceae*, part 2 (2003) (486 as *Panicum*), F.W.Gould, *The Grasses of Texas* (1975) (460, Fig. 245 as *Panicum*), R.Pilger, *Die Naturlichen Pflanzenfamilien* 14e (1940) (13, Fig. 3 as *Panicum*).

Derivation (Clifford & Bostock 2007): Gk. *gymnos*, naked; *karpos*, fruit. The palea and lemma gape at maturity, exposing the grain.

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Arthropogoninae.

Habit, Vegetative Morphology. Perennial, culms solitary. Stolons present. Culms decumbent, 60–100 cm long, rooting from lower nodes. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.6–1 mm long. Leaf-blade base cordate. Leaf-blades 8–30 mm wide. Leaf-blade surface glabrous. Leaf-blade margins scabrous, glabrous or ciliate, hairy at base.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 15–40 cm long, contracted about primary branches. Primary panicle branches ascending, bearing spikelets almost to the base. Panicle branches stiff. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, dorsally compressed, acuminate, 5.5–7 mm long, falling entire. Floret callus evident.

Glumes. Glumes similar, reaching apex of florets, thinner than fertile lemma. Lower glume lanceolate, 0.8–0.9 length of spikelet, membranous, without keels, 3 -veined. Lower glume apex attenuate. Upper glume lanceolate, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume apex attenuate.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to upper glume, elliptic, 4.5–5.5 mm long, 0.8 length of spikelet, membranous, 5 -veined, acuminate. Palea of lower sterile floret 0.5 length of lemma. Fertile lemma obovate, dorsally compressed, 2 mm long, indurate, shiny, without keel. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate.

Distribution (TDWG). Continent. North America.

Country /Province /State. **South-central USA**, **Southeastern USA**. Texas. Alabama, Arkansas, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee.

Pharus ecuadoricus E.J.Judziewicz. *Nordic J. Bot.*, 11(1): 89 (1991).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Ecuador. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Ecuador: Pichincha: 20 km W of Santo Domingo de los Colorados, path, steamsides, 300 m, 11 Jan 1961, *Cazalet & Pennington 5238* (HT: US!; IT: A!, K!, NY!, US!).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ense*, denoting origin. From Ecuador.

Classification. Subfamily Pharoideae. Tribe: Phareae.

Habit, Vegetative Morphology. Perennial. Culms 80–100 cm long, 4–6 mm diam. Lateral branches lacking. Leaves 5–8 per branch. Leaf-sheaths smooth, glabrous on surface. Ligule a ciliate membrane, 0.7–1.3 mm long. Leaf-blade base cuneate, with a false petiole, petiole 1.2–1.3 cm long. Leaf-blades inverted, oblong, 25–38 cm long, 50–75 mm wide, dark green and light green, discolorous with last colour beneath. Leaf-blade venation slanting obliquely from midrib, with distinct cross veins. Leaf-blade surface scabrous, rough abaxially. Leaf-blade apex acuminate. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle, without bracts or bracteate at pedicel base (bract 0.5–5mm). Peduncle 13–25 cm long. Panicle open, ovate, 25–50 cm long, contracted about primary branches. Primary panicle branches 4–6 in number, spreading, simple. Panicle axis bearing deciduous branches. Panicle branches stiff, pubescent. Sexes mixed. Spikelets appressed, in pairs. Fertile spikelets sessile, 1 in the cluster. Male spikelets pedicelled, 1 in a cluster. Pedicels present, filiform, 6–10 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, straight, subterete, 11.5–13.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume elliptic, 6–7.5 mm long, 0.8–0.9 length of upper glume, scarious, light brown, without keels, 5–7 -veined. Lower glume apex acute. Upper glume elliptic, 6.5–8 mm long, 0.6 length of adjacent fertile lemma, scarious, light brown, without keels, 5–7 -veined. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma elliptic, subterete, 11.5–13.5 mm long, 2–3 mm wide, coriaceous, light brown, without keel, 7 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface pubescent, hairy all along, with hooked hairs. Lemma margins involute, interlocking with palea keels. Lemma apex acute, with a conical beak. Palea linear, 1 length of lemma, 2 -veined.

Flower and Fruit. Lodicules absent. Anthers 6, 1.2–2.1 mm long. Stigmas 3. Caryopsis with adherent pericarp, linear, isodiametric, stipitate, 9–10 mm long.

Male spikelets similar to female but less developed, 1 flowered, separately deciduous, ovate, 3.2–4.3 mm long. Male spikelet glumes 2, 2.3–4.1 mm long, membranous, 2–5 -veined, muticous. Male spikelet lemma 3.2–4.3 mm long, 3 -veined, with cross-veins, muticous.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Ecuador.

Pharus lappulaceus Aubl. *Pl. Gui.* ii. 859 (1775).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from French Guiana. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Plumier manuscript, t. 5, f. 85*, (P(tracing, WISC)).

Recent Synonyms: *Pharus glaber* Kunth.

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, Aristidoideae a Pharoideae (2012) (561), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (13, as *P. glaber*), S.A.Renvoize, *Gramineas de Bolivia* (1998) (63, Fig. 11), S.A.Renvoize, *The Grasses of Bahia*, 1984 (37, Fig.11 as *P. lappulacea*), J.A.Steyermark et al, *Flora of the Venezuelan Guayana* Vol. 8 (2004) (243, Fig. 197), E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987)

(119, Fig. 24), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (163, Fig. 34 as *P. glaber*), W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (479, Fig. 180 as *P. glaber*), E.Judziewicz, *Flora of the Guianas*, 187. *Poaceae* (1990) (524, Fig. 88).

Derivation (Clifford & Bostock 2007): L. *lappa,* burr; -*ula*, diminutive; -*aceus*, indicating resemblance. Lemma densely clothed with hooked hairs and forming a burr at maturity.

Classification. Subfamily Pharoideae. Tribe: Phareae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 50–100 cm long, 3 mm diam. Culm-internodes solid. Ligule a ciliolate membrane, 1–1.5 mm long. Leaf-blade base with a false petiole. Leaf-blades inverted, elliptic, 11–22 cm long, 35–45 mm wide. Leaf-blade venation slanting obliquely from midrib, with distinct cross veins. Leaf-blade apex acute. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 11–22 cm long, contracted about primary branches. Primary panicle branches spreading, simple. Panicle axis bearing deciduous branches. Panicle branches stiff, pubescent, with hooked hairs. Sexes mixed. Spikelets appressed, in pairs or in threes. Fertile spikelets sessile, 1–2 in the cluster. Male spikelets pedicelled, 1 in a cluster. Pedicels present, filiform.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, straight, subterete, 8–12 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 4.2–5.8 mm long, 0.8–0.9 length of upper glume, scarious, dark brown, without keels, 7 -veined. Lower glume apex acute. Upper glume lanceolate, 5–6.5 mm long, 0.5–0.66 length of adjacent fertile lemma, scarious, dark brown, without keels, 7 -veined. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma elliptic, subterete, 8–12 mm long, coriaceous, without keel, 7 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface pubescent, hairy all along, with hooked hairs. Lemma margins involute, interlocking with palea keels. Lemma apex acute, with a conical beak, with this appendage 1–1.5 mm long. Palea linear, 1 length of lemma, 2 -veined.

Flower and Fruit. Lodicules absent. Anthers 6, 0.9–1.1 mm long. Stigmas 3, pubescent. Caryopsis with adherent pericarp, oblong.

Male spikelets similar to female but less developed, 1 flowered, separately deciduous, lanceolate, 2.5–2.7 mm long. Male spikelet glumes 2. Male spikelet lemma 3 -veined.

n = 12 (1 ref TROPICOS). 2n = 24 (1 ref TROPICOS).

Distribution (TDWG). Continent. North America, South America.

Country /Province /State. **Southeastern USA**, **Mexico**. Florida. Northeast Mexico, Gulf (Mexico), Southeast Mexico. **Mesoamerica**, **Caribbean**, **Northern South America**, **Western South America**, **Brazil**, **Southern South America**. Costa Rica, El Salvador, Honduras, Nicaragua, Panama. Cuba, Dominican Republic (& as *P. glaber*), Haiti, Jamaica (& as *P. glaber*), Leeward Is, Windward Islands (& as *P. glaber*), Puerto Rico, Trinidad-Tobago. French Guiana, Guyana, Surinam, Venezuela. Bolivia, Colombia, Ecuador, Peru. Brazil West Central, Brazil Northeast, Brazil Southeast, Brazil North, Brazil South. Argentina Northwest, Paraguay, Uruguay.

Para, Amapa, Goias, Bahia, Minas Gerais, Rio de Janeiro, Espirito Santo, Sao Paulo Parana, Catarina, Rio Grande do Sul. Distrito Federal, Goiás. Bahia. Paraná. Jujuy, Salta, Tucuman. Chaco, Corrientes, Formosa, Misiones, Santa Fe. San Luis Potosi. Veracruz. Chiapas.

Pharus latifolius L. *Syst. ed.* X. 1269. (1759).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Jamaica. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *P. Browne s.n.*, Jamaica, (LINN-1120.1 (photo, BM)). LT designated by Hitchcock, Contr. U.S. Natl. Herb. 12: 125 (1908).

Illustrations (Books): A.S.Hitchcock, *Manual of the Grasses of the West Indies* (1936) (153, Fig. 97), S.A.Renvoize, *Gramineas de Bolivia* (1998) (63, Fig. 11), S.A.Renvoize, *The Grasses of Bahia*, 1984 (34, Fig.10), J.A.Steyermark et al, *Flora of the Venezuelan Guayana* Vol. 8 (2004) (243, Fig. 198), W.Burger,

Flora Costaricensis 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (479, Fig. 180), E.J.Judziewicz et al, *American Bamboos* (1999) (331, Fig. 201), E.Judziewicz, *Flora of the Guianas*, 187. *Poaceae* (1990) (524, Fig. 88).

Illustrations (Journals): *Ruizia* (13:50, Fig.5a-c (1993)).

Derivation (Clifford & Bostock 2007): L. *latus*, broad; *folium*, leaf. Leaf-blades broad or relatively broad with respect to related species.

Classification. Subfamily Pharoideae. Tribe: Phareae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 30–100 cm long, 3 mm diam. Culm-internodes solid. Culm-nodes glabrous. Lateral branches lacking. Leaf-sheaths loose, keeled, glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long, erose. Leaf-blade base with a false petiole, petiole 5–7 cm long. Leaf-blades inverted, elliptic, 15–30 cm long, 30–80 mm wide. Leaf-blade venation slanting obliquely from midrib, with distinct cross veins. Leaf-blade apex acuminate. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle. Peduncle pubescent above. Panicle open, ovate, 15–30 cm long, contracted about primary branches. Primary panicle branches spreading, simple. Panicle axis puberulous, with hooked hairs, bearing deciduous branches. Panicle branches stiff, pubescent, with hooked hairs. Sexes mixed. Spikelets appressed, in pairs. Fertile spikelets sessile, 1 in the cluster. Male spikelets pedicelled, 1 in a cluster. Pedicels present, filiform.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, curved, subterete, 10–17 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 9–12 mm long, 0.8–0.9 length of upper glume, scarious, dark brown, without keels, 7 -veined. Lower glume apex acute. Upper glume ovate, 10–13 mm long, 0.75 length of adjacent fertile lemma, scarious, dark brown, without keels, 7 -veined. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma linear, subterete, 10–17 mm long, cartilaginous, without keel, 7 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface pubescent, hairy above, with hooked hairs. Lemma margins involute, interlocking with palea keels. Lemma apex acute, with a conical beak, with this appendage 1–1.5 mm long. Palea linear, 1 length of lemma, 2 -veined.

Flower and Fruit. Lodicules absent. Anthers 6, 1.4–1.7 mm long. Stigmas 3, pubescent. Caryopsis with adherent pericarp, oblong, sulcate on hilar side, 9–10 mm long.

Male spikelets similar to female but less developed, 1 flowered, separately deciduous, lanceolate, 2.8–4 mm long. Male spikelet glumes 2. Male spikelet lemma 5 -veined.

$2n = 24$ (1 ref TROPICOS).

Distribution (TDWG). Continent. North America, South America.

Country /Province /State. **Mexico**. Gulf (Mexico), Southwest Mexico, Southeast Mexico. **Mesoamerica**, **Caribbean**, **Northern South America**, **Western South America**, **Brazil**. Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama. Cuba, Dominican Republic, Haiti, Jamaica, Leeward Is, Windward Islands, Puerto Rico, Trinidad-Tobago. French Guiana, Guyana, Surinam, Venezuela. Bolivia, Colombia, Ecuador, Peru. Brazil Northeast, Brazil Southeast, Brazil North, Brazil South.

Para, Amapa, Amazonas, Acre, Rondonia, Bahia, Minas Gerais, Rio de Janeiro, Espirito Santo, Sao Paulo Parana. Bahia. Paraná. Veracruz. Oaxaca. Chiapas, Quintana Roo, Tabasco.

Pharus mezii Prodoehl. *Bot. Archiv,* i. 250 . (1922).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Costa Rica. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *P. Biolley 17326*, Feb 1909, Costa Rica: Puntarenas: Surubres, 200 m, 9?7'N, 84?4'W (B; IT: CR-17326 (photo, CR-91784), US-979214).

Illustrations (Books): R.McVaugh, *Flora Nova-Galiciana* Vol.14 *Gramineae* (1983).

Derivation (Clifford & Bostock 2007): in honor of Carl Christian Mez (1866–1944), German botanist.

Classification. Subfamily Pharoideae. Tribe: Phareae.

Habit, Vegetative Morphology. Perennial. Culms erect, 60–100 cm long, 1–2 mm diam. Culm-internodes solid. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1 mm long. Leaf-blade base with a false petiole. Leaf-blades inverted, elliptic, 11–25 cm long, 23–50 mm wide. Leaf-blade venation slanting obliquely from midrib, with distinct cross veins. Leaf-blade surface scaberulous. Leaf-blade apex acuminate. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 18 cm long, contracted about primary branches. Primary panicle branches spreading, simple. Panicle axis puberulous, with hooked hairs, bearing deciduous branches. Panicle branches stiff, pubescent, with hooked hairs. Sexes mixed. Spikelets appressed, in pairs. Fertile spikelets sessile, 1 in the cluster. Male spikelets pedicelled, 1 in a cluster. Pedicels present, filiform.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, curved (sigmoid), subterete, 9–11 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 5.5–6 mm long, 0.8–0.9 length of upper glume, scarious, dark brown, without keels, 6–9 -veined. Lower glume apex acute. Upper glume lanceolate, 6–6.5 mm long, 0.66 length of adjacent fertile lemma, scarious, dark brown, without keels, 5 -veined. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma linear, subterete, 9–11 mm long, coriaceous, without keel, 7 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface pubescent, hairy above, with hooked hairs. Lemma margins involute, interlocking with palea keels. Lemma apex acute, with a conical beak, with this appendage 0.5–1 mm long. Palea linear, 1 length of lemma, 2 -veined.

Flower and Fruit. Lodicules absent. Anthers 6. Stigmas 3, pubescent. Caryopsis with adherent pericarp, oblong, sulcate on hilar side.

Male spikelets similar to female but less developed, 1 flowered, separately deciduous, lanceolate, 2.4–2.7 mm long. Male spikelet glumes 2. Male spikelet lemma 3 -veined.

Distribution (TDWG). Continent. North America, South America.

Country /Province /State. **Mexico**. Southwest Mexico. **Mesoamerica**, **Northern South America**, **Western South America**. Costa Rica, Guatemala, Nicaragua, Panama. Venezuela. Colombia, Ecuador.

Guerrero, Jalisco, Michoacan.

Pharus parvifolius Nash. *Bull. Torr. Bot. Club* v. 301. (1908).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Haiti. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *G. V. Nash & N. Taylor 1482*, 11 Aug 1905, Haiti: Camp No. 5, Plaisance, to Gonaoves; Les Roches, Alt. 1800 ft (NY-71038 (photo, CR-57408); IT: NY-71039, NY-71040).

Illustrations (Books): A.S.Hitchcock, *Manual of the Grasses of the West Indies* (1936) (154, Fig. 98), E.J.Judziewicz et al, *American Bamboos* (1999) (331, Fig. 201), E.Judziewicz, *Flora of the Guianas*, 187. *Poaceae* (1990) (524, Fig 88).

Derivation (Clifford & Bostock 2007): L. *parvus*, small; *folium*, leaf. Leaf-blades small.

Classification. Subfamily Pharoideae. Tribe: Phareae.

Habit, Vegetative Morphology. Perennial. Culms decumbent or rambling, 50–100 cm long, 3–6 mm diam., rooting from lower nodes. Culm-internodes solid. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long. Leaf-blade base with a false petiole, petiole 0.6–3 cm long. Leaf-blades inverted, elliptic, 10–28 cm long, 20–30 mm wide. Leaf-blade venation slanting obliquely from midrib, with distinct cross veins. Leaf-blade apex acuminate. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle. Peduncle 10–15 cm long. Panicle open, ovate, 15–30 cm long, contracted about primary branches. Primary panicle branches spreading, simple. Panicle axis puberulous, with hooked hairs, bearing deciduous branches. Panicle branches stiff, pubescent, with hooked hairs. Sexes mixed. Spikelets appressed, in pairs. Fertile spikelets sessile, 1 in the cluster. Male spikelets pedicelled, 1 in a cluster. Pedicels present, filiform.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, straight, subterete, 12–15 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 7 mm long, 0.8–0.9 length of upper glume, scarious, without keels, 5 -veined. Lower glume apex acute. Upper glume lanceolate, 7 mm long, 0.5–0.6 length of adjacent fertile lemma, scarious, without keels, 7 -veined. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma linear, subterete, 12–15 mm long, coriaceous, without keel, 7 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface pubescent, hairy all along, with hooked hairs. Lemma margins involute, interlocking with palea keels. Lemma apex acute, with a conical beak, with this appendage 1 mm long. Palea linear, 1 length of lemma, 2 -veined.

Flower and Fruit. Lodicules absent. Anthers 6, 1.8–1.9 mm long. Stigmas 3, pubescent. Caryopsis with adherent pericarp, oblong, sulcate on hilar side, 9–11 mm long.

Male spikelets similar to female but less developed, 1 flowered, separately deciduous, lanceolate, 3–3.7 mm long. Male spikelet glumes 2. Male spikelet lemma 3 -veined.

$2n = 24$ (1 ref TROPICOS).

Distribution (TDWG). Continent. North America, South America.

Country /Province /State. **Southeastern USA**, **Mexico**. Florida. Southwest Mexico, Southeast Mexico. **Mesoamerica**, **Caribbean**, **Northern South America**, **Western South America**, **Brazil**. Belize, Costa Rica, Guatemala, Honduras, Nicaragua, Panama. Cuba, Dominican Republic, Haiti, Jamaica, Trinidad-Tobago. French Guiana, Guyana, Surinam, Venezuela. Bolivia, Colombia, Ecuador, Peru. Brazil Northeast, Brazil North.

Bahia. Bahia. Oaxaca. Chiapas.

Pharus virescens Doell. *Mart. Fl. Bras.* ii. II. 21. (1877).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Luschnath 39*, Brazil (?; IT: W).

Illustrations (Books): J.A.Steyermark et al, *Flora of the Venezuelan Guayana* Vol. 8 (2004) (244, Fig. 199), E.J.Judziewicz et al, *American Bamboos* (1999) (331, Fig. 201), E.Judziewicz, *Flora of the Guianas*, 187. *Poaceae* (1990) (524, Fig. 88).

Derivation (Clifford & Bostock 2007): L. *viresco*, become green. Panicle shiny-green.

Classification. Subfamily Pharoideae. Tribe: Phareae.

Habit, Vegetative Morphology. Perennial. Culms decumbent, 50–100 cm long, rooting from lower nodes. Culm-internodes solid. Lateral branches lacking. Ligule a ciliolate membrane, 1 mm long. Leaf-blade base with a false petiole. Leaf-blades inverted, elliptic, 25–33 cm long, 40–70 mm wide. Leaf-blade venation slanting obliquely from midrib, with distinct cross veins. Leaf-blade apex acuminate. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 15–30 cm long, contracted about primary branches. Primary panicle branches spreading, simple. Panicle axis puberulous, with hooked hairs, bearing deciduous branches. Panicle branches stiff, pubescent, with hooked hairs. Sexes mixed. Spikelets appressed, in pairs. Fertile spikelets sessile, 1 in the cluster. Male spikelets pedicelled, 1 in a cluster. Pedicels present, filiform.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, straight, subterete, 13–15 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 10–11 mm long, 0.8–0.9 length of upper glume, scarious, yellow or mid-green, without keels, 5 -veined. Lower glume apex acute. Upper glume lanceolate, 10–12 mm long, 0.75 length of adjacent fertile lemma, scarious, yellow or mid-green, without keels, 5 -veined. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma linear, subterete, 13–15 mm long, coriaceous, without keel, 7 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface pubescent, hairy all along, with hooked hairs. Lemma margins involute, interlocking with palea keels. Lemma apex acute, with a conical beak, with this appendage 1–1.5 mm long. Palea linear, 1 length of lemma, 2 -veined.

Flower and Fruit. Lodicules absent. Anthers 6, 0.7–0.9 mm long. Stigmas 3, pubescent. Caryopsis with adherent pericarp, oblong, sulcate on hilar side.

Male spikelets similar to female but less developed, 1 flowered, separately deciduous, lanceolate, 2.5–4.2 mm long. Male spikelet glumes 2. Male spikelet lemma 3 -veined.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Mesoamerica**, **Northern South America**, **Western South America**, **Brazil**. Costa Rica, Guatemala, Panama. French Guiana, Guyana, Surinam, Venezuela. Bolivia, Colombia, Ecuador, Peru. Brazil North.

Para, Amapa, Amazonas, Acre, Rondonia. Bahia.

Pharus vittatus Lem. *Fl. des Serres,* iii. t. 265, Misc. 50 (1847).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Venezuela. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Fl. Serres Jard. Eur. 4: t. 316 (1848)*,.

Illustrations (Books): W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (479, Fig 180 as *P. cornutus*).

Images: E.J.Judziewicz, E.J., *American Bamboos* (1999);.

Derivation (Clifford & Bostock 2007): L. *vitta*, band; *-ata*, possessing. Leaf-blades marked with transverse white stripes.

Classification. Subfamily Pharoideae. Tribe: Phareae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 50–70 cm long, 3 mm diam. Culm-internodes solid. Lateral branches lacking. Leaf-sheaths glabrous on surface or puberulous. Ligule an eciliate membrane, 1.5–2 mm long. Leaf-blade base with a false petiole, petiole 1 cm long, petiole pubescent. Leaf-blades inverted, elliptic, 6–14 cm long, 30–80 mm wide. Leaf-blade venation slanting obliquely from midrib, with distinct cross veins. Leaf-blade apex acuminate. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle. Peduncle 6–15 cm long, pubescent above. Panicle open, ovate, 15–20 cm long, contracted about primary branches. Primary panicle branches spreading, simple. Panicle axis puberulous, with hooked hairs, bearing deciduous branches. Panicle branches stiff, pubescent, with hooked hairs. Sexes mixed. Spikelets ascending or spreading, in pairs. Fertile spikelets sessile, 1 in the cluster. Male spikelets pedicelled, 1 in a cluster. Pedicels present, filiform.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, curved (sigmoid), subterete, 20–23 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume linear, 2.7–4.5 mm long, 0.8–0.9 length of upper glume, scarious, without keels, 3 -veined. Lower glume apex acute. Upper glume lanceolate, 4.5–5.5 mm long, 0.25 length of adjacent fertile lemma, scarious, without keels, 5 -veined. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma linear, subterete, 20–23 mm long, coriaceous, without keel, 7 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface pubescent, with hooked hairs. Lemma margins involute, interlocking with palea keels. Lemma apex acute, without appendage (or almost so). Palea linear, 1 length of lemma, 2 -veined.

Flower and Fruit. Lodicules absent. Anthers 6, 1.4–1.7 mm long. Stigmas 3, pubescent. Caryopsis with adherent pericarp, oblong, sulcate on hilar side.

Male spikelets similar to female but less developed, 1 flowered, separately deciduous, lanceolate, 3–5 mm long. Male spikelet glumes 2. Male spikelet lemma 3 -veined.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Mesoamerica**. Costa Rica, Honduras, Nicaragua, Panama.

Pheidochloa gracilis S. T. Blake. *Proc. Roy. Soc. Queensl.* lvi. 20 (1945).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *S.T. Blake 13732*, 8 Apr 1938, Australia: Queensland: Cook Dist. (L, US-1868027).

Illustrations: None found.

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. slender. Culms or inflorescences slender.

Classification. Subfamily Micrairoideae. Tribe Eriachneae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 10–30 cm long, 3–5 -noded. Ligule a fringe of hairs. Leaf-blades filiform, convolute, 0.3–4 cm long, 0.5–1 mm wide. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle or comprising only a few spikelets, comprising 2–20 fertile spikelets. Panicle open, elliptic, 1.5–3.2 cm long, bearing few spikelets. Panicle branches pilose. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, ciliate.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 10–13 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes elongated between glumes. Floret callus elongated, 1–1.1 mm long, pubescent, pungent.

Glumes. Glumes persistent, dissimilar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 4.5–5 mm long, 0.5 length of upper glume, membranous, without keels, 7 -veined. Lower glume apex acute. Upper glume lanceolate, 9–11 mm long, 2 length of adjacent fertile lemma, membranous, without keels, 7 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, subterete, linear in profile, 3.7–4.5 mm long, cartilaginous, without keel, 7 -veined, more than 3-veined. Lemma surface pubescent. Lemma margins involute. Lemma apex acute, awned, 1 -awned. Principal lemma awn flexuous, 33–38 mm long overall. Palea 1 length of lemma, cartilaginous, 2 -veined. Palea keels contiguous above a sulcus. Palea apex obtuse.

Flower and Fruit. Lodicules 2, linear. Anthers 2, 0.15–0.2 mm long. Ovary glabrous. Caryopsis with adherent pericarp, linear, without sulcus, 2 mm long. Embryo 0.2 length of caryopsis. Hilum linear, 1 length of caryopsis.

Distribution (TDWG). Continent. Tropical Asia, Australasia.

Country /Province /State. **Papuasia**. New Guinea PNG. New Guinea. **Australia**. Northern Territory, Queensland.

Darwin & Gulf. North.

Pheidochloa vulpioides Veldkamp. *Blumea,* 19(1): 61 (1971).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from New Guinea. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *NGF 33545*, 30 Jul 1967, Papua New Guinea, New Guinea, Western, Weam, 30 m (L).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resembling. With inflorescences similar to those of *Vulpia*.

Classification. Subfamily Micrairoideae. Tribe Eriachneae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 20–40 cm long, wiry. Lateral branches ample. Ligule a fringe of hairs, 0.1 mm long. Leaf-blades filiform, involute, 0.5–0.6 cm long, 0.25 mm wide. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle, comprising 4–18 fertile spikelets, terminal. Panicle contracted, linear, 1–3 cm long, bearing few spikelets. Primary panicle branches indistinct the panicle almost racemose. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1–5 mm long.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 4.5–6 mm long, breaking up at maturity, disarticulating below

each fertile floret. Rhachilla internodes elongated between glumes. Floret callus elongated, 0.5 mm long, pubescent, pungent.

Glumes. Glumes deciduous, dissimilar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate or oblong, 2.75–3.75 mm long, 0.6 length of upper glume, membranous, much thinner on margins, without keels, 5–7 -veined. Lower glume apex acute. Upper glume lanceolate, 4.5–6 mm long, 2 length of adjacent fertile lemma, membranous, with scarious margins, without keels, 5–7 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 2.75–3.75 mm long, coriaceous, without keel, 5–7 -veined, more than 3-veined. Lemma surface pubescent, hairy below. Lemma margins involute, interlocking with palea keels. Lemma apex acute, awned, 1 -awned. Principal lemma awn flexuous, 20–25 mm long overall. Palea 0.8 length of lemma, membranous, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Anthers 2, 0.8 mm long. Caryopsis with adherent pericarp, fusiform, sulcate on hilar side, 1.5 mm long. Embryo 0.1 length of caryopsis.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea PNG. New Guinea.

Phippsia algida (Soland.) R. Br. *Parry's 1st Voy. App.* 285 (1824).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Arctic. **Basionym or Replaced Name**: *Agrostis algida* Sol., *Voy. North Pole* 200 (1774)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Arctic: voyage toward the North Pole [Spitsbergen],.

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (479).

Derivation (Clifford & Bostock 2007): L. cold. From the Arctic.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms decumbent, 2–10 cm long. Ligule an eciliate membrane, 0.9–1.8 mm long. Leaf-blades 1–5 cm long, 0.5–2 mm wide. Leaf-blade apex hooded.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 1–3 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 1–1.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes one the lower absent or obscure or two, deciduous, similar, shorter than spikelet. Lower glume ovate, 0–0.5 mm long, 0–1 length of upper glume, hyaline, without keels, 0 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume ovate, 0.2–0.5 mm long, 0.2–0.3 length of adjacent fertile lemma, hyaline, without keels, 0 -veined. Upper glume primary vein absent. Upper glume lateral veins absent. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 1–1.5 mm long, hyaline, keeled, 1–3 -veined, 0–3 -veined. Lemma lateral veins obscure, less than two thirds length of lemma. Lemma surface hispidulous. Lemma apex erose, obtuse. Palea 0.9 length of lemma, 2 -veined. Palea keels smooth.

Flower and Fruit. Anthers 2, 0.5 mm long. Caryopsis with adherent pericarp, ellipsoid, exposed between gaping lemma and palea at maturity. Hilum elliptic.

n = 14 (1 ref TROPICOS). $2n$ = 28 (2 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia, North America.

Region. **Northern Europe**, **Eastern Europe**.

Country /Province /State. : Finland, Iceland, Norway, Svarlbad, Sweden. North European Russia. Siberia, Russian Far East. Krasnoyarsk. Magadan. **Subarctic America**, **Eastern Canada**. Aleutian Is, Alaska, Yukon, Northwest Territories, Nunavut, Greenland. Labrador, Quebec.

Phippsia concinna (Fries) Lindeberg. *Bot. Not.* 1898:155 (1898).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Sweden. **Basionym or Replaced Name**: *Catabrosa concinna* Th. Fr., *Ofvers. Forh. Kongl. Svenska Vetensk.-Akad.* 26: 140 (1869). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Th. Fries*, 9 Sep 1868, Spetsbergensis, Advent Bay (LE). ST: *Ruprecht*, [Sweden: Samojedernas land] Ins. Kolguew inter.

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (479).

Derivation (Clifford & Bostock 2007): L. elegant. Panicles or habit attractive.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 2–15(–25) cm long. Ligule an eciliate membrane. Leaf-blades 1–3 cm long, 0.5–2 mm wide. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle, exserted. Panicle open, pyramidal, 1.5–4 cm long, 1–3 cm wide. Primary panicle branches appressed or ascending, bearing spikelets almost to the base. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 1.3–1.6 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes deciduous, similar, shorter than spikelet. Lower glume lanceolate, 0.2–0.5 mm long, 0.3–0.6 length of upper glume, hyaline, without keels, 0 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 0.3–0.6 mm long, 0.2–0.3 length of adjacent fertile lemma, hyaline, without keels, 0 -veined. Upper glume primary vein absent. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma ovate, 1.3–1.6 mm long, hyaline, keeled, 3 -veined, 0–3 -veined. Lemma lateral veins obscure, less than two thirds length of lemma. Lemma surface hispidulous, hairy below. Lemma apex acute. Palea 2 -veined. Palea keels ciliolate.

Flower and Fruit. Anthers 1. Caryopsis with adherent pericarp, ovoid, exposed between gaping lemma and palea at maturity. Hilum elliptic.

$2n = 28$ (3 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia, North America.

Region. **Northern Europe**, **Eastern Europe**.

Country /Province /State. : Norway, Svarlbad, Sweden. North European Russia. Siberia, Russian Far East. Krasnoyarsk. Kamchatka. **Subarctic America**. Northwest Territories, Greenland.

Phippsia wilczekii Hack. *Fedde, Repert. Nov. Sp.* vii. 321 (1909).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argetina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *R. Wilcek 564*, Jan 1897, Argentina: Mendoza: Cajón del Burro, 3100 m, rocailles (W; IT: B, BAA-2365 (fragm. ex B), US-82048).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (282), E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (170, Fig. 43).

Derivation (Clifford & Bostock 2007): in honor of Ernst Wilczek (1867–1948) Swiss botanist, pharmacist and Gardens Director.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Rhizomes elongated. Basal innovations intravaginal. Culms decumbent, 2–6 cm long, 1 -noded. Ligule an eciliate membrane, 1 mm long, obtuse. Leaf-blades curved, flat or conduplicate, 1–2 cm long, 1–1.5 mm wide. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle, exserted or embraced at base by subtending leaf. Panicle contracted, linear, 1–3 cm long. Panicle branches stiff. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 1–3 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2.5–2.8 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes similar, shorter than spikelet. Lower glume ovate, 0.6–0.9 mm long, 0.9 length of upper glume, hyaline, without keels, 0 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume ovate, 0.7–1 mm long, 0.2–0.3 length of adjacent fertile lemma, hyaline, without keels, 0 -veined. Upper glume primary vein absent. Upper glume lateral veins absent. Upper glume apex obtuse.

Florets. Fertile lemma obovate, 2.5–2.8 mm long, membranous, much thinner above, keeled, 2–3 -veined, 0–3 -veined. Lemma lateral veins less than two thirds length of lemma. Lemma apex erose, truncate. Palea 1 length of lemma, 2 -veined.

Flower and Fruit. Lodicules 2, 0.5–0.6 mm long, acute. Stigmas terminally exserted. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northwest.

Mendoza.

Phleum alpinum L. *Sp. Pl.* 59. (1753).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from Lapland. **Basionym or Replaced Name**: *Phleum commutatum* Gaud., Alpina 3: 4 (1808). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Anon.*, Lapland (Institut de France). LT designated by Humphries, J. Linn. Soc., Bot. 76: 337–340 (1978).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (283), C.E.Hubbard, *Grasses* (1968) (324), T. Cope & A. Gray, Grasses of the British Isles (123), N.L.Bor, *Gramineae* in K.H.Rechinger, *Flora Iranica*. No. 70/30 (1970) (Tab. 44), N.L.Bor, *Gramineae* in *Flora of Iraq* (1968) (307, Pl. 111), T.Koyama, *Grasses of Japan and its neighbouring regions* (1987) (203, Fig 71), C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (280), C-C Hsu,*Taiwan Grasses* (1975) (420, Pl. 1383), T.A.Cope, *Flora of Pakistan* 143: *Poaceae* (1982) (457, Fig. 49), H.J.Noltie, *The Grasses of Bhutan* (2000) (597, Fig. 24), K.F.Best, et al, *Prairie Grasses* (1971) (177), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (673), E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (172, Fig. 44), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (350, Fig. 234 as *P. commutatum*), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 654).

Derivation (Clifford & Bostock 2007): L. *alpes*, high mountain; *-ina*, belonging to. Species growing at high altitudes.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Butt sheaths dark brown. Culms erect or geniculately ascending, 10–50 cm long, 2–4 -noded. Ligule an eciliate membrane, 1–2 mm long. Leaf-blades 5–12 cm long, 2–6 mm wide. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle. Panicle spiciform, oblong, 1–5 cm long, 0.6–1.2 cm wide. Primary panicle branches accrescent to a central axis, with lateral stumps on axis. Panicle axis with rounded ribs. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, truncate, 3–3.8 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume oblong, 3–3.8 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein pectinately ciliate. Lower glume surface asperulous. Lower glume margins ciliolate. Lower glume apex truncate, awned, 1 -awned, awn 2–3 mm long. Upper glume oblong, 3–3.8 mm long, 1.5 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein pectinately ciliate. Upper glume surface asperulous. Upper glume apex truncate, awned, 1 -awned, awn 2–3 mm long.

Florets. Fertile lemma oblong, 2–2.5 mm long, membranous, without keel, 3–5 -veined, 0–3 -veined or more than 3-veined. Lemma surface puberulous, hairy on veins. Lemma apex truncate. Palea 0.9 length of lemma.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1–1.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

$2n$ = 14 (6 refs TROPICOS), or 28 (5 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia, Tropical Asia, North America, South America, Antarctica.

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Finland, Foroyar, Great Britain, Iceland, Norway, Sweden. : Austria, Czechoslovakia, Germany, Poland, Switzerland. : Corsica, France, Spain. : Albania, Bulgaria, Greece, Italy, Romania, Yugoslavia. Central European Russia, North European Russia, Northwest European Russia, Ukraine. Siberia, Russian Far East, **Middle Asia**, **Caucasus**, **Western Asia**, **China**, **Mongolia**, **Eastern Asia**, **Russia**. Altay, Krasnoyarsk, Tuva. Kamchatka, Kuril Is. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan. Afghanistan, Iran, Iraq. China South Central, China North-Central, China Southeast, Tibet, Xinjiang. Mongolia. Japan Hokkaido, or Honshu. Japan, Taiwan. **Indian Subcontinent**. Eastern Himalaya, Pakistan, West Himalaya. **Subarctic America**, **Western Canada**, **Eastern Canada**, **Northwest USA**, **Northeast USA**, **Southwestern USA**, **South-central USA**, **Mexico**. Aleutian Is, Alaska, Yukon, Northwest Territories, Nunavut, Greenland. Alberta, British Columbia, Saskatchewan. New Brunswick, Newfoundland, Nova Scotia, Ontario, Prince Edward I, Quebec. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. Maine. Arizona, California, Nevada, Utah. New Mexico. Central Mexico, Northeast Mexico, Southeast Mexico. **Mesoamerica**, **Southern South America**. Argentina South, Chile Central, Chile South. **Subantarctic islands**. South Georgia.

Gansu, Shaanxi. Henan. Hubei, Sichuan, Yunnan. Bhutan, Sikkim. Punjab, Uttah Pradesh. Himachal Pradesh, Jammu Kashmir. Mendoza, Tucuman. Santa Fe. Chubut, Neuquén, Río Negro, Santa Cruz, Tierra del Fuego. Coquimbo, Valparaiso, Santiago, Maule, Biobio, La Araucania. Los Lagos, Aisen, Magellanes. Mexico State, Puebla. Coahuila, Neuvo Leon, Tamaulipas. Chiapas.

Phleum arenarium L. *Sp. Pl.* 60. (1753).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: (LINN-81.6). LT designated by Dogan in Cafferty et al., *Taxon* 49(2): 254 (2000).

Illustrations (Books): C.E.Hubbard, *Grasses* (1968) (316), T. Cope & A. Gray, Grasses of the British Isles (122), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (241, Fig 34), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (674).

Derivation (Clifford & Bostock 2007): L. *arena*, sandy place; -*aria*, pertaining to. Of sandy habitats.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, culms solitary or caespitose. Culms erect or geniculately ascending, 1–15(–20) cm long, 1–4 -noded. Ligule an eciliate membrane, 4–7 mm long. Leaf-blades 0.5–6 cm long, 1–4 mm wide. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear or obovate, tapering below, 0.5–5 cm long, 0.3–0.7 cm wide. Primary panicle branches accrescent to a central axis, with lateral stumps on axis. Panicle axis with rounded ribs. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate or oblong, laterally compressed, acute, 3–4 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume oblong, 3–4 mm long, 1 length of upper glume, membranous, 1-keeled, 2–3 -veined. Lower glume primary vein ciliate. Lower

glume apex acute, muticous. Upper glume oblong, 3–4 mm long, 3 length of adjacent fertile lemma, membranous, 1-keeled, 2–3 -veined. Upper glume primary vein ciliate. Upper glume apex acute, muticous.

Florets. Fertile lemma oblong, 1.5–2 mm long, membranous, without keel, 5–7 -veined, more than 3-veined. Lemma surface puberulous. Lemma apex truncate. Palea 1 length of lemma.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.3–1 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

2*n* = 14 (2 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Australasia (*), North America.

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Denmark, Great Britain, Ireland, Norway, Sweden. : Belgium, Germany, Netherlands, Switzerland. : Corsica, France, Portugal. : Greece, Italy, Sicily, Turkey Europe, Yugoslavia. Estonia, Latvia, Lithuania, Krym, Ukraine. **Northern Africa**. Morocco. **Western Asia**. Iraq. **Australia** (*). Western Australia (*). **Northeast USA**. New Hampshire.

South-West.

Phleum bertolonii DC. *Cat. Hort. Monsp.* 132 (1813).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Italy. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Italy, Sarzana: *Bertoloni* (G holo.

Illustrations (Books): C.E.Hubbard, *Grasses* (1968) (320), T. Cope & A. Gray, Grasses of the British Isles (126).

Derivation (Clifford & Bostock 2007): in honor of Antonio Bertoloni (1775–1868) Italian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Stolons absent or present. Butt sheaths dark brown. Culms erect or geniculately ascending, 10–50 cm long, 2–6 -noded, not swollen at the base or swollen at the base. Ligule an eciliate membrane, 1–4 mm long. Leaf-blades 3–12 cm long, 2–5 mm wide. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear, 1–6(–8) cm long, 0.3–0.5 cm wide. Primary panicle branches accrescent to a central axis, with lateral stumps on axis. Panicle axis with rounded ribs. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, truncate, 2–3 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume oblong, 2–3 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein pectinately ciliate. Lower glume surface puberulous. Lower glume margins ciliolate. Lower glume apex truncate, awned, 1 -awned, awn 0.4–1 mm long. Upper glume oblong, 2–3 mm long, 1.3–1.5 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein pectinately ciliate. Upper glume surface puberulous. Upper glume apex truncate, awned, 1 -awned, awn 1–2 mm long.

Florets. Fertile lemma oblong, 1.4–2 mm long, membranous, without keel, 5–7 -veined, more than 3-veined. Lemma surface puberulous, hairy on veins. Lemma apex truncate. Palea 0.9 length of lemma.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.2 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

2*n* = 14 (2 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia, Tropical Asia.

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**.

Country /Province /State. : Great Britain. : Italy. **Western Asia**. Iran. **Indian Subcontinent**. Eastern Himalaya.

Bhutan. Nagaland.

Phleum boissieri Bornmuller. *Magyar Bot. Lap.* xi. 20 (1912).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Syria. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Syria, Aleppo: *Kotschy 197* (G holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Pierre Edmond Boissier (1810–85) Swiss botanist and traveller.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, culms solitary or caespitose. Culms erect, 8–60 cm long, 3–4 -noded. Lateral branches lacking. Ligule an eciliate membrane. Leaf-blades 1.5–7 cm long, 2–4.2 mm wide. Leaf-blade surface glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear or oblong, tapering above or tapering below, 1.5–14 cm long, 0.3–0.6 cm wide. Primary panicle branches accrescent to a central axis. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate or elliptic, laterally compressed, 2.7–3.4 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, recurved at apex. Lower glume oblong, 2.7–3.4 mm long, 1 length of upper glume, coriaceous, 1-keeled, 3 -veined. Lower glume primary vein ciliate. Lower glume lateral veins ribbed. Lower glume apex acuminate, awned, 1 -awned, awn 0.2–0.4 mm long. Upper glume oblong, 2.7–3.4 mm long, 2 length of adjacent fertile lemma, coriaceous, 1-keeled, 3 -veined. Upper glume primary vein ciliate. Upper glume lateral veins ribbed. Upper glume apex acuminate, awned, 1 -awned, awn 0.2–0.4 mm long.

Florets. Fertile lemma ovate, 1.2–1.5 mm long, membranous, without keel, 5 -veined, more than 3-veined. Lemma surface pubescent, with clavate hairs. Lemma apex obtuse. Palea 1 length of lemma.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.2–1.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp, 0.8–1 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Western Asia**. Iran, Iraq.

Phleum crypsoides (Urv.) Hack. *Bull. Soc. Bot. France,* ix. 274 (1892).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from Greece. **Basionym or Replaced Name**: *Phalaris crypsoides* d'Urv., *Mem. Soc. Linn. Paris* 1: 263 (1822). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: *E. Reverchon s.n.*, 1881, Greece (US-1126290).

Recent Synonyms: *Maillea urvillei* Parl., nom superfl, *Pl. Nov.* 31. (1842).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resembling. Resembling *Crypsis* in that part of the inflorescence is hidden in the leaf-bases.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect, (1–)2–2.5(–4) cm long. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1–2 mm long. Leaf-blades 0.4–2.5 cm long, 1–2.5 mm wide. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle, shorter than basal leaves, subtended by an inflated leaf-sheath, embraced at base by subtending leaf. Panicle spiciform, elliptic or ovate, 3–5 cm long, 0.4–0.7 cm wide. Primary panicle branches accrescent to a central axis, with evident branchlets on axis. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or ovate, laterally compressed, truncate, 3–3.8 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume elliptic, 3–3.8 mm long, 1 length of upper glume, membranous, much thinner on margins, 1-keeled, winged on keel, 3 -veined. Lower glume primary vein spinulose. Lower glume surface pubescent. Lower glume apex truncate, mucronate. Upper glume elliptic, 3–3.8 mm long, 3–4 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, wingless, 3 -veined. Upper glume primary vein spinulose. Upper glume surface pubescent. Upper glume apex truncate, mucronate (0.2–0.3mm).

Florets. Fertile lemma ovate, 0.8–1 mm long, membranous, without keel, 1 -veined, 0–3 -veined, one-veined. Lemma surface glabrous. Lemma apex obtuse. Palea 0.6–0.7 length of lemma.

Flower and Fruit. Lodicules 2, membranous. Anthers 2, 0.7–0.9 mm long. Ovary glabrous. Caryopsis with adherent pericarp, ovoid, isodiametric, 0.9–1 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Southwestern Europe**, **Southeastern Europe**.

Country /Province /State. : Sardinia. : Greece, Crete. **Western Asia**. Cyprus, East Aegean Is.

Phleum echinatum Host. *Gram. Austr.* iii. 8. t. 11. (1805).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Yugoslavia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Yugoslavia, Dalmatia: Host (W holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. spiny. Inflorescence a very condensed panicle and the spikelets or auxillary structures are awned the whole thereby resemble a hedgehog.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms erect or geniculately ascending, 11–20 cm long, 1–4 -noded. Lateral branches lacking or sparse. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 2.5–4 mm long, obtuse. Leaf-blades 1–6 cm long, 1.2–2.5 mm wide. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle, subtended by an unspecialized leaf-sheath or an inflated leaf-sheath. Panicle spiciform, oblong or ovate, 1.6–2.2 cm long, 1.1–1.5 cm wide. Primary panicle branches accrescent to a central axis. Spikelets spreading or deflexed (proximally), solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, truncate, 3 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, recurved at apex. Lower glume oblong, 3 mm long, 1 length of upper glume, membranous, much thinner on margins, 1-keeled, 3 -veined. Lower glume primary vein ciliate. Lower glume margins ciliolate. Lower glume apex obtuse, awned, 1 -awned, awn 4–7 mm long. Upper glume oblong, 3 mm long, 1.5 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein ciliate. Upper glume apex obtuse, awned, 1 -awned, awn 4–7 mm long.

Florets. Fertile lemma ovate, 2 mm long, membranous, without keel, 5 -veined, more than 3-veined. Lemma surface puberulous, hairy on veins. Lemma apex obtuse. Palea 0.9 length of lemma.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.8–2.4 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 10$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe.

Region. **Northern Europe** (*), **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : GB Aliens (Ryves et al). : Albania, Greece, Italy, Crete, Sicily, Yugoslavia.

Phleum exaratum Griseb. *Spicil. Fl. Rumel.* ii. 462 (1844).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Syria. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Balansa 743*, 2 Jun 1855, Cilicie: Mersina, sables maritimes (US-996516, US-152924).

Recent Synonyms: *Phleum graecum* Boiss. & Heldr. ex Boiss., *Diagn. Pl. Orient., ser. 1,* 2(13): 42 (1853)

.

Illustrations (Books): N.L.Bor, *Gramineae* in *Flora of Iraq* (1968) (309, Pl. 112).

Derivation (Clifford & Bostock 2007): L. *exaro*, plough up. Of the lemmas.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, culms solitary or caespitose. Culms erect or geniculately ascending, 5–50 cm long, 4–5 -noded. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 2–5 mm long, obtuse. Leaf-blades 1–11.5 cm long, 2–6 mm wide. Leaf-blade margins scaberulous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, subtended by an unspecialized leaf-sheath or an inflated leaf-sheath. Panicle spiciform, linear, 1–10 cm long, 0.5–1.2 cm wide. Primary panicle branches accrescent to a central axis. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate or oblong, laterally compressed, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume oblong, 3–5 mm long, 1 length of upper glume, membranous, much thinner on margins, 1-keeled, 3 -veined. Lower glume primary vein ciliate. Lower glume apex acuminate, awned, 1 -awned, awn 0.5–0.8 mm long. Upper glume oblong, 3–5 mm long, 2 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein ciliate. Upper glume apex acuminate, awned, 1 -awned, awn 0.5–0.8 mm long.

Florets. Fertile lemma ovate, 1.2–2.5 mm long, membranous, without keel, 5 -veined, more than 3-veined. Lemma surface pubescent, with clavate hairs. Lemma apex obtuse.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.2–2 mm long. Ovary glabrous. Caryopsis with adherent pericarp, ellipsoid, 0.9–1.1 mm long. Hilum punctiform.

$2n = 14$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe and Temperate Asia.

Region. **Southeastern Europe**.

Country /Province /State. **Western Asia**. Iran, Iraq, Lebanon-Syria.

Phleum gibbum Boiss. *Diagn. Ser.* I. 5:. 69 (1844).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Turkey. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Turkey, Tralles: Boissier (G holo).

Recent Synonyms: *Pseudophleum gibbum* (Boiss.) Dogan, *Notes from the Roy. Bot. Gard. Edinburgh* 40(1): 77 (1982).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. swelling. Spikelets gibbous.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, culms solitary or caespitose. Culms erect, 5–20 cm long, 3–4 -noded. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 2.5–4 mm long. Leaf-blades convolute, 0.8–5 cm long, 0.8–1.5 mm wide, stiff. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear, 0.7–4.3 cm long, 0.4–0.6 cm wide. Primary panicle branches accrescent to a central axis, with evident branchlets on axis. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets obovate or cuneate, laterally compressed, gibbous, truncate, 2.5–3 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 1.8–2.2 mm long, 0.7–0.9 length of upper glume, coriaceous, 1-keeled, 3 -veined. Lower glume apex truncate. Upper glume

elliptic, 2.4–2.6 mm long, 0.8–0.9 length of adjacent fertile lemma, coriaceous, 1-keeled, 3 -veined. Upper glume apex truncate.

Florets. Fertile lemma oblong, 2.5–3 mm long, coriaceous, keeled, keeled above, 5 -veined, more than 3-veined. Lemma surface pubescent. Lemma apex rostrate, awned, 1 -awned. Principal lemma awn 0.4–0.6 mm long overall. Palea 1 length of lemma.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Ovary glabrous. Caryopsis with adherent pericarp, 1.3 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Western Asia**. Turkey.

Phleum himalaicum Mez. *Fedde, Repert.* xvii. 293 (1921).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Afghnistan & India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Griffith*, Afghanistan ST: *Thomson*, Nord-west Himalaya ST: *Meebold*, Kashmir ST: *J.D. Hooker s.n.*, India: Himalaya (L).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From the Himalayas.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect, 8–30 cm long. Ligule an eciliate membrane, 1.5–3 mm long, obtuse. Leaf-blades 6–13 cm long, 1.5–4 mm wide. Leaf-blade surface scabrous, rough on both sides, glabrous. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle, subtended by an inflated leaf-sheath. Panicle spiciform, oblong or ovate, 1–4 cm long, 0.5–1.3 cm wide. Primary panicle branches accrescent to a central axis, with evident branchlets on axis. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, acuminate, 2.5–3.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume oblong, 2.5–3.5 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein ciliate. Lower glume surface scabrous. Lower glume margins ciliolate. Lower glume apex acuminate, awned, 1 -awned, awn 0.3–0.5 mm long. Upper glume oblong, 2.5–3.5 mm long, 1.5–2 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein ciliate. Upper glume surface scabrous. Upper glume margins ciliolate. Upper glume apex acuminate, awned, 1 -awned, awn 0.3–0.5 mm long.

Florets. Fertile lemma oblong, 1.25 mm long, membranous, without keel, 5 -veined, more than 3-veined. Lemma surface puberulous. Lemma apex obtuse.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

n = 28 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **Middle Asia**, **Western Asia**. Turkmenistan. Iran. **Indian Subcontinent**. Pakistan, West Himalaya.

Punjab, Uttah Pradesh. Himachal Pradesh, Jammu Kashmir.

Phleum hirsutum Honckney. *Verzeichn. Gewachse Teutschl.* i. 183 (1782).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Switzerland. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Switzerland: Coll?.

Recent Synonyms: *Phleum michelii* All., *Fl. Pedem.* 2: 233. (1785).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. hairy. Plant hairy in respect to all or some parts.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes short. Culms geniculately ascending, 40–50 cm long, rooting from lower nodes. Ligule an eciliate membrane. Leaf-blades 10–20 cm long, 3–9 mm wide, flaccid. Leaf-blade surface smooth. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear, 4–7 cm long, 1 cm wide. Primary panicle branches accrescent to a central axis, with evident branchlets on axis. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.5–4 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume oblong, 3.5–4 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein ciliate. Lower glume surface puberulous. Lower glume apex acuminate, awned, 1 -awned, awn 0.5–1 mm long. Upper glume oblong, 3.5–4 mm long, 1.3 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein ciliate. Upper glume surface puberulous. Upper glume apex acuminate, awned, 1 -awned, awn 0.5–1 mm long.

Florets. Fertile lemma oblong, 3 mm long, membranous, light brown, without keel, 5 -veined, more than 3-veined. Lemma surface puberulous. Lemma apex obtuse.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 14$ (2 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Northern Europe** (*), **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Great Britain (*). : Austria, Czechoslovakia, Germany, Poland, Switzerland. : France. : Albania, Bulgaria, Greece, Italy, Romania, Sicily, Yugoslavia. Northwest European Russia, Ukraine. **Caucasus**, **Western Asia**. Iran.

Phleum iranicum Bornm. & Gauba. *Fedde, Repert.* xlvii. 127 (1939).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Iran. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Iran, Pole Zanguleh: Gauba & Sab 1653 (W holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Iran.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Butt sheaths persistent and investing base of culm. Culms geniculately ascending, 20–40 cm long. Lateral branches lacking. Ligule an eciliate membrane. Leaf-blades flat or involute, 6–12 cm long, 1–2.5 mm wide, glaucous. Leaf-blade surface scaberulous. Leaf-blade margins scaberulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear, interrupted, tapering below, 4–8 cm long, 0.3–0.5 cm wide. Primary panicle branches accrescent to a central axis, with evident branchlets on axis. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate or oblong, laterally compressed, 4–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume oblong, 4–4.5 mm long, 1 length of upper glume, membranous, much thinner on margins, 1-keeled, 3 -veined. Lower glume primary vein ciliate. Lower glume hairs 0.75 mm long. Lower glume apex acuminate, awned, 1 -awned, awn 0.5 mm long. Upper glume oblong, 4–4.5 mm long, 1.3 length of adjacent fertile lemma, membranous, with membranous margins, 1-keeled, 3 -veined. Upper glume primary vein ciliate. Upper glume hairs 0.75 mm long. Upper glume apex acuminate, awned, 1 -awned, awn 0.5 mm long.

Florets. Fertile lemma oblong, 3 mm long, membranous, without keel, 5 -veined, more than 3-veined. Lemma surface pubescent. Lemma apex obtuse.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Western Asia**. Iran.

Phleum montanum C.Koch. *Linnaea,* xxi. 383 (1848).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from Turkey. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Turkey, Ardanus: Koch (B holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *mons*, mountain; *-ana*, indicating location. Growing on mountains.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Culms erect, 12–85 cm long, 2–3 -noded. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1.3–5 mm long, obtuse. Leaf-blades flat or convolute, 2–21 cm long, 1–4 mm wide, glaucous. Leaf-blade surface scabrous. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear, tapering above, 1.4–20 cm long, 0.6–1.2 cm wide. Primary panicle branches accrescent to a central axis, with evident branchlets on axis. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 3–3.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume elliptic, 3–3.5 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein pectinately ciliate. Lower glume surface pubescent or pilose. Lower glume apex acuminate, awned, 1 -awned, awn 0.5–1.2 mm long. Upper glume elliptic, 3–3.5 mm long, 1.5–2 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein pectinately ciliate. Upper glume surface pubescent or pilose. Upper glume apex acuminate, awned, 1 -awned, awn 0.5–1.2 mm long.

Florets. Fertile lemma ovate, 2 mm long, membranous, without keel, 5 -veined, more than 3-veined. Lemma apex obtuse. Palea 1 length of lemma.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1–2 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

$2n$ = 14 (1 ref TROPICOS), or 42 (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Albania, Bulgaria, Greece, Romania, Yugoslavia. Krym, Northwest European Russia. **Caucasus**, **Western Asia**. Iran.

Phleum paniculatum Huds. *Fl. Angl.* ed. I. 23 (1762).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from Britain. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Britain, King's Weston: Hudson.

Illustrations (Books): T.Koyama, *Grasses of Japan and its neighbouring regions* (1987) (204, Fig 72), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (674), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 656).

Derivation (Clifford & Bostock 2007): L. *panus*, thread; *-ula*, diminutive; *-ata*, possessing. Inflorescence open with thread-like pedicels.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, culms solitary or caespitose. Culms erect or geniculately ascending, 5–30(–55) cm long, 3–5 -noded. Ligule an eciliate membrane, 2.5–7 mm long, obtuse. Leaf-blades 2–19 cm long, 2–9 mm wide. Leaf-blade margins ciliate. Leaf-blade apex obtuse or abruptly acute.

Inflorescence. Inflorescence a panicle, subtended by an inflated leaf-sheath. Panicle spiciform, linear, 1–12 cm long, 0.4–0.7 cm wide. Primary panicle branches accrescent to a central axis. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 1.5–2.8 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume obovate or cuneate, 1.5–3.8 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous, eciliate or ciliolate. Lower glume surface scabrous. Lower glume margins ciliate. Lower glume apex truncate, awned, 1 -awned, awn 0.3–0.6 mm long. Upper glume obovate or cuneate, 1.5–2.8 mm long, 1.5 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous, ciliolate. Upper glume surface scabrous. Upper glume apex truncate, awned, 1 -awned, awn 0.3–0.6 mm long.

Florets. Fertile lemma oblong, 1.5 mm long, membranous, without keel, 5 -veined, more than 3-veined. Lemma surface pubescent. Lemma apex obtuse. Palea 1 length of lemma.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp, 1–1.1 mm long. Hilum punctiform.

n = 14 (1 ref TROPICOS). $2n$ = 28 (4 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia, Tropical Asia, North America.

Region. **Northern Europe** (*), **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Great Britain (*). : Austria, Germany, Hungary, Switzerland. : Corsica, France, Sardinia, Spain. : Albania, Bulgaria, Greece, Italy, Crete, Romania, Sicily, Turkey Europe, Yugoslavia. Krym. **Middle Asia**, **Caucasus**, **Western Asia**, **China**, **Eastern Asia**, **Russia**. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Afghanistan, Iran. China South Central, China North-Central, China Southeast, Xinjiang. Japan Honshu, or Shikoku, or Kyushu. Japan. **Indian Subcontinent**. India, Pakistan, West Himalaya. **Northeast USA**. New York.

Gansu, Shaanxi, Shanxi. Anhui, Henan, Jiangsu, Zhejiang. Hubei, Sichuan. Punjab, Uttah Pradesh. Himachal Pradesh, Jammu Kashmir.

Phleum phleoides (L.) Karst. *Deutsche Fl.* 374 (1880).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Europe. **Basionym or Replaced Name**: *Phalaris phleoides* L., *Sp. Pl.* 1: 55 (1753)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Europe: Herb. Linn. 78/5 (LINN holo).

Illustrations (Books): C.E.Hubbard, *Grasses* (1968) (318), T. Cope & A. Gray, Grasses of the British Isles (124), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (673), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 655).

Derivation (Clifford & Bostock 2007): Gk. *-oides*, like. Inflorescence a spike-like panicle as for *Phleum*.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 10–70 cm long, 2–3 -noded. Ligule an eciliate membrane, 1–2 mm long. Leaf-blades 5–12 cm long, 1–3.5 mm wide. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear, 1.5–10 cm long, 0.4–0.6 cm wide. Primary panicle branches accrescent to a central axis, with lateral stumps on axis. Panicle axis with rounded ribs. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, truncate, 2.5–3 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume oblong, 2.5–3 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute, mucronate. Upper glume oblong, 2.5–3 mm long, 1.3–1.5 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute, mucronate.

Florets. Fertile lemma ovate, 1.7–2 mm long, membranous, without keel, 5 -veined, more than 3-veined. Lemma surface glabrous or puberulous. Lemma apex obtuse. Palea 1 length of lemma.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp, 1.3 mm long. Hilum punctiform.

$2n$ = 14 (7 refs TROPICOS), or 28 (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia.

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Denmark, Finland, Great Britain, Norway, Sweden. : Austria, Belgium, Czechoslovakia, Germany, Hungary, Poland, Switzerland. : Corsica, France, Portugal, Spain. : Albania, Bulgaria, Greece, Italy, Romania, Yugoslavia. Belarus, Estonia, Latvia, Lithuania, Baltic States, Krym, Central European Russia, East European Russia, South European Russia, Northwest European Russia, Ukraine. **Northern Africa**. Algeria, Tunisia. Siberia, Russian Far East, **Middle Asia**, **Caucasus**, **Western Asia**, **China**, **Mongolia**, **Russia**. Altay, Buryatiya, Chita, Irkutsk, Tuva. Amur, Primorye. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Iran, Iraq. Inner Mongolia, Manchuria, Xinjiang.

Phleum pratense L. *Sp. Pl.* 59. (1753).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: Herb. Linn. no. 26 (Institut de France). LT designated by Humphries in Jarvis et al., *Regnum Veg.* 127: 75 (1993).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (284), C.E.Hubbard, *Grasses* (1968) (322), T. Cope & A. Gray, Grasses of the British Isles (125), N.N.Tsvelev, *Grasses of the Soviet Union* (1983) (523 (351), Pl.6), L.Boulos, *Flora of Egypt* 4 (2005) (180, Pl. 51), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (245, Fig. 188 as subsp. *pratense*), C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952) (148, Pl. 44), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (499, Fig. 97), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (339), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (213, Fig. 29 & 241, Fig. 34 as subsp.*prantese*), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), K.F.Best, et al, *Prairie Grasses* (1971) (179), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (673), F.W.Gould, *The Grasses of Texas* (1975) (149, Fig. 74), A.S.Hitchcock, *Manual of the Grasses of the West Indies* (1936) (78, Fig. 44), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (350, Fig. 232), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 655).

Illustrations (Journals): *Ruizia* (13:209, Fig 22g-i (1993) as *P. pratense*).

Derivation (Clifford & Bostock 2007): L. *pratum*, a meadow; *-ense*, place of origin. Meadow species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths dark brown. Culms erect or geniculately ascending, 40–150 cm long, 3–6 -noded, not swollen at the base or swollen at the base. Ligule an eciliate membrane, 1–6 mm long. Leaf-blades 4–20 cm long, 3–9 mm wide. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear, (2–)6–15(–30) cm long, 0.6–2 cm wide. Primary panicle branches accrescent to a central axis, with lateral stumps on axis. Panicle axis with rounded ribs. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, truncate, 3–3.8 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume oblong, 3–3.8 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein pectinately ciliate. Lower glume margins ciliolate. Lower glume apex truncate, awned, 1 -awned, awn 1–2 mm long. Upper glume oblong, 3–3.8 mm long, 1.75–2 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein pectinately ciliate. Upper glume apex truncate, awned, 1 -awned, awn 1–2 mm long.

Florets. Fertile lemma oblong, 1.4–2.1 mm long, membranous, without keel, 5–7 -veined, more than 3-veined. Lemma surface puberulous. Lemma apex truncate. Palea 1 length of lemma.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

n = 7 (1 ref TROPICOS). 2n = 42 (13 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Tropical Asia, Australasia, Pacific, North America, South America, Antarctica.

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Denmark, Finland, Foroyar, Great Britain, Iceland, Ireland, Northern Ireland, Norway, Sweden. : Austria, Liechstenstein, Belgium, Luxembourg, Czechoslovakia, Germany, Hungary, Netherlands, Poland, Switzerland. : Corsica, Channel Islands, France, Monaco, Portugal, Sardinia, Andorra, Gibralter, Spain. : Albania, Bulgaria, Greece, Italy, San Marino, Vatican, Romania, Malta, Sicily, Turkey Europe, Yugoslavia. Belarus, Estonia, Kalingrad, Latvia, Lithuania, Baltic States, Krym, Central European Russia, East European Russia, North European Russia, South European Russia, Northwest European Russia, Moldova, Ukraine. **Northern Africa**, **Macaronesia**. Algeria, Egypt (*), Tunisia. Azores. Siberia, Russian Far East, **Middle Asia**, **Caucasus**, **Western Asia**, **China**, **Eastern Asia**, **Russia**. Altay, Buryatiya, Chita, Irkutsk, Krasnoyarsk, Tuva. Amur, Kamchatka, Kuril Is, Magadan, Primorye, Sakhalin. Turkmenistan. Iran. China South Central, Manchuria, China North-Central, China Southeast, Xinjiang. Japan Hokkaido, or Honshu, or Shikoku, or Kyushu. Japan. **Indian Subcontinent**. Pakistan. **Australia** (*), **New Zealand** (*). Western Australia (*), South Australia (*), New South Wales (*), A.C.T. (*), Victoria (*), Tasmania (*). Chatham Is, New Zealand North I, New Zealand South I, Stewart Is, Campbell Is. **North-central Pacific**. Hawaii (*). **Subarctic America**, **Western Canada**, **Eastern Canada**, **Northwest USA**, **North-central USA**, **Northeast USA**, **Southwestern USA**, **South-central USA**, **Southeastern USA**, **Mexico**. Aleutian Is, Alaska, Yukon, Northwest Territories, Nunavut, Greenland. Alberta, British Columbia, Manitoba, Saskatchewan. Labrador, New Brunswick, Newfoundland, Nova Scotia, Ontario, Prince Edward I, Quebec. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. Illinois, Iowa, Kansas, Minnesota, Missouri, North Dakota, Nebraska, Oklahoma, South Dakota, Wisconsin. Connecticut, Indiana, Maine, Massachusetts, Michigan, Ohio, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, West Virginia. Arizona, California, Nevada, Utah. New Mexico, Texas. Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, District of Columbia. Southwest Mexico. **Caribbean**, **Western South America**, **Southern South America**. Bermuda, Jamaica. Peru. Argentina Northeast, Argentina South, Chile Central, Chile South, Uruguay. **Subantarctic islands**. Falkland Is (Malvinas).

Hebei, Shaanxi, Shandong. Anhui, Henan. Yunnan. Meghalaya. Uttah Pradesh. Himachal Pradesh. South-West. Southern. Coast, Tablelands, Western Slopes, Western Plains. Buenos Aires, Distrito Federal. Chubut, Neuquén, Río Negro, Santa Cruz, Tierra del Fuego. Santiago, Maule, Biobio, La Araucania. Los Lagos, Magellanes. Jalisco.

Phleum subulatum (Savi) Aschers. & Graebn. *Syn. Mitteleur. Fl.* ii. 1. 154 (1899).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Italy. **Basionym or Replaced Name**: *Phalaris subulata* Savi, *Fl. Pis.* 1: 57 (1798). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Savi s.n.*, Italy: Monte Pisano (FI; ILT: PI). LT designated by Baldini & Jarvis (1991: 482), *Taxon* 40: 475–485..

Illustrations (Books): N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 284), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (241, Fig 34), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (674).

Derivation (Clifford & Bostock 2007): L. *subulus*, a fine point; *-ata*, possessing. Glumes, lemmas or calluses sharply tapered.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, culms solitary or caespitose. Culms geniculately ascending or decumbent, 7–42 cm long, 1–6 -noded. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 2.5–5 mm long. Leaf-blades 1–15 cm long, 1–5 mm wide. Leaf-blade surface scaberulous, rough on both sides, glabrous or pilose. Leaf-blade margins scaberulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear, truncate or rounded at the ends or tapering below, 1–12 cm long, 0.3–0.9 cm wide. Primary panicle branches accrescent to a central axis, with evident branchlets on axis. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, truncate, (1.5–)2–4 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume elliptic, (1.5–)2–4 mm long, 1 length of upper glume, membranous, much thinner on margins, 1-keeled, 3 -veined. Lower glume primary vein eciliate or ciliate. Lower glume lateral veins ribbed. Lower glume surface scabrous. Lower glume apex truncate, mucronate. Upper glume elliptic, (1.5–)2–4 mm long, 2–3 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein eciliate or ciliate. Upper glume lateral veins ribbed. Upper glume surface scabrous. Upper glume apex truncate, mucronate.

Florets. Fertile lemma ovate, 1.5 mm long, membranous, without keel, 5–7 -veined, more than 3-veined. Lemma surface pubescent, with clavate hairs. Lemma apex truncate. Palea 1 length of lemma. Palea surface pubescent, hairy on back, with turgid hairs.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.3–2 mm long. Ovary glabrous. Caryopsis with adherent pericarp, dorsally compressed. Hilum punctiform.

$2n = 14$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Australasia (*), North America.

Region. **Northern Europe** (*), **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**, **Middle Europe**.

Country /Province /State. : GB Aliens (Ryves et al). : Poland. : Corsica, France, Spain. : Albania, Bulgaria, Greece, Italy, Crete, Romania, Sicily, Turkey Europe, Yugoslavia. Krym. **Northern Africa**. Algeria, Egypt, Libya. **Western Asia**. Iran. **Australia** (*). Queensland (*). **Northeast USA**. New Hampshire.

South East.

Pholiurus pannonicus (Host) Trin. *Fund. Agrost.* 131 (1820).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), N.Tsvelev, *Grasses of the Soviet Union* (1983).

Basionym or Replaced Name: *Rottboellia pannonica* Host, *Icon. Descr. Gram. Austriac.*, 1: 19, t. 24 (1801). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: In salsis Pannoniae, *Waldstein & Kitaibel s.n.*.

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (142, Fig 95).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *-icus*, belonging to. From Pannonia, Hungary.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms erect or geniculately ascending or decumbent, 10–30 cm long. Culm-nodes brown. Ligule an eciliate membrane, 2.5–3 mm long, lacerate. Leaf-blades 4–6 cm long, 2–2.5 mm wide, glaucous. Leaf-blade surface scaberulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, smoothly terete, bilateral, 5–12 cm long. Rhachis flattened. Spikelet packing broadside to rhachis. Spikelets appressed, solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–7 mm long, falling entire.

Glumes. Glumes collateral, similar, exceeding apex of florets, firmer than fertile lemma. Lower glume lanceolate, 6–7 mm long, 1 length of upper glume, coriaceous, without keels, 7 -veined. Lower glume lateral veins ribbed. Lower glume apex obtuse. Upper glume lanceolate, 6–7 mm long, 1.2 length of adjacent fertile lemma, coriaceous, without keels, 7 -veined. Upper glume lateral veins ribbed. Upper glume apex obtuse.

Florets. Fertile lemma lanceolate, 5.5 mm long, membranous, without keel, 3 -veined, 0–3 -veined. Lemma lateral veins extending close to apex. Lemma surface puberulous. Lemma apex acute. Palea 0.7–0.8 length of lemma.

Flower and Fruit. Anthers 3, 3 mm long.

$2n = 14$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia, Australasia (*).

Region. **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Austria, Czechoslovakia, Hungary. : Spain. : Bulgaria, Greece, Romania, Turkey Europe, Yugoslavia. Krym, Central European Russia, East European Russia, Northwest European Russia, Ukraine. **Middle Asia**, **Caucasus**, **Western Asia**. Kazakhstan, Tadzhikistan. **Australia** (*). South Australia (*).

Southern.

Phragmites australis (Cav.) Trin. ex Steud. *Nom. ed.* II. ii. 324 (1841).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960) (as *P. communis*), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983), T.Koyama, *Grasses of Japan and its neighboring regions* (1987) (as *P. communis*), W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).

TYPE from Australia. **Basionym or Replaced Name**: *Arundo australis* Cav., *Anales Hist. Nat.* 1: 100 (1799). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Anon.*, Australia (MA). HT discussed by Clayton, Taxon 17: 168 (1968).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, Aristidoideae a Pharoideae (2012) (49), C.E.Hubbard, *Grasses* (1968) (348 as *P. communis*), T. Cope & A. Gray, Grasses of the British Isles (175), N.N.Tsvelev, *Grasses of the Soviet Union* (1983) (913 (601), Pl.11), H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (143, Fig. 68 as *P. communis*), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (229, Fig. 202 as *P. communis*), G.E.Gibbs Russell el al, *Grasses of Southern Africa* (1990) (270, Fig. 167), N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 353 as ssp. *altissimus*), L.Boulos, *Flora of Egypt* 4 (2005) (222, Pl. 63), N.L.Bor, *Gramineae* in K.H.Rechinger, *Flora Iranica*. No. 70/30 (1970) (Tab. 53), N.L.Bor, *Gramineae* in *Flora of Iraq* (1968) (373, Pl. 143), C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (230), C-C Hsu,*Taiwan Grasses* (1975) (as *P. communis*), T.A.Cope,

Flora of Pakistan 143: *Poaceae* (1982) (24, Fig. 3), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (310, Fig. 242), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (547, Fig. 108), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (340), J.C.Tothill,& J.B.Hacker. *The grasses of southern Queensland* (1983) (346), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989) (145, Fig. 22), K.O.Mallett (ed.), *Flora of Australia*, Vol 44B. *Poaceae* (2004) (7, Fig. 1), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), K.F.Best, et al, *Prairie Grasses* (1971) (181 as *P. communis*), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 25 *Poaceae*, part 2 (2003) (12), F.W.Gould, *The Grasses of Texas* (1975) (55, Fig. 19), A.S.Hitchcock, *Manual of the Grasses of the West Indies* (1936) (53, Fig. 28 as *P. communis*), S.A.Renvoize, *Gramineas de Bolivia* (1998) (264, Fig. 53), J.A.Steyermark et al, *Flora of the Venezuelan Guayana* Vol. 8 (2004) (246, Fig. 200), E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (147, Fig. 35), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina*), Pt II, Gramineas (1969) (46, Fig. 9), W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (483, Fig. 181), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (54, Fig. 12), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (20, Fig. 5), E.Judziewicz, *Flora of the Guianas*, 187. *Poaceae* (1990) (528, Fig. 89), G.Harling & C.Persson, *Flora of Ecuador* (2006) (57: 32, Fig. 6 (1997)), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 628), E.Hafliger & E.Schultz, Grass Weeds, CIBA-GEIGY (2:117(1980)), F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, Aristidoideae a Pharoideae (2012) (49).

Illustrations (Journals): *Ruizia* (13:227, Fig 25a-b (1993)).

Images: Photo, D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);, K.O.Mallett (ed.). *Flora of Australia*, Vol 44 A (2002) & Vol 44B (2004). *Poaceae*;, L.Boulos, *Flora of Egypt* 4 (2005);, R.Darke, *Ornamental Grasses* (2004);, R.Darke, *The Encylopaedia of Grasses for Liveable Landscapes* (2007);, F.van Oudtshoorn, *Guide to Grasses of Southern Africa* (1999).

Derivation (Clifford & Bostock 2007): L. of the south. From the south in general as from Africa, America, Europe or elsewhere.

Classification. Subfamily Arundinoideae. Tribe: Arundineae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Butt sheaths absent. Culms erect, reed-like, 150–600 cm long. Leaves cauline. Leaf-sheaths loose. Ligule a ciliate membrane. Leaf-blades deciduous at the ligule, 20–60 cm long, 8–32 mm wide. Leaf-blade surface smooth. Leaf-blade apex attenuate, filiform.

Inflorescence. Inflorescence a panicle, bearing juvenile spikelets at emergence. Panicle open, oblong, dense, 20–50 cm long, 6–15 cm wide. Primary panicle branches profusely divided, bearing spikelets almost to the base. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 3–11 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 12–18 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus elongated, 1–1.25 mm long, bearded, obtuse. Floret callus hairs 0.66 length of lemma.

Glumes. Glumes persistent, similar, shorter than spikelet, similar to fertile lemma in texture, gaping. Lower glume lanceolate, 3–4.5 mm long, 0.5–0.6 length of upper glume, membranous, without keels, 3–5 -veined. Lower glume apex acute. Upper glume lanceolate, 5–9 mm long, 0.5–0.7 length of adjacent fertile lemma, membranous, without keels, 3–5 -veined. Upper glume apex acute, muticous or mucronate.

Florets. Basal sterile florets 1, male or barren, with palea, persisting on inflorescence. Lemma of lower sterile floret similar to fertile lemma, lanceolate, 8–15 mm long, 1 length of fertile lemma, membranous, 3–7 -veined, acuminate. Fertile lemma lanceolate, 9–13 mm long, membranous, without keel, 1–3 -veined, 0–3 -veined. Lemma apex acuminate. Palea 0.66 length of lemma, 2 -veined. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2. Anthers 3 (2 in sterile floret). Ovary glabrous. Caryopsis with adherent pericarp. Hilum elliptic.

n = 22 (1 ref TROPICOS). $2n$ = 36 (1 ref TROPICOS), or 40 (1 ref TROPICOS), or 48 (3 refs TROPICOS), or 72 (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Tropical Asia, Australasia, Pacific, North America, South America.

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Denmark, Finland, Great Britain, Ireland, Northern Ireland, Norway, Sweden. : Austria, Liechstenstein, Belgium, Luxembourg, Czechoslovakia, Germany, Hungary, Netherlands, Poland, Switzerland. : Baleares, Corsica, Channel Islands, France, Monaco, Portugal, Sardinia, Andorra, Gibralter, Spain. : Albania, Bulgaria, Greece, Italy, San Marino, Vatican, Crete, Romania, Malta, Sicily, Turkey Europe, Yugoslavia. Belarus, Estonia, Kalingrad, Latvia, Lithuania, Baltic States, Krym, Central European Russia, East European Russia, North European Russia, South European Russia, Northwest European Russia, Moldova, Ukraine. **Northern Africa**, **Macaronesia**, **West Tropical Africa**, **Northeast Tropical Africa**, **East Tropical Africa**, **South Tropical Africa**, **Southern Africa**. Algeria, Egypt, Libya, Morocco, Tunisia. Canary Is, Cape Verde, Madeira. Gambia, Nigeria, Niger, Senegal. Chad, Ethiopia (inc. Eritrea), Somalia, Sudan. Kenya. Angola, Mozambique, Zambia, Zimbabwe. Namibia, Botswana, Limpopo, North-West, Gauteng, Mpumalanga, Swaziland, Free State, Kwazulu-Natal, Lesotho, Northern Cape, Western Cape, Eastern Cape. Siberia, Russian Far East, **Middle Asia**, **Caucasus**, **Western Asia**, **Arabian Peninsula**, **China**, **Mongolia**, **Eastern Asia**. Altay, Buryatiya, Chita, Irkutsk, Krasnoyarsk, Tuva. Amur, Kamchatka, Kuril Is, Magadan, Primorye, Sakhalin. Kazakhstan, Turkmenistan, Tadzhikistan, Uzbekistan. Iran, Iraq. Gulf States, Kuwait, Oman. China South Central. Japan, Nansei-Shoto, Taiwan. **Indian Subcontinent**, **Indo-China**, **Malesia**. Pakistan, West Himalaya. Vietnam. Malaya. **Australia**, **New Zealand** (*). Western Australia, Northern Territory, South Australia, Queensland, New South Wales, A.C.T., Victoria, Tasmania, Lord Howe-Norfolk Is. New Zealand North I, New Zealand South I. **North-central Pacific**. New Caledonia. Cook Is. Hawaii (*). **Subarctic America**, **Western Canada**, **Eastern Canada**, **Northwest USA**, **North-central USA**, **Northeast USA**, **Southwestern USA**, **South-central USA**, **Southeastern USA**, **Mexico**. Alberta, British Columbia, Manitoba, Saskatchewan. New Brunswick, Newfoundland, Nova Scotia, Ontario, Prince Edward I, Quebec. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. Illinois, Iowa, Kansas, Minnesota, Missouri, North Dakota, Nebraska, Oklahoma, South Dakota, Wisconsin. Connecticut, Indiana, Maine, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont, West Virginia. Arizona, California, Nevada, Utah. New Mexico, Texas. Alabama, Arkansas, Delaware, Florida, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Virginia, District of Columbia. Central Mexico, Northeast Mexico, Gulf (Mexico), Northwest Mexico, Southwest Mexico, Southeast Mexico. **Mesoamerica**, **Caribbean**, **Northern South America**, **Western South America**, **Brazil**, **Southern South America**. Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama. Bahamas, Dominican Republic, Haiti, Jamaica, Leeward Is, Windward Islands, Puerto Rico, Trinidad-Tobago. French Guiana, Guyana, Surinam, Venezuela. Bolivia, Peru. Argentina Northeast, Argentina South, Argentina Northwest, Chile North, Chile Central, Chile South, Uruguay.

Yunnan. Jammu Kashmir. South-West. Central Australia. NW & Lake Eyre, Southern. North, Central, South East, Inland. Coast, Tablelands, Western Slopes, Western Plains. Catamarca, Jujuy, La Rioja, Mendoza, Salta, Santiago del Estero, San Juan, Tucuman. Buenos Aires, Cordoba, Distrito Federal, Entre Rios, La Pampa. Chubut, Neuquén, Río Negro. Antofagasta, Atacama. Coquimbo, Valparaiso, Santiago, Maule, Biobio, La Araucania. Los Lagos. Mexico State, Morelos, Puebla. Coahuila, Chihuahua, Guanajuato, Hidalgo, Neuvo Leon, Tamaulipas. Veracruz. Baja California, Baja California Sur, Sonora. Colima, Jalisco, Michoacan, Nayarit, Oaxaca. Campeche, Chiapas, Quintana Roo, Tabasco, Yucatan.

Phragmites japonicus Steud. *Syn. Pl. Gram.* 196 (1854).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from Japan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Japan:, *Zollinger herb. nr. E.*

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to; Japan, a modified spelling Zhapan introduced into Europe by Marco Polo as a transliteration for the Chinese name for the large islands to the east of that country. From Japan.

Classification. Subfamily Arundinoideae. Tribe: Arundineae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Stolons present (zigzag, nodes hirsute). Butt sheaths absent. Culms erect, reed-like, 100–200 cm long, 4–5 mm diam. Culm-nodes pubescent. Leaves cauline. Leaf-sheaths loose. Ligule a ciliate membrane, 0.2–0.6 mm long. Leaf-blades

deciduous at the ligule, lanceolate, 10–30 cm long, 20–30 mm wide. Leaf-blade surface smooth. Leaf-blade margins scabrous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle, bearing juvenile spikelets at emergence. Panicle open, oblong, dense, 20–30 cm long, 5–8 cm wide. Primary panicle branches profusely divided, naked below. Panicle axis puberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 6–7 mm long, ciliate, with 1–2 mm long hairs.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 8–12 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus elongated, bearded, obtuse. Floret callus hairs 0.75 length of lemma.

Glumes. Glumes persistent, similar, shorter than spikelet, similar to fertile lemma in texture, gaping. Lower glume elliptic, 5 mm long, 0.5–0.6 length of upper glume, membranous, without keels, 3–5 -veined. Lower glume apex acute. Upper glume elliptic, 5.5 mm long, 0.6–0.9 length of adjacent fertile lemma, membranous, without keels, 3–5 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, male or barren, with palea, persisting on inflorescence. Lemma of lower sterile floret similar to fertile lemma, elliptic, 6–10 mm long, 1 length of fertile lemma, membranous, 3–7 -veined, acuminate. Fertile lemma lanceolate, 6–10 mm long, membranous, without keel, 1–3 -veined, 0–3 -veined. Lemma apex acuminate. Palea 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2. Anthers 3 (2 in sterile floret). Caryopsis with adherent pericarp.

$2n = 48$ (3 refs TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East, **China**, **Eastern Asia**, **Russia**. Kuril Is. Manchuria. Japan, Korea, Nansei-Shoto.

Phragmites karka (Retz.) Trin. ex Steud. *Nom. ed.* II. ii. 324 (1841).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*) (as *P.vallatoria*), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.Koyama, *Grasses of Japan and its neighboring regions* (1987), W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).

TYPE from India. **Basionym or Replaced Name**: *Arundo karka* Retz., *Observ. Bot.* 4: 21 (1786). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: India:, *Koenig s.n. herb. Retzius* (HT: LD).

Illustrations (Books): S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (65, Fig. 28), T.Koyama, *Grasses of Japan and its neighbouring regions* (1987) (241, Fig. 89), C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (232), C-C Hsu,*Taiwan Grasses* (1975) (389, Pl. 1371), K.M.Matthew, Illustrations on the *Flora of Tamilnadu Carnatic* (1982) (Pl. 914 & 915), H.J.Noltie, *The Grasses of Bhutan* (2000) (645, Fig. 31), H.B.Gilliland, *Grasses of Malaya* (1971) (50, Fig. 3), H.Duistermaat, *Field Guide to the Grasses of Singapore* (2005) (113, Fig. 115 as *P. vallatoria*), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (311, Fig. 243), C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952) (132, Pl. 39), J.R.Wheeler et al, *Flora of the Kimberley Region* (1992), K.O.Mallett (ed.), *Flora of Australia*, Vol 44B. *Poaceae* (2004) (7, Fig. 1 as *P. vallatoria*), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Fig. 204, as *P. vallatorius*).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);, G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012)

(Pl. 24 & 25 as *P. vallatoria*).

Derivation (Clifford & Bostock 2007): origin obscure, possibly the corruption of an Indian vernacular name referring to its white inflorescence.

Classification. Subfamily Arundinoideae. Tribe: Arundineae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Butt sheaths absent. Culms erect, reed-like, 200–1000 cm long. Leaves cauline. Leaf-sheaths loose. Ligule a ciliate membrane. Leaf-blades

deciduous at the ligule, 30–80 cm long, 12–40 mm wide. Leaf-blade surface scaberulous, rough abaxially. Leaf-blade apex attenuate, hardened.

Inflorescence. Inflorescence a panicle, bearing juvenile spikelets at emergence. Panicle open, oblong, dense, 30–50 cm long, 10–20 cm wide. Primary panicle branches profusely divided, naked below. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 3–11 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 9–12 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus elongated, 0.5–1 mm long, bearded, obtuse. Floret callus hairs 0.5 length of lemma.

Glumes. Glumes persistent, similar, shorter than spikelet, similar to fertile lemma in texture, gaping. Lower glume elliptic, 0.5–0.6 length of upper glume, membranous, without keels, 3–5 -veined. Lower glume apex acute. Upper glume elliptic, 4–6 mm long, 0.5 length of adjacent fertile lemma, membranous, without keels, 3–5 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, male or barren, with palea, persisting on inflorescence. Lemma of lower sterile floret similar to fertile lemma, elliptic, 7.5–12 mm long, 1 length of fertile lemma, membranous, 3–7 -veined, acuminate. Fertile lemma lanceolate, 8.5–11 mm long, membranous, without keel, 1–3 -veined, 0–3 -veined. Lemma apex acuminate. Palea 0.66 length of lemma, 2 -veined. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2. Anthers 3 (2 in sterile floret). Ovary glabrous. Caryopsis with adherent pericarp. Hilum elliptic.

n = 24 (1 ref TROPICOS). $2n$ = 48 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa, Temperate Asia, Tropical Asia, Australasia, Pacific.

Country /Province /State. **West Tropical Africa**, **West-Central Tropical Africa**, **Northeast Tropical Africa**, **East Tropical Africa**, **Western Indian Ocean**. Benin, Ghana, Guinea-Bissau, Mali, Nigeria, Senegal, Sierre Leone, Niger. Eritrea, Ethiopia (inc. Eritrea), Somalia, Sudan. Kenya, Uganda. Madagascar. **Western Asia**, **Arabian Peninsula**, **China**, **Eastern Asia**. Iran. China South Central, Hainan, China Southeast. Japan, Nansei-Shoto, Taiwan. **Indian Subcontinent**, **Indo-China**, **Malesia**, **Papuasia**. Bangladesh, Eastern Himalaya, India, Pakistan, Sri Lanka. Andaman Is, Cambodia, Laos, Myanmar, Thailand, Vietnam. Borneo, Java, Lesser Sunda Is, Malaya, Singapore, Moluccas, Philippines, Sulawesi, Sumatra. New Guinea West Papua (Irian Jaya). New Guinea, Solomon Is. **Australia**. Western Australia, Northern Territory, South Australia, Queensland. **Southwestern Pacific**, **Northwestern Pacific**. New Caledonia, Vanuatu. Cook Is. Caroline Is (*), Marianas, Marshall Is. Hawaii.

Fujian, Guangdong, Guangxi. Sichuan, Yunnan. Darjeeling, Bhutan, Sikkim. Assam, Manipur, Nagaland. Delhi, Kerala. Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamilnadu, Uttah Pradesh, West Bengal. Himachal Pradesh, Jammu Kashmir. Kimberley. Darwin & Gulf, Central Australia. NW & Lake Eyre. North.

Phragmites mauritianus Kunth. *Rev. Gram.* i. 80 (1829).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Mauritius. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Desfontaines*, 1820, Mauritius (P; IT: B).

Illustrations (Books): R.M.Polhill, F.T.E.A., *Gramineae* (1(1970):119, Fig.38), G.V.Pope et al., *Flora Zambesiaca* 10 (1(1971):93, t. 28), J.Bosser, *Graminees des Paturage et des Cultures a Madagascar (*1969) (129, Fig 41).

Images: F.van Oudtshoorn, *Guide to Grasses of Southern Africa* (1999).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating location. From Mauritius.

Classification. Subfamily Arundinoideae. Tribe: Arundineae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Butt sheaths absent. Culms erect, reed-like, 200–800 cm long. Leaves cauline. Leaf-sheaths loose. Ligule a ciliate membrane. Leaf-blades deciduous at the ligule, 25–75 cm long, 6–40 mm wide. Leaf-blade surface scaberulous, rough abaxially. Leaf-blade apex attenuate, hardened.

Inflorescence. Inflorescence a panicle, bearing juvenile spikelets at emergence. Panicle open, oblong, dense, 30–50 cm long, 10–20 cm wide. Primary panicle branches profusely divided, naked below. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 3–11 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 7–16 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus elongated, 0.5–1 mm long, bearded, obtuse. Floret callus hairs 0.5 length of lemma.

Glumes. Glumes persistent, similar, shorter than spikelet, similar to fertile lemma in texture, gaping. Lower glume lanceolate to ovate, 0.7–1 length of upper glume, membranous, without keels, 3–5 -veined. Lower glume apex cuspidate. Upper glume lanceolate to ovate, 3–5 mm long, 0.4–0.6 length of adjacent fertile lemma, membranous, without keels, 3–5 -veined. Upper glume apex cuspidate.

Florets. Basal sterile florets 1, male or barren, with palea, persisting on inflorescence. Lemma of lower sterile floret similar to fertile lemma, elliptic, 7–8 mm long, 1 length of fertile lemma, membranous, 3–7 -veined, acuminate. Fertile lemma lanceolate, 8–9 mm long, membranous, without keel, 1–3 -veined, 0–3 -veined. Lemma apex acuminate. Palea 0.66 length of lemma, 2 -veined. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2. Anthers 3 (2 in sterile floret). Ovary glabrous. Caryopsis with adherent pericarp. Hilum elliptic.

$2n = 48$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Northern Africa**, **West-Central Tropical Africa**, **Northeast Tropical Africa**, **East Tropical Africa**, **South Tropical Africa**, **Southern Africa**, **Western Indian Ocean**. Egypt. Gabon, Rwanda, DRC. Ethiopia (inc. Eritrea), Sudan. Kenya, Tanzania, Uganda. Angola, Malawi, Mozambique, Zambia, Zimbabwe. Namibia, Botswana, Limpopo, North-West, Gauteng, Mpumalanga, Swaziland, Free State, Kwazulu-Natal. Mauritius, Madagascar, Rodrigues.

Phuphanochloa speciosa Sungkaew & Teerawat. *Kew Bull.* 63(4): 671–673, f. 1 (2008).

TYPE from Thailand. **Basionym or Replaced Name**: Thailand: NE21, Sakhon Nakhon: Phu Phan National Park, base of Nang Mern cliff, fertiole, 11 Apr 2005, *Sungkaew & Teerawatananon 472* (HT: TCD; IT: BFK, K, Harium of Faculty of Forestry, Kasetsart Univ., Harbarium of of Thailand Natural History Museum, National Science Museum).

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose, clumped densely. Rhizomes short, pachymorph. Butt sheaths absent. Culms geniculately ascending, nodding at the tip, 500–1000 cm long, 43–50 mm diam., woody, without nodal roots. Culm-internodes terete, thick-walled, 25–30 cm long, mid-green. Culm-nodes swollen. Lateral branches dendroid. Buds or branches present on lower part of culm. Branch complement several, in a clump, with 1 branch dominant. Culm-sheaths present, deciduous, 20–25 cm long, 2 times as long as wide, coriaceous, pubescent, with white hairs, convex at apex, without auricles, glabrous on shoulders. Culm-sheath ligule 2–3 mm high. Culm-sheath blade lanceolate, spreading or reflexed, 2–3.5 cm long, 5–10 mm wide. Leaves 6–8 per branch. Leaf-sheaths 4–5 cm long, pilose. Leaf-sheath oral hairs setose, 1–3 mm long. Leaf-sheath auricles absent. Ligule an eciliate membrane, 1–2 mm long, obtuse. Collar with external ligule. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.05–0.2 cm long. Leaf-blades lanceolate, 10–15 cm long, 10–13 mm wide. Leaf-blade venation with 6–8 secondary veins. Leaf-blade surface pubescent, hairy abaxially. Leaf-blade apex acuminate, hardened.

Inflorescence. Synflorescence bractiferous, clustered at the nodes, in untidy tufts, 2–4 cm long, open, 2–7 cm between clusters, with glumaceous subtending bracts, with axillary buds at base of spikelet, prophyllate below lateral spikelets, leafless between clusters.

Fertile Spikelets. Spikelets comprising 7–9 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or ovate, laterally compressed, 10–20 mm long, 5–10 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes definite, 1–1.5 mm long.

Glumes. Glumes several, 1–4 empty glumes, persistent, similar, shorter than spikelet. Lower glume ovate, coriaceous, without keels, 11–17 -veined.

Florets. Fertile lemma ovate, 6–11.5 mm long, chartaceous, without keel, 13–21 -veined, more than 3-veined. Lemma surface pilose, hairy at base. Lemma hairs tawny. Lemma apex acute. Palea oblong, 5–10 mm long, coriaceous, 5–7 -veined. Palea keels winged, narrowly winged, ciliate. Palea surface pilose, hairy on margins. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, membranous, ciliate. Anthers 6, 3–4 mm long, yellow, anther tip apiculate. Filaments free. Stigmas 3. Ovary umbonate, pubescent on apex. Caryopsis with adherent pericarp, ellipsoid or oblong, 5–6 mm long, hairy at apex, apex rostrate.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indo-China**. Thailand.

Phyllorachis sagittata Trimen. *Journ. Bot.* xvii.355. (1879).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Angola. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Angola, Pungo Andongo: *Welwitsch 7399* (BM holo, K).

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (135, Fig.59), R.M.Polhill, F.T.E.A., *Gramineae* (1(1970):35, Fig.12), G.V.Pope et al., *Flora Zambesiaca* 10 (1(1971):38, t. 9).

Illustrations (Journals): *Hooker's Icones Plantarum* (t.3386 (1939)).

Derivation (Clifford & Bostock 2007): L. *sagitta*, arrow; *-ata*, possessing. The leaf-blade resembles an arrow-head.

Classification. Subfamily Ehrhartoideae. Tribe: Phyllorachideae.

Habit, Vegetative Morphology. Perennial, caespitose. Cataphylls evident. Butt sheaths absent. Culms decumbent, 60–120 cm long. Culm-internodes retrorsely scabrous. Culm-nodes glabrous or pubescent. Ligule a ciliolate membrane. Leaf-blade base sagittate, with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 4–14 cm long, 15–25 mm wide. Leaf-blade venation with obscure cross veins. Leaf-blade apex acute. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence composed of racemes, terminal and axillary. Axillary inflorescences present in upper axils, different from terminal (short, with large female spikelet). Racemes 4–20, borne along a central axis, in a unilateral false spike, appressed, lanceolate, 0.7–0.9 cm long, bearing few fertile spikelets, bearing 1 fertile spikelets on each. Central inflorescence axis 4–12 cm long, foliaceous (5–9 mm wide), tip subulate. Rhachis deciduous from axis, broadly winged, 2–3 mm wide, terminating in a barren extension, extension flattened. Sexes segregated, on bisexual branches, with male above. Spikelets in threes. Fertile spikelets sessile, 1 in the cluster. Male spikelets sessile, 2 in a cluster.

Sterile Spikelets. Apical sterile spikelets absent or rudimentary, 0–2 in number.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets ovate, laterally compressed, compressed slightly, gibbous, 10–16 mm long, falling entire, deciduous with accessory branch structures.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume subulate, 1 mm long, 0.05–0.1 length of spikelet. Upper glume oblong, 0.3–0.5 length of adjacent fertile lemma, membranous, 1-keeled, 5–9 -veined. Upper glume margins ciliolate. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret ovate, 1 length of spikelet, coriaceous, 15 -veined, sulcate (rugose in groove), scabrous, rough above, ciliolate on margins, acute. Fertile florets female. Fertile lemma ovate, 10–16 mm long, chartaceous, keeled, 11–17 -veined, more than 3-veined. Lemma margins involute. Lemma apex caudate. Palea lanceolate, 1 length of lemma, chartaceous, 8–12 -veined.

Flower and Fruit. Lodicules 2, obovate, 1.5 mm long, membranous. Anthers 6. Stigmas 2, terminally exserted. Caryopsis with adherent pericarp, linear, laterally compressed, biconvex, sulcate on hilar side, 6 mm long. Hilum punctiform.

Male spikelets similar to female but less developed, 7–8 mm long. Male spikelet glumes 2. Male spikelet lemma 3–5 -veined.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **West-Central Tropical Africa**, **East Tropical Africa**, **South Tropical Africa**. DRC. Tanzania. Angola, Malawi, Mozambique, Zambia, Zimbabwe.

xPhyllosasa tranquillans (Koidz.) J.P. Demoly. *Bambou,* 21: 14 (1995).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *tranquillo*, make tranquil. Origin uncertain, not given by author.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 300–400 cm long, 20 mm diam., woody. Culm-internodes semiterete, smooth. Lateral branches dendroid. Culm-sheaths present, coriaceous, brown, pilose, setose on shoulders. Culm-sheath ligule 1 mm high, ciliolate. Culm-sheath blade linear, erect. Leaves cauline. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs setose, spreading. Ligule a ciliolate membrane, 2 mm long, truncate. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate or oblong, 15–20 cm long, 40–50 mm wide. Leaf-blade surface glabrous. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, fasciculate, with spathaceous subtending bracts, bracts 35–40 mm long, without axillary buds at base of spikelet, with ultimate bract subtending a compact bracteolate fascicle of spikelets or with principal spatheoles embracing a compact fascicle of racemes, each subtended by a subsidiary bract, prophyllate below lateral spikelets.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 20 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 6 mm long, pubescent.

Glumes. Glumes one the lower absent or obscure, persistent, shorter than spikelet. Upper glume ovate, 12–14 mm long, chartaceous, 9–11 -veined. Upper glume lateral veins with cross-veins. Upper glume apex acute.

Florets. Fertile lemma ovate, 13–20 mm long, chartaceous, without keel, 20 -veined, more than 3-veined. Lemma lateral veins with cross-veins. Lemma apex acuminate. Palea lanceolate, 12–13 mm long, chartaceous, 10–12 -veined, 2-keeled. Palea keels ciliolate, adorned above.

Flower and Fruit. Lodicules 3, ovate, 2.5–3 mm long, glabrous, obtuse. Anthers 6, 9 mm long. Stigmas 3. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Eastern Asia**. Japan.

Phyllostachys acuta C.D.Chu & C.S.Chao. *Acta Phytotax. Sin.*, 18(2): 172 (1980).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Hangzhou Gudang, *C.D. Chu & H.Y. Zou 75132* (HT: NFU).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 225).

Derivation (Clifford & Bostock 2007): L. *acuo*, sharpen. Culm-buds acute.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 800 cm long, 40–60 mm diam., woody. Culm-internodes semiterete, thin-walled, mid-green, distally mealy. Culm-nodes purple. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, green and brown, distinctly mottled with last colour, glabrous or puberulous, without auricles, glabrous on shoulders. Culm-sheath ligule purple, ciliolate. Culm-sheath blade linear, reflexed, flat. Leaves cauline. Ligule a ciliolate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Flower and Fruit. $2n = 48$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China** (+). China Southeast.
Fujian, Jiangsu, Zhejiang.

Phyllostachys angusta McClure. *Journ. Wash. Acad. Sci.* v. 278 (1945).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: USA: Georgia: collected May 30-August 3, 1942, at the Barbour Lathrop Plant Introduction Garden near Savannah, from permanent plot no. 11 (section C). This bamboo was originally introduced into this country from China by Frank N. Meyer., *McClure 21023* (HT: US).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 222).

Derivation (Clifford & Bostock 2007): L. narrow. Narrow, with respect to leaf- blades or spicate panicles.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 350 cm long, 13 mm diam., woody. Culm-internodes semiterete, thin-walled, 19 cm long, smooth, distally glabrous. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, deciduous, yellow and brown, obscurely mottled with last colour, glabrous, without auricles, glabrous on shoulders. Culm-sheath ligule ciliate. Culm-sheath blade linear, erect. Leaves cauline, 3–4 per branch. Leaf-sheaths hispid. Leaf-sheath oral hairs lacking. Leaf-sheath auricles absent. Ligule a ciliolate membrane, scaberulous on abaxial surface, obtuse. Leaf-blade base with a brief petiole-like connection to sheath, petiole glabrous or pubescent. Leaf-blades lanceolate, 13 cm long, 18 mm wide. Leaf-blade surface glabrous. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Flower and Fruit. $2n = 48$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, North America.

Country /Province /State. **China**. China Southeast (+). **Southeastern USA**. Georgia.
Anhui, Fujian, Henan, Jiangsu, Zhejiang.

Phyllostachys arcana McClure. *Journ. Wash. Acad. Sci.* v. 280 (1945).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: USA: Georgia: Callected April 29, 1941, at the Barbour Lathrop Plant Introduction Garden near Savannah, from permanent plot 32[/2] (section C). This bamboo was originally introduced into this country from China in 1926 by the writer while acting as agricultural explorer for the U.S. Department of Agriculture., *McClure 20980* (HT: US).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 220).

Derivation (Clifford & Bostock 2007): L. *arca*, chest; *-ana,* indicating connection. Hidden away as in a chest and so overlooked either because of rarity or confusion with another species.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 750 cm long, 30 mm diam., woody. Culm-internodes semiterete, thin-walled, 30 cm long, ridged, smooth, distally mealy. Culm-nodes bearded. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, deciduous, smooth or antrorsely scabrous, concave at apex, without auricles, glabrous on shoulders. Culm-sheath ligule ciliolate. Culm-sheath blade triangular, spreading, glabrous on surface. Leaves cauline, 2–3 per branch. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs lacking. Leaf-sheath auricles absent. Ligule an eciliate membrane or a ciliolate membrane, scaberulous on abaxial surface, obtuse. Leaf-blade base with a brief petiole-like connection to sheath, petiole glabrous. Leaf-blades lanceolate, 15 cm long, 20 mm wide. Leaf-blade surface glabrous. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Flower and Fruit. 2*n* = 48 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, North America.

Country /Province /State. **China**. China South Central (+), China North-Central (+), China Southeast (+). **Southeastern USA**. Georgia.

Gansu, Shaanxi. Anhui, Jiangsu, Zhejiang. Sichuan, Yunnan.

Phyllostachys assamica Gamble ex Brandis. *Indian Trees* 607 (1906).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: India: Mishmi hills, Namdang, Lakhimpur district, Sadiya,.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Assam.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 1000–1200 cm long, 100–200 mm diam., woody. Culm-internodes semiterete, thin-walled, light green. Culm-nodes glabrous. Lateral branches dendroid. Culm-sheaths present, 15–25 cm long, hispid, with appressed hairs or erect hairs, with black hairs, without auricles. Culm-sheath blade linear, reflexed. Leaves cauline. Leaf-sheaths keeled, outer margin hairy. Leaf-sheath oral hairs scanty. Leaf-sheath auricles falcate. Ligule an eciliate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 8–12 cm long, 12–16 mm wide, glaucous. Leaf-blade surface hispid, hairy abaxially. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, fasciculate, with spathaceous subtending bracts, bracts 3.5 mm long, with ultimate bract subtending a compact bracteolate fascicle of spikelets, prophyllate below lateral spikelets.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 20–25 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes two, persistent, shorter than spikelet. Upper glume oblong, chartaceous, 2-keeled. Upper glume apex acute.

Florets. Fertile lemma ovate, 10–15 mm long, chartaceous, without keel, more than 3-veined. Lemma lateral veins prominent. Lemma apex acute. Palea 1 length of lemma, chartaceous. Palea keels ciliate. Palea apex with excurrent keel veins.

Flower and Fruit. Lodicules 3, veined, ciliate. Anthers 3, anther tip with extended connective. Stigmas 3. Ovary umbonate. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indian Subcontinent**. India.

Assam.

Phyllostachys atrovaginata C.S.Chao & H.Y.Chou. *Acta Phytotax. Sin.,* 18(2): 191 (1980).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Hangzhou Gudang, *C.S. Chao et al. 74166* (HT: NFU).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 240).

Derivation (Clifford & Bostock 2007): L. *ater,* dark; *vagina,* sheath; *-ata,* possession. Culm-sheaths dark-green.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 700–800 cm long, 30–50 mm diam., woody. Culm-internodes semiterete, thin-walled, mid-green, distally mealy. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, green, concolorous, glabrous, without auricles, glabrous on shoulders. Culm-sheath ligule brown, entire. Culm-sheath blade triangular, erect, wrinkled. Leaves cauline, 2–3 per

branch. Leaf-sheath oral hairs lacking. Leaf-sheath auricles absent. Ligule a ciliolate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Flower and Fruit. 2*n* = 48 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast (+).

Jiangsu, Zhejiang.

Phyllostachys aurea Rivihre & C.Rivihre. *Bull. Soc. Acclim. Ser.* III. v. 716. (1878).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Tunisia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *Anon. s.n.*, Africa: Tunis: Cultivated in "Jardim du Hamma" (P).

Recent Synonyms: *Phyllostachys breviligula* W.T. Lin & Z.M. Wu, *Acta Phytotax. Sin.,* 26(3): 229 (1988).

Illustrations (Books): C-C Hsu,*Taiwan Grasses* (1975) (724, Pl. 1489), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (52, Fig 18), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (341), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), S.A.Renvoize, *Gramineas de Bolivia* (1998) (28, Fig 1), E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (102, Fig. 17), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (163, Fig. 34), W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (485, Fig 188), D.Farrelly, *The Book of Bamboo* (1984) (167 & 168 as *P. formosana*), S.Dransfield, & E.A. Widjaja, *Plant Resources of South-East Asia No*. 7, Bamboos (1995), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 218, 219).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. golden-yellow. With spikelets or pedicels or other parts invested in golden-yellow hairs.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 200–800 cm long, 20–30 mm diam., woody. Culm-internodes similar in length or abbreviated and closely packed at the base, semiterete, thin-walled, 8–10 cm long, yellow, smooth, distally glabrous. Culm-nodes swollen. Lateral branches dendroid. Culm-sheaths present, deciduous, 12–18 cm long, yellow or green, pubescent, hairy at the base, with white hairs, without auricles. Culm-sheath ligule 1–2 mm high, ciliate. Culm-sheath blade lanceolate, reflexed, 3–6 cm long. Leaves cauline. Leaf-sheaths glabrous on surface or puberulous, outer margin hairy. Leaf-sheath auricles absent. Ligule a ciliate membrane, 1 mm long. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 5–8 cm long, 5–11 mm wide. Leaf-blade venation with distinct cross veins. Leaf-blade surface glabrous or pubescent.

Inflorescence. Synflorescence bractiferous, fasciculate, with spathaceous subtending bracts, with ultimate bract subtending a compact bracteolate fascicle of spikelets, prophyllate below lateral spikelets.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 18–25 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes one the lower absent or obscure, persistent, shorter than spikelet. Upper glume oblong, chartaceous, without keels. Upper glume apex acute.

Florets. Fertile lemma ovate, 15 mm long, chartaceous, without keel, more than 3-veined. Lemma apex acute. Palea chartaceous. Palea apex pubescent.

Flower and Fruit. Lodicules 3. Anthers 3, yellow. Filaments 30–50 mm long. Stigmas 3. Ovary umbonate. Caryopsis with adherent pericarp.

2*n* = 48 (3 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia, Australasia (*), Pacific, North America (+), South America (+).

Region. **Northern Europe**.

Country /Province /State. : GB Aliens (Ryves et al). **Caucasus**, **China**, **Eastern Asia**. China Southeast. Nansei-Shoto. **Australia** (*), **New Zealand** (*). Queensland (*), New South Wales (*). New Zealand North I. **North-central Pacific**. Hawaii (*). **Mexico** (+). Central Mexico, Northeast Mexico. **Mesoamerica**, **Western South America**, **Brazil**, **Southern South America**. Costa Rica, El Salvador, Guatemala. Bolivia, Colombia, Ecuador, Peru. Brazil West Central, Brazil Southeast, Brazil South. Argentina Northeast, Uruguay.

Fujian, Zhejiang. South East. Coast. Distrito Federal, Mato Grosso, Goiás, Mato Grosso do Sul. Minas Gerais, Rio de Janeiro, Sao Paulo. Paraná, Santa Catarina. Buenos Aires, Entre Rios. Distrito Federal, Puebla. Zacatecas.

Phyllostachys aureosulcata McClure. *Journ. Wash. Acad. Sci.* v. 282 (1945).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: USA: Georgia: collected April 29, 1941, at the Barbour Lathrop Plant Introduction Garden near Savannah, from permanent plot no. 31 (section C). This bamboo was originally introduced into the United States from China by Frank N. Meyer in 1908., *McClure 20971* (HT: US).

Illustrations (Books): D.Farrelly, *The Book of Bamboo* (1984), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 226).

Derivation (Clifford & Bostock 2007): L. *aureus*, golden-yellow; *sulcus*, furrow; *-ata*, possessing. Culms green and streaked with yellow.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 700–800 cm long, 30 mm diam., woody. Culm-internodes semiterete, thin-walled, 35 cm long, retrorsely scabrous, distally mealy. Culm-nodes glabrous. Lateral branches dendroid. Culm-sheaths present, green and white or yellow, striped, without auricles or auriculate, setose on shoulders. Culm-sheath ligule 3–4 mm high, ciliolate. Culm-sheath blade triangular, erect or reflexed, scabrid. Leaves cauline, 3–5 per branch. Leaf-sheath oral hairs lacking or ciliate. Leaf-sheath auricles absent or falcate. Ligule a ciliolate membrane, 1–1.5 mm long, pubescent on abaxial surface. Leaf-blade base with a brief petiole-like connection to sheath, petiole glabrous. Leaf-blades lanceolate, 15 cm long, 19 mm wide. Leaf-blade surface pilose, sparsely hairy, hairy abaxially. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, fasciculate, dense, with spathaceous subtending bracts, bracts 15–18 mm long, without axillary buds at base of spikelet, with ultimate bract subtending a compact bracteolate fascicle of spikelets, prophyllate below lateral spikelets.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 15 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes two, persistent, shorter than spikelet. Lower glume lanceolate, 7 mm long. Upper glume lanceolate, 10 mm long, chartaceous, 1-keeled. Upper glume apex acute.

Florets. Fertile lemma elliptic, 10 mm long, chartaceous, without keel, more than 3-veined. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 1–2 mm long overall. Palea 1 length of lemma, chartaceous. Apical sterile florets distinct from fertile, rudimentary.

Flower and Fruit. Lodicules 3. Anthers 3. Stigmas 3. Caryopsis with adherent pericarp.

2*n* = 48 (2 refs TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China** (+). China North-Central, China Southeast.

Beijing. Henan, Jiangsu, Zhejiang.

Phyllostachys bambusoides Sieb. & Zucc. *Abh. Akad. Muench.* iii. II. 745. t. 5. f. 3. (1843).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Japan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *P.F. von Siebold s.n.*, Japan (US-2876340 (fragm. ex L)). T: Japan (L).

Illustrations (Books): N.N.Tsvelev, *Grasses of the Soviet Union* (1983) (113 (80), Pl.1), C-C Hsu,*Taiwan Grasses* (1975) (726, Pl. 1490), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (Pl. 26), D.Farrelly, *The Book of Bamboo* (1984) (168 & 169), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (colour plate as *P. reticulata*).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resembling. Culms wooden resembling those of *Bambusa*.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 300–400 cm long, 12–18 mm diam., woody. Culm-internodes semiterete, thin-walled, yellow, smooth. Culm-nodes with distinct supra-nodal ridge, glabrous. Lateral branches dendroid. Culm-sheaths present, deciduous, 15–25 cm long, 5–6 times as long as wide, chartaceous, truncate at apex, setose on shoulders. Culm-sheath ligule dentate. Culm-sheath blade linear, reflexed. Leaves cauline. Leaf-sheaths loose, keeled, striately veined, glabrous on surface, outer margin hairy. Leaf-sheath oral hairs ciliate. Leaf-sheath auricles falcate. Ligule an eciliate membrane, obtuse. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.2–0.5 cm long, petiole pubescent. Leaf-blades lanceolate or oblong, 7.5–10 cm long, 12–18 mm wide, mid-green or glaucous, discolorous with last colour beneath. Leaf-blade midrib conspicuous. Leaf-blade venation with 10–12 secondary veins, with distinct cross veins. Leaf-blade surface pubescent, hairy abaxially. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, fasciculate, dense, with spathaceous subtending bracts, without axillary buds at base of spikelet, with ultimate bract subtending a compact bracteolate fascicle of spikelets, prophyllate below lateral spikelets.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1–4 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 25–30 mm long, 3–5 mm wide, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes one the lower absent or obscure, persistent, shorter than spikelet. Upper glume oblong, 7–8 mm long, chartaceous, 1-keeled. Upper glume primary vein ciliolate. Upper glume apex acute.

Florets. Fertile lemma ovate, 20 mm long, chartaceous, without keel, 11–13 -veined, more than 3-veined. Lemma apex acuminate. Palea 1 length of lemma, chartaceous. Palea keels ciliolate. Palea surface scaberulous. Palea apex with excurrent keel veins.

Flower and Fruit. Lodicules 3, veined, ciliate. Anthers 3, 10 mm long, anther tip with extended connective. Stigmas 3. Styles 25–30 mm long. Ovary umbonate. Caryopsis with adherent pericarp.

$2n = 48$ (2 refs TROPICOS).

Distribution (TDWG). Continent. Europe (+), Africa (+), Temperate Asia, Tropical Asia, Australasia (+), North America (+), South America (+).

Region. **Northern Europe**.

Country /Province /State. : GB Aliens (Ryves et al). **Northern Africa**, **Western Indian Ocean**. Mauritius (+). **Caucasus**, **Western Asia**, **China**, **Eastern Asia**. China South Central, China North-Central, China Southeast. Japan, Taiwan. **Australia** (*), **New Zealand** (*). Queensland (+). New Zealand North I. Hawaii (*). **Mesoamerica**, **Caribbean**, **Western South America**, **Brazil**. Guatemala. Ecuador. Brazil Southeast, Brazil South.

Shaanxi, Shandong, Shanxi. Fujian, Guangdong, Guangxi, Henan, Hunan, Jiangsu, Jiangxi, Zhejiang. Guizhou, Hubei, Sichuan, Yunnan. North, South East. Sao Paulo. Santa Catarina.

Phyllostachys bissetii McClure. *Journ. Arn. Arb.* vii. 180 (1956).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: USA: Georgia: Collected April 22, 1955 at the U.S. Barbour Lathrop Plant Introduction Garden where the plant is cultivated under P.I. 143540. Propagating material of this bamboo, from plants under cultivation at Chengtu, Szechwan province, China, was secured by John Tee-Van and brought to this country late in 1941 for the Plant introduction Section of the U.S. Department of Agriculture., *McClure 21801* (US-2177861–2(2 sheets)).

Illustrations (Books): D.Farrelly, *The Book of Bamboo* (1984), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 228).

Derivation (Clifford & Bostock 2007): in honor of David Andreas Bisset (1892-) United States Garden's Superintendent.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 675 cm long, 25 mm diam., woody. Culm-internodes semiterete, thin-walled, 33 cm long, mid-green, smooth, distally glabrous. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, deciduous, green, concolorous, glabrous, truncate at apex, without auricles or auriculate, setose on shoulders. Culm-sheath ligule fimbriate. Culm-sheath blade triangular, spreading. Leaves cauline. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs setose. Leaf-sheath auricles absent. Ligule a ciliolate membrane, obtuse. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate. Leaf-blade surface scaberulous, rough abaxially. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia, North America.

Country /Province /State. **China** (+). China South Central, China Southeast. **Southeastern USA**. Georgia.

Zhejiang. Sichuan.

Phyllostachys carnea G.H. Ye & Z.P. Wang. *Acta Phytotax. Sin.,* 27(3): 228 (1989).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Hunan: Zhangjiajie, forests on mountain slopes, ca. 800 m, *Z.P. Wang 875002* (HT: NJU).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *caro,* flesh; *-eus*, resembling. Foliage somewhat succulent in texture.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 250 cm long, 14–15 mm diam., woody. Culm-internodes semiterete, thin-walled, 22 cm long, scaberulous, distally mealy. Culm-nodes swollen. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, red, concolorous, glabrous, without auricles, glabrous on shoulders. Culm-sheath ligule 1–1.5 mm high, reddish, ciliolate. Culm-sheath blade linear, erect. Leaves cauline, 2–3 per branch. Leaf-sheath oral hairs setose, deciduous. Ligule a ciliolate membrane, truncate. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades linear, 6–9 cm long, 6–12 mm wide. Leaf-blade surface glabrous. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Hunan.

Phyllostachys chlorina T.H. Wen. *Bull. Bot. Res. North-East. Forest. Inst.,* 2(1): 61 (1982).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Kaihua, *R.F. Gan 80629* (HT: ZJFI).

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Zhejiang.

Phyllostachys circumpilis C.Y.Yao & S.Y.Chen. *Acta Phytotax. Sin.*, 18(2): 178 (1980).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Hangzhou Bot. Gard., 1962, *S.Y. Chen et al. 75015* (HT: HZBG).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 227).

Derivation (Clifford & Bostock 2007): L. *circum*, surrounding; *pilis*, a hair. The nodes are hairy for two or three years following the shedding of the culm-sheaths.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 500–700 cm long, 30–45 mm diam., woody. Culm-internodes semiterete, thin-walled, distally glabrous. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, green and purple, obscurely mottled with last colour, without auricles, setose on shoulders. Culm-sheath ligule 5 mm high, purple, fimbriate. Culm-sheath blade lanceolate, reflexed, wrinkled. Leaves cauline, 3–5 per branch. Leaf-sheath oral hairs setose. Leaf-sheath auricles falcate. Ligule a ciliolate membrane, obtuse. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Zhejiang (+).

Phyllostachys dulcis McClure. *Journ. Wash. Acad. Sci.* v. 285 (1945).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from USA cult. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *McClure 20974*, 29 Apr 1941, Barbour Lathrop Plant Introduction Garden near Savamah Ga.

Illustrations (Books): D.Farrelly, *The Book of Bamboo* (1984), D.Farrelly, *The Book of Bamboo* (1984), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 229).

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 1000 cm long, 57–60 mm diam., woody. Culm-internodes semiterete, thin-walled, 25 cm long, mid-green and white, concolorous or striped, ridged, smooth, distally mealy. Culm-nodes bearded. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, deciduous, yellow and purple, distinctly mottled with last colour, glabrous, concave at apex, auriculate, setose on shoulders. Culm-sheath ligule ciliolate. Culm-sheath blade linear or triangular, spreading or reflexed, wrinkled. Leaves cauline, 2–3 per branch. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs scanty or lacking. Leaf-sheath auricles absent or falcate. Ligule an eciliate membrane or a ciliolate membrane, obtuse. Leaf-blade base with a brief petiole-like connection to sheath, petiole glabrous. Leaf-blades lanceolate, 10 cm long, 16 mm wide. Leaf-blade surface glabrous or pubescent, hairy abaxially. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Flower and Fruit. $2n = 48$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, North America.

Country /Province /State. **China**. China Southeast (+). **Southeastern USA** (+). Georgia.

Fujian, Jiangsu, Zhejiang.

Phyllostachys edulis (Carr.) Lehaie. *Le Bambou,* 1906, 7 (1906).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. **Basionym or Replaced Name**: *Bambusa edulis* Carrière, *Rev. Hort.* 380 (1866)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Est originaire de Chine, *Anonymous s.n.*.

Recent Synonyms: *Phyllostachys heterocycla* (Carr.) Matsum., *Enum. Sci. Names* 213 (1895). *Phyllostachys pubescens* (Carr.) Lehaie, *Le Bambou,* 1906, 7 (1906).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 224).

Derivation (Clifford & Bostock 2007): L. edible. Young shoots edible.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 1000–3500 cm long, woody. Culm-internodes semiterete, thin-walled, 35–50 cm long, yellow or light green, distally pubescent. Lateral branches dendroid. Branch complement two. Culm-sheaths present, deciduous, coriaceous, hispid, with red hairs, setose on shoulders. Culm-sheath blade linear, reflexed, pubescent. Leaves cauline. Leaf-sheaths glabrous on surface or puberulous. Leaf-sheath oral hairs ciliate, deciduous. Ligule a ciliolate membrane, pubescent on abaxial surface. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 8–10 cm long, 8–10 mm wide. Leaf-blade venation with 8 secondary veins, with distinct cross veins. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, fasciculate, with spathaceous subtending bracts, without axillary buds at base of spikelet, with ultimate bract subtending a compact bracteolate fascicle of spikelets, prophyllate below lateral spikelets.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 25–27 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes one the lower absent or obscure, persistent, shorter than spikelet. Upper glume oblong, chartaceous, without keels. Upper glume primary vein ciliolate. Upper glume apex acute.

Florets. Fertile lemma ovate, 20–25 mm long, chartaceous, without keel, 10–11 -veined, more than 3-veined. Lemma surface puberulous. Lemma apex acuminate. Palea chartaceous. Palea surface scabrous. Palea apex dentate, 2 -fid.

Flower and Fruit. Lodicules 3, veined, ciliate. Anthers 3. Stigmas 3. Ovary umbonate. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia, South America.

Country /Province /State. **Caucasus**, **China**, **Eastern Asia**. China South Central, China North-Central, China Southeast. Japan (*), Korea (*), Nansei-Shoto, Taiwan. **Indo-China**, **Malesia**. Vietnam (*). Philippines (*). **Brazil**. Brazil Southeast.

Shaanxi. Anhui, Fujian, Guangdong, Guangxi, Henan, Hunan, Jiangsu, Jiangxi, Zhejiang. Guizhou, Hubei, Sichuan, Yunnan. Distrito Federal, Goiás. Minas Gerais, Rio de Janeiro, Sao Paulo. Paraná, Rio Grande do Sul, Santa Catarina.

Phyllostachys elegans McClure. Journ. Arn. Arb. 37: 183 (1956).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China, Cult in USA, Georgia: McClure 21802 (US holo).

Illustrations (Books): D.Farrelly, *The Book of Bamboo* (1984) (pg.220), D.Farrelly, *The Book of Bamboo* (1984), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 233).

Derivation (Clifford & Bostock 2007): L. elegant. Inflorescence attractive.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 400–800 cm long, 30 mm diam., woody. Culm-internodes semiterete, thin-walled, 12–15 cm long, ridged, distally pruinose. Lateral branches dendroid. Culm-sheaths present, chartaceous, purple, pilose, glabrous on margins, auriculate, setose on shoulders, shoulders with curved hairs. Culm-sheath ligule purple, ciliate. Culm-sheath blade linear, reflexed, wrinkled. Leaves cauline, 2–3 per branch. Leaf-sheath oral hairs setose. Leaf-sheath auricles absent. Ligule a ciliolate membrane, purple. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 4.5–12 cm long, 10–17 mm wide. Leaf-blade surface puberulous, hairy abaxially. Flowering specimens unknown.

Flower and Fruit. $2n = 48$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, North America (+).

Country /Province /State. **China**. Hainan, China Southeast. **Southeastern USA** (+). Georgia.

Fujian (+), Guangdong, Hunan, Zhejiang (+).

Phyllostachys erecta T.H. Wen. *Bull. Bot. Res. North-East. Forest. Inst.*, 2(1): 62 (1982).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Hangzhou, 21 May 1963, *T.H. Wen 63505* (HT: NJU).

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Colombia.

Phyllostachys fimbriligula T.H. Wen. *J. Bamboo Res.,* 2(1): 71 (1983).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Shangyu, *T.H. Wen 82611* (HT: ZJFI).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *fimbriae*, fringe; *ligula,* small tongue. Ligule a fringe of hairs.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 900 cm long, 50 mm diam., woody. Culm-internodes semiterete, thin-walled, 20–25 cm long, distally glabrous. Culm-nodes swollen, glabrous. Lateral branches dendroid. Culm-sheaths present, deciduous, green and brown, distinctly mottled with last colour, pilose, convex at apex, without auricles, setose on shoulders, shoulders with 10 mm long hairs. Leaves cauline, 3–4 per branch. Leaf-sheaths 3.5 cm long, glabrous on surface. Leaf-sheath oral hairs setose, spreading, 13 mm long. Leaf-sheath auricles falcate. Ligule an eciliate membrane, 1 mm long. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 8–15 cm long, 10–18 mm wide. Leaf-blade venation with 8–10 secondary veins, with distinct cross veins. Leaf-blade surface pubescent, hairy abaxially. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, fasciculate, dense, with spathaceous subtending bracts, bracts 25–35 mm long, without axillary buds at base of spikelet, with ultimate bract subtending a compact bracteolate fascicle of spikelets, prophyllate below lateral spikelets.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 25–30 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes two, persistent, shorter than spikelet. Lower glume lanceolate, 10 mm long. Upper glume lanceolate, 20 mm long, chartaceous. Upper glume apex acute.

Florets. Fertile lemma elliptic, 23 mm long, chartaceous, without keel, more than 3-veined. Lemma apex acuminate. Palea chartaceous.

Flower and Fruit. Lodicules 3. Anthers 3, 10 mm long. Stigmas 3. Caryopsis with adherent pericarp.

2*n* = 48 (2 refs TROPICOS).
Distribution (TDWG). Continent. Temperate Asia.
Country /Province /State. **China** (+). China Southeast.
Hunan, Jiangsu, Jiangxi, Zhejiang.

Phyllostachys flexuosa Rivihre & C.Rivihre. *Bull. Soc. Acclim. Ser.* III. v. 758 (1878).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

Basionym or Replaced Name: *Bambusa flexuosa* Carrière *Rev. Hort.* 1870: 320 (1870).

Illustrations (Books): D.Farrelly, *The Book of Bamboo* (1984) (175), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 222).

Derivation (Clifford & Bostock 2007): L. *flecto*, bend; *-osa*, abundance. Inflorescence branches la xand drooping or bent in a zigzag fashion.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 400 cm long, woody. Culm-internodes semiterete, thin-walled. Lateral branches dendroid. Culm-sheaths present. Leaves cauline. Ligule an eciliate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 5–20 cm long, 6–18 mm wide. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, fasciculate, dense, with spathaceous subtending bracts, bracts 12–15 mm long, without axillary buds at base of spikelet, with ultimate bract subtending a compact bracteolate fascicle of spikelets, prophyllate below lateral spikelets.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 20 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes one the lower absent or obscure, persistent, shorter than spikelet. Upper glume linear, 10 mm long, chartaceous, 1-keeled. Upper glume apex acute.

Florets. Fertile lemma elliptic, 15 mm long, chartaceous, without keel, more than 3-veined. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 2 mm long overall. Palea 1 length of lemma, chartaceous.

Flower and Fruit. Lodicules 3. Anthers 3. Stigmas 3. Caryopsis with adherent pericarp.

2*n* = 48 (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe (*), Temperate Asia, North America (+).

Region. **Northern Europe** (*), **Southwestern Europe** (*).

Country /Province /State. : GB Aliens (Ryves et al). : Channel Islands. **China** (+). China South Central, China North-Central, China Southeast. New Caledonia. **Southeastern USA**. Florida.

Hebei, Shaanxi, Shanxi. Anhui, Henan, Jiangsu, Zhejiang. Yunnan.

Phyllostachys glabrata S.Y. Chen & C.Y. Yao. *Acta Phytotax. Sin.,* 18(2): 174 (1980).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Hangzhou Bot. Gard., *S.Y. Chen & C.Y. Yao 75012* (HT: HZBG).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 223).

Derivation (Clifford & Bostock 2007): L. *glaber*, smooth; *-ata,* possessing. Plant glabrous in whole or in part.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 700 cm long, 40 mm diam., woody. Culm-internodes semiterete, thin-walled, scaberulous, distally glabrous. Lateral branches dendroid. Branch complement two, with 1 branch dominant.

Culm-sheaths present, red and purple, obscurely mottled with last colour, glabrous, without auricles, glabrous on shoulders. Culm-sheath ligule brown, ciliolate. Culm-sheath blade linear, reflexed, wrinkled. Leaves cauline, 2 per branch. Leaf-sheath oral hairs setose. Leaf-sheath auricles falcate. Ligule a ciliolate membrane, 2 mm long. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Flower and Fruit. 2*n* = 48 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China** (+). China Southeast.

Fujian, Zhejiang.

Phyllostachys glauca McClure. *Journ. Arn. Arb.* vii. 185 (1956).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *F.A. McClure 21803*, 24 Apr 1955, China: Kiangsu (US-2177866, US-2177895). Cultivated at U.S. Barbour Lathrop Plant Introduction Garden near Savannah, Georgia.

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 209 as var. *glauca*).

Derivation (Clifford & Bostock 2007): L. *glauca*, bluish-green. Whole plant or any of its parts glaucous.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 1000 cm long, 40 mm diam., woody. Culm-internodes semiterete, thin-walled, 40 cm long, glaucous, distally pruinose. Culm-nodes glabrous. Lateral branches dendroid. Culm-sheaths present, green or green and brown, obscurely mottled with last colour, glabrous, truncate at apex, without auricles, glabrous on shoulders. Culm-sheath blade lanceolate, erect or reflexed, 6–7 cm long, acute. Leaves cauline. Leaf-sheath auricles absent. Ligule an eciliate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 7–16 cm long, 10–20 mm wide. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, clustered at the nodes, dense, with spathaceous subtending bracts, bracts 20 mm long, without axillary buds at base of spikelet, with ultimate bract subtending a compact bracteolate fascicle of spikelets, prophyllate below lateral spikelets, leafless between branches.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 25–30 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes one the lower absent or obscure, persistent, shorter than spikelet. Upper glume oblong, 7–8 mm long, chartaceous, 1-keeled. Upper glume apex acute.

Florets. Fertile lemma elliptic, 20 mm long, chartaceous, without keel, 11–13 -veined, more than 3-veined. Lemma apex acuminate. Palea 1 length of lemma, chartaceous.

Flower and Fruit. Lodicules 3. Anthers 3. Stigmas 3. Caryopsis with adherent pericarp.

2*n* = 48 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, North America.

Country /Province /State. **China**. China South Central, China North-Central, China Southeast. **Southeastern USA**. Georgia.

Shaanxi, Shandong, Shanxi. Anhui, Henan, Hunan, Jiangsu, Zhejiang. Yunnan.

Phyllostachys guizhouensis C.S.Chao & J.Q.Zhang. *Bamboo Res.,* 1982(1): 3 (1982).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China, Bi-jie: Zhang Jiquan et al. 79002.

Illustrations (Books): D.Farrelly, *The Book of Bamboo* (1984), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 228).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Guizhou Province, China.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 1600 cm long, 80 mm diam., woody, 59 -noded. Culm-internodes semiterete, thin-walled, 30–41 cm long, mid-green or grey, scaberulous. Culm-nodes flanged. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, yellow and purple, striped, hispid, with tawny hairs, auriculate, with 10 mm high auricles, setose on shoulders. Culm-sheath ligule 2 mm high, purple, ciliate. Culm-sheath blade linear, erect or reflexed. Leaves cauline, 2 per branch. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs setose, erect. Ligule a ciliolate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 8–11 cm long, 10–16 mm wide. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China South Central (+).

Guizhou.

Phyllostachys heteroclada Oliver. *Hook. Icon. pl.* xxiii. t. 2288. (1894).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: (K, US-2876339). ST: *A. Henry 8833*, China: Szechuen (K).

Illustrations (Books): D.Farrelly, *The Book of Bamboo* (1984) (as *P. purpurata*), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 239).

Derivation (Clifford & Bostock 2007): Gk *heteros*, different; *klados*, stem. Fertile or sterile culms morphologically quite different.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, woody. Culm-internodes semiterete, thin-walled. Culm-nodes glabrous or pubescent. Lateral branches dendroid. Culm-sheaths present. Leaves cauline. Ligule an eciliate membrane.

Inflorescence. Synflorescence bractiferous, fasciculate, dense, with spathaceous subtending bracts, bracts 2–2.6 mm long, without axillary buds at base of spikelet, with ultimate bract subtending a compact bracteolate fascicle of spikelets, prophyllate below lateral spikelets.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 12–18 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1–1.5 mm long, glabrous or sparsely hairy, hairy at tip.

Glumes. Glumes two, persistent, shorter than spikelet. Lower glume lanceolate, 4–6 mm long, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein ciliate. Lower glume lateral veins absent or distinct. Lower glume apex acuminate. Upper glume lanceolate, 7–8 mm long, membranous, 1-keeled, 5–7 -veined. Upper glume surface puberulous, hairy above. Upper glume apex acuminate.

Florets. Fertile lemma ovate, 10–17 mm long, chartaceous, without keel, 7–11 -veined, more than 3-veined. Lemma surface pubescent, hairy above. Lemma apex acuminate. Palea 9–13 mm long, chartaceous. Palea keels approximate, ciliolate. Palea surface pubescent, hairy all along or above. Palea apex dentate, 2 -fid. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, obovate, 2–2.5 mm long, veined, ciliate, obtuse. Anthers 3, 4–6 mm long. Stigmas 3. Styles 2 mm long. Ovary umbonate. Caryopsis with adherent pericarp.

$2n = 48$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China South Central, China North-Central, China Southeast.

Gansu, Shaanxi. Anhui, Fujian, Guangdong, Guangxi, Henan, Hunan, Jiangsu, Jiangxi, Zhejiang. Guizhou, Hubei, Sichuan, Yunnan.

Phyllostachys incarnata T.H. Wen. *Bull. Bot. Res. North-East. Forest. Inst.,* 2(1): 65 (1982).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Suichang, *T.H. Wen et al. 80524* (HT: ZJFI).

Recent Synonyms: *Phyllostachys primotina* T.H.Wen, *J. Bamboo Res.,* 3(2): 34 (1984).

Illustrations (Books): D.Farrelly, *The Book of Bamboo* (1984), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 232).

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 400–500 cm long, 30 mm diam., woody. Culm-internodes semiterete, thin-walled, 18 cm long, distally glabrous. Lateral branches dendroid. Culm-sheaths present, coriaceous, glabrous, auriculate, setose on shoulders. Culm-sheath ligule 2 mm high, ciliolate. Culm-sheath blade triangular, reflexed. Leaves cauline, 4–5 per branch. Leaf-sheaths glabrous on surface, outer margin hairy. Leaf-sheath oral hairs setose. Leaf-sheath auricles absent or falcate. Ligule a ciliolate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 7–10 cm long, 10–14 mm wide. Leaf-blade surface puberulous, hairy abaxially. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, fasciculate, with spathaceous subtending bracts, without axillary buds at base of spikelet, with ultimate bract subtending a compact bracteolate fascicle of spikelets, prophyllate below lateral spikelets.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 25–30 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes one the lower absent or obscure or two, persistent, shorter than spikelet. Upper glume oblong, chartaceous, without keels. Upper glume apex acute.

Florets. Fertile lemma ovate, 22 mm long, chartaceous, without keel, more than 3-veined. Lemma surface pubescent. Lemma apex acuminate. Palea 18 mm long, chartaceous. Palea apex dentate, 2 -fid.

Flower and Fruit. Lodicules 3. Anthers 3. Stigmas 3. Ovary glabrous. Caryopsis with adherent pericarp.

$2n = 48$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast (+).

Fujian, Zhejiang.

Phyllostachys iridescens C.Y.Yao & S.Y.Chen. *Acta Phytotax. Sin.,* 18(2): 170 (1980).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Hangzhou Bot. Gard., *C.Y. Yao & Y. Chen 75013* (HT: HZBG).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 223).

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 800 cm long, 45 mm diam., woody. Culm-internodes semiterete, thin-walled, striate, distally mealy. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, red and purple, distinctly mottled with last colour, glabrous, without auricles, glabrous on shoulders. Culm-sheath ligule purple, ciliate. Culm-sheath blade linear, reflexed, wrinkled. Leaves cauline, 2 per branch. Leaf-sheath oral hairs scanty. Leaf-sheath auricles absent. Ligule a ciliolate membrane, purple. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Flower and Fruit. 2*n* = 48 (2 refs TROPICOS).
Distribution (TDWG). Continent. Temperate Asia.
Country /Province /State. **China** (+). China Southeast.
Anhui, Jiangsu, Zhejiang.

Phyllostachys kwangsiensis W.Y. Hsiung, Q.H. Dai & J.K.Liu. *Acta Phytotax. Sin.*, 18(1): 34 (1980).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China, Guangxi, Rongan: Hsiung 7647.

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 224).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Guangxi Province, China.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 800–1600 cm long, 40–100 mm diam., woody. Culm-internodes semiterete, thin-walled, 35 cm long, yellow and mid-green, distally pruinose and pubescent. Culm-nodes without obvious supra-nodal ridge. Lateral branches dendroid. Culm-sheaths present, chartaceous, brown or purple, pilose, without auricles, setose on shoulders. Culm-sheath ligule purple, ciliate. Culm-sheath blade linear or lanceolate, reflexed, wrinkled. Leaves cauline, 1–4 per branch. Leaf-sheath oral hairs setose. Ligule a ciliolate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 10–15 cm long, 8–15 mm wide. Leaf-blade surface puberulous, sparsely hairy, hairy on both sides.

Inflorescence. Synflorescence bractiferous, fasciculate, 10 cm long, with spathaceous subtending bracts, without axillary buds at base of spikelet, with ultimate bract subtending a compact bracteolate fascicle of spikelets (2–3 spikelets), prophyllate below lateral spikelets.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes pubescent.

Glumes. Glumes one the lower absent or obscure, persistent, shorter than spikelet. Upper glume oblong, chartaceous, without keels. Upper glume surface puberulous. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 20–25 mm long, chartaceous, more than 3-veined. Lemma surface hispidulous. Lemma apex acuminate. Palea chartaceous.

Flower and Fruit. Lodicules 3, 4 mm long. Anthers 3, 7–8 mm long. Stigmas 2.

2*n* = 48 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast (+).

Guangdong, Guangxi, Hunan, Jiangsu, Zhejiang.

Phyllostachys lofushanensis Z.P. Wang, C.H. Hu & G.H. Ye. *J. Nanjing Univ., Nat. Sci. Ed.* 1981(2): 258, f. 2 (1981).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Guangdong: Luofu Shan, montane forests, ca. 800 m, *C.H. Hu et al. 198029* (HT: NJU).

Illustrations (Books): D.Farrelly, *The Book of Bamboo* (1984), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 236).

Derivation (Clifford & Bostock 2007): L. *-ensis,* denoting origin. From Luofu Shan, Guandong Province, China.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 200 cm long, 20 mm diam., woody. Culm-internodes semiterete, grey, distally pruinose. Culm-nodes with distinct supra-nodal ridge, pubescent. Lateral branches dendroid. Culm-sheaths

present, chartaceous, pubescent, hairy at the base, truncate at apex, auriculate, setose on shoulders. Culm-sheath ligule ciliate. Culm-sheath blade linear, erect, flat or wrinkled. Leaves cauline, (1–)2 per branch. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs scanty, erect. Leaf-sheath auricles absent. Ligule an eciliate membrane, truncate. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 7–10 cm long, 10–16 mm wide. Leaf-blade surface glabrous. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Guangdong.

Phyllostachys makinoi Hayata. *Ic. Pl Formos.* v. 250 (1915).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from Taiwan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Taiwan: in partibus mediis Formosae ubique culta, (HT: ?).

Illustrations (Books): C-C Hsu,*Taiwan Grasses* (1975) (729, Pl. 1492), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 217).

Derivation (Clifford & Bostock 2007): in honor of Tomitaro Makino (1861–1957) Japanese botanist.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 1500–1800 cm long, 70–90 mm diam., woody. Culm-internodes semiterete, thick-walled, 12–40 cm long, glaucous, smooth, distally pruinose. Culm-nodes with distinct supra-nodal ridge. Lateral branches dendroid. Branch complement two. Culm-sheaths present, chartaceous, brown and purple, distinctly mottled with last colour, glabrous. Culm-sheath ligule 3 mm high, ciliate. Culm-sheath blade linear, reflexed. Leaves cauline, 2–3 per branch. Leaf-sheaths 3–6 cm long, glabrous on surface. Leaf-sheath oral hairs setose, erect. Ligule a ciliolate membrane, 2–3 mm long. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.4–0.6 cm long. Leaf-blades lanceolate, 9–11 cm long, 13–18 mm wide. Leaf-blade venation with distinct cross veins. Leaf-blade surface glabrous, hairless except near base. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, fasciculate, with spathaceous subtending bracts, bracts 15–18 mm long, without axillary buds at base of spikelet, with ultimate bract subtending a compact bracteolate fascicle of spikelets or with principal spatheoles embracing a compact fascicle of racemes, each subtended by a subsidiary bract, prophyllate below lateral spikelets.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1–2 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 30 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes glabrous.

Glumes. Glumes both absent or obscure or one the lower absent or obscure, persistent, shorter than spikelet. Upper glume lanceolate, 10–20 mm long, chartaceous. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 18–20 mm long, chartaceous, without keel, 15–17 -veined, more than 3-veined. Lemma lateral veins with cross-veins. Lemma apex acuminate. Palea lanceolate, 1 length of lemma, chartaceous, 12 -veined, 2-keeled. Palea keels ciliolate, adorned above.

Flower and Fruit. Lodicules 3, lanceolate, 2 mm long, ciliate, acute. Anthers 3, 10 mm long. Stigmas 3. Caryopsis with adherent pericarp, apiculate.

Distribution (TDWG). Continent. Temperate Asia, North America.

Country /Province /State. **China**, **Eastern Asia**. China Southeast. Japan (*), Nansei-Shoto, Taiwan.

Fujian.

Phyllostachys mannii Gamble. *Ann. Bot. Gard. Calc.* vii. 28. (1896).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Cultivated at Shillong, Kashia Hills and said to have come from the Naga Hills, 1889, *G.Mann*cultivated.

Recent Synonyms: *Phyllostachys helva* T.H.Wen, *Bull. Bot. Res. North-East. Forest. Inst.*, 2(1): 64 (1982).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 226).

Derivation (Clifford & Bostock 2007): in honor of Gustav Mann (1836–1916) German botanist and plant collector employed as gardener at Royal Botanic Gardens, Kew, England.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 1000–1200 cm long, 100–200 mm diam., woody. Culm-internodes semiterete, thin-walled, light green. Culm-nodes glabrous. Lateral branches dendroid. Culm-sheaths present, 15–25 cm long, hispid, with appressed hairs or erect hairs, with black hairs, without auricles. Culm-sheath blade linear, reflexed. Leaves cauline. Leaf-sheaths keeled, outer margin hairy. Leaf-sheath oral hairs scanty. Leaf-sheath auricles falcate. Ligule an eciliate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 8–12 cm long, 12–16 mm wide, glaucous. Leaf-blade surface hispid, hairy abaxially. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, fasciculate, with spathaceous subtending bracts, bracts 3.5 mm long, with ultimate bract subtending a compact bracteolate fascicle of spikelets, prophyllate below lateral spikelets.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 20–25 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes two, persistent, shorter than spikelet. Upper glume oblong, chartaceous, 2-keeled. Upper glume apex acute.

Florets. Fertile lemma ovate, 10–15 mm long, chartaceous, without keel, more than 3-veined. Lemma lateral veins prominent. Lemma apex acute. Palea 1 length of lemma, chartaceous. Palea keels ciliate. Palea apex with excurrent keel veins.

Flower and Fruit. Lodicules 3, veined, ciliate. Anthers 3, anther tip with extended connective. Stigmas 3. Ovary umbonate. Caryopsis with adherent pericarp.

$2n = 4848$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China** (+). China South Central, China Southeast. **Indian Subcontinent**, **Indo-China**. Assam, India. Myanmar.

Shaanxi. Henan, Jiangsu, Zhejiang. Guizhou, Sichuan, Yunnan. Arunachal Pradesh. Assam, Meghalaya, Nagaland. West Bengal.

Phyllostachys meyeri McClure. *Journ. Wash. Acad. Sci.* v. 286 (1945).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *McClure 20984*, 29 Apr 1941, Barbour Lathrop Plant Introduction Garden, near Savannah, Ga.

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 219).

Derivation (Clifford & Bostock 2007): in honor of Frank N. Meyer (-), United States plant introduction officer.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 1000 cm long, 45 mm diam., woody. Culm-internodes semiterete, thick-walled, 35 cm long, distally mealy. Lateral branches dendroid. Culm-sheaths present, green and purple, obscurely mottled with last colour, glabrous, convex at apex, without auricles, glabrous on shoulders. Culm-sheath ligule ciliolate. Culm-sheath blade linear, erect, scabrid. Leaves cauline, 3 per branch. Leaf-sheaths glabrous on surface or pubescent. Leaf-sheath oral hairs lacking or ciliate. Leaf-sheath auricles absent or falcate. Ligule an eciliate membrane. Leaf-blade base with a brief petiole-like connection to sheath, petiole

pubescent. Leaf-blades lanceolate, 16 cm long, 30 mm wide. Leaf-blade surface pilose, hairy abaxially. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, fasciculate, dense, with spathaceous subtending bracts, bracts 20–25 mm long, without axillary buds at base of spikelet, with ultimate bract subtending a compact bracteolate fascicle of spikelets, prophyllate below lateral spikelets.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 25 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes two, persistent, shorter than spikelet. Lower glume lanceolate, 4 mm long. Upper glume oblong, 10 mm long, chartaceous, 1-keeled. Upper glume apex acute.

Florets. Fertile lemma elliptic, 17 mm long, chartaceous, without keel, more than 3-veined. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 1–2 mm long overall. Palea 1 length of lemma, chartaceous.

Flower and Fruit. Lodicules 3. Anthers 3. Stigmas 3. Caryopsis with adherent pericarp.

$2n = 48$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, North America.

Country /Province /State. **China**. China South Central, China Southeast. **Southeastern USA**. Georgia.

Anhui (+), Guangxi (+), Henan (+), Hunan, Jiangsu (+), Jiangxi (+), Zhejiang (+). Hubei (+), Yunnan (+).

Phyllostachys nidularia Munro. *Gard. Chron.* II. 773, 774. (1876).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from Japan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *E.O. Fenzi 4*, 1868, Cultivated in Italy from material collected in Japan (US-2876336).

Illustrations (Books): D.Farrelly, *The Book of Bamboo* (1984) (175), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 236).

Derivation (Clifford & Bostock 2007): L. *nidus*, nest; *-ulus*, diminutive; *-aria*, pertaining to. Resembling a small bird's nest in habit.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 100–500 cm long, 3–13 mm diam., woody. Culm-internodes semiterete, thin-walled. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, 12–17 cm long, 3 times as long as wide, glabrous, convex at apex, auriculate, with acute auricles, with 7–13 mm wide auricles, setose on shoulders. Culm-sheath blade triangular, 3–6 cm long. Leaves cauline. Leaf-sheath oral hairs setose, deciduous. Leaf-sheath auricles absent. Ligule an eciliate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 6–11 cm long, 7–10 mm wide. Leaf-blade venation with distinct cross veins. Leaf-blade surface glabrous. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, fasciculate, dense, with spathaceous subtending bracts, bracts 6–10 mm long, without axillary buds at base of spikelet, with ultimate bract subtending a compact bracteolate fascicle of spikelets, prophyllate below lateral spikelets.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 8–10 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes two, persistent, shorter than spikelet. Lower glume lanceolate, 3–4 mm long. Upper glume lanceolate, 4–5 mm long, chartaceous. Upper glume apex acute.

Florets. Fertile lemma elliptic, 7–9 mm long, chartaceous, without keel, 9 -veined, more than 3-veined. Lemma surface pilose, hairy above. Lemma margins ciliate. Lemma apex acuminate. Palea chartaceous. Palea surface pilose, hairy on back and on flanks.

Flower and Fruit. Lodicules 3, 1.5 mm long. Anthers 3, 6 mm long. Stigmas 3. Caryopsis with adherent pericarp.

2*n* = 48 (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe (*), Temperate Asia.

Region. **Northern Europe**.

Country /Province /State. : GB Aliens (Ryves et al). **China** (+). China South Central, China North-Central, China Southeast. **Mesoamerica**.

Shaanxi. Guangdong, Guangxi, Henan, Jiangxi, Zhejiang. Hubei, Yunnan.

Phyllostachys nigella T.H. Wen. *Bull. Bot. Res. North-East. Forest. Inst.*, 2(1): 66 (1982).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Fuyang, *T.H. Wen 62510* (HT: ZJFI).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 237).

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 700 cm long, 30 mm diam., woody. Culm-internodes semiterete, thin-walled, 18–22 cm long, mid-green. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, deciduous, brown and purple, distinctly mottled with last colour, pilose, auriculate, with unequal auricles, glabrous on shoulders. Culm-sheath ligule 2 mm high, purple, ciliolate. Culm-sheath blade triangular, reflexed, flat or wrinkled, pubescent. Leaves cauline, 4–6 per branch. Leaf-sheaths pubescent, outer margin hairy. Leaf-sheath oral hairs setose. Leaf-sheath auricles falcate, 12 mm long. Ligule a ciliolate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 5–10 cm long, 8–18 mm wide. Leaf-blade surface scabrous, rough adaxially, pubescent, hairy abaxially. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Flower and Fruit. 2*n* = 4848 (2 refs TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast (+).

Zhejiang.

Phyllostachys nigra (Lodd.) Munro. *Trans. Linn. Soc.* xxvi. 38 (1868).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Indonesia. **Basionym or Replaced Name**: *Bambusa nigra* Lodd. ex Lindl., *Penny Cyclop.* 3: 357 (1835). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: East Indies, Cult. in Britain: Herb. Lindley (CGE holo).

Recent Synonyms: *Phyllostachys puberula* (Miq.) Munro, *Gard. Chron.* n.s., 6: 773–774 (1876).

Illustrations (Books): C-C Hsu,*Taiwan Grasses* (1975) (731, Pl. 1493), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (341), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (356, Fig 48), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), D.Farrelly, *The Book of Bamboo* (1984), D.Farrelly, *The Book of Bamboo* (1984) (171 & 172), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 230, 231 as var. *nigra*, Fig. 231, 232 as var. *henonsis*).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. black. Culms or spikelets dark-colored culms.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 300–700 cm long, 20–40 mm diam., woody. Culm-internodes semiterete, thin-walled, 4–30 cm long, black, distally pubescent (when young). Culm-nodes with distinct supra-nodal ridge. Lateral branches dendroid. Branch complement two, in a horizontal line, with 1 branch dominant, thinner

than stem. Culm-sheaths present, deciduous, chartaceous, pubescent, with dark brown hairs, auriculate, setose on shoulders. Culm-sheath blade triangular, wrinkled. Leaves cauline, 2–3 per branch. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs setose, dark. Leaf-sheath auricles falcate. Ligule a ciliolate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 6–12 cm long, 10–15 mm wide. Leaf-blade venation with distinct cross veins. Leaf-blade margins scabrous.

Inflorescence. Synflorescence bractiferous, fasciculate, dense, with spathaceous subtending bracts, bracts 10–20 mm long, without axillary buds at base of spikelet, with ultimate bract subtending a compact bracteolate fascicle of spikelets, prophyllate below lateral spikelets.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1–4 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 18–25 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes one the lower absent or obscure, persistent, shorter than spikelet. Upper glume oblong, 0.6–0.7 length of adjacent fertile lemma, chartaceous, without keels, 7–9 -veined. Upper glume primary vein ciliolate. Upper glume margins ciliolate. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 19 mm long, chartaceous, without keel, 9 -veined, more than 3-veined. Lemma surface pubescent. Lemma apex acuminate. Palea 0.5–0.6 length of lemma, chartaceous, 6 -veined. Palea surface pubescent, hairy on back or on flanks.

Flower and Fruit. Lodicules 3, 3.5 mm long, veined, ciliate. Anthers 3, 7 mm long. Stigmas 3. Ovary umbonate. Caryopsis with adherent pericarp.

$2n = 48$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe (*), Africa, Temperate Asia, Tropical Asia, Australasia, Pacific, North America (+), South America (+).

Region. **Northern Europe**.

Country /Province /State. : GB Aliens (Ryves et al). **Northern Africa**, **Western Indian Ocean**. Mauritius (+), Seychelles. **Caucasus**, **China**, **Eastern Asia** (*). China South Central (+), China North-Central (+), China Southeast, Tibet (+). Japan, Korea, Nansei-Shoto. **Indian Subcontinent** (*), **Indo-China** (*), **Malesia**. India. Vietnam. Java, Philippines (*). **Australia** (*), **New Zealand** (*). New South Wales (*). New Zealand North I. **North-central Pacific**. Hawaii (*). **Brazil**, **Southern South America**. Brazil West Central, Brazil Southeast. Argentina Northeast.

Gansu, Shaanxi. Anhui (+), Fujian (+), Guangdong (+), Guangxi (+), Henan (+), Hunan, Jiangsu (+), Jiangxi (+), Zhejiang (+). Hubei, Sichuan, Yunnan. Coast. Distrito Federal (*). Rio de Janeiro, Sao Paulo. Entre Rios.

Phyllostachys nuda McClure. *Journ. Wash. Acad. Sci.* v. 288 (1945).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *McClure 20992*, 19 May 1941, USA: near Glenn Dale, Md. originally introduced from China.

Illustrations (Books): C-C Hsu,*Taiwan Grasses* (1975) (732, Pl. 1494), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 220).

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 550 cm long, 30 mm diam., woody. Culm-internodes semiterete, thin-walled, 32 cm long, ridged, smooth, distally mealy. Culm-nodes bearded. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, deciduous, coriaceous, brown and purple, distinctly mottled with last colour, antrorsely scabrous, without auricles, glabrous on shoulders. Culm-sheath ligule ciliate. Culm-sheath blade linear or lanceolate, erect, flat or wrinkled. Leaves cauline, 3–4 per branch. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs lacking. Leaf-sheath auricles absent. Ligule a ciliolate membrane, scaberulous on abaxial surface, obtuse. Leaf-blade base with a brief petiole-like connection to sheath, petiole glabrous. Leaf-blades lanceolate, 15 cm long, 22 mm wide. Leaf-blade surface scabrous, rough abaxially, glabrous. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Flower and Fruit. 2*n* = 48 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, North America.

Country /Province /State. **China**, **Eastern Asia**. China Southeast (+). Taiwan (+). **Southeastern USA**. Maryland.

Shaanxi (+). Anhui (+), Fujian (+), Hunan (+), Jiangsu (+), Jiangxi (+), Zhejiang (+).

Phyllostachys parvifolia C.D.Chu & H.Y.Chou. *Acta Phytotax. Sin.,* 18(2): 190 (1980).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Anji, *C.D. Chu et al. 75123* (HT: NJFU).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 238).

Derivation (Clifford & Bostock 2007): L. *parvus*, small; *folium*, leaf. Leaf-blades small.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 800 cm long, 50 mm diam., woody. Culm-internodes semiterete, thin-walled, striate, distally mealy. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, brown, concolorous, glabrous, without auricles, glabrous on shoulders. Culm-sheath ligule purple, ciliolate. Culm-sheath blade triangular, erect, wrinkled. Leaves cauline, 2(–3) per branch. Leaf-sheath oral hairs scanty. Leaf-sheath auricles absent. Ligule a ciliolate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 3.5–6.2 cm long. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Anhui, Zhejiang (+).

Phyllostachys pinyanensis T.H. Wen. *Bull. Bot. Res. North-East. Forest. Inst.,* 2(1): 67 (1982).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Pingyang, April 1951, *K.M. Feng 77025* (HT: ZJFI).

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Zhejiang.

Phyllostachys platyglossa C.P.Wang & Z.H.Yu. *Acta Phytotax. Sin.,* 18(2): 184 (1980).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Anji Xian, *Z.H. Yu et al. 75052* (HT: NJU).

Illustrations (Books): D.Farrelly, *The Book of Bamboo* (1984), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 229).

Derivation (Clifford & Bostock 2007): Gk *platys*, broad; *glossa*, tongue. Ligules broad truncate.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 800 cm long, 35 mm diam., woody. Culm-internodes semiterete, thin-walled, mid-green, distally mealy. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, brown and purple, distinctly mottled with last colour, hispid, glabrous on margins, auriculate, setose on shoulders. Culm-sheath ligule purple, ciliate. Culm-sheath blade linear, reflexed, wrinkled. Leaves cauline, 2 per branch. Leaf-sheath oral hairs scanty. Ligule a ciliolate membrane, truncate. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Flower and Fruit. 2*n* = 48 (1 ref TROPICOS).
Distribution (TDWG). Continent. Temperate Asia.
Country /Province /State. **China**. China Southeast (+).
Jiangsu, Zhejiang.

Phyllostachys praecox C.D.Chu & C.S.Chao. *Acta Phytotax. Sin.,* 18(2): 176 (1980).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).
TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Deqing Xian, *C.S. Chao & H.Y. Zou 74013* (HT: Nanjing Tech. Col. For. Prod.).
Illustrations: None found.
Derivation (Clifford & Bostock 2007): L. early. Flowering early in the spring.
Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.
Flower and Fruit. 2*n* = 46 (1 ref TROPICOS), or 48 (2 refs TROPICOS).
Distribution (TDWG). Continent. Temperate Asia.
Country /Province /State. **China**. China South Central, China Southeast.
Anhui, Fujian, Hunan, Jiangsu, Jiangxi, Zhejiang. Yunnan.

Phyllostachys prominens W.Y. Xiong. *Acta Phytotax. Sin.,* 18(2): 182 (1980).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).
TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Hangzhou Bot. Gard, *C.S. Chao 74181* (HT: NFU).
Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 237).
Derivation (Clifford & Bostock 2007): L. *promineo*, jut out. Nodes conspicuous.
Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.
Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 1000 cm long, 70 mm diam., woody. Culm-internodes semiterete, thin-walled, distally glabrous. Culm-nodes swollen. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, red and brown, distinctly mottled with last colour, pilose, auriculate, ciliate on shoulders. Culm-sheath ligule purple, ciliate. Culm-sheath blade linear, reflexed, wrinkled. Leaves cauline, 3–4 per branch. Leaf-sheath oral hairs scanty. Leaf-sheath auricles falcate. Ligule a ciliolate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.
Flower and Fruit. 2*n* = 48 (1 ref TROPICOS).
Distribution (TDWG). Continent. Temperate Asia.
Country /Province /State. **China** (+). China Southeast.
Jiangsu, Zhejiang.

Phyllostachys propinqua McClure. *Journ. Wash. Acad. Sci.* v. 289 (1945).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).
TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *McClure 20976*, 29 Apr 1941, USA: Barbour Lathrop Plant Introduction Garden, near Savannah, Ga. introduced into USA from China.
Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 221).
Derivation (Clifford & Bostock 2007): L. near to. Similar to another species.
Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.
Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 700 cm long, 30 mm diam., woody. Culm-internodes semiterete, thin-walled, 25 cm long, smooth, distally glabrous. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, deciduous, coriaceous, brown and purple, distinctly mottled with last colour, glabrous, without auricles, glabrous on shoulders. Culm-sheath ligule

ciliolate. Culm-sheath blade linear, reflexed, wrinkled, glabrous on surface. Leaves cauline, 3–5 per branch. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs scanty or lacking. Leaf-sheath auricles absent or falcate. Ligule a ciliolate membrane, pubescent on abaxial surface, obtuse. Leaf-blade base with a brief petiole-like connection to sheath, petiole glabrous. Leaf-blades lanceolate, 13.5 cm long, 16 mm wide. Leaf-blade surface hirsute, sparsely hairy, hairy abaxially. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Flower and Fruit. 2*n* = 48 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, North America.

Country /Province /State. **China**. China South Central (+), China Southeast (+). **Southeastern USA**. Georgia.

Anhui, Fujian, Guangxi, Henan, Jiangsu, Jiangxi, Zhejiang. Guizhou, Hubei, Yunnan.

Phyllostachys purpureomaculata W.T. Lin & Z.J. Feng. *Acta Phytotax. Sin.,* 30(6): 558 (1992).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Guangdong: Guangning, Jiuzitang, 27 April 1990, *Z.J. Feng 37001* (HT: SCAC)

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Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *purpureus*, purple; *macula*, spot; *-ata*, indicating possession. Culm internodes purple-spotted.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Guangdong.

Phyllostachys reticulata (Rupr.) K. Koch. *Dendrologie* 2(2): 356 (1873).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from Japan. **Basionym or Replaced Name**: *Bambusa reticulata* Rupr., *Bambuseae* 58 (1839)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: V. sp. japonica (veros c. Nangasaki lecta), *Langsdorff s.n.*.

Recent Synonyms: *Phyllostachys lithophila* Hayata, *Ic. Pl. Formos.* 6: 141 (1916).

Illustrations (Books): D.Farrelly, *The Book of Bamboo* (1984), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 234).

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 300–400 cm long, 12–18 mm diam., woody. Culm-internodes semiterete, thin-walled, yellow, smooth. Culm-nodes with distinct supra-nodal ridge, glabrous. Lateral branches dendroid. Culm-sheaths present, deciduous, 15–25 cm long, 5–6 times as long as wide, chartaceous, truncate at apex, setose on shoulders. Culm-sheath ligule dentate. Culm-sheath blade linear, reflexed. Leaves cauline. Leaf-sheaths loose, keeled, striately veined, glabrous on surface, outer margin hairy. Leaf-sheath oral hairs ciliate. Leaf-sheath auricles falcate. Ligule an eciliate membrane, obtuse. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.2–0.5 cm long, petiole pubescent. Leaf-blades lanceolate or oblong, 7.5–10 cm long, 12–18 mm wide, mid-green and glaucous, discolorous with last colour beneath. Leaf-blade midrib conspicuous. Leaf-blade venation with 10–12 secondary veins, with distinct cross veins. Leaf-blade surface pubescent, hairy abaxially. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, fasciculate, dense, with spathaceous subtending bracts, without axillary buds at base of spikelet, with ultimate bract subtending a compact bracteolate fascicle of spikelets, prophyllate below lateral spikelets.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1–4 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally

compressed, 25–30 mm long, 3–5 mm wide, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes one the lower absent or obscure, persistent, shorter than spikelet. Upper glume oblong, 7–8 mm long, chartaceous, 1-keeled. Upper glume primary vein ciliolate. Upper glume apex acute.

Florets. Fertile lemma ovate, 20 mm long, chartaceous, without keel, 11–13 -veined, more than 3-veined. Lemma apex acuminate. Palea 1 length of lemma, chartaceous. Palea keels ciliolate. Palea surface scaberulous. Palea apex with excurrent keel veins.

Flower and Fruit. Lodicules 3, veined, ciliate. Anthers 3, 10 mm long, anther tip with extended connective. Stigmas 3. Styles 25–30 mm long. Ovary umbonate. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **Caucasus**, **Western Asia**, **China**, and **Eastern Asia**. Nansei-Shoto. **Indian Subcontinent** and **Indo-China**. Bangladesh. Laos, Vietnam.

Phyllostachys rivalis H.R. Zhao & A.T. Liu. *Acta Phytotax. Sin.,* 18(2): 189 (1980).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Guangdong: Nanxiong Xian, *Z.P. Wang et al. 780050* (HT: NJU).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 238).

Derivation (Clifford & Bostock 2007): L. pertaining to brooks. Growing along river banks.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 400 cm long, 15–20 mm diam., woody. Culm-internodes semiterete, thin-walled, light green or brown, striate, distally pubescent. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, brown and purple, striped, hairy on margins, without auricles, glabrous on shoulders. Culm-sheath ligule 0.8–1 mm high, ciliate. Culm-sheath blade linear or triangular, erect. Leaves cauline, 3–5 per branch. Leaf-sheath oral hairs setose, deciduous. Leaf-sheath auricles absent. Ligule a ciliolate membrane, 0.5 mm long, purple. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 4.6–7.2 cm long. Leaf-blade surface pubescent, hairy abaxially. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Fujian, Guangdong, Zhejiang.

Phyllostachys robustiramea S.Y. Chen & C.Y. Yao. *Acta Phytotax. Sin.,* 18(2): 188 (1980).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Hangzhou Bot. Gard., 1962, *S.Y. Chen et al. 75022* (HT: Hangzhou Bot. Gard).

Illustrations (Books): D.Farrelly, *The Book of Bamboo* (1984), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 227).

Derivation (Clifford & Bostock 2007): L. *robustus*, robust; *ramus*, branch. Lateral branches well-developed.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 1000 cm long, 60 mm diam., woody. Culm-internodes semiterete, thin-walled, purple, distally glabrous. Culm-nodes with distinct supra-nodal ridge. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, green, pilose, without auricles or auriculate, setose on shoulders. Culm-sheath ligule 2–3 mm high, green, ciliate. Culm-sheath blade linear or triangular, erect, wrinkled. Leaves cauline, 2 per branch. Leaf-sheath oral hairs setose, 4–6 mm long. Leaf-sheath auricles falcate. Ligule a ciliolate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast (+).
Anhui, Zhejiang.

Phyllostachys rubicunda T.H. Wen. *Acta Phytotax. Sin.*, 16(4): 98 (1978).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Anji, valley woods, May 1961, *T.H. Wen 61528* (HT: PE).

Recent Synonyms: *Phyllostachys retusa* T.H.Wen, *Bull. Bot. Res. North-East. Forest. Inst.,* 2(1): 69 (1982).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 240).

Derivation (Clifford & Bostock 2007): L. red. Stems and sheaths at first reddish.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 600 cm long, 27–45 mm diam., woody. Culm-internodes semiterete, thin-walled, mid-green, distally glabrous. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, green and purple, striped, hairy on margins, without auricles, glabrous on shoulders. Culm-sheath ligule 1–1.5 mm high, ciliate. Culm-sheath blade linear or triangular, erect. Leaves cauline, 1–3 per branch. Leaf-sheath oral hairs setose. Leaf-sheath auricles absent. Ligule a ciliolate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast (+).
Fujian, Jiangsu, Zhejiang.

Phyllostachys rubromarginata McClure. *Lingnan Univ. Sci. Bull.,* No. 9, 44 (1940).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *H. Fung 20545*, 5 Mar 1933, China: Kwangsi Chuang (Lingnan University Herbarium; IT: US-22770). ST: *H.Fung 20894*,.

Recent Synonyms: *Sinobambusa fimbriata* T.H. Wen, *J. Bamboo Res.*, 7(1): 25 (1988). *Phyllostachys aristata* W.T.Lin, *Lingnan Univ. Sci. Bull.,* No. 9, 44 (1940).

Illustrations (Books): D.Farrelly, *The Book of Bamboo* (1984) (175), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 235, 236).

Derivation (Clifford & Bostock 2007): L. *ruber*, red; *marginis*, edge; *-ata*, possessing. Ligule and oral setae red.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 150–200 cm long, woody. Culm-internodes semiterete, thin-walled, distally glabrous. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, glabrous or pilose, hairy at the base, truncate at apex, without auricles, glabrous on shoulders. Culm-sheath ligule ciliate. Culm-sheath blade linear or triangular, erect, glabrous on surface. Leaves cauline. Leaf-sheaths glabrous on surface or pilose. Leaf-sheath oral hairs ciliate, erect or spreading. Leaf-sheath auricles falcate. Ligule a ciliolate membrane. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.2–0.5 cm long, petiole pubescent. Leaf-blades lanceolate, 4–12 cm long, 11–25 mm wide. Leaf-blade surface glabrous, hairless except near base. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia, North America, South America.

Country /Province /State. **China**. China South Central, China Southeast. **Mesoamerica**. Guatemala, Honduras.

Guangxi, Henan (+). Guizhou.

Phyllostachys rutila T.H. Wen. *Bull. Bot. Res. North-East. Forest. Inst.*, 2(1): 70 (1982).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Quxian, May 1964, *T.H. Wen 64531* (HT: ZJFI).

Illustrations (Books): D.Farrelly, *The Book of Bamboo* (1984), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 229).

Derivation (Clifford & Bostock 2007): L. red. Spikelets purplish-red.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 1100 cm long, 30–50 mm diam., woody. Culm-internodes semiterete, thin-walled, 24 cm long, mid-green, distally pruinose. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, yellow and red, striped and distinctly mottled with last colour, glabrous on margins, auriculate, with 4–9 mm high auricles, setose on shoulders, shoulders with 20 mm long hairs. Culm-sheath ligule 5–6 mm high, purple, ciliolate. Culm-sheath blade triangular, erect or reflexed, flat or wrinkled. Leaves cauline, 1–2 per branch. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs lacking. Leaf-sheath auricles erect. Ligule a ciliolate membrane, truncate. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 10–13 cm long, 15–20 mm wide. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast (+).

Jiangsu, Zhejiang.

Phyllostachys sapida T.P. Yi. *J. Bamboo Res.*, 10(4): 21 (1991).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Sichuan: Peng Xian, 1500 m alt., 18 May 1988, *Yi Tong-pei 88048* (HT: Herb. Forestry School of Sichuan Province).

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China South Central, China Southeast.

Anhui, Fujian, Guangxi, Henan, Jiangsu, Jiangxi, Zhejiang. Guizhou, Hubei, Yunnan.

Phyllostachys shuchengensis S.C. Li & S.H. Wu. *J. Anhui Agric. Coll.,* 1981(2): 50 (1981).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Anhui:,.

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 1000 cm long, 35 mm diam., woody. Culm-internodes semiterete, thin-walled, 35 cm long, distally pruinose. Culm-nodes pubescent. Lateral branches dendroid. Culm-sheaths present, chartaceous, green, pubescent, hairy at the base, without auricles, glabrous on shoulders. Culm-sheath ligule 2 mm high, purple, ciliolate. Culm-sheath blade linear, spreading or reflexed. Leaves cauline, 1–2 per branch. Leaf-sheath oral hairs setose, erect or spreading. Leaf-sheath auricles absent. Ligule a ciliolate membrane, purple. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades linear or lanceolate or oblong, 6–17 cm long, 12–22 mm wide. Leaf-blade surface scabrous (on midrib), rough abaxially.

Inflorescence. Synflorescence bractiferous, fasciculate, with spathaceous subtending bracts, without axillary buds at base of spikelet, with ultimate bract subtending a compact bracteolate fascicle of spikelets (1–4 spikelets), prophyllate below lateral spikelets.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1–4 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes glabrous or pubescent.

Glumes. Glumes one the lower absent or obscure, persistent, shorter than spikelet. Upper glume oblong, chartaceous, without keels. Upper glume apex acute.

Florets. Fertile lemma lanceolate, chartaceous, more than 3-veined. Lemma apex acuminate. Palea chartaceous. Palea surface puberulous.

Flower and Fruit. Lodicules 3, elliptic, 4 mm long. Anthers 3, 8–10 mm long. Stigmas 3.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China South Central (+), China Southeast (+).

Anhui, Guangdong, Guangxi, Henan, Jiangxi, Zhejiang. Yunnan.

Phyllostachys stimulosa H.R. Zhao & A.T. Liu. *Acta Phytotax. Sin.,* 18(2): 186 (1980).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Anji, *Y? 75054* (HT: NJU).

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 800 cm long, 34 mm diam., woody. Culm-internodes semiterete, thin-walled, smooth or scaberulous, distally glabrous. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, green and purple, striped, hispid, auriculate, ciliate on shoulders. Culm-sheath ligule 1.5 mm high, ciliolate. Culm-sheath blade triangular, erect. Leaves cauline, 2 per branch. Ligule a ciliolate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Anhui, Zhejiang.

Phyllostachys subulata W.T. Lin & Z.M. Wu. *J. Bamboo Res.,* 13(2): 16 (1994).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Guangdong: Lianping, Xihi, 30 July 1984, *Z.M. Wu 004* (HT: CANT).

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China South Central, China North-Central, China Southeast.

Shaanxi. Guangdong, Guangxi, Henan, Jiangxi, Zhejiang. Hubei, Yunnan.

Phyllostachys sulphurea (Carr.) Rivihre & C.Rivihre. *Bull. Soc. Acclim.* Ser. III. v. 773. (1878).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *P. viridis*).

TYPE from France cult. **Basionym or Replaced Name**: *Bambusa sulphurea* Carrière, *Rev. Hort.* 45: 379 (1873). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: France, Cult. at Paris: Coll?.

Recent Synonyms: *Phyllostachys villosa* T.H.Wen, *Bull. Bot. Res. North-East. Forest. Inst.*, 2(1): 71 (1982).

Illustrations (Books): D.Farrelly, *The Book of Bamboo* (1984) (as *P. viridis*), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 209 as var. *viridis*).

Derivation (Clifford & Bostock 2007): L. pale-yellow. Culms golden-yellow.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 700–800 cm long, 30–40 mm diam., woody. Culm-internodes semiterete, thin-walled, yellow or mid-green, smooth, distally glabrous. Culm-nodes without obvious supra-nodal ridge, glabrous. Lateral branches dendroid. Culm-sheaths present, yellow and brown, distinctly mottled with last colour, glabrous, without auricles, glabrous on shoulders. Leaves cauline. Leaf-sheath auricles absent. Ligule a ciliate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 5–20 cm long, 10–22 mm wide, mid-green or mid-green and yellowish green, variegated (striped). Leaf-blade venation with distinct cross veins. Leaf-blade surface glabrous or pubescent.

Inflorescence. Synflorescence bractiferous, clustered at the nodes, with spathaceous subtending bracts, bracts 25–30 mm long, with ultimate bract subtending a compact bracteolate fascicle of spikelets, prophyllate below lateral spikelets, 25 cm long overall.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 18–25 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes one the lower absent or obscure, persistent, shorter than spikelet. Upper glume oblong, chartaceous, without keels. Upper glume apex acute.

Florets. Fertile lemma ovate, 15 mm long, chartaceous, without keel, more than 3-veined. Lemma apex acute. Palea chartaceous.

Flower and Fruit. Lodicules 3. Anthers 3. Stigmas 3. Caryopsis with adherent pericarp.

$2n = 48$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe (*), Temperate Asia, North America (*).

Region. **Northern Europe**.

Country /Province /State. : GB Aliens (Ryves et al). **China**, **Eastern Asia**. China North-Central, China Southeast. Japan (*).

Shaanxi, Shandong. Anhui, Fujian, Henan, Hunan, Jiangsu, Jiangxi, Zhejiang.

Phyllostachys tianmuensis Z.P. Wang & N.X. Ma. *J. Nanjing Univ., Nat. Sci. Ed.* 1983(3): 491, f. 3 (1983).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Zhejiang: Anji, *P.X. Zhang 82402* (HT: NJU).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 223).

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 700–800 cm long, 30–40 mm diam., woody. Culm-internodes semiterete, yellow and mid-green, striped, distally pruinose. Culm-nodes swollen, with distinct supra-nodal ridge. Lateral branches dendroid. Culm-sheaths present, chartaceous, red and brown, distinctly mottled with last colour, glabrous, glabrous on margins, without auricles, glabrous on shoulders. Culm-sheath ligule purple. Culm-sheath blade linear or lanceolate, reflexed. Leaves cauline, 2–3 per branch. Leaf-sheath oral hairs scanty or lacking. Leaf-sheath auricles absent. Ligule a ciliolate membrane, truncate or obtuse. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 15 cm long, 20 mm wide. Leaf-blade surface pubescent, hairy abaxially. Flowering specimens unknown.

Flower and Fruit. $2n = 48$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China** (+). China Southeast.

Anhui, Zhejiang.

Phyllostachys varioauriculata S.C. Li & S.H. Wu. *J. Anhui Agric. Coll.,* 1981(2): 49 (1981).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China.

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 350 cm long, 11–20 mm diam., woody. Culm-internodes semiterete, thin-walled, distally mealy and pilose. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, chartaceous, purple and brown, obscurely mottled with last colour, hispid, auriculate, glabrous on shoulders. Culm-sheath ligule purple, ciliate. Culm-sheath blade linear or triangular, erect. Leaves cauline, 2 per branch. Leaf-sheath oral hairs setose, deciduous. Leaf-sheath auricles falcate. Ligule a ciliolate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 5–11 cm long, 9–11 mm wide. Leaf-blade venation with 10–12 secondary veins. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Anhui, Jiangsu, Zhejiang (+).

Phyllostachys veitchiana Rendle. *J. Linn. Soc., Bot*. 36(254): 443–444 (1904).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China, Hupeh: Wilson 10a (K iso).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 238).

Derivation (Clifford & Bostock 2007): L. *-ana,* indicating connection. In honor of John Gould Veitch (1839–1870) English nurseryman.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 300–500 cm long, 10–25 mm diam., woody. Culm-internodes semiterete, thin-walled, 20–22 cm long, dark green, distally pruinose and pubescent. Culm-nodes swollen, with distinct supra-nodal ridge. Lateral branches dendroid. Culm-sheaths present, chartaceous, green and yellow or purple, striped, glabrous or pubescent, with tawny hairs, hairy on margins, auriculate, setose on shoulders, shoulders with curved hairs. Culm-sheath ligule 2–3 mm high, purple, ciliate. Culm-sheath blade triangular, erect or reflexed, wrinkled. Leaves cauline, 1–2 per branch. Leaf-sheath oral hairs scanty, erect. Leaf-sheath auricles absent. Ligule a ciliolate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 8–14 cm long, 12–18 mm wide.

Inflorescence. Synflorescence bractiferous, fasciculate, with spathaceous subtending bracts, without axillary buds at base of spikelet, with ultimate bract subtending a compact bracteolate fascicle of spikelets (1–2 spikelets), prophyllate below lateral spikelets.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 4–5 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes one the lower absent or obscure or two, persistent, shorter than spikelet. Upper glume oblong, chartaceous, without keels. Upper glume surface puberulous. Upper glume apex setaceously acuminate.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to fertile lemma. Fertile lemma lanceolate, 12–14 mm long, chartaceous, keeled, more than 3-veined. Lemma surface pubescent. Lemma apex setaceously acuminate. Palea chartaceous. Palea surface pubescent. Palea apex dentate, 2 -fid.

Flower and Fruit. Lodicules 3, oblanceolate, ciliate. Anthers 3, 6 mm long.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China South Central, China Southeast.
Zhejiang (+). Hubei, Sichuan.

Phyllostachys verrucosa G.H. Ye & Z.P. Wang. *J. Nanjing Univ., Nat. Sci. Ed.* 1983(3): 482, f. 2, 3 (1983).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Hunan: Changsha, *G.H. Ye 75154* (HT: NJU).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 220).

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 300 cm long, 12 mm diam., woody. Culm-internodes semiterete, 16 cm long, mid-green and purple. Culm-nodes with distinct supra-nodal ridge, pubescent. Lateral branches dendroid. Branch complement two. Culm-sheaths present, chartaceous, antrorsely scabrous, hispid, hairy at the base, with white hairs, without auricles, glabrous on shoulders. Culm-sheath ligule 5 mm high, green and purple, ciliate. Culm-sheath blade linear or lanceolate, reflexed. Leaves cauline, 2–3 per branch. Leaf-sheath oral hairs lacking. Leaf-sheath auricles absent. Ligule a ciliolate membrane, 1–3 mm long, obtuse. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades linear or lanceolate, 7.5–9.5 cm long, 8–12 mm wide. Leaf-blade surface pubescent (on midrib), hairy abaxially. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.
Hunan (+).

Phyllostachys villosa T.H. Wen. *Bull. Bot. Res. North-East. Forest. Inst.*, 2(1): 71 (1982).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Qinyuan, *T. H. Wen et al. 80588* (HT: ZJFI).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *villi,* long weak hairs; *-osa*, abundance. The plant in whole or in part covered with long hairs.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.
Zhejiang.

Phyllostachys violascens (Carrière) Rivihre & C.Rivihre. *Bull. Soc. Acclim.* Ser. III. v. 770. (1878).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. **Basionym or Replaced Name**: *Bambusa violascens* Carrière, *Rev. Hort.* 1869: 292 (1869). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Introduite du nord de la Chine, en 1864, par la Ministere de l'agriculture, cultivated.

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 225).

Derivation (Clifford & Bostock 2007): L. *violesco*, become violet. Anthers, stigmas, glumes or whole inflorescences blue to purple.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, inclined at the tip, 400–450 cm long, 20 mm diam., woody. Culm-internodes semiterete, thin-walled, 25 cm long, purple. Lateral branches dendroid. Branch complement three, with 1 branch dominant. Culm-sheaths present, deciduous, purple, without auricles, glabrous on shoulders. Culm-sheath ligule ciliolate. Culm-sheath blade triangular, erect. Leaves cauline, 4–5 per branch. Ligule a ciliolate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 12–18 cm long, 12–20 mm wide, dark green and glaucous, discolorous with last colour beneath. Leaf-blade

venation with 6–12 secondary veins, with distinct cross veins. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China** (+). China South Central, China Southeast.

Anhui, Fujian, Hunan, Jiangsu, Jiangxi, Zhejiang. Yunnan.

Phyllostachys virella T.H. Wen. *Bull. Bot. Res. North-East. Forest. Inst.,* 2(1): 72 (1982).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Dongyang, sandy sites, below 100 m, *Z.W. Hu 12* (HT: ZJFI).

Illustrations (Books): D.Farrelly, *The Book of Bamboo* (1984), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 235).

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 900 cm long, 50 mm diam., woody. Culm-internodes semiterete, thin-walled, 30 cm long, mid-green, distally glabrous or pubescent. Culm-nodes swollen. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, green, glabrous, glabrous on margins, without auricles, glabrous on shoulders. Culm-sheath ligule 1 mm high, purple, ciliolate. Culm-sheath blade linear or triangular, erect, wrinkled. Leaves cauline. Leaf-sheaths glabrous on surface, outer margin hairy. Leaf-sheath oral hairs setose, erect, 8 mm long. Leaf-sheath auricles absent. Ligule a ciliolate membrane, truncate. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate. Leaf-blade margins smooth or scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Zhejiang.

Phyllostachys viridiglaucescens (Carrière) Rivihre & C.Rivihre. *Bull. Soc. Acclim. Ser.* 3,5: 700 (1878).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from China. **Basionym or Replaced Name**: *Bambusa viridiglaucescens* Carrière, *Rev. Hort.* 146–148 (1861). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: northern part: 'elle en fut rapport? vers 1846, par le vice-amiral comte Cecille', (HT: P?).

Recent Synonyms: *Phyllostachys nigrivagina* T.H.Wen, *J. Bamboo Res.,* 8(1): 15 (1989).

Illustrations (Books): D.Farrelly, *The Book of Bamboo* (1984) (175), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 233).

Derivation (Clifford & Bostock 2007): L. *viridis*, green; *glaucesco*, become bluish-green.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 1000 cm long, 54 mm diam., woody. Culm-internodes semiterete, thin-walled, 30 cm long, striate, distally pruinose. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, brown and purple, obscurely mottled with last colour, glabrous, without auricles or auriculate, setose on shoulders. Culm-sheath ligule 2 mm high, ciliolate. Culm-sheath blade linear, reflexed, wrinkled. Leaves cauline. Leaf-sheath oral hairs setose. Leaf-sheath auricles falcate. Ligule a ciliolate membrane, purple. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 10–18 cm long, 17–22 mm wide. Leaf-blade surface pubescent, densely hairy, hairy abaxially. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Flower and Fruit. $2n = 4848$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Southwestern Europe**.

Country /Province /State. : Channel Islands (*). **Caucasus** and **China**. China Southeast.

Fujian, Jiangsu, Jiangxi, Zhejiang.

Phyllostachys vivax McClure. *Journ. Wash. Acad. Sci.* v. 292 (1945).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *McClure 21044*, May-Aug 1942, USA: Barbour Lathrop Plant Introduction Garden near Savannah, Ga. (US). This is one of Frank N. Meyer's introduction from China.

Illustrations (Books): D.Farrelly, *The Book of Bamboo* (1984) (175), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 225).

Derivation (Clifford & Bostock 2007): L. long-lived. Culms long-lived.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 1180 cm long, 70–75 mm diam., woody. Culm-internodes semiterete, thick-walled, 28–32 cm long, striate, distally mealy. Culm-nodes swollen, with distinct supra-nodal ridge. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, coriaceous, green and purple, distinctly mottled with last colour, glabrous, without auricles, glabrous on shoulders. Culm-sheath ligule entire or ciliolate. Culm-sheath blade linear or triangular, erect or reflexed, wrinkled, glabrous on surface. Leaves cauline, 2–4 per branch. Leaf-sheaths glabrous on surface, outer margin hairy. Leaf-sheath oral hairs scanty. Leaf-sheath auricles absent or falcate. Ligule a ciliolate membrane, scaberulous on abaxial surface. Leaf-blade base with a brief petiole-like connection to sheath, petiole glabrous. Leaf-blades lanceolate, 10–17 cm long, 15–25 mm wide. Leaf-blade surface scaberulous, rough abaxially, glabrous. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Flower and Fruit. $2n = 48$ (2 refs TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, North America.

Country /Province /State. **China** (+). China South Central, China North-Central, China Southeast. **Southeastern USA** (+). Georgia.

Shandong. Fujian, Henan, Jiangsu, Zhejiang. Yunnan.

Phyllostachys yunhoensis S.Y. Chen & C.Y. Yao. *Acta Phytotax. Sin.,* 18(2): 183 (1980).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Yunhe Xian, *S.Y. Chen et al. 78618* (HT: HZBG).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 237).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Yunghe Xian, Zhejiang Province, China.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 500–600 cm long, 30–40 mm diam., woody. Culm-internodes semiterete, thin-walled, distally mealy. Lateral branches dendroid. Branch complement two, with 1 branch dominant. Culm-sheaths present, green and brown, distinctly mottled with last colour, glabrous, auriculate, setose on shoulders, shoulders with 5 mm long hairs. Culm-sheath ligule purple, ciliate. Culm-sheath blade linear, reflexed. Leaves cauline, 2–3 per branch. Leaf-sheath oral hairs lacking. Leaf-sheath auricles absent. Ligule a ciliolate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Zhejiang.

Pinga marginata E.A.Widjaja. *Reinwardtia,* 11(2): 124 (1997).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Indonesia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Irian Jaya, Manokwari District, Ransiki subdistrict, Nuhwey Village, *Widjaja 6631* (HT: BO; IT: K, L, MAN).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *margo*, border; *-ata*, possessing. Leaf-blades or lemma with hairs in their margins or the margins otherwise conspicuous.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose, clumped loosely. Rhizomes short, pachymorph. Butt sheaths absent. Culms leaning, pendulous at the tip, 1500–2000 cm long, 10–25 mm diam., woody, with aerial roots from the nodes. Culm-internodes terete, thin-walled, 35–50 cm long, mid-green, distally glabrous. Lateral branches dendroid, arising from mid culm. Bud complement 1. Branch complement two or three, in a clump, with 1 branch dominant, thinner than stem. Culm-sheaths present, deciduous but leaving a persistent girdle (this rugose), 10–11 cm long, hairy on margins, auriculate, with obtuse auricles, with 2–3 mm high auricles, setose on shoulders, shoulders with 4–6 mm long hairs. Culm-sheath ligule entire or ciliate. Culm-sheath blade ovate, narrower than sheath, erect, 6.5–7 cm long, 30–35 mm wide, glabrous on surface, acuminate. Leaf-sheath oral hairs ciliate, 10–15 mm long. Leaf-sheath auricles falcate, 0.5–1 mm long, obtuse. Ligule an eciliate membrane, 1 mm long. Collar with external ligule. Leaf-blade base asymmetrical, with a brief petiole-like connection to sheath. Leaf-blades deciduous at the ligule, lanceolate, 17–41 cm long, 17–33 mm wide. Leaf-blade surface glabrous. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, clustered at the nodes, in globose clusters, with spathaceous subtending bracts, with axillary buds at base of spikelet, prophyllate below lateral spikelets, leafless between clusters.

Fertile Spikelets. Spikelets comprising 5–7 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes definite, sparsely hairy.

Glumes. Glumes two, persistent, similar, shorter than spikelet, similar to fertile lemma in texture. Lower glume ovate, 1.5–2.5 mm long. Lower glume apex acute. Upper glume ovate, 1.5–2.5 mm long. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.5–4.5 mm long, without keel, more than 3-veined. Lemma surface glabrous. Lemma apex acuminate. Palea 4–5 mm long. Palea apex acute.

Flower and Fruit. Lodicules absent. Anthers 6, 2 mm long, yellow. Stigmas 3. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea.

Piptatheropsis canadensis (Poir.) Romasch., P.M.Peterson & Soreng. *Taxon* 60 (6): 1713 (2011).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Oryzopsis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. **Basionym or Replaced Name**: *Stipa canadensis* Poir., *Encycl.* 7: 452 (1806)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Michaux s.n.*, USA: montagnes streril. a la hauteurs du Terres (P). LT designated by Hitchcock, *Contr. U.S. Natl. Herb.* 12: 150 (1908).

Recent Synonyms: *Oryzopsis canadensis* (Poir.) Torr., *Man. Bot. N. U. St.* ed. I. 583. (1843). *Piptatherum canadense* (Poir.) Dorn, *Vasc. Pl. Wyoming* ed.3 :377 (2001).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (147).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Canada.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 30–70 cm long. Ligule an eciliate membrane, 2 mm long. Leaf-blades flat or involute, 5–20 cm long, 1–1.5 mm wide, coriaceous, stiff. Leaf-blade surface ribbed, scabrous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, effuse, 5–10 cm long. Primary panicle branches ascending or spreading. Panicle branches capillary, flexuous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, dorsally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 4–5 mm long, 1 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 4–5 mm long, 1.3–1.6 length of adjacent fertile lemma, membranous, without keels, 1 -veined. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma elliptic, dorsally compressed, 3 mm long, coriaceous, without keel, 3 -veined, 0–3 -veined. Lemma surface pilose. Lemma margins convolute, covering most of palea. Lemma apex obtuse, awned, 1 -awned. Principal lemma awn bigeniculate, 10–20 mm long overall, with twisted column, persistent. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. $2n = 22$ (FNA).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Western Canada**, **Eastern Canada**, **North-central USA**, **Northeast USA**. Alberta, Saskatchewan. Labrador, New Brunswick, Newfoundland, Nova Scotia, Ontario, Quebec. Wisconsin. Maine.

Piptatheropsis exigua (Thurb.) Romasch., P.M.Peterson & Soreng. *Taxon* 60 (6): 1713 (2011).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Oryzopsis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. **Basionym or Replaced Name**: *Oryzopsis exigua* Thurb., *Bot. U. St. Expl. Exped.* 17: 481 (1874). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: USA: Oregon: Cascade Mts., *Wilkes Expl. Exped.*.

Recent Synonyms: *Oryzopsis exigua* Thurb., *Bot. U. St. Expl. Exped*. 2: 481. (1874). *Piptatherum exiguum* (Thurb.) Dorn, Vasc. Pl. Wyoming :377 (2001).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (147).

Derivation (Clifford & Bostock 2007): L. wanting in size and number. Spikelets or inflorescence branches few.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 10–30 cm long. Leaf-sheaths smooth or scaberulous. Ligule an eciliate membrane, 3–4 mm long, pubescent on abaxial surface, acute. Leaf-blades erect, filiform, involute, 5–10 cm long, 1 mm wide.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 3–6 cm long. Primary panicle branches appressed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, dorsally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent, obtuse.

Glumes. Glumes persistent, similar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 4–6 mm long, 1 length of upper glume, hyaline, without keels, 3–5 -veined. Lower glume lateral veins obscure. Lower glume apex acute. Upper glume ovate, 4–6 mm long, 1 length of adjacent fertile lemma, hyaline, without keels, 3–5 -veined. Upper glume lateral veins obscure. Upper glume apex acute.

Florets. Fertile lemma elliptic, dorsally compressed, 4–6 mm long, coriaceous, without keel. Lemma surface pubescent. Lemma margins convolute, covering most of palea. Lemma apex dentate, 2 -fid, obtuse,

awned, 1 -awned. Principal lemma awn from a sinus, geniculate, 4–6 mm long overall, with a straight or slightly twisted column, deciduous. Palea 1 length of lemma, coriaceous, 2 -veined, without keels.

Flower and Fruit. Lodicules 2, 1.5 mm long. Anthers 3, 1.5–2 mm long.

2*n* = 22 (FNA).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Western Canada**, **Northwest USA**, **Southwestern USA**. Alberta, British Columbia. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. California, Nevada, Utah.

Piptatheropsis micrantha (Trin. & Rupr.) Romasch., P.M.Peterson & Soreng. *Taxon* 60 (6): 1713 (2011).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Oryzopsis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Amer. bor.,. **Basionym or Replaced Name**: *Urachne micrantha* Trin. & Rupr. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Hooker misit. Ticket 219*, (LE-TRIN-1467.01).

Recent Synonyms: *Oryzopsis micrantha* (Trin. & Rupr.) Thurb. ex Porter & Coult., *Syn. Fl. Colorado* 145 (1863). *Piptatherum micranthum* (Trin. & Rupr.) M.E. Barkworth, *Phytologia* 74(1): 19: (1993).

Illustrations (Books): C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952) (as *Oryzopsis*), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (149).

Derivation (Clifford & Bostock 2007): Gk. *mikros*, small; *anthos*, flower. Spikelets small.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 30–60 cm long. Ligule an eciliate membrane, 4–5 mm long. Leaf-blades filiform, involute, 10–20 cm long, 0.5–2 mm wide, coriaceous, stiff. Leaf-blade surface ribbed. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 6–12 cm long, contracted about primary branches. Primary panicle branches 2–6 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, dorsally compressed, 2.5–4 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 2.5–4 mm long, 1 length of upper glume, hyaline, without keels, 1–3 -veined. Lower glume apex acute or acuminate. Upper glume ovate, 2.5–4 mm long, 1.3–2 length of adjacent fertile lemma, hyaline, without keels, 1–3 -veined. Upper glume apex acute or acuminate.

Florets. Fertile lemma ovate, dorsally compressed, 2 mm long, coriaceous, dark brown, shiny, without keel, 3 -veined, 0–3 -veined. Lemma margins convolute, covering most of palea. Lemma apex obtuse, awned, 1 -awned. Principal lemma awn flexuous, 5–10 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. 2*n* = 22 (FNA).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Western Canada**, **Northwest USA**, **North-central USA**, **Southwestern USA**, **South-central USA**. Alberta, British Columbia, Manitoba, Saskatchewan. Colorado, Idaho, Montana, Wyoming. North Dakota, Nebraska, South Dakota. Arizona, California, Nevada, Utah. New Mexico, Texas.

Piptatheropsis pungens (Torr.) Romasch., P.M.Peterson & Soreng. *Taxon* 60 (6): 1713 (2011).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online (as *Oryzopsis*), W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Oryzopsis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. **Basionym or Replaced Name**: *Milium pungens* Torr., *Neue Entdeck. Pflanzenk.* 2: 102 (1821). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: USA: "Schenectady in Massachusetana" [error for New York], *Muhlenberg gram. p. 78*.

Recent Synonyms: *Oryzopsis pungens* (Torr.) Hitchcock, *Contrib. U. S. Nat. Herb.* xii. 151 (1908). *Piptatherum pungens* (Torr.) Dorn, *Vasc. Pl. Wyoming* (ed. 3) 377 (2001).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (147).

Derivation (Clifford & Bostock 2007): L. *pungo*, prick. Leaf-blades sharp-pointed.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 15–40 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 2 mm long. Leaf-blades involute, 10–25 cm long, 1 mm wide. Leaf-blade surface scabrous, rough adaxially or on both sides.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 3–6 cm long, bearing few spikelets. Primary panicle branches appressed or ascending or spreading, 1–2 -nate, 1–3 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, dorsally compressed, 3.5–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume oblong, 3–3.5 mm long, 1 length of upper glume, membranous, without keels, 5 -veined. Lower glume lateral veins obscure. Lower glume apex truncate. Upper glume oblong, 3–3.5 mm long, 0.9 length of adjacent fertile lemma, membranous, without keels, 5 -veined. Upper glume lateral veins obscure. Upper glume apex truncate.

Florets. Fertile lemma oblong, dorsally compressed, 3.5–4 mm long, coriaceous, without keel. Lemma surface pubescent. Lemma margins convolute, covering most of palea. Lemma apex acute, muticous or awned, 1 -awned. Principal lemma awn 0–2 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. $2n = 22$ (FNA), or 24 (FNA).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Subarctic America**, **Western Canada**, **Eastern Canada**, **Northwest USA**, **North-central USA**, **Northeast USA**, **South-central USA**. Yukon, Northwest Territories. Alberta, British Columbia, Manitoba, Saskatchewan. Labrador, Ontario, Quebec. Colorado, Wyoming. Nebraska. Maine, New York, Pennsylvania. New Mexico.

Piptatheropsis shoshoneana (Curto & Douglass M. Hend.) P.M. Peterson & Soreng. *Contr. U.S. Natl. Herb.* 48: 495 (2003).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. **Basionym or Replaced Name**: *Stipa shoshoneana* M. Curto & Douglass M. Henderson, *Madrono* 45(1): 59 (1999). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: USA: Idaho: Salmon Rv. Mts., ca 15 km N e Challis, Morgan Cr. Canyon, ca. 7 km NW of US Hwy 93, 44?9'47"N, 114?'19"W, T15N R19e Sec4 SW1/4 of NE1/4, 1675 m, SW aspect, along N side of road in cracks near vertical cliffs, 30 Jun 1987, *L. Eno 17* (HT: CAS; IT: BRY, ID, K, MIN, MO, NY, RM, UC, US, UTC, WTU).

Piptatherum shoshoneanum (Curto & Douglass M. Hend.) P.M. Peterson & Soreng, *Contr. U.S. Natl. Herb.* 48: 495 (2003).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (149).

Derivation (Clifford & Bostock 2007): L. *-anum*, indicating connection. In reference to the Shoshone people whose ancestral lands encompass the known geographical distribution of the species.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Flower and Fruit. $2n = 20$ (FNA).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Northwest USA**. Idaho.

Piptatherum baluchistanicum Freitag. *Notes Roy. Bot. Gard. Edinburgh*. 33 (3): 389 (1975).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Oryzopsis*).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Balushistan, Pakistan.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 12–60 cm long. Ligule an eciliate membrane. Leaf-blades flat or convolute, 5–15 cm long, 1–2.5 mm wide, grey-green. Leaf-blade surface papillose, rough abaxially, hirsute, densely hairy, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 5–15 cm long. Primary panicle branches ascending or spreading. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, dorsally compressed, 4.5–7.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 1 length of upper glume, membranous, without keels. Lower glume apex acuminate. Upper glume elliptic, 4.5–7.5 mm long, membranous, without keels. Upper glume apex acuminate.

Florets. Fertile lemma ovate, dorsally compressed, 3.5–4.5 mm long, coriaceous, shiny, without keel. Lemma surface pubescent. Lemma margins convolute, covering most of palea. Lemma hairs white, 0.2–0.3 mm long. Lemma apex acute, awned, 1 -awned. Principal lemma awn straight, 2–4 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Anthers 3, 2–2.5 mm long, anther tip penicillate. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indian Subcontinent**. Pakistan.

Piptatherum flaccidum Freitag. *Notes Roy. Bot. Gard. Edinburgh* 33(3): 387 (1975).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Oryzopsis*).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. unable to support its own weight. Inflorescence branches long and thin and so droop.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Basal innovations intravaginal. Culms erect, 15–70 cm long, 3–4 -noded. Culm-internodes distally glabrous or pubescent, with reflexed hairs. Leaf-sheaths smooth or scaberulous, glabrous on surface or puberulous. Ligule an eciliate membrane, 2–7 mm long, 2–4 mm long on basal shoots, acute. Leaf-blades flat or involute, 4–25 cm long, 1.3–3 mm wide, grey-green. Leaf-blade surface smooth or scaberulous, rough abaxially, pilose, densely hairy, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate or elliptic, 4–22 cm long, 1–10 cm wide. Primary panicle branches appressed or ascending, 1–2 -nate, with lower 0.33–0.5 length of panicle. Panicle branches smooth or scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 6–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus curved, glabrous, obtuse, disarticulating transversely, with elliptic scar.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, membranous, without keels, 5–7 -veined. Lower glume apex acute. Upper glume ovate, 6–10 mm long, membranous, without keels, 5–6 -veined. Upper glume apex acute.

Florets. Fertile lemma linear or lanceolate, dorsally compressed, 3.8–6.5 mm long, 0.8–1.2 mm wide, coriaceous, without keel. Lemma surface pilose, hairy above. Lemma margins convolute, covering most of palea. Lemma hairs tawny, 0.3–0.5 mm long. Lemma apex obtuse, awned, 1 -awned. Principal lemma awn 1.5–4.5 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Lodicules 3, 0.8–1 mm long. Anthers 3, 2.5–3.5 mm long, yellow or purple, anther tip smooth or penicillate. Caryopsis with adherent pericarp, ellipsoid, 3–3.2 mm long. Embryo 0.33 length of caryopsis. Hilum linear, 0.9 length of caryopsis.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Western Asia**. Afghanistan.

Piptatherum grigorjevii Tsvelev. *Novosti Sist. Vyssh. Rast.* 11: 10 (1974)

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Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Oryzopsis*), N.Tsvelev, *Grasses of the Soviet Union* (1983).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Jury Sergeyevich Grigoreiv (1905-) Soviet botanist.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms erect, 30–80 cm long. Culm-internodes smooth, distally glabrous. Ligule an eciliate membrane, 2–5 mm long, scaberulous on abaxial surface. Leaf-blades convolute, 0.8–2.5 mm wide. Leaf-blade surface scabrous, rough on both sides.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 9–20 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, dorsally compressed, 5–6.2 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus curved, glabrous, obtuse, disarticulating transversely, with elliptic scar.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, membranous, without keels. Lower glume apex acute. Upper glume ovate, 5–6.2 mm long, membranous, without keels. Upper glume apex acute.

Florets. Fertile lemma lanceolate, dorsally compressed, 3.8–4.2 mm long, coriaceous, without keel. Lemma surface pubescent. Lemma margins convolute, covering most of palea. Lemma apex obtuse, awned, 1 -awned. Principal lemma awn 4–5 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Lodicules 3. Anthers 3. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Middle Asia**. Turkmenistan.

Piptatherum kuoi S .M. Phillips & Z. L. Wu. *Novon* 15 : 474 (2005).

Accepted by: S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. **Basionym or Replaced Name**: *Piptatherum obtusum* (Stapf) Roshev, *Bot. Mater. Gerb. Bot. Inst. Komarova Acad. Nauk SSSR* 14: 102 (1951). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Hubei: Ichang and immediate neighborhood, *A. Henry 3507* (LT: K).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 259).

Derivation (Clifford & Bostock 2007): In honor of Pung (Pen) Chao Kuo (fl. 1980–1987) Chinese botanist.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**, **Eastern Asia**. China South Central, China North-Central, China Southeast. Japan, Taiwan.

Shaanxi. Guangdong, Henan, Hunan, Zhejiang. Guizhou, Hubei, Sichuan, Yunnan.

Piptatherum laterale (Munro ex Regel) Munro ex Nevski. *Trudy Imp. S.-Peterburgsk. Bot. Sada* 1 4: 217 (1937).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Oryzopsis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Afghanistan. **Basionym or Replaced Name**: *Milium laterale* Munro ex Regel, *Trudy Imp. S.-Peterburgsk. Bot. Sada* 7: 645 (1881). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Afghanistan: alpine regions, *Aitchison* (HT: ?; ST: K, LE).

Recent Synonyms: *Oryzopsis lateralis* (Regel) Stapf ex Hook. f., *Fl. Brit. Ind*. 7: 234 (1896).

Illustrations: None found.

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 261).

Derivation (Clifford & Bostock 2007): *laterus*, side; *-ale*, pertaining to. Inflorescence forming as a lateral shoot.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 50–65 cm long. Culm-internodes glaucous, smooth. Ligule an eciliate membrane, 5–7 mm long, lacerate. Leaf-blades flat or involute, 6–15 cm long, 1–2 mm wide, glaucous. Leaf-blade surface scaberulous, rough abaxially, pubescent, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 4–17 cm long. Primary panicle branches appressed, 1–2 -nate. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 7–8 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 1 length of upper glume, membranous, mid-green, without keels, 5 -veined. Lower glume apex acuminate. Upper glume elliptic, 7–8 mm long, membranous, mid-green, without keels, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma lanceolate or ovate, dorsally compressed, 5–6 mm long, coriaceous, dark brown, shiny, without keel. Lemma surface pilose. Lemma margins convolute, covering most of palea. Lemma hairs 0.2–0.4 mm long. Lemma apex acute, awned, 1 -awned. Principal lemma awn flexuous, 4.5–7 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Lodicules 3, 1 mm long. Anthers 3, 2–3.5 mm long, anther tip penicillate. Caryopsis with adherent pericarp, ellipsoid, 3–4 mm long.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **Middle Asia**, **Western Asia**, **China**. Kirgizistan, Tadzhikistan, Turkmenistan, Uzbekistan. Afghanistan, Iran, Iraq, Turkey. China South Central, Tibet. **Indian Subcontinent**. Nepal, Pakistan, West Himalaya.

Sichuan. Himachal Pradesh, Jammu Kashmir, Uttaranchal.

Piptatherum pubiflorum (Hack.) Roshev. *Bot. Mater. Gerb. Inst. Bot. Akad. Nauk Kazahsk. SSR* 14: 111 (1951).

TYPE from Iran. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *T. Pichler, Inter Persicum Dris. J. E. Polak*, 1882, Persia: m. Elwend (Media): in rupestribus supra Tusirkan (LE, US-812289). HT: *Wähner*, 1882, Persia borealis, montis Elwend (W; IT: US (ex W)).

Recent Synonyms: *Oryzopsis pubiflora* Hack., *Denkschr. Acad. Wien,* I. 8. (1885).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *pubes*, signs of puberty; *flos*, flower. With some or all parts of the inflorescence or spikelets densely hairy.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Cataphylls evident. Culms erect, 20–40 cm long. Ligule an eciliate membrane. Leaf-blades flat or convolute, 7–15 cm long, 1–2 mm wide, glaucous. Leaf-blade surface scaberulous, rough on both sides.

Inflorescence. Inflorescence a panicle. Panicle open, linear, 6–12 cm long. Primary panicle branches ascending, 2 -nate, 1–3 cm long. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then

both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 6–8.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 1 length of upper glume, membranous, glaucous, without keels. Lower glume apex acuminate. Upper glume elliptic, 6–8.5 mm long, membranous, glaucous, without keels. Upper glume apex acuminate.

Florets. Fertile lemma elliptic, dorsally compressed, 5.5–6.5 mm long, coriaceous, light brown, shiny, without keel. Lemma surface pubescent. Lemma margins convolute, covering most of palea. Lemma hairs yellow. Lemma apex awned, 1 -awned. Principal lemma awn straight, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Anthers 3, anther tip penicillate. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Western Asia**. Iran, Iraq.

Piptatherum roshevitsianum Tsvelev. *Bot. Mater. Gerb. Inst. Bot. Akad. Nauk Kazahsk. SSR* 20: 414 (1960).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Oryzopsis*), N.Tsvelev, *Grasses of the Soviet Union* (1983).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *-ana*, indicating connection. In honor of Romain Julievic Roshevitz (1882–1949) Russian agrostologist.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms erect, 40–70 cm long. Culm-internodes smooth, distally glabrous. Leaf-sheaths antrorsely scabrous. Ligule an eciliate membrane, 4–6 mm long. Leaf-blades flat or convolute, 1.2–3.5 mm wide. Leaf-blade surface scaberulous, rough on both sides. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, 6–12 cm long, 0.8–1.5 cm wide. Primary panicle branches appressed, 3–3.5 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, dorsally compressed, 4.5–6 mm long, 1.8 mm wide, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous, obtuse, disarticulating transversely, with elliptic scar.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, herbaceous, much thinner above, mid-green or light brown, without keels. Lower glume surface asperulous, rough above. Lower glume apex acute. Upper glume ovate, 4.5–6 mm long, herbaceous, much thinner above, mid-green or light brown, without keels. Upper glume surface asperulous, rough above. Upper glume apex acute.

Florets. Fertile lemma lanceolate, dorsally compressed, 3.8–4.2 mm long, 1.4 mm wide, coriaceous, dark brown, without keel. Lemma surface pubescent. Lemma margins convolute, covering most of palea. Lemma apex obtuse, awned, 1 -awned. Principal lemma awn straight, 4–6 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Lodicules 3. Anthers 3. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Middle Asia**. Turkmenistan.

Piptochaetium alpinum L.B. Smith. *Phytologia.,* 22(2): 89 (1971).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *R. Reitz & R. Klein 7710*, 10 Dec 1958, Brazil: Santa Catarina: Bom Jardim da Serra, Fazenda da Laranja, 1400 m (US-2379514; IT: HBR).

Illustrations (Books): L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (540, Fig. 117).

Illustrations (Journals): *Darwiniana* (36: 122, Fig. 6C (1998)).

Derivation (Clifford & Bostock 2007): L. *alpes*, high mountain; *-ina*, belonging to. Species growing at high altitudes.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms erect, 20–30 cm long, 2 -noded. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long. Leaf-blades flat or convolute, 8 cm long, 1 mm wide. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Panicle open, ovate, 6 cm long, bearing few spikelets. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 0.75 length of upper glume, hyaline, without keels. Lower glume apex acuminate. Upper glume ovate, 4 mm long, 0.75 length of adjacent fertile lemma, hyaline, without keels. Upper glume apex acuminate.

Florets. Fertile lemma oblong, laterally compressed, 5 mm long, indurate, without keel. Lemma surface pubescent, hairy all along. Lemma margins involute, interlocking with palea keels. Lemma hairs tawny. Lemma apex truncate, awned, 1 -awned. Principal lemma awn eccentric, bigeniculate, 20 mm long overall, with twisted column. Column of lemma awn puberulous. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Brazil**. Brazil South.

Catarina, Rio Grande do Sul. Rio Grande do Sul, Santa Catarina.

Piptochaetium angolense R. Phil. *Anal. Univ. Chil.* xciii. 734. (1896).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Philippi s.n.*, Nov 1887, Chile: Angol (SGO-57397; IT: US- (fragm. ex herb. Philippi), US- (photo SGO-57397)).

Illustrations (Journals): *Darwiniana* (36: 125, Fig. 9C (1998)).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Angol, Chile.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 30–50 cm long, 1 mm diam., 2–3 -noded. Culm-internodes 6–18 cm long. Culm-nodes constricted, brown or purple, glabrous. Leaf-sheaths 6–8 cm long, subequal to internodes, glabrous on surface. Ligule an eciliate membrane, 1–3 mm long. Leaf-blades convolute, 6–15 cm long, 0.5–1 mm wide. Leaf-blade surface scaberulous, rough adaxially, glabrous or pilose, sparsely hairy, hairy abaxially. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle, comprising 10–30 fertile spikelets. Peduncle 9–13 cm long, glabrous. Panicle contracted, linear, 5–10 cm long, 1–2 cm wide. Panicle branches hispidulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 3–6 mm long, scabrous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets obovate, laterally compressed, 6–7 mm long, 1.5–2 mm wide, breaking up at maturity, disarticulating below each fertile floret. Floret callus brief, 0.3 mm long, pilose, pungent. Floret callus hairs 0.25 length of lemma.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 7–7.5 mm long, 1.1 length of upper glume, hyaline, without keels, 5 -veined. Lower

glume apex setaceously acuminate. Upper glume lanceolate, 6–6.5 mm long, hyaline, without keels, 3 -veined. Upper glume apex setaceously acuminate.

Florets. Fertile lemma elliptic, laterally compressed, gibbous, 2.5–5 mm long, 1–1.2 mm wide, indurate, without keel. Lemma surface tuberculate. Lemma margins involute, interlocking with palea keels. Lemma apex with an annular corona, with corona 0.5 mm wide, awned, 1 -awned. Principal lemma awn bigeniculate, 10–15 mm long overall, with twisted column. Palea 3.5 mm long.

Flower and Fruit. Lodicules 2, 1.2 mm long.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Chile Central.

Coquimbo, Valparaiso, La Araucania.

Piptochaetium angustifolium (Hitchcock) Valencia & Costas. *Bol. Soc. Argent. Bot.* xii. 177 (1968).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Mexico. **Basionym or Replaced Name**: *Stipa angustifolia* Hitchc., *Contrib. U. S. Nat. Herb.* 24: 246 (1925). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *E. Palmer 726*, 25 Jul 1905, Mexico: Coahuila (US-570290). IT: *Palmer 726*, July 25, 1905, Mexico (MO!).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *angustus*, narrow; *folium,* leaf. Leaf-blades narrow.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial. Culms erect, slender, 10–30 cm long. Culm-internodes distally glabrous. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs lacking. Ligule an eciliate membrane, 1–2 mm long. Leaf-blades flexuous, involute, 10–20 cm long, 2–3 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, linear, loose, 5–10 cm long. Primary panicle branches appressed or ascending, 2–5 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, subterete, 6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, 1 mm long, pilose (brown), acute.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 6 mm long, 1 length of upper glume, membranous, much thinner on margins, without keels, 5 -veined. Lower glume apex acute. Upper glume ovate, 6 mm long, membranous, with hyaline margins, without keels, 5 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, subterete, 5 mm long, coriaceous, light brown, without keel, 5 -veined, more than 3-veined. Lemma surface pilose, hairy all along, with conspicuous apical hairs. Lemma margins convolute, covering most of palea. Lemma hairs tawny, 1 mm long. Lemma apex awned, 1 -awned. Principal lemma awn bigeniculate, 10–15 mm long overall, with twisted column. Palea 1 length of lemma, 2 -veined, without keels.

Flower and Fruit. Lodicules 3. Anthers 3, anther tip smooth. Stigmas 2. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Mexico**. Northeast Mexico.

Coahuila, Neuvo Leon.

Piptochaetium avenaceum (L.) L. Parodi. *Rev. Mus. La Plata, n. s., Secc. Bot.,* vi. 229 (1944).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. **Basionym or Replaced Name**: *Stipa avenacea* L., *Sp. Pl.* 1: 78–79 (1753). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Clayton 621*, (LINN-94.5; ILT: BM, US-866143 (fragm. ex BM)). designated as LT of *Podopogon* by Clayton, *Taxon* 32: 649 (1983).

Stipa leiantha Hitchc., *Contrib. U. S. Nat. Herb.* 24: 236 (1925).

Illustrations (Books): F.W.Gould, *The Grasses of Texas* (1975) (73, Fig. 30 as *Stipa avenacea*), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (163).

Derivation (Clifford & Bostock 2007): L. *-acea*, resembling. With inflorescences and/or spikelets similar to those of *Avena*.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, slender, 35–75 cm long. Culm-internodes distally glabrous. Culm-nodes glabrous. Leaf-sheaths glabrous on surface or pubescent. Leaf-sheath oral hairs lacking. Ligule an eciliate membrane, 1.5–4.5 mm long. Leaf-blades filiform, flat or involute, 10–30 cm long, 1 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 7–25 cm long, bearing few spikelets. Primary panicle branches spreading or drooping, 2–4 cm long, bearing 1–2 fertile spikelets on each lower branch. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, subterete, 10–15 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus elongated, 2 mm long, pubescent, acute.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 10–15 mm long, 1 length of upper glume, hyaline, without keels, 3–5 -veined. Lower glume apex attenuate. Upper glume lanceolate, 10–15 mm long, 1.2–1.5 length of adjacent fertile lemma, hyaline, without keels, 5 -veined. Upper glume apex attenuate.

Florets. Fertile lemma linear, subterete, 8–10 mm long, coriaceous, dark brown, without keel, 5 -veined, more than 3-veined. Lemma surface scaberulous, rough above, glabrous. Lemma margins convolute, covering most of palea. Lemma apex surmounted by a ring of hairs, awned, 1 -awned. Principal lemma awn geniculate or bigeniculate, 35–70 mm long overall, with twisted column. Column of lemma awn glabrous. Palea without keels.

Flower and Fruit. Anthers 3. Stigmas 2. Ovary glabrous. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Northeast USA**, **South-central USA**, **Southeastern USA**, **Mexico**. Connecticut, Indiana, Massachusetts, Michigan, New York, Rhode Island, West Virginia. Texas. Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, District of Columbia. Central Mexico, Northeast Mexico.

Puebla. Neuvo Leon, Tamaulipas.

Piptochaetium avenacioides (Nash) Valencia & Costas. *Bol. Soc. Argent. Bot.* xii. 175 (1968).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. **Basionym or Replaced Name**: *Stipa avenacioides* Nash, *Bull. Torrey Bot. Club* 22(10): 423 (1895). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *G.V. Nash 2051*, 16–30 Jun 1895, USA: Florida: Lake Co. (NY; IT: BAA (fragm.), MO, US-252280).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (163).

Derivation (Clifford & Bostock 2007): Gk *-oides*, resembling. Similar to *Stipa avenacea.*.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 100 cm long, 2–3 -noded. Culm-internodes smooth or scaberulous. Leaf-sheaths smooth or scaberulous, glabrous on surface. Ligule an eciliate membrane, 2–3 mm long. Leaf-blades involute, 15–30 cm long, 0.5–1 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 10–20 cm long. Primary panicle branches spreading, 2 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, subterete, 20 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus elongated, 7 mm long, pubescent (brown), pungent.

Glumes. Glumes persistent, similar, reaching apex of florets or exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 1 length of upper glume, membranous, pallid or purple, without keels, 3 -veined. Lower glume apex attenuate. Upper glume elliptic, 20 mm long, membranous, pallid or purple, without keels, 3 -veined. Upper glume apex attenuate.

Florets. Fertile lemma linear, subterete, 15–20 mm long, coriaceous, dark brown, without keel, 5 -veined, more than 3-veined. Lemma surface papillose, rough above, glabrous. Lemma margins convolute, covering most of palea. Lemma apex pubescent, awned, 1 -awned. Principal lemma awn bigeniculate, 80–110 mm long overall, with twisted column. Middle segment of lemma awn 6 mm long. Column of lemma awn 6 mm long, puberulous. Palea 2 -veined, without keels.

Flower and Fruit. Lodicules 3. Anthers 3. Stigmas 2. Ovary glabrous. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Southeastern USA**. Florida.

Piptochaetium bicolor (Vahl) E.Desv. *C. Gay, Fl. Chil.* vi. 273. (1853).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Uruguay. **Basionym or Replaced Name**: *Stipa bicolor* Vahl, Symb. Bot. 2: 24. (1791). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Thuin s.n.*, Uruguay: Montevideo (C).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (483), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina*), Pt II, Gramineas (1969), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (241, Fig. 64), B.Rosengurtt, *Gramineas UruguayasI* (1970) (56, Fig. 18 as var. *bicolor* & var. *minor*).

Illustrations (Journals): *Darwiniana* (36: 122, Fig. 6D (1998)).

Derivation (Clifford & Bostock 2007): L. *bis*, twice; *color*, color. Two-colored, usually with respect to spikelets or florets.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 50–80 cm long, 3 -noded. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1–2 mm long, truncate. Leaf-blades flat or convolute, 12–25 cm long, 1–2 mm wide. Leaf-blade venation with 7–11 secondary veins. Leaf-blade surface ribbed, glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, nodding, 10–20 cm long. Primary panicle branches 3–5 -nate, whorled at lower nodes, 5–10 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, puberulous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 10–12 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus elongated, 1.5 mm long, pilose, pungent. Floret callus hairs 0.5 length of lemma.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, hyaline, purple, without keels, 5 -veined. Lower glume apex acuminate, awned, 1 -awned, awn 2 mm long. Upper glume ovate, 10–12 mm long, hyaline, purple, without keels, 5 -veined. Upper glume apex acuminate, awned, 1 -awned, awn 2 mm long.

Florets. Fertile lemma obovate, laterally compressed, gibbous, 5–6.5 mm long, indurate, dark brown, without keel. Lemma surface scabrous or papillose, rough above. Lemma margins involute, interlocking with palea keels. Lemma apex surmounted by a ring of hairs, with this appendage 0.5–0.8 mm long, awned, 1 -awned. Principal lemma awn eccentric, bigeniculate, 40–50 mm long overall, with twisted column. Column of lemma awn puberulous. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Anthers 3, 1.5 mm long, retained within floret or eventually exserted. Caryopsis with adherent pericarp, obovoid. Embryo 0.33 length of caryopsis. Hilum linear, 1 length of caryopsis.

Distribution (TDWG). Continent. Europe, South America (*).

Region. **Northern Europe** (*).

Country /Province /State. : GB Aliens (Ryves et al). **Brazil**, **Southern South America**. Brazil South. Argentina Northeast, Chile Central, Chile South, Juan Fernandez Is, Uruguay.

Rio Grande do Sul. Buenos Aires, Entre Rios. Valparaiso, Santiago, Maule, Biobio, La Araucania. Los Lagos.

Piptochaetium brachyspermum (Speg.) L. Parodi. *Rev. Mus. La Plata, n. s., Secc. Bot.*, vi. 229, 241 (1944).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. **Basionym or Replaced Name**: *Oryzopsis napostaensis* var. *brachysperma* Speg., *Anales Mus. Nac. Montevideo* 4(2): 17–18, f. 6d-f (1901)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Spegazzini s.n.*, Dec 1899, Argentina: prope Sierra de Cura-malal (LPS-2472). LT: *Spegazzini s.n. [42b]*, Feb. 1898, Argentina: Buenos Aires, in pratis La Pantanosa prope Carmen de Patagones (LPS-2471). LT designated by Parodi, Revista Mus. La Plata, sec. Bot. 6: 213–310 (1944)..

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (484), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (243, Fig. 65), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (335, Fig 227).

Illustrations (Journals): *Darwiniana* (36: 123, Fig. 7A (1998)).

Derivation (Clifford & Bostock 2007): Gk *brachys*, short; *sperma*, seed. Grains shorter than those of related species.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 30–40 cm long. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long, truncate. Leaf-blades filiform, conduplicate, 5–10 cm long, 0.5 mm wide. Leaf-blade venation with 3–4 secondary veins. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, nodding, 10–15 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 14–16 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus elongated, 2.5 mm long, pubescent, pungent.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 1 length of upper glume, hyaline, without keels, 3 -veined. Lower glume apex setaceously acuminate. Upper glume lanceolate, 14–16 mm long, hyaline, without keels, 3 -veined. Upper glume apex setaceously acuminate.

Florets. Fertile lemma oblong, laterally compressed, 5–6.5 mm long, indurate, without keel. Lemma surface striate. Lemma margins involute, interlocking with palea keels. Lemma apex scabrous, surmounted by a ring of hairs, awned, 1 -awned. Principal lemma awn eccentric, bigeniculate, 50–60 mm long overall, with twisted column. Column of lemma awn puberulous. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Caryopsis with adherent pericarp, obovoid, 2.5 mm long. Hilum linear, 1 length of caryopsis.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northeast.

Buenos Aires.

Piptochaetium brevicalyx (Fourn.) Ricker ex Hitchcock. *Contrib. US. Nat. Herb.* xvii. 286 (1913).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Mexico. **Basionym or Replaced Name**: *Stipa brevicalyx* E. Fourn., *Mexic. Pl.* 2: 150 (1886). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *C.C. Parry & E.*

Palmer 959, 1878, Mexico: San Luis Potos? in the region of San Luis Potos? 22ºN, 6000–8000 ft (US; IT: BAA (fragm.), K, MO-3048177, NY, US-994149).

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Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *brevis*, short; Gk *kalyx*, cup. The subtending glumes are much shorter than the lemma.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms slender, 10–30 cm long, 2 -noded. Culm-nodes black. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long. Leaf-blades filiform, involute, 5–15 cm long, 0.5 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, linear, 2–4 cm long, bearing few spikelets. Primary panicle branches ascending, 1 cm long, bearing 1–3 fertile spikelets on each lower branch. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 3 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, reaching apex of florets, thinner than fertile lemma. Lower glume oblong, 3 mm long, 1 length of upper glume, hyaline, purple, without keels, 3 -veined. Lower glume apex obtuse. Upper glume oblong, 3 mm long, hyaline, purple, without keels, 3–5 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong, laterally compressed, 3 mm long, indurate, dark brown or purple, shiny, without keel. Lemma surface glabrous. Lemma margins involute, interlocking with palea keels. Lemma apex truncate, awned, 1 -awned. Principal lemma awn eccentric, flexuous, 5–10 mm long overall. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Mexico**. Central Mexico, Northeast Mexico, Gulf (Mexico).

Mexico State, Tlaxcala. Aguascalientes, Durango, Guanajuato, Hidalgo, Queretaro, San Luis Potosi. Veracruz.

Piptochaetium burkartianum L. Parodi. *Rev. Mus. La Plata, n. s., Secc. Bot.,* vi. 291 (1944).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *L.R. Parodi 12329.5*, Nov 1936, Argentina: Corrientes: La Cruz (BAA; IT: US (fragm. ex BAA)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (484).

Illustrations (Journals): *Darwiniana* (36: 125, Fig. 9D (1998)).

Derivation (Clifford & Bostock 2007): L. *-anum*, indicating connection. In honor of Arturo Ehrardo Burkart (1906–1975) Argentine botanist.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 40–50 cm long, 3 -noded. Culm-internodes distally glabrous. Culm-nodes glabrous. Leaf-sheaths mostly shorter than adjacent culm internode, as wide as blade at the collar, glabrous on surface. Ligule an eciliate membrane, 0.5–1.5 mm long. Leaf-blades flat or convolute, 20–30 cm long, 0.5–2 mm wide. Leaf-blade venation with 7–9 secondary veins. Leaf-blade surface ribbed, grooved adaxially, glabrous or pubescent, sparsely hairy.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 6–12 cm long. Panicle branches glabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, angular, glabrous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus brief, pilose, obtuse. Floret callus hairs 0.5 length of lemma.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 4 mm long, 1.1 length of upper glume, membranous, much thinner on margins, purple, without keels, 5 -veined. Lower glume apex acuminate, awned, 1 -awned, awn 1 mm long. Upper glume lanceolate, 3.5 mm long, membranous, with hyaline margins, purple, without keels, 5 -veined. Upper glume apex acuminate, awned, 1 -awned, awn 1 mm long.

Florets. Fertile lemma obovate, laterally compressed, gibbous, 2.5 mm long, indurate, light brown, without keel. Lemma surface striate. Lemma margins involute, interlocking with palea keels. Lemma apex with an annular corona, awned, 1 -awned. Principal lemma awn eccentric, geniculate, 18–20 mm long overall, with twisted column, deciduous. Palea reflexed at apex, 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Anthers 3, 0.5 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northeast, Uruguay.

Corrientes.

Piptochaetium cabrerae L. Parodi. *Rev. Mus. La Plata, n. s., Secc. Bot.,* vi. 243 (1944).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *L.R. Parodi 13771*, 7 Nov 1940, Argentina: Buenos Aires (BAA; IT: US-1878621).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (485), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970).

Illustrations (Journals): *Darwiniana* (36: 123, Fig. 7B (1998)).

Derivation (Clifford & Bostock 2007): in honor of Antonius Cabrera, Spanish cleric and botanist.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 50–60 cm long, 3 -noded. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5–3 mm long, entire or bilobed. Leaf-blades flexuous, filiform, conduplicate, 12–18 cm long, 0.5 mm wide. Leaf-blade surface glabrous or puberulous.

Inflorescence. Inflorescence a panicle, comprising 10–20 fertile spikelets. Panicle contracted, linear, nodding, 12–20 cm long, bearing few spikelets. Primary panicle branches 2–3 -nate, simple or sparsely divided. Panicle axis smooth, puberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, pubescent.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 12 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus elongated, 2 mm long, pilose, pungent.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 12 mm long, 1.2 length of upper glume, membranous, much thinner on margins, purple, without keels, 4–5 -veined. Lower glume lateral veins all falling short of apex. Lower glume apex attenuate, awned, 1 -awned, awn 3–4 mm long. Upper glume lanceolate, 9–10 mm long, membranous, much thinner above, purple, without keels, 4–5 -veined. Upper glume lateral veins all falling short of apex. Upper glume apex attenuate, awned, 1 -awned, awn 3 mm long.

Florets. Fertile lemma oblanceolate, laterally compressed, gibbous, 7–7.5 mm long, indurate, dark brown, keeled, lightly keeled. Lemma surface papillose. Lemma margins involute, interlocking with palea keels. Lemma apex with an annular corona, awned, 1 -awned. Principal lemma awn eccentric, bigeniculate, 50 mm long overall, with twisted column, persistent. Column of lemma awn 15–20 mm long, pubescent. Palea 6 mm long, 0.9 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Lodicules 3, 1.5 mm long. Anthers 3, 2.5 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northeast.

Buenos Aires.

Piptochaetium calvescens L. Parodi. *Rev. Mus. La Plata, n. s., Secc. Bot.,* vi. 278 (1944).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *L.R. Parodi 10343*, 10 Nov 1932, Argentina: Buenos Aires: Sierra Currumalán, 600 m (BAA; IT: US-1895678).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (485), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970).

Illustrations (Journals): *Darwiniana* (36: 125, Fig. 9E (1998)).

Derivation (Clifford & Bostock 2007): L. *calvesco*, become bald. Plants in whole or in part glabrous.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 30–40 cm long, 3 -noded. Leaf-sheaths mostly shorter than adjacent culm internode, smooth, glabrous on surface. Ligule an eciliate membrane, 1.5 mm long, 0.5 mm long on basal shoots. Leaf-blades filiform, conduplicate, 5–10 cm long, 0.5 mm wide. Leaf-blade venation with 3 secondary veins. Leaf-blade surface ribbed, grooved adaxially, scabrous, rough adaxially.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear or oblong, 5–7 cm long, 1 cm wide. Primary panicle branches appressed. Panicle axis glabrous or puberulous. Panicle branches puberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, puberulous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus brief, glabrous or sparsely hairy, obtuse.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 5–6 mm long, 1.2 length of upper glume, membranous, much thinner on margins, purple, without keels, 5 -veined. Lower glume apex acuminate, awned, 1 -awned, awn 0.5–1 mm long. Upper glume lanceolate, 4–4.5 mm long, membranous, with hyaline margins, purple, without keels, 3 -veined. Upper glume apex acute, awned, 1 -awned, awn 0.5–1 mm long.

Florets. Fertile lemma obovate, laterally compressed, gibbous, 3 mm long, indurate, without keel. Lemma surface tuberculate, rough generally. Lemma margins involute, interlocking with palea keels. Lemma apex with an annular corona, awned, 1 -awned. Principal lemma awn eccentric, bigeniculate, 12–14 mm long overall, with twisted column, deciduous. Palea reflexed at apex, 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Anthers 3, 0.25 mm long, retained within floret. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northeast, Uruguay.

Buenos Aires.

Piptochaetium confusum L. Parodi. *Rev. Mus. La Plata, n. s., Secc. Bot.*, vi. 246 (1944).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Argentina: Entre Ríos: Concordia, 3 Nov 1921, *L. R. Parodi 3950* (HT: BAA).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (486), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina*), Pt II, Gramineas (1969) (138, Fig. 45), B.Rosengurtt, *Gramineas UruguayasI* (1970) (56, Fig. 18).

Illustrations (Journals): *Darwiniana* (36: 123, Fig. 7C (1998)).

Derivation (Clifford & Bostock 2007): L. confused. Likely to be mistaken for another species.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations extravaginal. Culms 30–120 cm long. Ligule an eciliate membrane, 0.2–1 mm long. Leaf-blades flat or convolute, 1–3 mm wide, coriaceous. Leaf-blade surface scabrous, rough adaxially, puberulous, sparsely hairy, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong, 5–30 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, subterete, 6–13 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, 0.7–1 mm long, pubescent, acute.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 1 length of upper glume, membranous, without keels, 3 -veined. Lower glume apex acute. Upper glume lanceolate or elliptic, 6–13 mm long, 1.5–1.6 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume surface scabrous, rough generally. Upper glume apex acute.

Florets. Fertile lemma elliptic, subterete, 4–8 mm long, coriaceous, without keel, more than 3-veined. Lemma surface pubescent, hairy all along. Lemma margins convolute, covering most of palea. Lemma apex awned, 1 -awned. Principal lemma awn bigeniculate, 14–25 mm long overall, with twisted column. Palea 2 -veined, without keels.

Flower and Fruit. Anthers 3, anther tip smooth. Stigmas 2. Ovary glabrous. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Brazil**, **Southern South America**. Brazil South. Argentina Northeast, Uruguay.

Catarina, Rio Grande do Sul. Entre Rios.

Piptochaetium cucullatum Roseng. & Izag. de Artucio. *Bol. Univ. Republ. Fac. Agron. Montevideo,* No. 90, 3 (1966).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Uruguay. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Arrillaga, Izaguirre & Laguardia 1512*, 9 Dec 1962, Uruguay: Dept. Salto: Termas de Arapey, próximo a la Estación (MVFA; IT: BAA, US-2951786).

Illustrations (Books): B.Rosengurtt, *Gramineas UruguayasI* (1970) (60, Fig. 19).

Illustrations (Journals): *Darwiniana* (36: 125, Fig. 9F (1998)).

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 20–30 cm long. Leaves mostly basal. Ligule an eciliate membrane. Leaf-blades filiform, convolute, 3–8 cm long, 0.5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 3–6 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent, truncate.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, hyaline, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume ovate, 4–5 mm long, hyaline, without keels, 1 -veined. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma obovate, laterally compressed, 2.5–2.8 mm long, indurate, without keel. Lemma margins involute, interlocking with palea keels. Lemma apex truncate, with a conical beak, awned, 1 -awned. Principal lemma awn eccentric, straight, 1–1.2 mm long overall. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Uruguay.

Piptochaetium featherstonei (Hitchcock) O. Tovar. *Opusc. Bot. Pharm. Complutensis,* 4: 104: (1988).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. **Basionym or Replaced Name**: *Stipa featherstonei* Hitchc., *Proc. Biol. Soc. Wash.* 36: 196 (1923). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.F. MacBride & W. Featherstone 803a*, 8–19 May 1922, Peru: Río Blanco, 4500 m (F-517331; IT: US-3099382). "The [holo]type is mounted with plants of *Stipa hansmeyeri*" Pilg. (Hitchcock, 1923).

Illustrations (Books): W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (552, Fig 207 as *Stipa hans-meyeri*).

Illustrations (Journals): *Darwiniana* (36: 123, Fig. 7D(1998)), *Ruizia* (13:85, Fig.9c (1993)).

Derivation (Clifford & Bostock 2007): in honor of William Featherstone (fl. 1922) United States botanist who collected in Peru.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 10–35 cm long. Ligule an eciliate membrane, 1–1.5 mm long, truncate. Leaf-blades flexuous, filiform, convolute, 3–15 cm long, 1 mm wide.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 2.5–4 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–6.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent, obtuse.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, hyaline, without keels. Lower glume apex acuminate. Upper glume ovate, 6–6.5 mm long, hyaline, without keels. Upper glume apex acuminate.

Florets. Fertile lemma oblong, laterally compressed, 4 mm long, indurate, without keel. Lemma surface papillose, pubescent. Lemma margins involute, interlocking with palea keels. Lemma apex truncate, awned, 1 -awned. Principal lemma awn eccentric, bigeniculate, 10 mm long overall, with twisted column. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Piptochaetium fimbriatum (H. B. & K.) Hitchcock. *Journ. Wash. Acad. Sc.* xxiii. 453 (1933).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Mexico. **Basionym or Replaced Name**: *Stipa fimbriata* Kunth, *Nov. Gen. Sp. (quarto ed.)* 1: 126 (1815) [1816]. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Humboldt & Bonpland s.n.*, no date, Mexico: Guanajuato: near Guanajuato (P-HBK-4224; IT: BAA (fragm. ex P), US-2767421 (fragm. ex P)).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (165), F.W.Gould, *The Grasses of Texas* (1975) (81, Fig. 36).

Derivation (Clifford & Bostock 2007): L. *fimbriae*, fringe; *-ata*, possessing. With fringed glumes or lemmas.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 30–80 cm long. Leaves mostly basal. Ligule an eciliate membrane, 0.5–1 mm long. Leaf-blades filiform, involute, 5–30 cm long, 0.5–1 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 6–15 cm long. Primary panicle branches 2–10 cm long. Panicle branches capillary. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then

both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 5–6 mm long, 1 length of upper glume, membranous, of similar consistency above, without keels, 3–7 -veined. Lower glume apex acuminate. Upper glume ovate, 5–6 mm long, 1.25 length of adjacent fertile lemma, membranous, of similar consistency above, with hyaline margins, without keels, 3–7 -veined. Upper glume apex acuminate.

Florets. Fertile lemma oblong, laterally compressed, gibbous, 4–5 mm long, indurate, pallid or dark brown, without keel. Lemma surface pubescent. Lemma margins involute, interlocking with palea keels. Lemma hairs white or red. Lemma apex truncate, awned, 1 -awned. Principal lemma awn bigeniculate, 12–18 mm long overall, with a straight or slightly twisted column. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Lodicules 3.

Distribution (TDWG). Continent. North America, South America.

Country /Province /State. **Southwestern USA**, **South-central USA**, **Mexico**. Arizona. New Mexico, Texas. Central Mexico, Northeast Mexico, Gulf (Mexico), Northwest Mexico, Southwest Mexico, Southeast Mexico. **Mesoamerica**. Guatemala.

Distrito Federal, Mexico State, Puebla, Tlaxcala. Aguascalientes, Coahuila, Chihuahua, Durango, Guanajuato, Hidalgo, Neuvo Leon, Queretaro, San Luis Potosi, Tamaulipas, Zacatecas. Veracruz. Baja California, Baja California Sur, Sonora. Jalisco, Michoacan, Oaxaca. Chiapas.

Piptochaetium grisebachii (Speg.) Herter. *Rev. Sudamer. Bot.* vi. 141 (1940).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online.

TYPE from Argentina. **Basionym or Replaced Name**: *Oryzopsis grisebachii* Speg., *Anales Mus. Nac. Montevideo* 4(2): 4–6, f. 2a-c (1901). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Lorentz s.n. Flora Entrerriana 1691*, Oct 1877, Argentina: Entre Ríos: Concepción del Uruguay (CORD; IT: LPS (fragm. ex CORD)).

Illustrations (Books): A.Burkat, *Flora Ilustrada de Entre Rios (Argentina*), Pt II, Gramineas (1969) (138, Fig 45), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (248, Fig. 66).

Derivation (Clifford & Bostock 2007): in honor of August Heinrich Rudolf Grisebach (1814–1879) German botanist.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 30–60 cm long, 3–4 -noded. Culm-nodes brown, glabrous. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1 mm long, truncate. Leaf-blades flat or convolute, 3–16 cm long, 1.5–2 mm wide. Leaf-blade venation with 5 secondary veins. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 5–15 cm long, 1–3 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, ciliate.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6.5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus brief, pilose, obtuse. Floret callus hairs 0.5 length of lemma.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, hyaline, purple, without keels, 5 -veined. Lower glume apex acuminate, awned, 1 -awned, awn 2–3 mm long. Upper glume ovate, 6.5–8 mm long, hyaline, purple, without keels, 5 -veined. Upper glume apex acuminate, awned, 1 -awned, awn 2–3 mm long.

Florets. Fertile lemma obovate, laterally compressed, gibbous, 3–3.5 mm long, indurate, dark brown, without keel. Lemma margins involute, interlocking with palea keels. Lemma apex with a membranous corona or surmounted by a ring of hairs, awned, 1 -awned. Principal lemma awn eccentric, bigeniculate, 20 mm long overall, with twisted column. Column of lemma awn puberulous. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Anthers 3, 1.5 mm long. Caryopsis with adherent pericarp, 2–2.5 mm long, dark brown. Hilum linear.

Distribution (TDWG). Continent. South America.
Country /Province /State. **Southern South America**. Argentina Northeast.
Buenos Aires, Entre Rios.

Piptochaetium hackelii (Arech.) Parodi. *Rev. Fac. Agron. & Vet., Buenos Aires,* vii. 162 (1930).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Uruguay. **Basionym or Replaced Name**: *Stipa hackelii* Arechav., *Anales Mus. Nac. Buenos Aires* 4: 179, f. 2 (1895). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Arechavaleta 39a*, Uruguay: Cerro de Montevideo, cerca de la cumbre (?; IT: LPS-2486, US, W).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (486), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (238, Fig. 63 & 243, Fig. 65), B.Rosengurtt, *Gramineas UruguayasI* (1970) (56, Fig. 18).

Derivation (Clifford & Bostock 2007): in honor of Eduard Hackel (1850–1926) Bohemian-born Austrian botanist with special interest in the grasses.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 60–100 cm long, 2–3 -noded. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1–2 mm long, truncate or obtuse. Leaf-blades convolute, 15–30 cm long, 1–1.5 mm wide. Leaf-blade venation with 3 secondary veins. Leaf-blade surface scabrous, rough adaxially.

Inflorescence. Inflorescence a panicle, comprising 5–18 fertile spikelets, embraced at base by subtending leaf. Panicle open, nodding, 8–10 cm long, bearing few spikelets. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, pubescent.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 21–30 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus elongated, 4 mm long, pubescent, obtuse.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 21–30 mm long, 1.1 length of upper glume, hyaline, dark brown or purple, without keels, 5–7 -veined. Lower glume apex setaceously acuminate. Upper glume lanceolate, 18–25 mm long, hyaline, dark brown or purple, without keels, 5–7 -veined. Upper glume apex setaceously acuminate.

Florets. Fertile lemma oblong, laterally compressed, 10.5–11.5 mm long, indurate, dark brown or black, without keel. Lemma surface striate. Lemma margins involute, interlocking with palea keels. Lemma apex scabrous, surmounted by a ring of hairs, awned, 1 -awned. Principal lemma awn median, bigeniculate, 80–100 mm long overall, with twisted column. Column of lemma awn 50–60 mm long, puberulous. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Anthers 3, 4 mm long, anther tip penicillate. Caryopsis with adherent pericarp, fusiform, 6 mm long. Embryo 0.2 length of caryopsis. Hilum linear, 1 length of caryopsis.

Distribution (TDWG). Continent. South America.
Country /Province /State. **Southern South America**. Argentina Northeast, Uruguay.
Buenos Aires, La Pampa.

Piptochaetium hirtum Phil. *Anal. Univ. Chil.* 559. (1873).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Philippi s.n.*, Dec 1864, Chile: Cerro de Renca (SGO-45077; ILT: K, SGO-5742, SGO-45078, US- (photo SGO-45078)). LT designated by Ciadella & Arriaga, Darwiniana 36: 133 (1998). T: Santiago: Chile (US- (fragm. ex herb Philippi ex hb. P. Bot. Gard.)).

Illustrations (Journals): *Darwiniana* (36: 125, Fig. 9G (1998)).

Derivation (Clifford & Bostock 2007): L. hairy. Hairy in part or extensively.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 20–35 cm long, 2 -noded. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5 mm long. Leaf-blades flexuous, filiform, 5–10 cm long, 0.5 mm wide. Leaf-blade venation with 3 secondary veins. Leaf-blade surface hirsute.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 5–7 cm long, 0.5–1 cm wide, bearing few spikelets. Panicle axis glabrous or puberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, pubescent.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus brief, glabrous, obtuse.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, hyaline, dark brown or purple, without keels, 5 -veined. Lower glume apex acuminate, awned, 1 -awned, awn 2 mm long. Upper glume ovate, 6 mm long, hyaline, dark brown or purple, without keels, 5 -veined. Upper glume apex acuminate, awned, 1 -awned, awn 2 mm long.

Florets. Fertile lemma obovate, laterally compressed, gibbous, 3 mm long, indurate, dark brown, without keel. Lemma margins involute, interlocking with palea keels. Lemma apex awned, 1 -awned. Principal lemma awn eccentric, geniculate, 8–15 mm long overall, with twisted column, deciduous. Column of lemma awn puberulous. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Chile Central.

Valparaiso, Santiago.

Piptochaetium indutum L. Parodi. *Rev. Mus. La Plata, n. s., Secc. Bot.,* vi. 258 (1944).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *S. Venturi 8414*, 26 Jan 1929, Argentina: Salta, Rosario de Lerma, Puerta Tastil, en faldas pedregosas, 2700 m (BAA; IT: US-1547277 (fragm. ex BAA)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (487).

Illustrations (Journals): *Darwiniana* (36: 124, Fig. 8A (1998)), *Ruizia* (13:85, Fig.9d (1993)).

Derivation (Clifford & Bostock 2007): L. *induo*, clothe. Glumes and/or lemmas densely hairy.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 15–20 cm long, 2 -noded, with 0.5 of their length below uppermost node. Culm-internodes elliptical in section. Culm-nodes glabrous. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1 mm long, truncate. Leaf-blades curved, convolute, 6–8 cm long, 1 mm wide, stiff. Leaf-blade venation with 6 secondary veins, with unevenly thickened subepidermal sclerenchyma layer on the underside. Leaf-blade surface ribbed, scabrous, rough abaxially.

Inflorescence. Inflorescence a panicle, comprising 10–12 fertile spikelets. Panicle contracted, oblong, 5 cm long, 1 cm wide, bearing few spikelets. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 5–15 mm long, smooth or scaberulous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 9–11 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus elongated, 1.5 mm long, pubescent, pungent. Floret callus hairs 1 mm long.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 1 length of upper glume, hyaline, without keels, 5 -veined. Lower glume apex acuminate. Upper glume lanceolate, 9–11 mm long, hyaline, without keels, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma oblong, laterally compressed, 5.5–6 mm long, indurate, dark brown, without keel. Lemma surface pubescent. Lemma margins involute, interlocking with palea keels. Lemma hairs dark

brown, 0.5 mm long. Lemma apex with a membranous corona, awned, 1 -awned. Principal lemma awn median, bigeniculate, 20 mm long overall, with twisted column. Column of lemma awn 5–7 mm long, pubescent. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus. Palea apex pubescent.

Flower and Fruit. Anthers 3, 1 mm long. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**, **Southern South America**. Bolivia, Ecuador, Peru. Argentina Northwest.

Jujuy, Salta.

Piptochaetium jubatum Henrard. *Meded. Bot. Mus. Herb. Riiks Univ. Utrecht, No*. 67, 537 (1939); *et in Rec.Trav. Bot. Neerl.* vi. 537 (1940).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Uruguay. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *B. Rosengurtt et al. 2198*, Dec 1937, Uruguay: Canelones (L-938.280–383; IT: BAA, US-1723425).

Illustrations (Books): B.Rosengurtt, *Gramineas UruguayasI* (1970) (60, Fig. 19).

Illustrations (Journals): *Darwiniana* (36: 125, Fig. 9H (1998)).

Derivation (Clifford & Bostock 2007): L. *jubum*, mane; *-ata*, possessing. The inflorescence or awn resembles a fo xtail.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 30–70 cm long, 2–3 -noded. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1–2 mm long. Leaf-blades filiform, conduplicate, 10–25 cm long, 0.5 mm wide. Leaf-blade venation with 3 secondary veins.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, equilateral or nodding, bearing few spikelets. Primary panicle branches appressed. Panicle axis puberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, puberulous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5.5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus brief, bearded, obtuse. Floret callus hairs 1 length of lemma.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 5.5–6 mm long, 1.1 length of upper glume, hyaline, without keels, 3–5 -veined. Lower glume apex attenuate, awned, 1 -awned, awn 2 mm long. Upper glume ovate, 5–5.5 mm long, hyaline, without keels, 3–5 -veined. Upper glume apex attenuate, awned, 1 -awned, awn 2 mm long.

Florets. Fertile lemma obovate, laterally compressed, gibbous, 2.8 mm long, indurate, dark brown, without keel. Lemma margins involute, interlocking with palea keels. Lemma apex with a membranous corona or surmounted by a ring of hairs, awned, 1 -awned. Principal lemma awn eccentric, bigeniculate, 18–20 mm long overall, with twisted column. Column of lemma awn 5–7 mm long, puberulous. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Anthers 3, 0.5 mm long, retained within floret. Caryopsis with adherent pericarp. Embryo 0.33 length of caryopsis. Hilum linear.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Uruguay.

Piptochaetium lasianthum Griseb. *Goett. Abh.* xxiv. 297. (1879).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Lorentz Flora Enterriana 1157*, Oct 1877, Argentina: Entre Ríos: Concepción del Uruguay, Quinta del Colegio, en praderas (GOET; IT: CORD, US (fragm. ex GOET)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (488), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (540, Fig. 117), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina*), Pt II, Gramineas (1969) (138, Fig. 45), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (248, Fig. 66), B.Rosengurtt, *Gramineas UruguayasI* (1970) (56, Fig. 18).

Illustrations (Journals): *Darwiniana* (36: 126, Fig. 10A (1998)).

Derivation (Clifford & Bostock 2007): Gk. *lasios*, woolly; *anthos*, flower. Spikelets hairy.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Culms 30–70 cm long, 2–3 -noded. Culm-nodes glabrous. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long, entire or bilobed, truncate. Leaf-blades flexuous, filiform, convolute, 15–30 cm long, 0.5 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, nodding, 10–25 cm long. Primary panicle branches whorled at lower nodes, 5–8 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, glabrous or puberulous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6.5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, 0.75 mm long, pubescent, obtuse.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 6.5–7 mm long, 1.1 length of upper glume, hyaline, purple, without keels, 5 -veined. Lower glume apex acuminate, awned, 1 -awned, awn 1.5 mm long. Upper glume lanceolate, 6 mm long, hyaline, purple, without keels, 5 -veined. Upper glume apex acuminate, awned, 1 -awned, awn 1.5 mm long.

Florets. Fertile lemma obovate, laterally compressed, gibbous, 3–3.2 mm long, indurate, dark brown, without keel. Lemma surface pilose. Lemma margins involute, interlocking with palea keels. Lemma hairs dark brown, 6 mm long. Lemma apex awned, 1 -awned. Principal lemma awn eccentric, bigeniculate, 15–20 mm long overall, with twisted column. Column of lemma awn 5 mm long. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Anthers 3, 1.5 mm long. Caryopsis with adherent pericarp, 1.5–2 mm long. Hilum linear.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Brazil**, **Southern South America**. Brazil South. Argentina Northeast, Uruguay.

Catarina, Rio Grande do Sul. Rio Grande do Sul, Santa Catarina. Buenos Aires, Cordoba, Corrientes, Entre Rios, Misiones, Santa Fe.

Piptochaetium lejopodum (Speg.) Henrard. *Meded. Bot. Mus. Herb. Rijks Univ. Utrecht, No*. 67, 536 (1939), in obs. ; etin *Rec. Trav. Bot. Neerl*. vi. 536 (1940).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. **Basionym or Replaced Name**: *Oryzopsis lejopoda* Speg., *Anales Mus. Nac. Montevideo* 4(2): 19, f. 7 (1901). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Spegazzini s.n.*, Nov 1895, Argentina: Buenos Aires: Sierra de la Ventana, Valle de las Vertientes (LPS-12666).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (488), E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (203, Fig. 59), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (as *P. lejopodium*), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (335, Fig 227), B.Rosengurtt, *Gramineas UruguayasI* (1970) (60, Fig. 19).

Derivation (Clifford & Bostock 2007): Gk. *leios*, smooth; *pous*, foot. Callus is glabrous.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 20–40 cm long. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5–2 mm long, entire or bilobed, truncate. Leaf-blades filiform, 10–15 cm long, 0.5 mm wide. Leaf-blade surface pubescent, sparsely hairy.

Inflorescence. Inflorescence a panicle, exserted or embraced at base by subtending leaf. Panicle contracted, elliptic, 5–8 cm long, 1–2 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 8–8.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus brief, 0.5–1 mm long, glabrous or sparsely hairy, obtuse.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 8–8.5 mm long, 1.1 length of upper glume, hyaline, without keels, 5 -veined. Lower glume apex acuminate. Upper glume lanceolate, 7–7.5 mm long, hyaline, without keels, 5 -veined. Upper glume apex acuminate.

Florets. Fertile lemma obovate, laterally compressed, gibbous, 3–4 mm long, indurate, dark brown or black, keeled, lightly keeled. Lemma surface papillose, rough above. Lemma margins involute, interlocking with palea keels. Lemma apex with a membranous corona, with this appendage 1.8–2 mm long, awned, 1 -awned. Principal lemma awn eccentric, bigeniculate, 12–15 mm long overall, with twisted column, deciduous. Column of lemma awn pubescent. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Caryopsis with adherent pericarp, orbicular. Hilum linear, 1 length of caryopsis.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northeast, Argentina South, Uruguay. Buenos Aires.

Piptochaetium medium (Speg.) M. A. Torres. *Bol. Soc. Argent. Bot.* xi. 251 (1969).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. **Basionym or Replaced Name**: *Oryzopsis bicolor* var. *media* Speg., *Anales Mus. Nac. Montevideo* 4(2): 9, f. 3d-e (1901)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Spegazzini s.n.*, Dec 1899, Argentina: Buenos Aires: Sierra de Curamalal (LPS-12517). LT designated by Torres, Bol. Soc. Argent. Bot. 11: 251 (1969).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (489), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (243, Fig. 65).

Illustrations (Journals): *Darwiniana* (36: 124, Fig. 8B (1998)).

Derivation (Clifford & Bostock 2007): L. middle. Characters mid-way between two or more other species.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 40–80 cm long, 3 -noded. Leaf-sheaths mostly shorter than adjacent culm internode, striately veined, glabrous on surface. Ligule an eciliate membrane, 2–4 mm long, truncate or obtuse. Leaf-blades flat or convolute, 2.5–20 cm long, 1–2.5 mm wide.

Inflorescence. Inflorescence a panicle, exserted or embraced at base by subtending leaf. Panicle open, ovate, equilateral or nodding, 10–30 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 9–11 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus elongated, 1–2 mm long, pilose, pungent.

Glumes. Glumes persistent, similar, with lower wider than upper, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 9–11 mm long, 1.1 length of upper glume, membranous, without keels, 5 -veined. Lower glume apex acuminate. Upper glume ovate, 8.5–10.5 mm long, membranous, without keels, 5 -veined. Upper glume apex acuminate.

Florets. Fertile lemma obovate, laterally compressed, gibbous, 4.5–6.5 mm long, indurate, without keel. Lemma surface papillose, rough above. Lemma margins involute, interlocking with palea keels. Lemma apex with an annular corona, awned, 1 -awned. Principal lemma awn eccentric, bigeniculate, 30–45 mm long overall, with twisted column. Column of lemma awn puberulous. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Northern South America**, **Brazil**, **Southern South America**. Venezuela. Argentina Northeast, Uruguay.

Buenos Aires, Cordoba, Entre Rios, La Pampa.

Piptochaetium montevidense (Spreng.) Parodi. *Rev. Fac. Agron. & Vet., Buenos Aires,* vii. 163 (1930).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Uruguay. **Basionym or Replaced Name**: *Caryochloa montevidensis* Spreng., *Syst. Veg.* 4(2): 30 (1827). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *F. Sellow s.n.*, no date, Uruguay: Montevideo (B; IT: MO-2097072, US-865749 (fragm. ex B)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (490), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (69, Fig 10), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), S.A.Renvoize, *Gramineas de Bolivia* (1998) (Fig. 19), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (540 & 560, Fig. 117 & 120), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina*), Pt II, Gramineas (1969) (140, Fig 46), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (238, Fig. 63), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (335, Fig 227), F.O.Zuloaga et al, *Flora del Paraguay* 23 (1994), B.Rosengurtt, *Gramineas UruguayasI* (1970) (60, Fig. 19).

Illustrations (Journals): *Darwiniana* (36: 126, Fig. 10C (1998)), *Ruizia* (13:85, Fig.9b (1993)).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Montevideo, Uruguay.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 30–63 cm long. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 2 mm long, 0.5 mm long on basal shoots. Leaf-blades filiform, conduplicate, 5–15 cm long, 0.5 mm wide. Leaf-blade surface glabrous or pubescent.

Inflorescence. Inflorescence a panicle, exserted or embraced at base by subtending leaf. Panicle contracted, linear, 2–10 cm long, 1–2 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–3.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus brief, 0.5–1 mm long, pubescent, obtuse.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 3–3.5 mm long, 1–1.1 length of upper glume, hyaline, without keels, 5 -veined. Lower glume apex acuminate. Upper glume lanceolate, 3 mm long, hyaline, without keels, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma orbicular, laterally compressed, gibbous, 1.5–2 mm long, indurate, dark brown or black, without keel. Lemma surface tuberculate, rough generally. Lemma margins involute, interlocking with palea keels. Lemma apex with a membranous corona, with this appendage 0.5 mm long, awned, 1 -awned. Principal lemma awn eccentric, flexuous, 7–8 mm long overall, deciduous. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Lodicules 2. Caryopsis with adherent pericarp, orbicular, 0.6–0.7 mm long. Hilum linear, 1 length of caryopsis.

Distribution (TDWG). Continent. Europe (*), Australasia (*), South America.

Region. **Northern Europe** (*).

Country /Province /State. : GB Aliens (Ryves et al). **Australia** (*). Victoria (*). **Northern South America**, **Western South America**, **Brazil**, **Southern South America**. Venezuela. Bolivia, Ecuador, Peru. Brazil Southeast, Brazil South. Argentina Northeast, Argentina Northwest, Chile Central, Chile South, Paraguay, Uruguay.

Sao Paulo Parana, Catarina, Rio Grande do Sul. Sao Paulo. Paraná, Rio Grande do Sul, Santa Catarina. Jujuy, Salta. Buenos Aires, Chaco, Cordoba, Corrientes, Distrito Federal, Entre Rios, La Pampa, Misiones, Santa Fe. Rest of Chile- Biobio, La Auracania, Maule, O'Higgins, Santado, Valpariso. Coquimbo, Valparaiso, O'Higgins, Maule, Biobio, La Araucania. Los Lagos.

Piptochaetium napostaense (Speg.) Hackel ex Stuckert. *Anal. Mus. Buenos Aires, Ser.* III. vi. 463 (1906).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. **Basionym or Replaced Name**: *Oryzopsis napostaensis* Speg., *Anales Mus. Nac. Montevideo* 4(2): 15–17, f. 6 (1901). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Argentina: in aridis australioribus prov. Buenos Aires inter Sierra de Cur?malal et Río Negro, per ann. 1895–1899, *C. Spegazzini s.n.*.

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (491), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (243, Fig. 65), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (335, Fig 227).

Illustrations (Journals): *Darwiniana* (36: 122, Fig. 6A-B (1998)).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Naposta, Argentina.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 60–80 cm long. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1 mm long, truncate. Leaf-blades filiform, 10–20 cm long, 0.3–0.5 mm wide. Leaf-blade venation with 3–4 secondary veins. Leaf-blade surface glabrous or puberulous.

Inflorescence. Inflorescence a panicle. Panicle open, nodding, 10–20 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, subterete, 20–24 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus elongated, 5 mm long, pilose, pungent.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 20–24 mm long, 1.1 length of upper glume, hyaline, without keels, 5 -veined. Lower glume apex setaceously acuminate. Upper glume lanceolate, 18–20 mm long, hyaline, without keels, 5 -veined. Upper glume apex setaceously acuminate.

Florets. Fertile lemma oblong, subterete, 7–11.5 mm long, indurate, dark brown or black, without keel. Lemma surface striate. Lemma margins involute, interlocking with palea keels. Lemma apex scabrous, surmounted by a ring of hairs, with this appendage 1.2 mm long, awned, 1 -awned. Principal lemma awn median, bigeniculate, 70–105 mm long overall, with twisted column. Column of lemma awn pubescent. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Lodicules 2. Anthers eventually exserted or retained within floret. Caryopsis with adherent pericarp, 4–4.5 mm long. Hilum linear, 1 length of caryopsis.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northeast, Argentina South.

Catamarca, Mendoza, San Luis, Tucuman. Buenos Aires, Cordoba, La Pampa. Chubut, Río Negro.

Piptochaetium palustre J. Mujica-Salles & H.M. Longhi-Wagner. *Candollea,* 48(1): 15 (1993).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Brasil: Santa Catarina: Mun. de Urupema: junto a la Estacion Retransmisora del Morro de Campo Novo, campo de

altirude, 1680 m em topo de morro, solo turfosa, negro e mal drenado 27.54S 49.51W, 25 Nov 1984, *Valls et al. 8083* (HT: ICN; IT: CEN).

Illustrations (Journals): *Darwiniana* (36: 124, Fig. 8C (1998)).

Derivation (Clifford & Bostock 2007): L. swampy place. Growing in swampy places.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 18–35 cm long, 1–2 mm diam., 2–3 -noded. Culm-internodes 7–13 cm long. Culm-nodes constricted, brown or purple, glabrous. Leaf-sheaths 5–6.5 cm long, glabrous on surface. Ligule an eciliate membrane, 1.3–1.4 mm long, lacerate. Leaf-blades convolute, 3–8 cm long, 1–1.5 mm wide. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 15–25 fertile spikelets. Peduncle 6–8.5 cm long. Panicle open, lanceolate, 10–12 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 2.5–8 mm long, scabrous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets obovate, laterally compressed, 7–8.5 mm long, 1–1.3 mm wide, breaking up at maturity, disarticulating below each fertile floret. Floret callus elongated, 1.2–1.7 mm long, pilose, pungent. Floret callus hairs 0.33 length of lemma.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 6.5–7.5 mm long, 0.9 length of upper glume, hyaline, purple (below), without keels, 3 -veined. Upper glume lanceolate, 8–8.5 mm long, hyaline, purple (below), without keels, 5 -veined. Upper glume apex acuminate.

Florets. Fertile lemma oblanceolate, laterally compressed, gibbous, 6–6.2 mm long, 0.9–1.1 mm wide, indurate, dark brown, without keel. Lemma surface papillose and striate. Lemma margins involute, interlocking with palea keels. Lemma apex with an annular corona and surmounted by a ring of hairs, with corona 0.6–0.7 mm wide, awned, 1 -awned. Principal lemma awn geniculate, 25–35 mm long overall, with twisted column. Palea 5 mm long. Palea surface papillose.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Brazil**. Brazil South.

Santa Catarina.

Piptochaetium panicoides (Lam.) E.Desv. *C. Gay, Fl. Chil.* vi. 270. (1853).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Uruguay. **Basionym or Replaced Name**: *Stipa panicoides* Lam., *Tabl. Encycl.* 1: 158 (1791). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Commerson s.n.*, 1767, Uruguay: Montevideo: au pied du Morne le Grand (P-LAM; IT: MPU, US- (fragm. ex MPU-LAM-85)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (491), S.A.Renvoize, *Gramineas de Bolivia* (1998) (95, Fig. 19), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina*), Pt II, Gramineas (1969) (138, Fig 45), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (248, Fig. 66), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (335, Fig 227 as var. *subpapillosum*), B.Rosengurtt, *Gramineas UruguayasI* (1970) (60, Fig. 19 as *P. panicoides* forma *panicoides* & *P. panicoides* forma *subpapillosum*).

Illustrations (Journals): *Darwiniana* (36: 126, Fig. 10C (1998)), *Ruizia* (13:85, Fig.9a (1993)).

Derivation (Clifford & Bostock 2007): Gk. -o*ides*, resembling. Resembling Panicum, usually with respect to form of the inflorescence or spikelet.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 15–40 cm long, 3 -noded. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1–2 mm long, 0.5 mm long on basal shoots, bilobed. Leaf-blades filiform, conduplicate, 5–15 cm long, 0.5 mm wide. Leaf-blade venation with 3 secondary veins. Leaf-blade surface puberulous, hairy adaxially.

Inflorescence. Inflorescence a panicle, exserted or embraced at base by subtending leaf. Panicle contracted, linear, 5–12 cm long, 1 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus brief, pubescent, obtuse.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 4 mm long, 1.1 length of upper glume, hyaline, without keels, 5 -veined. Lower glume apex acuminate. Upper glume lanceolate, 3.5 mm long, hyaline, without keels, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma orbicular, laterally compressed, gibbous, 1.8–2.5 mm long, indurate, dark brown or black, keeled, lightly keeled. Lemma surface smooth or papillose. Lemma margins involute, interlocking with palea keels. Lemma apex awned, 1 -awned. Principal lemma awn eccentric, geniculate, 10 mm long overall, with twisted column. Column of lemma awn puberulous. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Lodicules 2. Caryopsis with adherent pericarp, orbicular, laterally compressed. Hilum linear, 1 length of caryopsis.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Northern South America**, **Western South America**, **Brazil**, **Southern South America**. Venezuela. Bolivia, Colombia, Ecuador, Peru. Brazil South. Argentina Northeast, Argentina South, Argentina Northwest, Chile Central, Chile South, Uruguay.

Rio Grande do Sul. Jujuy, Salta, Tucuman. Buenos Aires, Cordoba, Entre Rios. Neuquén. Coquimbo, O'Higgins, Maule, Biobio, La Araucania. Los Lagos.

Piptochaetium pringlei (Beal) L. Parodi. *Rev. Mus. La Plata, n. s., Secc. Bot.,* vi. 230 (1944).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Mexico. **Basionym or Replaced Name**: *Oryzopsis pringlei* Beal, *Bot. Gaz.* 15(5): 112 (1890)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *C.G. Pringle 1410*, 5 Nov 1887, Mexico: Chihuahua: dry ledges, Sierra Madre (MSC; IT: LL, MO-3727953, US-745762, US-825134).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (163), F.W.Gould, *The Grasses of Texas* (1975) (73, Fig. 31 as *Stipa*).

Derivation (Clifford & Bostock 2007): in honor of Cyrus Guernsey Pringle (1838–1911) United States botanist.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 40–100(–120) cm long. Culm-internodes distally glabrous. Culm-nodes glabrous or pubescent. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1–3 mm long. Leaf-blades flat or involute, 20–35 cm long, 1–3 mm wide. Leaf-blade surface scabrous.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, nodding, 8–15(–20) cm long. Primary panicle branches ascending. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, subterete, 9–11 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, 1 mm long, pubescent, obtuse.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 9–11 mm long, 1 length of upper glume, hyaline, without keels, 5–9 -veined. Lower glume apex acuminate or setaceously acuminate. Upper glume lanceolate, 9–11 mm long, 1.3 length of adjacent fertile lemma, hyaline, without keels, 5–9 -veined. Upper glume apex acuminate.

Florets. Fertile lemma oblong, subterete, 7–8.5 mm long, 1–1.5 mm wide, coriaceous, dark brown, without keel, 5 -veined, more than 3-veined. Lemma lateral veins ribbed. Lemma surface pubescent. Lemma margins convolute, covering most of palea. Lemma hairs tawny. Lemma apex awned, 1 -awned. Principal lemma awn geniculate or bigeniculate, 20–30 mm long overall, with a straight or slightly twisted column. Column of lemma awn glabrous. Palea without keels.

Flower and Fruit. Lodicules 2. Anthers 3. Stigmas 2. Ovary glabrous. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Southwestern USA**, **South-central USA**, **Mexico**. Arizona. New Mexico, Texas. Central Mexico, Northeast Mexico, Northwest Mexico, Southwest Mexico.

Puebla. Coahuila, Chihuahua, Durango, Guanajuato, Neuvo Leon, San Luis Potosi. Sonora. Oaxaca.

Piptochaetium ruprechtianum E.E.Desv. *C. Gay, Hist. Chile, Bot.*, vi. 274 (1853).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Brazil, Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *F. Sellow s.n.*, Brazil: without locality (LE-TRIN-1382.03 (& fig.) IST: BAA (fragm.), US (fragm. ex LE-TRIN & fig.), US (fragm. ex BAA)). ST: *missit Otto*, Montevideo (LE-TRIN-1382.01). ST: *F. Sellow missit Schlechtendal*, Brasil (LE-TRIN-1382.03 (& fig.)). ST: *Sellow*, ad fl. Rio Grande do Sul. (NE. nisi hic locus ad St. intermediam spectat.) (LE-TRIN-1382.02 (& fig.); IST: US- (fragm. ex LE-TRIN-1382.02)). presumably this is Beta 2 p.p. Nees.

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (492), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (540, Fig. 117), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina*), Pt II, Gramineas (1969) (138, Fig. 45), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (243, Fig. 65), B.Rosengurtt, *Gramineas UruguayasI* (1970) (56, Fig. 18).

Illustrations (Journals): *Darwiniana* (36: 124, Fig. 8D (1998)).

Derivation (Clifford & Bostock 2007): L. *-anum*, indicating connection. In honor of Franz Josef Iwanowitsch Ruprecht (1814–1870) German-born Russian botanist.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 80–150 cm long, 3–4 -noded. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 2–5 mm long. Leaf-blades flat or convolute, 25–40 cm long, 1–2 mm wide. Leaf-blade venation with 7–9 secondary veins. Leaf-blade surface puberulous, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, nodding, 20–40 cm long. Primary panicle branches whorled at lower nodes, 6–10 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, puberulous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 13–15 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus elongated, 2.5–3 mm long, pilose, with longer hairs above, pungent. Floret callus hairs 0.66 length of lemma.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 1 length of upper glume, hyaline, purple, without keels, 5 -veined. Lower glume apex setaceously acuminate. Upper glume lanceolate, 11–15 mm long, hyaline, purple, without keels, 5 -veined. Upper glume apex setaceously acuminate.

Florets. Fertile lemma oblong or obovate, laterally compressed, 7–8.5 mm long, indurate, without keel. Lemma surface striate. Lemma margins involute, interlocking with palea keels. Lemma apex scabrous, surmounted by a ring of hairs, awned, 1 -awned. Principal lemma awn eccentric, bigeniculate, 55–75 mm long overall, with twisted column. Column of lemma awn 20–25 mm long, puberulous. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Anthers 3, 0.75 mm long, retained within floret. Caryopsis with adherent pericarp, fusiform, 4 mm long. Embryo 0.25 length of caryopsis. Hilum linear, 1 length of caryopsis.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Brazil**, **Southern South America**. Brazil Southeast, Brazil South. Argentina Northeast, Uruguay.

Sao Paulo Parana, Catarina, Rio Grande do Sul. Sao Paulo. Paraná, Rio Grande do Sul, Santa Catarina. Buenos Aires, Misiones.

Piptochaetium sagasteguii Sánchez Vega. *Arnaldoa* 1(1): 17 (1991).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *I. Sánchez Vega 2914*, 15 Jan 1983, Peru: Cajamarca: Cajamarca Prov. (CPUN; IT: AAU, CHAPA, F, HAO, K, MO-4025532, US-3232467, USM).

Illustrations (Journals): *Darwiniana* (36: 124, Fig. 8D (1998)).

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 25–60 cm long, 3 -noded. Ligule an eciliate membrane, 0.5–1 mm long, obtuse. Leaf-blades flat or conduplicate, 10–20 cm long, 1–2 mm wide, stiff. Leaf-blade venation with 5–6 secondary veins.

Inflorescence. Inflorescence a panicle. Panicle open, linear or lanceolate, 10–18 cm long, bearing few spikelets. Primary panicle branches appressed. Panicle axis with lower internodes 3–5 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5.5–9.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, 0.8–2 mm long, pubescent, acute.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 1 length of upper glume, hyaline, without keels, 3–5 -veined. Lower glume apex acuminate. Upper glume oblong, 5.5–9.5 mm long, hyaline, without keels, 3–5 -veined. Upper glume apex acuminate.

Florets. Fertile lemma oblong, laterally compressed, 3–6 mm long, indurate, dark brown, without keel. Lemma surface pubescent. Lemma margins involute, interlocking with palea keels. Lemma apex truncate, surmounted by a ring of hairs, awned, 1 -awned. Principal lemma awn eccentric, bigeniculate, 15–25 mm long overall, with twisted column. Middle segment of lemma awn pubescent. Column of lemma awn pubescent. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Lodicules 3. Anthers 2–2.5 mm long. Caryopsis with adherent pericarp, 4 mm long.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Piptochaetium seleri (Pilger) Henrard. *Blumea,* iii. 452 (1940).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Guatemala. **Basionym or Replaced Name**: *Oryzopsis seleri* Pilg., *Verh. Bot. Vereins Prov. Brandenburg* 51: 192 (1909). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Hab. in Guatemala, in dept. Huehuetenango in Llanos in jugo summo montium Andium inter Todos los Santos et Chiantla sitorum, in 3000 m altitud, flor. Sept., *Seler 3238* (HT: B; IT: US-2767420, BAA (fragm. of B HT)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Caecilie Seler (1855-) and Georg Eduard Seler (1849–1922) who collected in Central and South America.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 15–65 cm long. Leaves mostly basal. Ligule an eciliate membrane, 2–4.5 mm long. Leaf-blades filiform, involute, 10–25 cm long, 1 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 4–10 cm long, 3–6 cm wide. Panicle branches flexuous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.5–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pilose, obtuse.

Glumes. Glumes persistent, similar, reaching apex of florets, thinner than fertile lemma. Lower glume obovate, 3.5–4.5 mm long, 1 length of upper glume, membranous, purple, without keels, 1–3 -veined. Lower glume lateral veins absent or distinct. Lower glume apex acuminate. Upper glume obovate, 3.5–4.5 mm long, 1 length of adjacent fertile lemma, membranous, purple, without keels, 1–3 -veined. Upper glume lateral veins absent or distinct. Upper glume apex acuminate.

Florets. Fertile lemma obovate, laterally compressed, gibbous, 3.5–4 mm long, indurate, light brown, without keel. Lemma surface pubescent. Lemma margins involute, interlocking with palea keels. Lemma hairs tawny. Lemma apex truncate, surmounted by a ring of hairs, awned, 1 -awned. Principal lemma awn bigeniculate, 11–15 mm long overall, with twisted column. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Lodicules 3.

Distribution (TDWG). Continent. North America, South America.

Country /Province /State. **Mexico**. Central Mexico, Northeast Mexico, Gulf (Mexico), Southwest Mexico, Southeast Mexico. **Mesoamerica**. Guatemala.

Distrito Federal, Mexico State, Morelos. Coahuila, Hidalgo, Neuvo Leon. Veracruz. Michoacan. Chiapas.

Piptochaetium setosum Arech. *An. Mus. Montevideo,* i. 330 (1896).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: (LE-TRIN-1473.1; ILT: US). LT designated by Parodi, *Revista Mus. La Plata*, secc. Bot. 6: 213–310 (1944).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (165).

Illustrations (Journals): *Darwiniana* (36: 126, Fig. 10E (1998)).

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 20–40 cm long, 2–3 -noded. Culm-nodes brown, glabrous. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1–1.5 mm long, lacerate. Leaf-blades filiform, convolute, 10–18 cm long, 0.5 mm wide. Leaf-blade venation with 3–4 secondary veins. Leaf-blade surface glabrous or puberulous.

Inflorescence. Inflorescence a panicle, comprising 10–25 fertile spikelets. Panicle contracted, linear, 5–10 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus brief, pilose, obtuse. Floret callus hairs 0.33 length of lemma.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, hyaline, purple, without keels, 5 -veined. Lower glume apex acuminate, awned, 1 -awned, awn 2–3 mm long. Upper glume ovate, 5–6 mm long, hyaline, purple, without keels, 5 -veined. Upper glume apex acuminate, awned, 1 -awned.

Florets. Fertile lemma obovate, laterally compressed, gibbous, 3–3.5 mm long, indurate, dark brown, keeled, lightly keeled. Lemma surface smooth or papillose, rough above. Lemma margins involute, interlocking with palea keels. Lemma apex awned, 1 -awned. Principal lemma awn eccentric, geniculate, 15 mm long overall, with twisted column, deciduous. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. North America, South America.

Country /Province /State. **Southwestern USA**. California. **Southern South America**. Chile Central.

Rest of Chile- Biobio, La Auracania, Maule, O'Higgins, Santado, Valpariso. Valparaiso, Santiago, O'Higgins, Maule, Biobio, La Araucania.

Piptochaetium stipoides (Trin. & Rupr.) Hackel ex Arech. *An. Mus. Montevideo,* i. 328 (1896).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Brazil. **Basionym or Replaced Name**: *Urachne stipoides* Trin. & Rupr., *Sp. Gram. Stipac.* 25 (1842). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Sellow s.n.*, Brasil (LE-TRIN-1476.01). Beta 1. ST: 1836, Bras. Berol. (LE-TRIN-1476.02). Beta Nees ab E.. ST: *Sellow {Riedel crossed out}*, Brasil: merid. (LE-TRIN-1476.03). *Urachne stipoides* is written on this spcimen only.

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (493 & 494), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (165), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (556, Fig. 119 as var. *stipoides, purpurascens, verruculosum, chaetophorum*), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina*), Pt II, Gramineas (1969) (136, Fig. 44 as var. *stipoides, purpurascens, verruculosum, chaetophorum*), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (540, Fig. 117), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (241, Fig. 64 as var. *purpurascens, parviflorum, verruculosum, stipoides, ecinulatum*), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (335, Fig. 227 as var. *echinulatum*), B.Rosengurtt, *Gramineas UruguayasI* (1970) (62, Fig. 20 as var. *stipoides, chaetophorum, echinulatum, purpurascens, verruculosum*).

Illustrations (Journals): *Darwiniana* (36: 126, Fig. 10F-I (1998) as var. *stipoides,* Fig. 10J, as var. *echinulatum*).

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resembling. With spikelets resembling those of *Stipa*.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 22–60 cm long. Leaf-sheaths glabrous on surface, outer margin hairy. Ligule an eciliate membrane, 0.5–1.5 mm long, bilobed. Leaf-blades conduplicate, 10–25 cm long, 2 mm wide. Leaf-blade surface pubescent, sparsely hairy, hairy abaxially.

Inflorescence. Inflorescence a panicle, exserted or embraced at base by subtending leaf. Panicle open, ovate, dense, 3–12 cm long, 0.8–3 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus brief, 0.5–1 mm long, pilose, obtuse. Floret callus hairs 0.33–0.5 length of lemma.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 8 mm long, 1.1 length of upper glume, hyaline, purple, without keels, 5 -veined. Lower glume apex acuminate. Upper glume lanceolate, 7 mm long, hyaline, purple, without keels, 5 -veined. Upper glume apex acuminate.

Florets. Fertile lemma obovate, laterally compressed, gibbous, 2.5–3 mm long, indurate, dark brown or black, without keel. Lemma surface striate. Lemma margins involute, interlocking with palea keels. Lemma apex scabrous, surmounted by a ring of hairs, with this appendage 1.2–1.8 mm long, awned, 1 -awned. Principal lemma awn eccentric, geniculate, 13–18 mm long overall, with twisted column, deciduous. Column of lemma awn pubescent. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Lodicules 2. Caryopsis with adherent pericarp, orbicular, 1.7 mm long. Hilum linear, 1 length of caryopsis.

Distribution (TDWG). Continent. North America, South America.

Country /Province /State. **Southwestern USA**, **Mexico**. California. Central Mexico, Northeast Mexico, Southwest Mexico. **Western South America**, **Brazil**, **Southern South America**. Colombia. Brazil South. Argentina Northeast, Argentina South, Argentina Northwest, Chile Central, Uruguay.

Catarina, Rio Grande do Sul. Rio Grande do Sul, Santa Catarina. Catamarca, Jujuy, San Luis. Buenos Aires, Chaco, Cordoba, Corrientes, Entre Rios, La Pampa, Misiones, Santa Fe. Río Negro. Coquimbo, Valparaiso, Santiago, Maule, Biobio, La Araucania. Puebla. Guanajuato, Neuvo Leon, San Luis Potosi. Jalisco.

Piptochaetium tovarii I. Sanchez Vega. *Arnaldoa,* 1(1): 25 (1991).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *I. Sánchez V. & M. Vilhena 678*, 22 May 1971, Peru: Cajamarca, Cajamarca Prov. (CPUN; IT: MO-4025530, US-3232468).

Illustrations (Journals): *Darwiniana* (36: 126, Fig. 10K (1998) as subsp. *tovarii* and Fig. 10L, as subsp. *pilosa*).

Derivation (Clifford & Bostock 2007): in honor of Oscar Tovar (1923-) Peruvian botanist.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 30–60 cm long, 2–3 -noded. Leaf-sheaths 3–5.5 cm long. Ligule an eciliate membrane, 1.5–2.5 mm long, obtuse. Leaf-blades curved or flexuous, flat or conduplicate, 10–20 cm long, 1–2 mm wide.

Inflorescence. Inflorescence a panicle, exserted or embraced at base by subtending leaf. Panicle contracted, linear or oblong, 5–11 cm long, 0.5–1 cm wide. Primary panicle branches appressed. Panicle branches flexuous, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 1.25–2.5 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.5–5.75 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus 0.25 mm long, glabrous.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, hyaline, without keels, 3–5 -veined. Lower glume apex setaceously acuminate. Upper glume ovate, 3.5–5.75 mm long, hyaline, without keels, 3 -veined. Upper glume apex setaceously acuminate.

Florets. Fertile lemma oblong, laterally compressed, gibbous, 2.2–3.5 mm long, indurate, dark brown, without keel. Lemma surface striate. Lemma margins involute, interlocking with palea keels. Lemma apex truncate, awned, 1 -awned. Principal lemma awn eccentric, flexuous, 6–10 mm long overall, deciduous, limb puberulous, glabrescent towards tip. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Anthers 1.25 mm long. Caryopsis with adherent pericarp, oblong, 1.75 mm long, truncate.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Ecuador, Peru.

Piptochaetium uruguense Griseb. *Goett. Abh.* xxiv. 297. (1879).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Uruguay. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *P.G. Lorentz 471*, 13 Nov 1875, Argentina: Entre Ríos: Quinta del Colegio, Concepción del Uruguay (GOET; IT: B, BA, BAA-2429 (fragm. ex B), CORD, US- (fragm. ex GOET)).

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Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (494), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (540, Fig. 117), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina*), Pt II, Gramineas (1969) (138, Fig. 45), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (335, Fig. 227 as var. *microcarpum*), B.Rosengurtt, *Gramineas UruguayasI* (1970) (62, Fig. 20).

Illustrations (Journals): *Darwiniana* (36: 125, Fig. 9A-B (1998)).

Derivation (Clifford & Bostock 2007): L. -ense, denoting origin. From Uruguay.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 40–70 cm long, 3 -noded. Culm-nodes brown, glabrous. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1 mm long,

truncate. Leaf-blades 20–40 cm long, 1.5–2 mm wide. Leaf-blade venation with 7–9 secondary veins. Leaf-blade surface smooth or scaberulous, rough abaxially, glabrous.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Panicle open, elliptic, nodding, 10–30 cm long. Primary panicle branches 4–8 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, pubescent.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus brief, pilose, obtuse. Floret callus hairs 0.33–0.5 length of lemma.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 4.5 mm long, 1.1 length of upper glume, hyaline, purple, without keels, 5 -veined. Lower glume apex acuminate, awned, 1 -awned, awn 1–1.5 mm long. Upper glume lanceolate, 4 mm long, hyaline, purple, without keels, 5 -veined. Upper glume apex acuminate, awned, 1 -awned, awn 1 mm long.

Florets. Fertile lemma obovate, laterally compressed, gibbous, 2.5–3 mm long, indurate, dark brown or black, without keel. Lemma surface tuberculate. Lemma margins involute, interlocking with palea keels. Lemma apex surmounted by a ring of hairs, awned, 1 -awned. Principal lemma awn eccentric, bigeniculate, 20–25 mm long overall, with twisted column. Column of lemma awn 5–7 mm long, glabrous. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Flower and Fruit. Anthers 3, 1 mm long. Caryopsis with adherent pericarp, obovoid, 1.7 mm long. Hilum linear.

Distribution (TDWG). Continent. North America, South America.

Country /Province /State. **Mexico**. Northeast Mexico. **Brazil**, **Southern South America**. Brazil South. Argentina Northeast, Argentina South, Paraguay, Uruguay.

Catarina, Rio Grande do Sul. Rio Grande do Sul, Santa Catarina. Salta. Chaco, Corrientes, Entre Rios, Misiones, Santa Fe. San Luis Potosi.

Piptochaetium virescens (H. B. & K.) L. Parodi. *Rev. Mus. La Plata, n. s., Secc. Bot.,* vi. 230 (1944).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Mexico. **Basionym or Replaced Name**: *Stipa virescens* Kunth, *Nov. Gen. Sp. (quarto ed.)* 1: 126 (1815) [1816].

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *M.A. Bonpland 4255 [hb. Humbolt 174]*, no date, Mexico: Guanajuato: near Guanajuato, Sta. Rosa & Cuesta de Belgrado... Mt. La Buffa (P; IT: US-2624149, US-2767422 (fragm. ex P-HUMB-59, fragm. ex P, fragm. ex P-HUMB-174 & photo)). syntypes?.

Illustrations (Books): R.McVaugh, *Flora Nova-Galiciana* Vol.14 *Gramineae* (1983).

Derivation (Clifford & Bostock 2007): L. *viresco*, become green. Panicle shiny-green.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 100–120 cm long, wiry. Ligule an eciliate membrane. Leaf-blades filiform, involute, 15–30 cm long, 1 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 10–25 cm long. Primary panicle branches appressed, 5–10 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–8.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, 1 mm long, pubescent, acute.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 6–8.5 mm long, 1 length of upper glume, membranous, purple, without keels, 3 -veined. Lower glume apex acute. Upper glume elliptic, 6–8.5 mm long, 1.2–1.3 length of adjacent fertile lemma, membranous, purple, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, subterete, 5–6.5 mm long, indurate, without keel. Lemma surface papillose, pubescent. Lemma margins involute, interlocking with palea keels. Lemma hairs tawny. Lemma apex truncate, surmounted by a ring of hairs, with this appendage 0.5 mm long, awned, 1 -awned. Principal

lemma awn bigeniculate, 15–20 mm long overall, with twisted column. Palea 1 length of lemma, 2 -veined. Palea keels contiguous above a sulcus.

Distribution (TDWG). Continent. North America, South America.

Country /Province /State. **Mexico**. Central Mexico, Northeast Mexico, Gulf (Mexico), Southwest Mexico, Southeast Mexico. **Mesoamerica**, **Northern South America**. Guatemala. Venezuela.

Distrito Federal, Mexico State, Morelos, Puebla, Tlaxcala. Aguascalientes, Coahuila, Guanajuato, Hidalgo, Neuvo Leon, Queretaro, Tamaulipas, Zacatecas. Veracruz. Jalisco, Michoacan, Oaxaca. Chiapas.

Piptophyllum welwitschii (Rendle) C.E.Hubb. *Kew Bull.* 1957, 53 (1957).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Angola. **Basionym or Replaced Name**: *Pentaschistis welwitschii* Rendle, *Cat. Welw. Afr. Pl.* ii. 213. (1899). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Angola, Cabondo: Welwitsch 2808; Angola, Tunda-Quilombo: Welwitsch 7419 (K isosyn).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Friedrich Martin Josef Welwitsch (1806–72) Austrian-born botanist, physician and traveller.

Classification. Subfamily Arundinoideae. Tribe: Arundineae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths pubescent or woolly, persistent and investing base of culm, with fibrous dead sheaths. Culms erect, 30–40 cm long. Leaves mostly basal. Ligule a fringe of hairs. Leaf-blades deciduous at the ligule, filiform, involute, 10–20 cm long, 1–2 mm wide. Leaf-blade surface ribbed. Leaf-blade apex acuminate, hardened.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 7–17 cm long. Panicle branches capillary. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus obtuse.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma, gaping. Lower glume ovate, 1 mm long, 0.66 length of upper glume, hyaline, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume ovate, 1.5 mm long, 0.75 length of adjacent fertile lemma, hyaline, without keels, 1 -veined. Upper glume lateral veins absent. Upper glume apex acuminate, awned, 1 -awned, awn 0.5–1 mm long.

Florets. Fertile lemma ovate, 2 mm long, membranous, without keel, 5–9 -veined, more than 3-veined. Lemma margins ciliate. Lemma apex dentate, 2 -fid, awned, 3 -awned. Principal lemma awn from a sinus, flexuous, 5 mm long overall. Lateral lemma awns present, arising on apex of lobes, 1 mm long, shorter than principal. Rhachilla extension 0.2 length of fertile floret.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **South Tropical Africa**. Angola.

Piresia goeldii Swallen. *Phytologia,* xi. 153 (1964).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *E.A. Goeldi 72*, Jun 1914, Brazil: Par? Maguary-assu (US-1039650).

Illustrations (Books): E.Judziewicz, *Flora of the Guianas*, 187. *Poaceae* (1990) (Fig.90).

Derivation (Clifford & Bostock 2007): in honor of Andreas Goeldi (1859–1917).

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths absent. Culms 7–14 cm long, wiry. Culm-nodes pubescent. Leaves cauline, 15–18 per branch, distichous. Leaf-sheaths longer than adjacent culm internode, glabrous on surface or pilose, outer margin hairy. Ligule an eciliate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades ovate, 1–1.7 cm long, 2.5–6 mm wide.

Leaf-blade surface pilose, sparsely hairy. Leaf-blade apex acute. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Synflorescence on a separate leafless culm.

Inflorescence composed of racemes. Racemes 1, single, 5 cm long, bearing few fertile spikelets, bearing 2 fertile spikelets on each. Sexes mixed. Spikelets in pairs. Fertile spikelets pedicelled, 1 in the cluster. Male spikelets sessile, 1 in a cluster. Pedicels present, cuneate.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, dorsally compressed, 6 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes deciduous, similar, reaching apex of florets, thinner than fertile lemma. Lower glume elliptic, 6 mm long, 1 length of upper glume, herbaceous, without keels, 5 -veined. Lower glume apex acute. Upper glume elliptic, 6 mm long, 1 length of adjacent fertile lemma, herbaceous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma elliptic, 6 mm long, indurate, without keel, 5 -veined, more than 3-veined. Lemma surface pubescent. Palea indurate, 2 -veined.

Flower and Fruit. Anthers 3.

Male spikelets distinct from female, 1 flowered, separately deciduous, lanceolate, 3 mm long. Male spikelet glumes absent. Male spikelet lemma 3 -veined, muticous.

Distribution (TDWG). Continent. North America, South America.

Country /Province /State. **Mexico**. Southeast Mexico. **Northern South America**, **Western South America**, **Brazil**. French Guiana, Venezuela. Colombia, Ecuador, Peru. Brazil North.

Amazonas, Acre, Rondonia. Amazonas, Pará, Roraima. Chiapas.

Piresia leptophylla T.R. Soderstrom. *Brittonia,* 34(2): 206 (1982).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *T.R. Soderstrom, G.F. Russell & J. Hage 2225*, 26 May 1976, Brazil: Bahia: Una Mun. Fazenda Itapororoca (CEPEC; IT: B (photo, USJ), CANB, DD, F, K, L, LE, MO, NY, P, PE, PRE, RB, SI, TNS, US-2810637, US-2810638, US-2810639).

Illustrations (Books): S.A.Renvoize, *The Grasses of Bahia*, 1984 (28, Fig.7), E.J.Judziewicz et al, *American Bamboos* (1999) (303, Fig. 184).

Derivation (Clifford & Bostock 2007): Gk. *leptos*, narrow*; phyllon*, leaf. Leaf-blades narrow.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths absent. Culms 20–35 cm long, wiry. Culm-nodes pubescent. Leaves cauline, 6–12 per branch. Ligule an eciliate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 5–6 cm long, 4–7 mm wide. Leaf-blade apex acute. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Synflorescence on the same culm as leaves (rarely) or on a separate leafless culm.

Inflorescence composed of racemes. Racemes 1, single, 3.5–4 cm long, bearing few fertile spikelets, bearing 2–3 fertile spikelets on each (and 2–5 male). Sexes mixed. Spikelets solitary or in pairs. Fertile spikelets pedicelled, 1 in the cluster. Male spikelets sessile, 1 in a cluster. Pedicels present, cuneate.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, dorsally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes deciduous, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 5–7 mm long, 1 length of upper glume, herbaceous, without keels, 5 -veined. Lower glume lateral veins with cross-veins. Lower glume apex acuminate. Upper glume ovate, 5–7 mm long, 1.2 length of adjacent fertile lemma, herbaceous, without keels, 5 -veined. Upper glume lateral veins with cross-veins. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma ovate, 5 mm long, indurate, pallid or dark brown, mottled with last colour, shiny, without keel, 5 -veined, more than 3-veined. Lemma lateral veins with cross-veins. Lemma surface pubescent. Lemma apex truncate. Palea indurate, 2 -veined.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp, ovoid, 4 mm long. Embryo 0.2 length of caryopsis. Hilum linear, 1 length of caryopsis.

Male spikelets distinct from female, 1 flowered, separately deciduous, lanceolate, 4 mm long, glabrous. Male spikelet glumes absent. Male spikelet lemma 3 -veined, muticous.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**, **Brazil**. Colombia, Ecuador. Brazil Northeast, Brazil North.

Bahia, Ceara, Rio Grande do Norte, Paraiba, Penambuco, Alagoas, Sergipe. Bahia, Pernambuco, Paraíba. Amazonas.

Piresia macrophylla T.R. Soderstrom. *Brittonia,* 34(2): 203 (1982).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Peru: San Martín: Alto Río Huallaga, Tarapoto, alt. 360–900 m, weed, Dec 1929, *L. Williams 6547* (HT: F(fragm., US)).

Illustrations (Books): E.Judziewicz, *Flora of the Guianas*, 187. *Poaceae* (1990) (Fig.90).

Illustrations (Journals): *Ruizia* (13:45, Fig.4c-d (1993)).

Images: E.J.Judziewicz, E.J., *American Bamboos* (1999);.

Derivation (Clifford & Bostock 2007): Gk. makros, large; *phyllon*, leaf. Leaf-blades large.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths absent. Culms 20–50 cm long, wiry. Leaves cauline, 5–8 per branch. Leaf-sheaths pilose (above). Leaf-sheath oral hairs lacking. Ligule an eciliate membrane. Leaf-blade base with a brief petiole-like connection to sheath, petiole pubescent. Leaf-blades oblong, 9–13 cm long, 15–25 mm wide, mid-green, concolorous. Leaf-blade surface glabrous. Leaf-blade apex acute. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Synflorescence on a separate leafless culm.

Inflorescence composed of racemes, terminal and axillary. Racemes 1, single, 2–3 cm long, bearing few fertile spikelets, bearing 4–6 fertile spikelets on each. Rhachis pubescent on surface. Sexes mixed. Spikelets in pairs. Fertile spikelets pedicelled, 1 in the cluster. Male spikelets sessile, 1 in a cluster. Pedicels present, cuneate.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, dorsally compressed, 5.5–6 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes deciduous, similar, reaching apex of florets, thinner than fertile lemma. Lower glume elliptic, 5.5–6 mm long, 1 length of upper glume, herbaceous, without keels, 5 -veined. Lower glume lateral veins ribbed, with cross-veins. Lower glume apex acute. Upper glume elliptic, 5.5–6 mm long, 1 length of adjacent fertile lemma, herbaceous, without keels, 3 -veined. Upper glume lateral veins ribbed, with cross-veins. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma elliptic, 5.5–6 mm long, indurate, without keel, 5 -veined, more than 3-veined. Lemma surface pubescent. Lemma margins covering most of palea. Palea indurate, 2 -veined.

Flower and Fruit. Anthers 3.

Male spikelets distinct from female, 1 flowered, separately deciduous, lanceolate, 4 mm long. Male spikelet glumes absent. Male spikelet lemma 3 -veined, muticous.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Northern South America**, **Western South America**, **Brazil**. French Guiana. Peru. Brazil Northeast, Brazil North.

Bahia. Acre, Rondonia.

Piresia palmula M.L.S.Carvalho & R.P.Oliveira. *Syst. Bot.* 37 (1): 135 (2012).

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Bahia: Igrapuana, Reserva Ecologica da Michelin, Mata da Vila Cinco, 24 May 2008, *Pimenta 63* (holo: HUEFS; iso: ALCB, CEPEC, IAN, INPA, K, P, RB, SP, SPF).

Illustrations (Journals): *Systematic Botany* (37 (1): 136, Fig. 2 (2012)).

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths absent. Culms 6.6–36 cm long, 0.6–2 mm diam., wiry. Culm-internodes distally glabrous. Culm-nodes pubescent. Leaves cauline, (4–)5(–8) per branch. Leaf-sheaths pilose. Ligule an eciliate membrane, 0.2–0.3 mm long. Leaf-blade base symmetrical or asymmetrical, with a brief petiole-like connection to sheath, petiole glabrous. Leaf-blades linear or lanceolate, 4–12 cm long, 6–15 mm wide, fleshy, dark green. Leaf-blade surface pilose, sparsely hairy, hairy abaxially. Leaf-blade apex acute. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Synflorescence on the same culm as leaves (rarely) or on a separate leafless culm.

Inflorescence composed of racemes. Racemes 1, single, 5–7 cm long, bearing few fertile spikelets, bearing 4–5 fertile spikelets on each. Sexes mixed. Spikelets solitary or in pairs. Fertile spikelets pedicelled, 1 in the cluster. Male spikelets pedicelled, 1 in a cluster. Pedicels present, cuneate, pubescent.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate or ovate, dorsally compressed, 5–7.9 mm long, 2.3–3.1 mm wide, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes deciduous, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 6.3–7.9 mm long, 1.1 length of upper glume, herbaceous, without keels, 8 -veined. Lower glume apex acuminate, awned, 1 -awned, awn 1–6 mm long. Upper glume ovate, 6–7 mm long, 0.9 length of adjacent fertile lemma, herbaceous, without keels. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma lanceolate or ovate, 4.8–7.6 mm long, 2–3 mm wide, indurate, without keel. Lemma surface pubescent.

Flower and Fruit. Lodicules 3. Anthers 3. Staminodes present. Stigmas 1. Caryopsis with adherent pericarp, ellipsoid, 5.3–8.3 mm long, light brown. Hilum linear, 0.75 length of caryopsis.

Male spikelets distinct from female, 1 flowered, separately deciduous, lanceolate, 2.9–3.4 mm long. Male spikelet glumes absent. Male spikelet lemma muticous.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Brazil**. Brazil Northeast.

Bahia.

Piresia sympodica (Doell) Swallen. *Phytologia,* xi. 153 (1964).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from French Guiana. **Basionym or Replaced Name**: *Olyra sympodica* Döll, *Fl. Bras.* 2(2): 322 (1877). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *P. Sagot 925*, no date, French Guiana: Cayenne (P (fragm.); ILT, US-2877980); B; BM; K; W).

Illustrations (Books): J.A.Steyermark et al, *Flora of the Venezuelan Guayana* Vol. 8 (2004) (247, Fig. 201), E.Judziewicz, *Flora of the Guianas*, 187. *Poaceae* (1990) (Fig. 90–92).

Derivation (Clifford & Bostock 2007): Gk. *syn*, together with; *pous*, foot; *-ike*, belonging to. Male spikelets sessile, female spikelets stalked.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths absent. Culms erect or geniculately ascending, 15–30 cm long, wiry. Leaves cauline, 5–7 per branch. Ligule an eciliate membrane. Leaf-blade base broadly rounded, with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 3–7 cm long, 6–12 mm wide, mid-green or glaucous, discolorous with last colour beneath. Leaf-blade surface pilose, hairy abaxially. Leaf-blade apex acute. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Synflorescence on a separate leafless culm.

Inflorescence composed of racemes, terminal and axillary. Racemes 1, single, bearing few fertile spikelets, bearing 2–3 fertile spikelets on each. Sexes mixed. Spikelets in pairs. Fertile spikelets pedicelled, 1 in the cluster. Male spikelets sessile, 1 in a cluster. Pedicels present, cuneate.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, dorsally compressed, 7–8 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes deciduous, similar, reaching apex of florets, thinner than fertile lemma. Lower glume elliptic, 7–8 mm long, 1 length of upper glume, herbaceous, without keels, 5 -veined. Lower glume lateral veins ribbed. Lower glume surface puberulous. Lower glume apex acuminate. Upper glume elliptic, 7–8 mm long, 1 length of adjacent fertile lemma, herbaceous, without keels, 3 -veined. Upper glume lateral veins ribbed. Upper glume surface puberulous. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma elliptic, 7–8 mm long, indurate, without keel, 5 -veined, more than 3-veined. Lemma surface pubescent. Palea indurate, 2 -veined.

Flower and Fruit. Anthers 3.

Male spikelets distinct from female, 1 flowered, separately deciduous, lanceolate, 3 mm long. Male spikelet glumes absent. Male spikelet lemma 3 -veined, muticous.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Caribbean**, **Northern South America**, **Western South America**, **Brazil**. Trinidad-Tobago. French Guiana, Guyana, Surinam, Venezuela. Colombia, Ecuador, Peru. Brazil North.

Bahia, Pernambuco. Amapa, Amazonas, Pará.

Piresiella strephioides (Griseb.) E.J.Judziewicz, F.O.Zuloaga & O.Morrone. *Ann. Missouri Bot. Gard.,* 80(4): 857: (1993).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Mniochloa*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Cuba. **Basionym or Replaced Name**: *Olyra strephioides* Griseb., *Cat. Pl. Cub.* 229 (1866). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *C. Wright 3435*, 27 Aug-5 Sep 1865, Cuba: Pinar del Río: Río Santa [burk], among adventitious roots of palms, river margin (GOET; IT: GH, HAC, MO, NY-71099 [1865], NY-71100 [1865], NY-71101 [1860–1864], US-2877923 (fragm. ex GOET), US-2877924 (fragm. ex GOET)).

Recent Synonyms: *Mniochloa strephioides* (Griseb.) Chase, *Proc. Biol. Soc. Washington,* 21: 186 (1908).

Illustrations (Books): E.J.Judziewicz et al, *American Bamboos* (1999) (286, Fig. 173).

Illustrations (Journals): *Ann. Missouri Bot. Gard.* (80: 855. Fig.3 A-J (1993)).

Images: E.J.Judziewicz, E.J., *American Bamboos* (1999);.

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resembling. The foliage resembles that of *Strephium*.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths absent. Culms 10–15 cm long. Leaves cauline. Ligule absent. Leaf-blade base broadly rounded, with a brief petiole-like connection to sheath. Leaf-blades oblong, 0.5–1.5 cm long, 3–8 mm wide. Leaf-blade apex obtuse. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Synflorescence on a separate leafless culm (shorter than sterile culms).

Inflorescence composed of racemes. Racemes 2, paired, unilateral, 1.5–2 cm long. Rhachis angular. Sexes segregated, on unisexual branches, with male conjugate. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets pedicelled. Pedicels present, filiform (male) or cuneate (female).

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, dorsally compressed, 3.5–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, with lower wider than upper, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 3.5–4.5 mm long, 1 length of upper glume, herbaceous, without

keels, 5 -veined. Lower glume apex acute. Upper glume ovate, 3.5–4.5 mm long, 1.1 length of adjacent fertile lemma, herbaceous, without keels, 3 -veined. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma ovate, 3–4 mm long, coriaceous, without keel. Lemma surface pubescent. Lemma margins involute. Lemma apex acute. Palea 1 length of lemma, coriaceous, 2 -veined. Palea surface pubescent.

Flower and Fruit. Male spikelets distinct from female, 1 flowered, persistent, lanceolate, 1–1.5 mm long, glabrous. Male spikelet glumes absent. Male spikelet lemma 3 -veined, muticous.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Caribbean**. Cuba.

Plagiantha tenella S.A. Renvoize. *Kew Bull.*, 37(2): 323 (1982).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *R.M. Harley, S.A. Renvoize, C.M. Erskine, C.A. Brighton & R. Pinheiro 16639*, 4 Mar 1974, Brazil: Bahia: Serra do Curral Feio, 16 km W of Lagoinha (5.5 km SW of Delfino) on side road to Minas do Mimoso, small stream with marsh on white sand and surrounding cerrado on sandstone rock exposures, alt. 950–1000 m, ca. 10?2'S, 41?0'W (CEPEC; IT: K, MO-3663767, US-2955117).

Illustrations (Books): S.A.Renvoize, *The Grasses of Bahia*, 1984 (179, Fig. 67).

Derivation (Clifford & Bostock 2007): L. slender. Culms or inflorescence branches slender.

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Otachyriinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect or decumbent, 30–80 cm long, rooting from lower nodes. Ligule a ciliolate membrane. Leaf-blade base broadly rounded. Leaf-blades lanceolate, 5–10 cm long, 3–7 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 5–8 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets oblong, tilted on the pedicel, dorsally compressed, 2.2–2.8 mm long, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume oblate, 0.33 length of spikelet, membranous, without keels, 3(–5) -veined. Lower glume apex obtuse. Upper glume ovate, 0.8 length of adjacent fertile lemma, membranous, without keels, 5 -veined. Upper glume apex obtuse.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret oblong, 1 length of spikelet, membranous, 2-keeled, 2(–4) -veined, sulcate, obtuse. Palea of lower sterile floret becoming indurate on flanks at maturity. Fertile lemma ovate, 2.2–2.8 mm long, coriaceous, without keel. Lemma margins involute. Lemma apex acute. Palea coriaceous.

Flower and Fruit. n = 10 (2 refs TROPICOS).

Distribution (TDWG). Continent. South America.

Country /Province /State. **Brazil**. Brazil Northeast.

Bahia. Bahia.

Plagiosetum refractum (F.Muell.) Benth. *Hook. Icon.* 13: t. 1242 (1878).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Paractaenum*), D.Sharp, D. & B.K.Simon, *AusGrass* (2002) (as *Paractaenum*).

Basionym or Replaced Name: *Setaria refracta* F. Muell., *Fragm.* 3: 147 (1862). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia]: "Ad rivum Cooper's Creek legit sub expeditions Howittiana Dr. J. Murray.",.

Recent Synonyms: *Paractaenum refractum* (F.Muell.) R.Webster, Austral. Panic. 148 (1987).

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (466, Fig 400), C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952) (291, Pl 85), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (342),

J.C.Tothill,& J.B.Hacker. *The grasses of southern Queensland* (1983) (348), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), R.Pilger, *Die Naturlichen Pflanzenfamilien* 14e (1940) (84, Fig. 52).

Illustrations (Journals): *Hooker's Icones Plantarum* (t.1242 (1877)).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002); (as *Paractaenum*).

Derivation (Clifford & Bostock 2007): L. curved back abruptly. Mostly applied to species whose mature inflorescence branches curve back.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Cenchrinae.

Habit, Vegetative Morphology. Annual. Culms erect or decumbent, 20–50 cm long, rooting from lower nodes. Ligule a fringe of hairs, 1 mm long. Leaf-blades convolute, 2–10 cm long, 2–5 mm wide. Leaf-blade surface scabrous, rough on both sides. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 5–15, borne along a central axis, deflexed or spreading, cuneate, unilateral, 1–3 cm long, bearing 1 spikelet or few fertile spikelets, bearing 1–2 fertile spikelets on each. Central inflorescence axis 10–20 cm long, flattened, tip filiform. Rhachis deciduous from axis, flattened, terminating in a barren extension, extension a fan of bristles. Raceme-bases linear, 1–8 mm long. Spikelets subtended by an involucre. Fertile spikelets pedicelled, 1 in the cluster. Involucre composed of bristles, 7–15 mm long. Involucral bristles deciduous with the fertile spikelets, numerous, 3–4 per spikelet. Pedicels present, oblong, 1.5–4 mm long.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, dorsally compressed, acute, 6–7.5 mm long, falling entire, deciduous with accessory branch structures.

Glumes. Glumes similar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.5–0.66 length of spikelet, membranous, without keels, 5–7 -veined. Lower glume apex acute or acuminate. Upper glume lanceolate, membranous, without keels, 15–19 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret similar to upper glume, lanceolate, 1 length of spikelet, membranous, 15–19 -veined, acute. Fertile lemma elliptic, dorsally compressed, 5 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex acute.

Flower and Fruit. Anthers 3, 2.25 mm long. Caryopsis with adherent pericarp. Embryo 0.5–0.66 length of caryopsis. Hilum elliptic.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. Western Australia, Northern Territory, South Australia, Queensland, New South Wales.

Eremean. Central Australia. NW & Lake Eyre, Southern. Inland. Western Plains.

Pleioblastus altiligulatus S.L. Chen & S.Y. Chen. *Acta Phytotax. Sin.*, 21(4): 407 (1983).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China, Zhejiang, Hushan: Chen et al. 78007 (HZBG holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *altus*, tall; *ligulus*, small tongue; *-ata*, possessing. Ligule long.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 200–500 cm long, 15 mm diam., woody. Culm-internodes terete, solid, 24 cm long, glaucous, smooth, distally glabrous. Culm-nodes with distinct supra-nodal ridge. Lateral branches dendroid. Branch complement several. Culm-sheaths present, green, glabrous, hairy on margins, without auricles. Culm-sheath ligule 3 mm high, green. Culm-sheath blade lanceolate, reflexed. Leaves 2–4 per branch. Leaf-sheath auricles absent. Ligule an eciliate membrane, 3.5 mm long. Leaf-blade base cuneate, with a brief petiole-like connection to sheath. Leaf-blades linear or elliptic, 12–17 cm long, 14–25 mm wide. Leaf-blade venation with 10–14 secondary veins. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.
Country /Province /State. **China**. China Southeast.
Fujian, Hunan, Zhejiang.

Pleioblastus amarus (Keng) P. C. Keng. *Sinensia* 6: 150 (1935).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

Basionym or Replaced Name: *Arundinaria amara* Keng, *Sinensi,* 6: 148 (1935).

Recent Synonyms: *Arundinaria varia* Keng, *Sinensia* 6: 150 (1935).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007).

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 90 cm long, 3 mm diam., woody. Culm-internodes terete, thin-walled, 10–14 cm long, distally pruinose. Lateral branches dendroid. Branch complement one or two. Culm-sheaths present. Leaves cauline, 2–3 per branch. Leaf-sheaths 4–6.5 cm long, striately veined. Leaf-sheath oral hairs setose, 1–5 mm long. Ligule an eciliate membrane, 1–2 mm long, truncate. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.1–0.3 cm long. Leaf-blades lanceolate, 5–11 cm long, 10–20 mm wide. Leaf-blade venation with 8–14 secondary veins, with distinct cross veins. Leaf-blade surface pubescent, hairy abaxially. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Synflorescence compound, fasciculate.

Inflorescence composed of racemes, terminal and axillary, without bracts or bracteate at pedicel base, embraced at base by subtending leaf. Racemes 1, single, bearing 2–5 fertile spikelets on each. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 6–12 mm long, pubescent.

Fertile Spikelets. Spikelets comprising 7–14 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 40–85 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 5–7 mm long, pubescent, hairy above.

Glumes. Glumes several, 2–5 empty glumes, persistent, similar, shorter than spikelet. Lower glume lanceolate, 4–18 mm long, chartaceous, without keels.

Florets. Fertile lemma lanceolate or ovate, 10–15 mm long, chartaceous, without keel, more than 3-veined. Lemma lateral veins with cross-veins. Lemma apex acute. Palea 9–13 mm long, 0.9 length of lemma, 2 -veined. Palea surface pubescent, hairy on back. Palea apex obtuse. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, lanceolate, 4 mm long, veined, ciliate. Anthers 3, 5–6 mm long. Stigmas 3. Caryopsis with adherent pericarp, apex unappendaged.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China South Central, China Southeast.

Pleioblastus chino (Franch. & Sav.) Makino. *J. Jap. Bot.* 3(6): 23 (1926).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Arundinaria*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *Pleioblastus pumilus*).

TYPE from Japan. **Basionym or Replaced Name**: *Bambusa chino* Franch. & Sav., *Enum. Pl. Jap.* 2(2): 183, 607 (1879)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Japan, Yokoska: *Savatier* 1493bis (K iso).

Recent Synonyms: *Arundinaria chino* (Franch. & Sav.) Makino, *Bot. Mag, Tokyo,* 26: 14 (1912). *Pleioblastus pumilus* (Mitford) Nakai, *Journ.Jap. Bot.* 9: 223 (1933).

Pleioblastus angustifolius (Mitford) Nakai, *Journ. Jap. Bot.* 10: 294 (1934).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Jap. a contraction of Shinodake, Japanese vernacular name for a species of small bamboo.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 300–400 cm long, 20 mm diam., woody. Culm-internodes terete, thick-walled, distally glabrous. Lateral branches dendroid. Culm-sheaths present, glabrous. Leaves cauline. Leaf-sheaths glabrous on surface or puberulous. Leaf-sheath oral hairs ciliate, pale. Ligule an eciliate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 15–25 cm long, 15–22 mm wide. Leaf-blade surface glabrous or pubescent, hairy abaxially. Leaf-blade apex attenuate.

Inflorescence. Synflorescence compound, fasciculate.

Inflorescence comprising only a few spikelets, comprising 1 fertile spikelets, terminal and axillary, subtended by a spatheole, embraced at base by subtending leaf. Spatheole lanceolate, 3–5 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 8–12 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 60–110 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 4–6 mm long, pubescent.

Glumes. Glumes one the lower absent or obscure or one to two the lower present in some spikelets, persistent, similar, shorter than spikelet. Lower glume lanceolate, 3–4 mm long, chartaceous, without keels, 0 -veined. Lower glume lateral veins absent. Upper glume lanceolate or ovate, 8–10 mm long, chartaceous, 5–7 -veined.

Florets. Fertile lemma lanceolate, 10–18 mm long, chartaceous, without keel, 11–13 -veined, more than 3-veined. Lemma lateral veins with cross-veins. Lemma apex acuminate. Palea 11–13 mm long, 8–10 -veined. Palea keels ciliate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, ovate, 5 mm long, veined, ciliate. Anthers 3, 7 mm long. Stigmas 3. Caryopsis with adherent pericarp, apex unappendaged.

Distribution (TDWG). Continent. Temperate Asia, Australasia.

Country /Province /State. **China**, **Eastern Asia**. China Southeast. Japan. **New Zealand** (*). New Zealand North I.

Guangdong, Zhejiang.

Pleioblastus distichus (Mitford) Nakai. *Sci. Educ. (Tokyo)* 15(6): 69 (1932).

Accepted by: S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

Basionym or Replaced Name: *Bambusa disticha* Mitford, *Garden* 46: 547 (1894).

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Distribution (TDWG). Continent. Temperate Asia, Pacific.

Country /Province /State. **Caucasus**, **China**, **Eastern Asia**. Transcaucasus. China Southeast. Japan. Marianas.

Pleioblastus chrysanthus (Mitford ex Bean) D.C. McClint. *Plantsman* 4(3): 191 (1982).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Britain. **Basionym or Replaced Name**: *Arundinaria chrysantha* Mitford ex Bean, *Gard. Chron.*15: 238 (1894). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Britain, Cult.: Coll?.

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Distribution (TDWG). Continent. North America.

Pleioblastus fortunei (V. Houtte) Nakai. *Journ. Jap. Bot.* 9 :232 (1933).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online (as *Sasa*), W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *P. variegatus*).

TYPE from Japan. **Basionym or Replaced Name**: *Bambusa fortunei* Van Houtte ex Munro, *Trans. Linn. Soc. London*, 26: 111 (1876). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Japan: Fortune.

Recent Synonyms: *Arundinaria fortunei* (Van Houtte) Riviere, *Bull. Soc. Acclim. Ser.* 3:. 5. 897. (1878). *Sasa fortunei* (Van Houtte) Fiori, *Bull. Soc. Tosc. Ortic. Ser.* IV. ii. 42 (1917).

Sasa pygmaea (Miq.) Rehder, *Man. Cult. Trees Shrubs* :71 (1927).

Pleioblastus variegatus (Miq.) Makino, *J.Jap.. Bot.* 3:23 (1926).

Illustrations (Books): C-C Hsu,*Taiwan Grasses* (1975) (719, Pl. 1487 as *Arundinaria variegata*), E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (109, Fig. 20 as *Arundinaria variegata*), D.Farrelly, *The Book of Bamboo* (1984) (as *Arundinaria variegata*).

Derivation (Clifford & Bostock 2007): In honor of Robert Fortune (1812–1880) English botanist.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms zigzag, 60–120 cm long, 2–6 mm diam., woody. Culm-internodes terete, thin-walled, 10–30 cm long, distally glabrous. Culm-nodes swollen. Lateral branches dendroid. Branch complement one or two. Culm-sheaths present, convex at apex, without auricles, ciliate on shoulders. Culm-sheath blade ovate or triangular. Leaves 3–13 per branch. Ligule an eciliate membrane or a ciliolate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades deciduous at the ligule, lanceolate, 3–14 cm long, 4–13 mm wide, dark green and yellowish green, variegated (yellow stripes). Leaf-blade venation with distinct cross veins. Leaf-blade surface pubescent, densely hairy, hairy on both sides. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence comprising only a few spikelets. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 6–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 30 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes two, persistent, similar, shorter than spikelet. Lower glume lanceolate, 5 mm long, chartaceous, without keels. Lower glume apex acute. Upper glume lanceolate, chartaceous, without keels. Upper glume apex acute.

Florets. Fertile lemma ovate, 9–10 mm long, chartaceous, without keel, more than 3-veined. Lemma apex acuminate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3. Anthers 3. Stigmas 3. Caryopsis with adherent pericarp, apex unappendaged.

Distribution (TDWG). Continent. Temperate Asia, Australasia, North America, South America.

Country /Province /State. **China** and **Eastern Asia**. China Southeast. Japan. **New Zealand** (*). New Zealand North I. **Brazil**. Brazil Southeast.

Jiangsu (+), Zhejiang (+). Sao Paulo.

Pleioblastus gramineus (Bean) Nakai. *J. Arnold Arbor.* 6(3): 146 (1925).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from India. **Basionym or Replaced Name**: *Arundinaria hindsii* var. *graminea* Bean, *Gard. Chron.* 3(15): 238 (1894). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: India: Coll?.

Recent Synonyms: *Arundinaria graminea* (Bean) Makino, *Bot. Mag., Tokyo*, 26: 18; (1912).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *gramen*, grain. In some respect resembling a cereal.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Flower and Fruit. $2n = 48$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, Australasia (*), North America (+).

Country /Province /State. **China**, **Eastern Asia**. China South Central, China Southeast. Japan, Taiwan. **New Zealand** (*). New Zealand North I.

Fujian, Guangdong, Jiangxi, Zhejiang. Sichuan.

Pleioblastus hsienchuensis T.H. Wen. *Bull. Bot. Res. North-East. Forest. Inst.*, 3(1): 92 (1983).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. **Basionym or Replaced Name**: *Arundinaria hsienchuensis* (T.H. Wen) C.S.Chao & G.Y.Yang, *J. Bamboo Res.,* 13(1): 17 (1994). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Xianju, *S.D. Yu 80519* (HT: ZJFI).

Sinobambusa seminuda T.H.Wen, *J. Bamboo Res.,* 1(2): 18 (1982).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 199).

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 500 cm long, 20–30 mm diam., woody. Culm-internodes terete, thick-walled, 30 cm long, distally hispid. Lateral branches dendroid. Culm-sheaths present, pilose, glabrous on margins, auriculate, setose on shoulders, shoulders with 10–15 mm long hairs. Culm-sheath blade lanceolate. Leaves cauline, 4–5 per branch. Leaf-sheaths 4 cm long, reticulately veined, glabrous on surface. Leaf-sheath oral hairs setose, 13 mm long. Leaf-sheath auricles falcate. Ligule an eciliate membrane, 1 mm long. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate. Leaf-blade venation with distinct cross veins. Leaf-blade apex attenuate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Zhejiang.

Pleioblastus incarnatus S.L. Chen & G.Y. Sheng. *Bull. Bot. Res., Harbin* 11(4): 42 (1991).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China, Zhenghe Xian, Dongping: Wang et al. 8064 (NJU holo).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 157).

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 350 cm long, 15 mm diam., woody. Culm-internodes terete, 35 cm long, distally pruinose. Culm-nodes with distinct supra-nodal ridge. Lateral branches dendroid, ascending. Branch complement several. Culm-sheaths present, green, hispid, with tawny hairs, hairy on margins, without auricles, glabrous on shoulders. Culm-sheath ligule 5 mm high, reddish, entire or ciliolate. Culm-sheath blade lanceolate, reflexed, acuminate. Leaves 3–4 per branch. Leaf-sheaths hispid, outer margin hairy. Leaf-sheath oral hairs setose, spreading. Leaf-sheath auricles absent or erect. Ligule an eciliate membrane, 1.5 mm long, glabrous on abaxial surface or scaberulous on abaxial surface, truncate. Leaf-blade base simple or broadly rounded, with a brief petiole-like connection to sheath, petiole 0.04 cm long. Leaf-blades elliptic or ovate, 9–17.5 cm long, 14–25 mm wide. Leaf-blade venation with 10–14 secondary veins. Leaf-blade surface pubescent, hairy abaxially. Leaf-blade margins scabrous. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Fujian.

Pleioblastus intermedius S.Y. Chen. *Acta Phytotax. Sin.*, 21(4): 408 (1983).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China, Hangzhou: Chen et al. 78035 (HXBG holo).

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 300–400 cm long, 10–20 mm diam., woody. Culm-internodes terete, thick-

walled, 21–22 cm long, dark green or glaucous, distally hispid. Culm-nodes swollen. Lateral branches dendroid. Culm-sheaths present, tardily deciduous, 1 length of internode, coriaceous, green, without auricles, ciliate on shoulders, shoulders with straight hairs. Culm-sheath ligule 2 mm high, ciliolate. Culm-sheath blade triangular, reflexed, acuminate. Leaves 3–4(–8) per branch. Leaf-sheaths hispid. Leaf-sheath oral hairs lacking. Leaf-sheath auricles falcate. Ligule an eciliate membrane, 5 mm long. Leaf-blade base cuneate, asymmetrical, with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 10–23 cm long, (10–)25–33 mm wide. Leaf-blade venation with 14–16 secondary veins. Leaf-blade surface puberulous, hairy adaxially. Leaf-blade margins serrulate. Flowering specimens unknown.

Flower and Fruit. 2*n* = 48 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Zhejiang.

Pleioblastus juxianensis T.H. Wen, C.Y. Yao & S.Y. Chen. *Acta Phytotax. Sin.* 21 (4): 409–410, pl. 6 (1983).

Accepted by: S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Ju Xian, hills, 18 May 1977, S.Y. Chen et al. 79065 (HT: HZBG).

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Flower and Fruit. 2*n* = 48 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Zhejiang.

Pleioblastus maculatus (McCl.) C.D.Chu & C.S.Chao. *Acta Phytotax. Sin.,* 18(1): 31 (1980).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

Arundinaria chinensis C.S.Chao & G.Y.Yang, *J. Bamboo Res.,* 13(1): 13 (1994).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 155).

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 600–800 cm long, 20–40 mm diam., woody. Culm-internodes terete, thin-walled. Culm-nodes pubescent. Lateral branches dendroid. Culm-sheaths present, green and purple, distinctly mottled with last colour, hispid, hairy at the base, with reflexed hairs, truncate at apex, without auricles, glabrous on shoulders or ciliate on shoulders. Culm-sheath ligule 0.5 mm high, entire. Culm-sheath blade linear, reflexed, scabrid. Leaf-sheaths striately veined, glabrous on surface, outer margin hairy. Leaf-sheath oral hairs lacking. Leaf-sheath auricles absent. Ligule a ciliolate membrane, 1–2 mm long, pubescent on abaxial surface, truncate. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades deciduous at the ligule, lanceolate, 8.8–17 cm long, 13–18 mm wide. Leaf-blade surface glabrous, hairless except near base. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, 6–12 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 25–40 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes several, 4 empty glumes, persistent, similar, shorter than spikelet. Lower glume lanceolate, 3 mm long, chartaceous, without keels. Lower glume apex acute. Upper glume ovate, 5–7 mm long, chartaceous, without keels. Upper glume apex acute.

Florets. Fertile lemma ovate, 7–9 mm long, chartaceous, without keel, 9 -veined, more than 3-veined. Lemma apex acuminate. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3. Anthers 3. Stigmas 3. Caryopsis with adherent pericarp, apex unappendaged.

2*n* = 48 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China South Central, China North-Central, China Southeast.

Shaanxi. Fujian, Guangdong, Guangxi, Jiangsu, Jiangxi. Guizhou, Sichuan, Yunnan.

Pleioblastus maculosoides T.H. Wen. *J. Bamboo Res.,* 3(2): 33 (1984).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China, Zhejiang, Lishui: Chou Wen-wei 82501 (ZJFI holo).

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 500–650 cm long, 20–30 mm diam., woody. Culm-internodes terete, 40 cm long, glaucous, distally pubescent. Culm-nodes swollen. Lateral branches dendroid. Culm-sheaths present, green and brown, distinctly mottled with last colour, hispid, hairy on margins, convex at apex, without auricles, glabrous on shoulders or ciliate on shoulders. Culm-sheath ligule 8 mm high, ciliolate. Culm-sheath blade linear or lanceolate, reflexed, pubescent (beneath). Leaves 3–5 per branch. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs setose, spreading, 3 mm long. Leaf-sheath auricles absent. Ligule an eciliate membrane, 3–4 mm long, acute. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.5 cm long. Leaf-blades lanceolate, 12–19 cm long, 17–23 mm wide. Leaf-blade venation with 14–16 secondary veins. Leaf-blade surface pubescent, hairy abaxially. Leaf-blade apex acute. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Zhejiang.

Pleioblastus oleosus T.H. Wen. *J. Bamboo Res.* 1(1): 24–25, f. 3 (1982).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China, Daiwuling: Zhijiian Feng 36844 (SCAC holo).

Recent Synonyms: *Acidosasa lentiginosa* W. T. Lin & Z. J. Feng, *J. Bamboo Res.* 12(2): 37 (1993).

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 200–400 cm long, 10–25 mm diam., woody. Culm-internodes terete, thin-walled, 16–25 cm long, mid-green and purple, mottled, distally pubescent. Lateral branches dendroid. Branch complement three. Culm-sheaths present, deciduous, brown and purple, distinctly mottled with last colour, hispid, hairy at the base, with tawny hairs, glabrous on margins or hairy on margins, ciliate on shoulders. Culm-sheath ligule 1 mm high, dentate. Culm-sheath blade linear or lanceolate, erect. Leaves 4–5 per branch. Leaf-sheaths puberulous, outer margin hairy. Leaf-sheath oral hairs lacking. Leaf-sheath auricles absent. Ligule an eciliate membrane, 4–5 mm long, pubescent on abaxial surface, truncate. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.3–0.5 cm long. Leaf-blades lanceolate, 10–21 cm long, 15–25 mm wide. Leaf-blade venation with 12–14 secondary veins, with distinct cross veins. Leaf-blade surface glabrous. Leaf-blade apex attenuate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China South Central, China Southeast.

Fujian, Jiangxi, Zhejiang. Yunnan.

Pleioblastus patellaris W.T. Lin & Z.M. Wu. *J. South China Agr. Univ.* 14(3): 113–114. 1993.

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).
Illustrations: None found.
Derivation (Clifford & Bostock 2007): L. *patella*, small dish; *-aris*, pertaining to. Small dishes are made from the culm internodes.
Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.
Distribution (TDWG). Continent. Temperate Asia.
Country /Province /State. **China**. China Southeast.
Guangdong.

Pleioblastus pseudosasaoides Suzuki. *Hikobia* 8(1–2): 64 (1977).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.
TYPE from Japan.
Illustrations: None found.
Derivation (Clifford & Bostock 2007): Gk *pseudos*, false. A genus resembling *Sasa*.
Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.
Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms 300–400 cm long, 8–13 mm diam., woody. Culm-internodes terete, thin-walled, distally glabrous. Culm-nodes glabrous. Lateral branches dendroid. Culm-sheaths present, pilose, without auricles. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs setose, pale. Ligule an eciliate membrane or a ciliolate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades deciduous at the ligule, lanceolate, 24–30 cm long, 18–22 mm wide. Leaf-blade surface glabrous. Leaf-blade apex acuminate.
Inflorescence. Inflorescence comprising only a few spikelets, comprising 1–2 fertile spikelets. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.
Fertile Spikelets. Spikelets comprising 6–9 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 40–70 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 7–8 mm long, pubescent.
Glumes. Glumes two, persistent, similar, shorter than spikelet. Lower glume ovate, 13–14 mm long, chartaceous, without keels, 5 -veined. Lower glume apex acuminate. Upper glume ovate, chartaceous, without keels, 7 -veined. Upper glume lateral veins obscure. Upper glume apex acuminate.
Florets. Fertile lemma ovate, 13–15 mm long, chartaceous, without keel, 13–15 -veined, more than 3-veined. Lemma lateral veins with cross-veins. Lemma apex acuminate. Palea 9–10 mm long, 12–14 -veined. Palea keels ciliate. Palea surface pubescent, hairy on back. Palea apex with excurrent keel veins. Apical sterile florets resembling fertile though underdeveloped.
Flower and Fruit. Lodicules 3, 4 mm long, veined, ciliate. Anthers 3, 6 mm long. Stigmas 3. Caryopsis with adherent pericarp, apex unappendaged.
Distribution (TDWG). Continent. Temperate Asia.
Country /Province /State. **Eastern Asia**. Japan Honshu. Japan.

Pleioblastus rugatus T.H. Wen & S.Y. Chen. *J. Bamboo Res.* 1(1): 26–27, f. 4 (1982).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).
TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Huangyan, *YU S.D. Y-80607* (HT: ZJFI).
Recent Synonyms: *Arundinaria rugata* (T.H. Wen & S.Y. Chen) C.S.Chao & G.Y.Yang, *J. Bamboo Res.,* 13(1): 18 (1994).
Illustrations: None found.
Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.
Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 500 cm long, 20 mm diam., woody. Culm-internodes terete, thin-walled, 35 cm long. Lateral branches dendroid. Culm-sheaths present, deciduous, coriaceous, hispid, auriculate, setose

on shoulders, shoulders with 8 mm long hairs. Culm-sheath ligule ciliate. Culm-sheath blade triangular. Leaves cauline, 3–4 per branch. Leaf-sheaths 5 cm long, reticulately veined, glabrous on surface. Leaf-sheath oral hairs lacking. Leaf-sheath auricles absent. Ligule an eciliate membrane, 2 mm long. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate or elliptic, 11–18 cm long, 14–30 mm wide. Leaf-blade surface glabrous. Leaf-blade apex attenuate.

Inflorescence. Synflorescence compound.

Inflorescence comprising only a few spikelets, terminal and axillary, subtended by a spatheole, embraced at base by subtending leaf. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 30 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes several, 3 empty glumes, persistent, similar, shorter than spikelet.

Florets. Fertile lemma lanceolate, 9 mm long, 3 mm wide, chartaceous, without keel, 7–9 -veined, more than 3-veined. Lemma lateral veins without cross-veins. Lemma apex acute. Palea 10 mm long. Palea keels ciliate. Palea surface pubescent, hairy above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3. Anthers 3. Stigmas 3. Ovary glabrous. Caryopsis with adherent pericarp, apex unappendaged.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Zhejiang.

Pleioblastus sadoensis Makino ex Koidz. *Acta Phytotax. Geobot.* 3: 68 (1934).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Sasa*).

TYPE from Japan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Japan, Sado: Makino.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Sado, a Japanese island.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 100–150 cm long, woody. Culm-internodes terete, thin-walled, distally glabrous. Culm-nodes glabrous. Lateral branches dendroid. Bud complement 1. Branch complement one or three, in a horizontal line, as thick as stem. Culm-sheaths present, persistent, glabrous, without auricles. Leaf-sheaths pilose. Leaf-sheath oral hairs setose. Ligule an eciliate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate or oblong, 18–23 cm long, 25–35 mm wide. Leaf-blade surface glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 5 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 7–10 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 30–40 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 3 mm long, pubescent.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 6 mm long, scarious, without keels, 3 -veined. Lower glume margins ciliate. Lower glume apex acuminate. Upper glume ovate, 8 mm long, scarious, without keels, 7 -veined. Upper glume margins ciliate. Upper glume apex acuminate.

Florets. Fertile lemma ovate, 10 mm long, chartaceous, without keel, 15 -veined, more than 3-veined. Lemma lateral veins with cross-veins. Lemma margins ciliate, hairy above. Lemma apex acuminate. Palea 1 length of lemma, 10 -veined. Palea keels ciliate, adorned above, with 0.5 of their length adorned. Palea apex with excurrent keel veins. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, ovate, 3 mm long, ciliate, acute. Anthers 6, 5 mm long. Stigmas 3. Caryopsis with adherent pericarp, apex unappendaged.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Eastern Asia**. Japan Honshu. Japan.

Pleioblastus sanmingensis S.L. Chen & G.Y. Sheng. *Bull. Bot. Res., Harbin* 11(4): 42–43 (1991).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China, Fujiang, Sanming: Yao et al. 46075 (JSBI holo).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 158).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Sanming, Fujian, China.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 500 cm long, 50 mm diam., woody. Culm-internodes terete, thick-walled, 33–40 cm long, brown, distally pruinose. Culm-nodes with distinct supra-nodal ridge. Lateral branches dendroid. Branch complement several. Culm-sheaths present, coriaceous, brown and purple, distinctly mottled with last colour, hispid, hairy at the base, hairy on margins, auriculate, setose on shoulders, shoulders with straight hairs. Culm-sheath ligule 10 mm high, purple, entire. Culm-sheath blade linear or lanceolate, reflexed, acuminate. Leaves 3–4 per branch. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs setose, spreading, 3–8 mm long. Leaf-sheath auricles erect. Ligule an eciliate membrane, 2–3.5 mm long. Leaf-blade base cuneate, with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 9–25 cm long, 15–30 mm wide. Leaf-blade venation with 12–16(–18) secondary veins. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Fujian.

Pleioblastus solidus S.Y. Chen. *Acta Phytotax. Sin.* 21(4): 411, pl. 8 (1983).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

Recent Synonyms: *Arundinaria solida* (S.Y. Chen) C.S.Chao & G.Y.Yang, *J. Bamboo Res.,* 13(1): 18 (1994).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. solid. Culms solid.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 400–500 cm long, 15–20 mm diam., woody. Culm-internodes terete, solid, 24–33 cm long, light green, distally pruinose and pubescent. Culm-nodes swollen. Lateral branches dendroid. Branch complement several, with 1 branch dominant. Culm-sheaths present, persistent, green, pilose, with white hairs, auriculate, setose on shoulders. Leaves cauline, 2–3 per branch. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs lacking. Ligule an eciliate membrane, obtuse. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 11–18 cm long, 17–21 mm wide. Leaf-blade venation with 10–14 secondary veins, with distinct cross veins. Leaf-blade surface pubescent, sparsely hairy, hairy abaxially. Leaf-blade apex attenuate. Flowering specimens unknown.

Flower and Fruit. $2n = 48$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Jiangsu, Zhejiang.

Pleioblastus truncatus T.H. Wen. *J. Bamboo Res.*, 3(2): 32 (1984).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China, Zhejiang, Shaoxing: Wang 81505 (ZJFI holo).

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 200 cm long, 8 mm diam., woody. Culm-internodes terete, 36 cm long, mid-green, distally pilose. Culm-nodes pubescent. Lateral branches dendroid. Branch complement several. Culm-sheaths present, tardily deciduous, 0.33–0.5 length of internode, coriaceous, green or brown, pubescent, truncate at apex, without auricles or auriculate. Culm-sheath ligule ciliate. Culm-sheath blade lanceolate, erect, acuminate. Leaves 1–2 per branch. Leaf-sheaths 4.5–7 cm long. Leaf-sheath auricles absent or erect. Ligule an eciliate membrane. Leaf-blade base asymmetrical, with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 10–22 cm long, 15–32 mm wide. Leaf-blade venation with 14–16 secondary veins. Leaf-blade surface glabrous. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Zhejiang.

Pleioblastus wuyishanensis Q.F. Zheng & K.F. Huang. *Wuyi Sci. J.* 2: 17–20, f. 2 (1982).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis,* denoting origin. From Wuyi Shan, Fujian Province, China.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 500 cm long, 35 mm diam., woody. Culm-internodes terete, thick-walled, 33 cm long, distally pruinose. Culm-nodes with distinct supra-nodal ridge. Lateral branches dendroid, erect. Branch complement several, with subequal branches. Culm-sheaths present, 1 length of internode, coriaceous, green, hispid, with purple hairs, glabrous on margins or hairy on margins, auriculate, setose on shoulders, shoulders with 3.5 mm long hairs. Culm-sheath ligule 1 mm high, purple. Culm-sheath blade lanceolate, reflexed, 2.5–6 cm long. Leaves 3–4 per branch. Leaf-sheath oral hairs lacking. Leaf-sheath auricles falcate. Ligule an eciliate membrane, 1.5 mm long, truncate. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 8–14 cm long, 15–22 mm wide. Leaf-blade venation with 10–12 secondary veins. Leaf-blade margins scabrous. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Fujian.

Pleioblastus yixingensis S.L. Chen & S.Y. Chen. *Acta Phytotax. Sin.* 21(4): 411–412, f. 9 (1983).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Hangzhou, *S.Y. Chen et al. 78027* (HT: HZBG).

Recent Synonyms: *Arundinaria yixingensis* (S.L. Chen & S.Y. Chen) C.S.Chao & G.Y.Yang, *J. Bamboo Res.*, 13(1): 19 (1994).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Yixing, Jiangsu Province, China.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 300–500 cm long, 12–20 mm diam., woody. Culm-internodes terete, thick-walled, 17–18 cm long, light green, distally pruinose. Lateral branches dendroid. Branch complement three or several. Culm-sheaths present, persistent, green, pilose, with purple hairs, hairy on margins, auriculate, setose on shoulders, shoulders with 5–10 mm long hairs. Culm-sheath blade lanceolate, spreading or reflexed, pubescent. Leaves cauline, 3–5 per branch. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs setose, spreading. Leaf-sheath auricles absent or falcate. Ligule an eciliate membrane, 0.3 mm long. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 13–20 cm long, 20–

27 mm wide. Leaf-blade venation with 12–14 secondary veins. Leaf-blade surface scabrous, rough abaxially. Leaf-blade margins scabrous. Leaf-blade apex attenuate. Flowering specimens unknown.

Flower and Fruit. 2*n* = 48 (2 refs TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Pleuropogon californicus (Nees) Benth. ex Vasey. *Grass. U. St.* 40. (1883).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. **Basionym or Replaced Name**: *Lophochlaena californica* Nees, *Ann. Nat. Hist.* 1: 283 (1838). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: NT: *Douglas s.n.*, 1833, USA: California (GH; INT: BM, K, LE-TRIN 2490.01, MO-2483092 (fragm. ex GH), NY). NT designated by But, Novon 4: 17 (1994).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (106, as var. *californicus* & var. *davyi*).

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From California, USA.

Classification. Subfamily Pooideae. Tribe: Meliceae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect or geniculately ascending, 30–60 cm long, spongy. Ligule an eciliate membrane. Leaf-blades flat or conduplicate, 5–10 cm long, 2–5 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, bilateral, 10–15 cm long, bearing few fertile spikelets, bearing 5–10 fertile spikelets on each. Spikelet packing broadside to rhachis, distant. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, 1–3 mm long.

Fertile Spikelets. Spikelets comprising 6–12 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 25 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume oblong, 0.75 length of upper glume, hyaline, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex erose, obtuse. Upper glume oblong, 3–5 mm long, 0.6–0.8 length of adjacent fertile lemma, hyaline, without keels, 3 -veined. Upper glume apex erose, obtuse.

Florets. Fertile lemma ovate, 5–6 mm long, chartaceous, without keel, 7 -veined, more than 3-veined. Lemma lateral veins ribbed. Lemma surface scabrous. Lemma apex dentate, 2 -fid, awned, 1 -awned. Principal lemma awn from a sinus, 6–12 mm long overall. Palea 1 length of lemma, 2 -veined. Palea keels winged, conspicuously winged, with toothed wings. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, united, oblong, fleshy, truncate. Caryopsis with adherent pericarp, ellipsoid, dorsally compressed, 2.5 mm long. Embryo 0.4 length of caryopsis. Hilum linear, 1 length of caryopsis.

2*n* = 16 (FNA).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Southwestern USA**. California.

Pleuropogon davyi L. Benson. *Amer. Journ. Bot.* xxviii. 360 (1941).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Benson 3666*, 14 Jun 1932, USA: California: Lake Co.: 1 mi N of Kelseyville, drying sand of vernal pool in the bed of Kelsey Cr., 1350 ft (POM; IT: DS, POM, US-2807528 (fragm. ex POM, floret drawn by A.C. Man. Gras. US 2nd ed. fig. 112)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Joseph Burtt Davy (1870–1940) Scots-born Californian and South African botanist.

Classification. Subfamily Pooideae. Tribe: Meliceae.

Habit, Vegetative Morphology. Perennial. Rhizomes short. Culms 100 cm long, 3–4 mm diam. Leaf-sheaths 10–20 cm long. Ligule an eciliate membrane, 3–4 mm long. Leaf-blades 10–30 cm long, 6–9 mm wide. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, bilateral, 25–33 cm long, bearing few fertile spikelets. Spikelet packing broadside to rhachis, distant. Spikelets appressed or ascending, solitary. Fertile spikelets pedicelled. Pedicels present, linear, 1–2 mm long.

Fertile Spikelets. Spikelets comprising 8–20 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear or oblong, laterally compressed, 20–55 mm long, 3–4 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 2 mm long, smooth or scaberulous.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume oblong, 2.4 mm long, 0.9 length of upper glume, hyaline, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex erose, acute. Upper glume oblong, 2.5 mm long, 0.4–0.7 length of adjacent fertile lemma, hyaline, without keels, 3 -veined. Upper glume apex erose, acute.

Florets. Fertile lemma oblong, 5.5–7.5 mm long, chartaceous, without keel, 7 -veined, more than 3-veined. Lemma lateral veins ribbed. Lemma apex erose, obtuse, muticous or mucronate. Palea 4–6 mm long, 0.66–1 length of lemma, 2 -veined. Palea keels winged, conspicuously winged, with toothed wings. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, united, oblong, fleshy, truncate. Anthers 3. Caryopsis with adherent pericarp. Hilum linear.

$2n = 18$ (1 ref TROPICOS).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Southwestern USA**. California.

Pleuropogon hooverianus (L. Benson) Howell. *Leafl. West. Bot.* iv. 247 (1946).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. **Basionym or Replaced Name**: *Pleuropogon refractus* var. *hooverianus* L.D. Benson, *Amer. J. Bot.* 28: 360 (1941). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *J.B. Davy 6626*, May 1900, USA: California: Mendocino Co. (US-913368).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (106).

Derivation (Clifford & Bostock 2007): L. *-anus*, indicating connection. In honor of Robert Francis Hoover (1913–1970) United States botanist.

Classification. Subfamily Pooideae. Tribe: Meliceae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms 100–150 cm long. Leaf-sheaths 10–20 cm long, glabrous on surface or pubescent. Ligule an eciliate membrane, 1.5–3.5 mm long. Leaf-blades 10–30 cm long, 3–7 mm wide. Leaf-blade apex abruptly acute, simple or apiculate.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, bilateral, 15–20 cm long, bearing few fertile spikelets. Spikelet packing broadside to rhachis, distant. Spikelets appressed or ascending, solitary. Fertile spikelets pedicelled. Pedicels present, linear, 1–2 mm long.

Fertile Spikelets. Spikelets comprising 8–12 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear or oblong, laterally compressed, 20–30 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes thickened (below), 2–2.5 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume oblong, 4–5 mm long, 0.6–0.7 length of upper glume, hyaline, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex erose, acute. Upper glume oblong, 6–7 mm long, 0.8 length of adjacent fertile lemma, hyaline, without keels, 3 -veined. Upper glume apex erose, acute.

Florets. Fertile lemma ovate, 7–8 mm long, chartaceous, without keel, 7 -veined, more than 3-veined. Lemma surface asperulous, rough on veins. Lemma apex erose, obtuse or acute, awned, 1 -awned. Principal lemma awn 1–2.5 mm long overall. Palea 1 length of lemma, 2 -veined. Palea keels winged, conspicuously winged, with toothed wings, scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, united, oblong, fleshy, truncate. Anthers 3. Caryopsis with adherent pericarp. Hilum linear.

2*n* = 16 (FNA), or 36 (FNA).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Southwestern USA**. California.

Pleuropogon oregonus Chase. *Journ. Wash. Acad. Sc.* xxviii. 52. (1938).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *A.B. Leckenby*, 8 Jun 1901, USA: Oregon: Union (US-913360).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (108).

Derivation (Clifford & Bostock 2007): from Oregon State, USA.

Classification. Subfamily Pooideae. Tribe: Meliceae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms erect, 40–90 cm long, 3–4 mm diam. Leaf-sheaths 8–20 cm long. Ligule an eciliate membrane, 2–5 mm long, lacerate. Leaf-blades 8–18 cm long, 4–7 mm wide. Leaf-blade surface scaberulous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, bilateral, 10–15 cm long, bearing few fertile spikelets. Spikelet packing broadside to rhachis, distant. Spikelets appressed or ascending, solitary. Fertile spikelets pedicelled. Pedicels present, linear, 1–2 mm long.

Fertile Spikelets. Spikelets comprising 7–13 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear or oblong, laterally compressed, 20–40 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 2 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume oblong, 2 mm long, 0.5–1 length of upper glume, hyaline, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex erose, acute. Upper glume oblong, 2–4 mm long, 0.4–0.6 length of adjacent fertile lemma, hyaline, without keels, 1 -veined. Upper glume lateral veins absent. Upper glume apex erose, acute.

Florets. Fertile lemma ovate, 5.5–7 mm long, chartaceous, without keel, 7 -veined, more than 3-veined. Lemma apex erose, obtuse, awned, 1 -awned. Principal lemma awn 5–10 mm long overall. Palea 1 length of lemma, 2 -veined. Palea keels winged, narrowly winged (below), with each wing 1-awned (2–7mm). Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, united, oblong, fleshy, truncate. Anthers 3. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Northwest USA**. Oregon.

Pleuropogon refractus (Gray) Benth. ex Vasey. *Grass. U. St.* 40. (1883).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. **Basionym or Replaced Name**: *Lophochlaena refracta* A. Gray, *Proc. Amer. Acad. Arts* 8: 409 (1872). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *E. Hall 636*, 1871, USA: Oregon (GH; IT: MO-2483094, MO-2483095, MO-1837472, US-2807527 (fragm. ex GH & photo)).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (108).

Derivation (Clifford & Bostock 2007): L. curved back abruptly. Mostly applied to species whose mature inflorescence branches curve back.

Classification. Subfamily Pooideae. Tribe: Meliceae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms 100–150 cm long. Leaf-sheaths 10–20 cm long, glabrous on surface or pubescent. Ligule an eciliate membrane, 1.5–3.5 mm long. Leaf-blades 10–30 cm long, 3–7 mm wide. Leaf-blade apex abruptly acute, simple or apiculate.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, bilateral, 15–20 cm long, bearing few fertile spikelets, bearing 5–12 fertile spikelets on each. Spikelet packing broadside to rhachis, distant. Spikelets deflexed, solitary. Fertile spikelets pedicelled. Pedicels present, linear, 1–2 mm long.

Fertile Spikelets. Spikelets comprising 8–12 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear or oblong, laterally compressed, 20–30 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 3 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume oblong, 4–5 mm long, 0.6–0.7 length of upper glume, hyaline, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex erose, acute. Upper glume oblong, 5–7 mm long, 0.8 length of adjacent fertile lemma, hyaline, without keels, 3 -veined. Upper glume apex erose, acute.

Florets. Fertile lemma ovate, 7–8 mm long, chartaceous, without keel, 7 -veined, more than 3-veined. Lemma surface asperulous, rough on veins. Lemma apex erose, obtuse or acute, awned, 1 -awned. Principal lemma awn 5–12 mm long overall. Palea 1 length of lemma, 2 -veined. Palea keels winged, conspicuously winged, with toothed wings, scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, united, oblong, fleshy, truncate. Anthers 3, 3–4 mm long. Caryopsis with adherent pericarp. Hilum linear.

$2n = 32$ (FNA), or 36 (FNA).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Western Canada**, **Northwest USA**, **Southwestern USA**. British Columbia. Oregon, Washington. California.

Pleuropogon sabinii R. Br. Parry, *1st Voy. Suppl.* 289 (1824).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from Canada. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Lindley Herb. Fischer*, Melvill Island: Parry (LE (fragm.)). ST: [Arctic America]: Mellvill Isl. (LE-TRIN-2491.01 a or b). LT: *Parry s.n. (plant in lower right-hand corner)*, Canada: Northwest Territories: Melville Island (BM). LT designated by But, Novon 4: 16 (1994). ST: *Mr. Beverly (Parry Voy.)*, [1820], Melville Island (BM; US (fragm. misit E.G.Baker in 1892 ex BM no. 62)).

ST: *Lindley Herb. Fischer*, Melvill Island: Parry (LE (fragm.)). ST: [Arctic America]: Mellvill Isl. (LE-TRIN-2491.01 a or b). LT: *Parry s.n. (plant in lower right-hand corner)*, Canada: Northwest Territories: Melville Island (BM). LT designated by But, Novon 4: 16 (1994). ST: *Mr. Beverly (Parry Voy.)*, [1820], Melville Island (BM; US (fragm. misit E.G.Baker in 1892 ex BM no. 62)).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (108).

Derivation (Clifford & Bostock 2007): in honor of Edward Sabine (1788–1883) English astronomer and Arctic explorer.

Classification. Subfamily Pooideae. Tribe: Meliceae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms erect, 5–20 cm long, 1 mm diam. Leaf-sheaths 4–12 cm long. Ligule an eciliate membrane. Leaf-blades 5–20 cm long, 1.5–2 mm wide. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Peduncle 5–13 cm long. Racemes 1, single, bilateral, 3–5 cm long, bearing few fertile spikelets. Spikelet packing broadside to rhachis, distant. Spikelets deflexed, solitary. Fertile spikelets pedicelled. Pedicels present, linear, 1–2 mm long.

Fertile Spikelets. Spikelets comprising 5–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 10–17 mm long, 2 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1–1.5 mm long, smooth.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 1–2 mm long, 1 length of upper glume, hyaline, without keels, 0 -veined. Lower glume lateral veins

absent. Lower glume apex erose, acute. Upper glume ovate, 1–2 mm long, 0.25–0.5 length of adjacent fertile lemma, hyaline, without keels, 0 -veined. Upper glume primary vein absent. Upper glume lateral veins absent. Upper glume apex erose, acute.

Florets. Fertile lemma oblong, 4 mm long, chartaceous, purple, without keel, 7 -veined, more than 3-veined. Lemma apex erose, emarginate, awned, 1 -awned. Principal lemma awn 1 mm long overall. Palea 1 length of lemma, 2 -veined. Palea keels winged, narrowly winged, with each wing 2-awned (0.5–2mm). Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, united, oblong, fleshy, truncate. Anthers 3. Caryopsis with adherent pericarp. Hilum linear.

$2n = 40$ (FNA), or 42 (1 ref TROPICOS, FNA).

Distribution (TDWG). Continent. Europe, Temperate Asia, North America.

Region. **Northern Europe**, **Eastern Europe**.

Country /Province /State. : Svarlbad. North European Russia. Siberia, Russian Far East. Altay. Kamchatka, Magadan. **Subarctic America**, **Eastern Canada**. Northwest Territories, Nunavut, Greenland. Labrador.

Plinthanthesis paradoxa (R. Br.) S. T. Blake. *Contrib. Queensl. Herb.,* 14: 3 (1972).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. **Basionym or Replaced Name**: *Danthonia paradoxa* R. Br., *Prodr.* 177 (1810). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Brown 6230*, Australia (BM; IT: K, MEL).

Illustrations (Books): N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (523, Fig 102), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (343), K.O.Mallett (ed.), *Flora of Australia*, Vol 44B. *Poaceae* (2004) (31, Fig 5), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Illustrations (Journals): *Ann. Missouri Bot. Gard*. (97: 345, Fig.12 (2010)).

Derivation (Clifford & Bostock 2007): Gk. *para*, irregular; *doxa*, opinion. Different from the expected in regard to related species.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms erect, 25–50 cm long, 3–4 -noded. Culm-nodes glabrous. Leaves mostly basal. Ligule a fringe of hairs, 0.5 mm long. Leaf-blades filiform, convolute, 20–40 cm long, 2–3 mm wide. Leaf-blade surface ribbed, scabrous, rough adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate or pyramidal, 7–20 cm long. Primary panicle branches spreading. Panicle axis scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, scaberulous.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1.5–2 mm long. Floret callus brief.

Glumes. Glumes persistent, similar, shorter than spikelet or reaching apex of florets, gaping. Lower glume lanceolate, 4–6 mm long, 1 length of upper glume, chartaceous, 1-keeled, 3 -veined. Lower glume surface asperulous. Lower glume apex obtuse or acute. Upper glume lanceolate, 4–6 mm long, 1.3–1.5 length of adjacent fertile lemma, chartaceous, 1-keeled, 3 -veined. Upper glume surface asperulous. Upper glume apex obtuse or acute.

Florets. Fertile lemma oblong, 3–4 mm long, chartaceous, much thinner above, without keel, 9 -veined, more than 3-veined. Lemma surface pubescent, hairy below, hairy between veins. Lemma apex lobed, 2 -fid, with triangular lobes, with lobes 1–1.5 mm long, incised 0.25 of lemma length, obtuse or acute, awned, 1 -awned. Principal lemma awn from a sinus, curved, reflexed, 1–1.5 mm long overall, not or scarcely exserted from spikelet. Palea linear or lanceolate, 0.9–1.1 length of lemma, chartaceous, thinner above, 2 -veined. Palea keels scaberulous, adorned above. Palea surface pubescent, hairy on back or on flanks, hairy below.

Flower and Fruit. Lodicules 2, fleshy, glabrous. Anthers 3, 2–3 mm long. Caryopsis with adherent pericarp, ellipsoid. Hilum linear, 0.5 length of caryopsis.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. New South Wales, Victoria.
Coast, Tablelands.

Plinthanthesis rodwayi (C.E. Hubbard) S. T. Blake. *Contrib. Queensl. Herb.*, 14: 3 (1972).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. **Basionym or Replaced Name**: *Danthonia rodwayi* C.E. Hubb., *Hooker's Icon. Pl.* 35 t.: 3439 (1943). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Rodway s.n.*, Australia (K; IT: FAR, NSW).

Illustrations (Books): S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (343), K.O.Mallett (ed.), *Flora of Australia*, Vol 44B. *Poaceae* (2004) (31, Fig 5), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Illustrations (Journals): *Hooker's Icones Plantarum* (t.3439 (1943) as *Danthonia*).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): in honor of Leonard Rodway (1853–1936) Australian dentist and amateur botanist.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations intravaginal. Culms decumbent, 30–40 cm long, 2–3 -noded. Leaves mostly basal. Ligule a fringe of hairs. Leaf-blades curled, filiform, involute or convolute, 10–20 cm long, 1–2 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 4–8 cm long, 4–6 cm wide. Primary panicle branches 2–5 cm long. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 4–10 mm long.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, without rhachilla extension or with a barren rhachilla extension (when 2-fld). Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4.5–6.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1.3 mm long.

Glumes. Glumes persistent, similar, exceeding apex of florets, gaping. Lower glume lanceolate, 4.5–6.5 mm long, 1 length of upper glume, chartaceous, 1-keeled, 1–3 -veined. Lower glume primary vein scaberulous. Lower glume surface asperulous. Lower glume apex acute. Upper glume lanceolate, 4.5–6.5 mm long, 1.5–2 length of adjacent fertile lemma, chartaceous, 1-keeled, 1–3 -veined. Upper glume primary vein scaberulous. Upper glume surface asperulous. Upper glume apex acute.

Florets. Fertile lemma oblong, 3–4 mm long, chartaceous, much thinner above, much thinner on margins, without keel, 9 -veined, more than 3-veined. Lemma surface pubescent, hairy below, hairy between veins. Lemma apex dentate, 2 -fid, muticous or mucronate. Palea oblong, 1 length of lemma, chartaceous, thinner above, 2 -veined. Palea keels scaberulous. Palea surface pubescent, hairy on back or on flanks. Palea apex emarginate.

Flower and Fruit. Lodicules 2, fleshy, glabrous. Anthers 3, 1.5 mm long. Caryopsis with adherent pericarp. Hilum linear, 0.5 length of caryopsis.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. New South Wales.
Tablelands.

Plinthanthesis urvillei Steud. *Syn. Pl. Gram.* 14 (1855).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Montes coerulei N. Holl., *Urville s.n.*.

Illustrations (Books): S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (344), K.O.Mallett (ed.), *Flora of Australia*, Vol 44B. *Poaceae* (2004) (31, Fig 5), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Derivation (Clifford & Bostock 2007): in honor of Jules Sibastien Cisar Dumort d'Urville (1790–1842), French Naval Officer and botanist.

Classification. Subfamily Danthonioideae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 30–60 cm long, 2–3 -noded. Leaves mostly basal. Ligule a fringe of hairs, 0.5–1 mm long. Leaf-blades flexuous, filiform, convolute, 20–30 cm long, 0.5–1.5 mm wide. Leaf-blade surface ribbed, scabrous, rough adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, ovate or pyramidal, 5–15 cm long. Primary panicle branches spreading. Panicle branches capillary. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform.

Fertile Spikelets. Spikelets comprising 3 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long. Floret callus brief.

Glumes. Glumes persistent, similar, reaching apex of florets, gaping. Lower glume lanceolate, 6–9 mm long, 1 length of upper glume, chartaceous, 1-keeled, 3 -veined. Lower glume surface smooth or asperulous. Lower glume apex acute. Upper glume lanceolate, 6–9 mm long, 1.7–2.2 length of adjacent fertile lemma, chartaceous, 1-keeled, 3 -veined. Upper glume surface smooth or asperulous. Upper glume apex acute.

Florets. Fertile lemma oblong, 3.5–4 mm long, chartaceous, much thinner above, without keel, 9 -veined, more than 3-veined. Lemma surface pilose, hairy below, hairy between veins. Lemma apex lobed, 2 -fid, with lobes 2 mm long, incised 0.5 of lemma length, obtuse or acute, awned, 1 -awned. Principal lemma awn from a sinus, geniculate, 3–4 mm long overall, with a straight or slightly twisted column. Palea oblong, 1 length of lemma, chartaceous, thinner above, 2 -veined. Palea keels ciliolate. Palea surface pilose, hairy on back or on flanks, hairy below.

Flower and Fruit. Lodicules 2, fleshy, glabrous. Anthers 3, 2–2.5 mm long. Caryopsis with adherent pericarp. Hilum linear, 0.5 length of caryopsis.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. New South Wales.

Coast, Tablelands, Western Slopes.

Poa abbreviata R. Br. *Parry, 1st Voy. Suppl.* 287 (1824).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Canada. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *Parry*, (LE (fragm.)).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (583 as subspecies *abbreviata, marshii & pattersonii*).

Derivation (Clifford & Bostock 2007): L. *abbrevio*, shorten. Culms short.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths withering or persistent and investing base of culm. Culms erect, 5–15 cm long. Culm-internodes smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1.2–2 mm long, acute. Leaf-blades conduplicate or involute, 2–6 cm long, 1 mm wide.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong or ovate, 1–2.5 cm long. Primary panicle branches appressed or ascending. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4.5–5.8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous or woolly (sparse).

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 8 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume ovate, 5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 5 mm long, membranous, much thinner above, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface glabrous or pubescent. Lemma margins ciliate. Lemma apex obtuse. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.6–0.8 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

2*n* = 42 (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia, North America.

Region. **Northern Europe**, **Eastern Europe**.

Country /Province /State. : Svarlbad. North European Russia. Siberia, Russian Far East, **China**. Krasnoyarsk. Kamchatka. Xinjiang. **Subarctic America**, **Western Canada**, **Eastern Canada**, **Northwest USA**, **Southwestern USA**. Alaska, Northwest Territories, Nunavut, Greenland. Alberta. Labrador. Colorado, Idaho, Montana, Oregon, Wyoming. Utah.

Poa acicularifolia J. Buch. *Indig. Graszes N. Zeal. t.* 49. (1880).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Anon. s.n.*, New Zealand (WELT-59604 (Buchanan's folio)). LT designated by Edgar, New Zealand J. Bot. 24: 442 (1986).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *acus*, needle; *-ulus*, diminutive; *-aris*, pertaining; *folium,* leaf. Leaf-blades pungent.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes short, woody. Basal innovations intravaginal. Culms 10–20 cm long. Lateral branches lacking. Leaf-sheaths wider than blade at the collar, smooth, glabrous on surface. Ligule an eciliate membrane, 1–5 mm long. Collar with external ligule. Leaf-blades deciduous at the ligule, convolute, 0.5–2.5 cm long, 0.5 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, effuse, 1.5–3.5 cm long. Primary panicle branches bearing 1–2 fertile spikelets on each lower branch. Panicle axis glabrous. Panicle branches capillary, smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–1 mm long, pubescent. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2–3.5 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex obtuse. Upper glume ovate, 2–3.5 mm long, 0.66–0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume margins smooth or scaberulous. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 3–4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma surface pubescent, hairy below. Lemma margins scabrous. Lemma apex obtuse. Palea 2.5–3.5 mm long. Palea keels ciliolate. Palea surface pubescent, hairy below. Rhachilla extension 1–2 mm long.

Flower and Fruit. Lodicules 2, 0.5 mm long, membranous. Anthers 3, 1.8–3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand South I.

Poa acinaciphylla E.Desv. C. Gay*, Fl. Chil.* vi. 412 (1853).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *C. Gay 1119*, 1839, Chile (P-DESV-123; IT: US-88710 (fragm. ex P & photo)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *akinake*s, short sword; *phyllon*, leaf. Leaf-blade the shape of a short Persian sword.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 60–75 cm long, 2 -noded. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 6 mm long, lacerate. Leaf-blades conduplicate, 5–10 cm long, 2 mm wide, stiff. Leaf-blade surface scabrous, rough adaxially. Leaf-blade margins scabrous. Leaf-blade apex obtuse, apiculate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, nodding, 15 cm long. Primary panicle branches 2 -nate, 2.5–7 cm long, bearing 2–6 fertile spikelets on each lower branch. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1–3 fertile florets, with diminished florets at the apex. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1.6 mm long, smooth, glabrous. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 3 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume ovate, 4 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex obtuse. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp, ellipsoid, trigonous, 2 mm long. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Chile Central.

Coquimbo, Valparaiso, Santiago.

Poa acroleuca Steud. *Syn. Pl. Gram.* 256. (1854).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from Japan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *von P.F. Siebold s.n.*, Japan (L-100190 {44974}(a) ILT: US- (fragm. ex L-100190 {44974} a)). L proposed as LT by J. Veldkamp, but not published. Plant (a). [Plant (b) is *P. strictula* Steud; fide Soreng 2004].

Illustrations (Books): T.Koyama, *Grasses of Japan and its neighbouring regions* (1987) (92, Fig 27), C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (328), C-C Hsu,*Taiwan Grasses* (1975) (448, Pl. 1394), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 387 as *Poa acroleuca* var. *acroleuca*).

Derivation (Clifford & Bostock 2007): Gk. akros, at the tip; *leukos*, white. Lemma tips bear white hairs.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect, 25–50 cm long, 0.8–2 mm diam., 3–5 -noded. Culm-internodes 3–15 cm long. Leaf-sheaths tubular for much of their length, with 1 of their length closed, smooth or scaberulous. Ligule an eciliate membrane, 0.5–1 mm long, white, obtuse. Leaf-blades 7–15 cm long, 2–6 mm wide. Leaf-blade surface smooth or scaberulous, rough adaxially. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 8–20 cm long, 4–6 cm wide. Primary panicle branches spreading, 2–5 -nate, 4–9 cm long. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 2 mm long.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2.5–5.5 mm long, 1.2–1.8 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1–1.5 mm long, smooth. Floret callus woolly. Floret callus hairs 0.25–0.33 length of lemma.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.5–2.2 mm long, 0.75 length of upper glume, membranous, much thinner on margins, 1-keeled, 1 -veined. Lower glume

primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 2–2.8 mm long, 0.75–1 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface scabrous, rough on veins. Upper glume apex acute.

Florets. Fertile lemma ovate, 2–3.5 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma lateral veins with distinct primaries but obscure intermediates. Lemma surface pubescent, hairy below, hairy on veins. Lemma apex obtuse. Palea 1 length of lemma. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.8–1 mm long. Caryopsis with adherent pericarp, oblanceolate, 1.5 mm long. Hilum punctiform.

$2n = 28$ (2 refs TROPICOS), or 34 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East, **China**, **Eastern Asia**. Kuril Is, Sakhalin. China South Central, China North-Central, China Southeast. Japan Hokkaido, or Honshu, or Shikoku, or Kyushu. Japan, Korea, Taiwan.

Shaanxi, Shandong. Anhui, Fujian, Guangdong, Guangxi, Henan, Hunan, Jiangsu, Jiangxi, Zhejiang. Guizhou, Hubei, Sichuan.

Poa acutifolia Hauman. *An. Mus. Nac. Buenos Aires,* xxix. 405 (1917).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *L. Hauman 2386*, Jan 1908, Argentina, Haut Cordillere de Mendoza, Rio Tufunquato et Rio de Plomo vers, 3000 m (BAA-39988, SI (ex BAA), US-1024493).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *acuo*, sharpen; *folium*, leaf. Leaf-blades sharply tapering.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Basal innovations intravaginal. Culms 40–60 cm long. Leaves distichous. Leaf-sheaths 3–4 cm long. Ligule an eciliate membrane, 3–4 mm long, obtuse. Leaf-blades conduplicate, 5–10 cm long, 4.5–6 mm wide. Leaf-blade apex attenuate, apiculate.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 3–4 cm long, 0.5–0.7 cm wide. Primary panicle branches bearing spikelets almost to the base. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–6 mm long, 1.5 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 6 mm long, 1.2 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, 5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate. Lemma apex erose, truncate. Palea 3.5–4 mm long. Palea keels ciliolate.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northwest.

Mendoza.

Poa aequalis (Swallen & Tovar) N.F. Refulio-Rodriguez. *Syst. Bot.* 37 (1): 130 (2012).

TYPE from Bolivia. **Basionym or Replaced Name**: *Dissanthelium aequale* Swallen & Tovar, *Phytologia,* 11: 368 (1965). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *G. Mandon 1292A*, no date, Bolivia (US-1818422).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *aequus*, equal; *-alis*, pertaining to. Glumes or lemmas similar in length.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms erect, 13–16 cm long. Culm-internodes antrorsely scabrous. Leaf-sheaths smooth or scaberulous. Ligule an eciliate membrane, 1–2.5 mm long. Leaf-blades erect or ascending, involute, 6–10 cm long, 1–2 mm wide. Leaf-blade surface pubescent, hairy adaxially. Leaf-blade apex abruptly acute or acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, 3.5–4.5 cm long, 0.7 cm wide, bearing few spikelets. Primary panicle branches appressed or ascending. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2(–3) fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5.7–6.3 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long.

Glumes. Glumes persistent, similar, reaching apex of florets, thinner than fertile lemma. Lower glume lanceolate, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins obscure. Lower glume apex acute. Upper glume lanceolate, 5.7–6.3 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins obscure. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 5.5–5.8 mm long, chartaceous, keeled, 3 -veined, 0–3 -veined. Lemma surface scabrous. Lemma apex acute. Palea keels ciliolate.

Flower and Fruit. Anthers 3. Ovary glabrous. Endosperm farinose.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Bolivia.

Poa aequatoriensis Hack. *Oesterr. Bot. Zeitschr.* 1902, 450. (1902).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Ecuador. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *A.L. Sodiro 36/8*, 1876, Ecuador: in silvis et pascuis regionis subandinae (W-5790; IT: US-89701 (fragm. ex W)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *aequator*, equator; *-ensis*, denoting origin. Growing near the equator in Ecuador.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending, 50–80 cm long, 4–5 -noded. Lateral branches lacking. Leaf-sheaths keeled, smooth, glabrous on surface. Ligule an eciliate membrane, 1–3 mm long, erose, truncate. Leaf-blades 8–18 cm long, 2–4.5 mm wide. Leaf-blade surface scaberulous, rough on both sides. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 15–22 cm long. Panicle branches capillary, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–2.4 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2.6–3 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein smooth or scaberulous. Upper glume lateral veins prominent. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.6–4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface smooth or asperulous, rough above. Lemma apex acute. Palea keels scaberulous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.
Country /Province /State. **Western South America**. Colombia.

Poa aequigluma Tovar. *Mem. Mus. Hist. Nat. ' Javier Prado', Lima, No*. 15, 13 (1965).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *O. Tovar 1126*, 29 Mar 1953, Peru: Huancavelica: Huancavelica: Dist. Conaica: Tansiri, cerca a Manta, césped de puna, 4500–4500 m, 29 Mar 1953 (US-2209165; IT: CORD, K, MO-3812381, MO-2943339, US-2118467, USM-185257).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (291), S.A.Renvoize, *Gramineas de Bolivia* (1998) (137, Fig 34).

Derivation (Clifford & Bostock 2007): L. *aequus*, equal*; gluma*, husk. Glumes subequal.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 4–6 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long, erose, truncate. Leaf-blades conduplicate, 1–2.5 cm long, 1–2 mm wide. Leaf-blade surface glabrous. Leaf-blade margins smooth. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, linear, 1.5–2 cm long, 0.3–0.4 cm wide, bearing few spikelets. Primary panicle branches indistinct the panicle almost racemose. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, smooth.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.6–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.6–4 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume ovate, 3.6–4 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 3.5–3.8 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface smooth or asperulous. Lemma apex obtuse.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.
Country /Province /State. **Western South America**. Bolivia, Peru.
Salta.

Poa affinis R. Br. *Prod.* 179 (1810).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: apud Portum Jackson, inclusis ripis aestuarii Hunter's River vel Coal River, *R. Brown 6287* (T: BM; IT: K).

Illustrations (Books): S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (347).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. allied to. Closely allied to another species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rootstock evident. Stolons absent or present. Butt sheaths herbaceous. Basal innovations extravaginal. Culms 40–120 cm long. Culm-internodes terete, smooth. Culm-nodes glabrous. Lateral branches lacking or sparse. Leaf-sheaths loose, mostly shorter than adjacent culm internode or longer than adjacent culm internode, keeled, smooth or scaberulous, glabrous on surface. Ligule an eciliate membrane or a ciliolate membrane, 0.5–2 mm long, pubescent on abaxial surface,

truncate. Leaf-blades 10–30 cm long, 1–5 mm wide. Leaf-blade surface smooth or scaberulous, glabrous. Leaf-blade margins smooth or scaberulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle open, lanceolate, 10–18 cm long. Primary panicle branches 2–6 -nate, 5–12 cm long. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scaberulous.

Fertile Spikelets. Spikelets comprising 2–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 4–6 mm long, 4–8 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1–2 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume ovate, 1.5–2.5 mm long, 0.5–0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 2.7–3.6 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface pubescent, hairy below. Lemma margins ciliate. Lemma apex obtuse or acute. Palea 0.9 length of lemma. Palea keels scabrous, ciliate, adorned in the middle (ciliate). Palea surface glabrous or pubescent, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.75–2.25 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. New South Wales.

Coast, Tablelands, Western Slopes.

Poa afghanica Bor. *Kew Bull.* 1954, 501 (1954).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Afghanistan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Afghanistan: Nuristan, Chetras, 3100 m, 30 May 1948, *L. Edelberg 0851* (HT: C).

Illustrations (Books): N.L.Bor, *Gramineae* in K.H.Rechinger, *Flora Iranica*. No. 70/30 (1970) (Tab. 12).

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Afghanistan.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary. Rhizomes elongated. Culms erect, 30–60 cm long. Culm-internodes terete. Culm-nodes glabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths scaberulous. Ligule an eciliate membrane, 1.5 mm long, lacerate. Leaf-blades 5–10 cm long, 2–5 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 13 cm long, 12 cm wide. Primary panicle branches spreading or reflexed, 2–3 -nate, 3–6 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes scaberulous. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2 mm long, 0.75 length of upper glume, membranous, purple, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume oblong or ovate, 2.5 mm long, 0.66 length of adjacent fertile lemma, membranous, purple, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 3.5–4 mm long, membranous, much thinner above, much thinner on margins, purple, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins ciliate. Lemma apex obtuse. Palea 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.75 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Western Asia**, **China**. Afghanistan. China South Central, Tibet. Sichuan, Yunnan.

Poa aitchisonii Boiss. *Fl. Orient.* v. 602. (1884).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Pakistan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Aitchinson 497*, 04 Jun 1879, Pakistan: [Wazir or Frontier prov.]: W. Bam, Sita Ram [Sikaram] Kurram valley, in pine forest (K(-168 rt); IST: LE (fragm.)). Kew Gardens. ST: *Aitchison 405*, 22 May 1879, Pakistan: [Wazir or Frontier prov.; Safed Range] Hab. in valle Kurram Affghaniae, Shendtoi, black soil (K(-168 lt)). ST: *Dr J. E.T. Aitchison*, 1879, Pakistan: Kurram Valley (K (-169)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of James Edward Tierney Aitchison (1836–1898) Indian-born of English parents; physician and plant collector.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths herbaceous. Culms geniculately ascending or decumbent, 25–40 cm long, without nodal roots or rooting from lower nodes. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 0.5–1 mm long, lacerate. Leaf-blades 4–10 cm long, 2–4 mm wide. Leaf-blade surface scabrous, rough on both sides. Leaf-blade margins scabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open or contracted, lanceolate or ovate, 7–10 cm long. Primary panicle branches ascending or spreading, 2 -nate. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or ovate, laterally compressed, 4.5–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume linear or lanceolate, 2.5–3 mm long, 0.8–0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 3–3.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 3–3.75 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein eciliate or ciliolate. Lemma margins eciliate or ciliolate. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.8–2.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **Western Asia**, **China**. Afghanistan, Iran. Tibet. **Indian Subcontinent**. Pakistan.

Himachal Pradesh.

Poa ajanensis Prob. *Fl. Rastitel'n. Dal'nego Vostoka* 447: 353 (2006).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Russia: Far East, Prov. Chabarovsk ("Chabarovskij kraj"), distr. Ajano-Majskij, jugum Dzhugdzhur, systema fluminis Lantarj, fons Mamajev, in denudatis saxi carbonatici in silva frondosa, in valle flumini, 26.VI 1.1979, *S.S. Charkevicz, T.G. Bucz* (HT: VLA).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 45–60 cm long, with 0.33 of their length below uppermost node. Culm-internodes smooth. Leaf-sheaths smooth or scaberulous. Ligule an eciliate membrane, 1.5–2.3 mm long. Leaf-blades 1–2 mm wide. Leaf-blade surface scaberulous.

Inflorescence. Inflorescence a panicle. Peduncle scaberulous above. Panicle open, ovate, 5.5–6.5 cm long. Primary panicle branches 4–4.5 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes sparsely hairy. Floret callus pilose.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.1–2.8 mm long, membranous, 1-keeled. Lower glume surface scabrous. Lower glume apex acute. Upper glume lanceolate, 2.1–2.8 mm long, membranous, 1-keeled. Upper glume surface scabrous. Upper glume apex acute.

Florets. Fertile lemma elliptic, 3.5–3.8 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface scabrous, pubescent, hairy below. Lemma apex obtuse. Palea surface puberulous, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.3–1.5 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East. Khabarovsk.

Poa akmanii Soreng. *Willdenowia* 27: 197, f. 1 (1997).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Turkey. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Turkey: prov. Isparta: Barladagi, Gelincikdag, ca. 5 km W of Barla, 38.08N 30.45E, 2287 m, alpine, tall, shady, NE facing limestone cliffs, on mossy ledges protected from marauding goats, above snow field, 21 Aug 1993, *R. J. Soreng, J. I. Davis, K. Güney & ? Bingöl 4140* (HT: US IT: ANK, B, E, ISTE).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Basal innovations intravaginal. Culms 5–14 cm long, 0.15–0.25 mm diam., 0–1 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths open for most of their length, with 0.15–0.25 of their length closed. Ligule an eciliate membrane, 3–6 mm long, 1.5–4 mm long on basal shoots, acute. Leaf-blades filiform, conduplicate, 1–4 cm long, 0.4–0.5 mm wide.

Inflorescence. Inflorescence a panicle, comprising 10–20 fertile spikelets. Panicle open, linear or lanceolate, 1–5 cm long. Primary panicle branches ascending, 1–2 -nate, 0.3–1.2 cm long. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 3.5–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–0.7 mm long, smooth, glabrous. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.4–4.4 mm long, 1 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume lanceolate, 2–4.3 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 2.3–4.3 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate. Lemma lateral veins obscure. Lemma margins ciliolate. Lemma hairs 0.15–0.3 mm long. Lemma apex acute. Palea keels scabrous, adorned above, with 0.5 of their length adorned.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.9–1.3 mm long. Caryopsis with adherent pericarp, lanceolate, 2 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Western Asia**. Turkey.

Poa albertii Regel. *Act. Hort. Petrop.* 7: 611 (1880).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960) (as *Poa litwinowiana*).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Russia, Dschungarischer Alatau: Regel (LE lecto).

Recent Synonyms: *Poa mustangensis* K.R. Rajbhandari, *Act. Hort. Petrop.* 7: 611 (1880). *Poa arnoldii* A. Melderis, *Enum. Fl. Pl. Nepal,* 1: 142 (1978).

Poa koelzii Bor, *Kew Bull.* 1948, 139 (1948).

Poa lahulensis Bor, *Kew Bull.* 138 (1948).

Poa rangkulensis Ovchinnikov & Chukavina, *lzvest. Otdel. Estestven. Nauk Akad. Nauk Tadzhik. SSR.* 17: 41 (1956).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (as subspecies *attenuata, albertii, arnoldii, lahulensis* in Figues 424, 425/426, 427, 429 respectively).

Derivation (Clifford & Bostock 2007): In honor of Albert Regel (1845–1908) Swiss botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely or moderately or densely. Basal innovations extravaginal. Culms 7–15(–25) cm long, 1–2 -noded. Culm-internodes antrorsely scabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths antrorsely scabrous, glabrous on surface. Ligule an eciliate membrane, 1–2.5(–3.5) mm long. Leaf-blades flat or conduplicate or involute, (0.5–)1.5–2(–3) cm long, (0.5–)1.5–2(–3) mm wide. Leaf-blade surface scabrous, glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, (2–)4–6 cm long, 0.5–1.5 cm wide. Primary panicle branches 2–5 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 7–10 mm long, with hairs extending 3–4(–6) mm beyond apex, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth or scaberulous. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.5–2 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume lateral veins obscure. Lower glume apex acute. Upper glume lanceolate, 2–2.5 mm long, 0.5–0.66 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface glabrous or pubescent, hairy all along. Lemma apex acute. Palea surface smooth. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.2–1.5 mm long.

Distribution (TDWG). Continent. Temperate Asia and Tropical Asia.

Country /Province /State. **Middle Asia**, **Western Asia**, **China**, **Mongolia**, **Eastern Asia**, **Russia**. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Afghanistan, Iran. China South Central, Inner Mongolia, China North-Central, Qinghai, Tibet, Xinjiang. Mongolia. **Indian Subcontinent**. Eastern Himalaya, India, Nepal, Pakistan, West Himalaya.

Gansu, Shaanxi. Sichuan, Yunnan.

Poa albescens Hitchcock. *Contrib. US. Nat. Herb.* xvii. 375 (1913).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Mexico. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Rose 11648*, 1 Apr 1908, Mexico: Chihuahua: vicinity of Minaca (US-454361).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *albesco*, become white. Lemmas rendered hoary by hairs.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths papery, persistent and investing base of culm, with compacted dead sheaths. Culms erect, 20–30 cm long. Leaves mostly basal. Leaf-sheaths longer than adjacent culm internode, smooth. Ligule an eciliate membrane, 1 mm long, 0.5 mm

long on basal shoots. Leaf-blades conduplicate, 10–20 cm long, 2 mm wide, 0.1–0.5 cm long at summit of culm. Leaf-blade surface scabrous, rough adaxially. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Peduncle scaberulous above. Panicle open, oblong, dense, 5 cm long. Primary panicle branches ascending, bearing spikelets almost to the base. Panicle axis smooth. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.5–1 mm long.

Fertile Spikelets. Spikelets comprising 4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or oblong, laterally compressed, 6 mm long, 3 mm wide, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume lanceolate, 5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma ovate, 5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous. Lemma lateral veins obscure. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Southwestern USA**, **South-central USA**, **Mexico**. Arizona. New Mexico. Northwest Mexico.

Poa almasovii Golub. *Animadvers. Syst. Herb. Univ. Tomsk.* 1936, No. 4, p. 1. (1936).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: USSR: Habitat, Eistr. Ochotense-Kolymensis. Sinus Gertnera. Circa oppid. Magadan. In oris praeruptibus declivitatibus maris Ochotensis, *V.A. Golub.* (HT: TK).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Almasov.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Culms 60–65 cm long, 2–3 mm diam. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 1–3 mm long, obtuse. Leaf-blades 8–12 cm long, 2–3 mm wide. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 8–12 cm long, 2–4 cm wide. Primary panicle branches 1–2 -nate, bearing 1–6 fertile spikelets on each lower branch. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 7–10 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 8–12 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 4 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume ovate, 5 mm long, 1.2 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, 4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate. Lemma lateral veins prominent. Lemma surface puberulous. Lemma margins ciliolate. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East, **China**. Kamchatka, Magadan. Xinjiang.

Poa alopecurus (Gaud.) Kunth. *Rev. Gram.* i. 116 (1829).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Tierra del Fuego. **Basionym or Replaced Name**: *Arundo alopecuros* Gaudich. ex Mirb., *Ann. Sci. Nat., Bot.* 5: 100 (1825). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *C. Gaudichaud s.n.*, 14 Feb-28 Apr 1820, Tierra del Fuego, e Is. del Atlantico Sur, Islas Malvinas, Isla Soledad (P; IT: BAA (fragm.), US-78849 (fragm. ex P [East Falkland Isl., Port Louis = Isla Soledad])).

Recent Synonyms: *Poa superbiens* (Steud.) Hauman & Parodi, *Physis*, 9: 344 (1929).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (292 & 293), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (186, Fig 121).

Derivation (Clifford & Bostock 2007): resembling *Alopecurus*.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 50–100 cm long, 5 mm diam. Leaf-sheaths keeled, smooth. Ligule an eciliate membrane, 4–11 mm long. Leaf-blades erect, 2–15 cm long, 3–8 mm wide, glaucous. Dioecious.

Inflorescence. Inflorescence a panicle. Peduncle tipped by a glumaceous appendage. Panicle contracted, linear or oblong, 10–24 cm long, 1.5–3 cm wide. Primary panicle branches appressed, 1–8 cm long, bearing spikelets almost to the base. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 10–14 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pilose.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 6.5–11.5 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1–2 -veined. Lower glume primary vein scabrous. Lower glume apex obtuse. Upper glume lanceolate, 7–12.5 mm long, 0.8–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex obtuse.

Florets. Fertile lemma elliptic, 8–12 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins ciliate. Lemma apex acute. Palea 0.6–0.7 length of lemma. Palea keels ciliate. Palea surface scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.5–3 mm long. Caryopsis with adherent pericarp, 3–3.5 mm long. Hilum punctiform.

Male inflorescence similar to female, a panicle. Male spikelets resembling female (but callus glabrous).

Distribution (TDWG). Continent. South America, Antarctica.

Country /Province /State. **Southern South America**. Argentina South, Chile Central, Chile South. **Subantarctic islands**. Falkland Is (Malvinas).

Chubut, Neuquén, Santa Cruz, Tierra del Fuego. Chiloe, Aisen, Magellanes. Santiago. Los Lagos, Aisen, Magellanes.

Poa alpigena Lindm. *Svensk Fanerogamfl.* 91 (1918).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from Norway. **Basionym or Replaced Name**: *Poa pratensis* var. *alpigena* Blytt, *Norges Fl.* 1: 130 (1861). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: OM: *Blytt 252*, Norges: Dovre (UPS(-1) (hb. E. Fries, Hb. Norm. 9: 93a)). [intermediate veins of lemmas glabrous, or with sparse pilose hairs; rjs 2004]. ST: *Blytt*, Alpes Norveg. pass (ST: LE (9: 93, plant A)). LE (designated as probable IT, Tzvelev, p. 457 (1976)), has IX, 93 (ref. to Herb. norm. Fasc. 9 no. 93), and 2 plants. Plant A is the ST [rjs 2004].

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *alpes*, high mountain; *gigno,* beget. High mountain species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Butt sheaths herbaceous. Culms decumbent, 7–15 cm long, 2–3 -noded, rooting from lower nodes. Culm-internodes terete, smooth. Lateral

branches lacking. Leaves mostly basal. Leaf-sheaths longer than adjacent culm internode, striately veined, smooth, glabrous on surface. Ligule an eciliate membrane, 1.5 mm long, obtuse. Leaf-blades 3–7 cm long, 1.5–3 mm wide. Leaf-blade surface smooth or scaberulous. Leaf-blade margins scabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, elliptic, dense, 3–7 cm long, 1.5 cm wide. Primary panicle branches 2–5 -nate. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or cuneate, laterally compressed, 3–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 2.5–3 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume elliptic, 2.5–3 mm long, 0.66–0.8 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 3.75 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous, ciliate, hairy below. Lemma lateral veins obscure. Lemma margins ciliate. Lemma apex acute. Palea 0.9 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 74$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Northern Europe**, **Eastern Europe**.

Country /Province /State. : Finland, Foroyar, Iceland, Norway, Svarlbad, Sweden. Central European Russia, North European Russia. **China**. Inner Mongolia, Manchuria, China North-Central.

Hebei. Assam. Uttah Pradesh, West Bengal. Himachal Pradesh, Jammu Kashmir.

Poa alpina L. *Sp. Pl.* 67. (1753).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Lapland. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: (LINN-87.2). LT designated by Soreng in Cafferty et al., Taxon 49(2): 254 (2000).

Illustrations (Books): C.E.Hubbard, *Grasses* (1968) (172), T. Cope & A. Gray, Grasses of the British Isles (43), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (52, Fig 21 as *P. vivipara*), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (517 as subsp. *alpina* & subsp. *vivipara*), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 363).

Illustrations (Journals): *Phytokeys* (15:11, Fig.1 (2012)).

Derivation (Clifford & Bostock 2007): L. *alpes*, high mountain; *-ina*, belonging to. Species growing at high altitudes.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths herbaceous, persistent and investing base of culm, with compacted dead sheaths. Culms erect or geniculately ascending, 5–40 cm long, 1–2 -noded. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths without keel, smooth. Ligule an eciliate membrane, 3–6 mm long, obtuse or acute. Leaf-blades flat or conduplicate, 2–12 cm long, 2–5 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade margins smooth or scaberulous. Leaf-blade apex obtuse or abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, dense or loose, equilateral or nodding, 3–7 cm long, 3–7 cm wide. Primary panicle branches spreading, 2 -nate. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.5–2 mm long.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 4–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes definite, obscured by lemmas, smooth. Floret callus pubescent.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic or ovate, 2.5–4 mm long, 0.8–0.9 length of upper glume, membranous, much thinner on margins, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume elliptic or ovate, 3–4.5 mm long, 0.8–0.9 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 3.5–5 mm long, membranous, much thinner above, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins stopping well short of apex. Lemma surface pubescent, hairy on veins. Lemma margins ciliate, hairy below. Lemma apex acute. Palea 1 length of lemma. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Vegetative proliferation occurs.

n = 14 (1 ref TROPICOS), or 21 (1 ref TROPICOS). $2n$ = 28 (2 refs TROPICOS), or 33 (1 ref TROPICOS), or 34 (1 ref TROPICOS), or 35 (1 ref TROPICOS), or 39 (1 ref TROPICOS), or 42 (2 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Tropical Asia, North America.

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Finland, Foroyar, Great Britain, Iceland, Ireland, Norway, Sweden. : Austria, Czechoslovakia, Germany, Poland, Switzerland. : Corsica, France, Sardinia, Spain. : Albania, Bulgaria, Greece, Italy, Romania, Sicily, Yugoslavia. Estonia, Latvia, Lithuania, Baltic States, Central European Russia, East European Russia, North European Russia, Northwest European Russia, Ukraine. **Northern Africa**. Algeria, Morocco. Siberia, Russian Far East, **Middle Asia**, **Caucasus**, **Western Asia**, **China**, **Mongolia**, **Eastern Asia**, **Russia**. Altay, Buryatiya, Chita, Irkutsk, Krasnoyarsk, Tuva. Kamchatka, Magadan. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan. Afghanistan, Iran. Qinghai, Tibet, Xinjiang. Japan. **Indian Subcontinent**. India, Nepal, Pakistan, West Himalaya. **Subarctic America**, **Western Canada**, **Eastern Canada**, **Northwest USA**, **Southwestern USA**. Alaska, Northwest Territories, Nunavut, Greenland. Alberta, British Columbia, Manitoba, Saskatchewan. Labrador, Newfoundland, Nova Scotia, Ontario, Quebec. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. Utah.

Himachal Pradesh, Jammu Kashmir, Uttaranchal.

Poa alsodes A.Gray. *Man. Bot. N. U. St.* ed. II. 562. (1856).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: 21 Jun 1855, [USA: New Hampshire] N.H.: River Bank Plymouth (GH (photo US)). C.V. Piper notes that this was the only specimen in the GH herbarium at the time of publication.

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (511).

Derivation (Clifford & Bostock 2007): Gk. *alsodes*, woodland. Woodland species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 30–60 cm long. Culm-internodes smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 1 mm long. Leaf-blades 6–15 cm long, 1.5–3 mm wide. Leaf-blade surface smooth. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Panicle open, pyramidal, 10–20 cm long. Primary panicle branches spreading, 3–5 -nate, 4–8 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5 mm long, 0.66–0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 3–3.5 mm long, 0.75–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4 mm long, membranous, much thinner above, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent, hairy below. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5–0.7 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Eastern Canada**, **North-central USA**, **Northeast USA**, **Southeastern USA**. New Brunswick, Nova Scotia, Ontario, Quebec. Minnesota, North Dakota. Connecticut, Indiana, Maine, Massachusetts, Michigan, Ohio, New Hampshire, New Jersey, New York, Pennsylvania, Vermont, West Virginia. Delaware, Kentucky, Maryland, North Carolina, Tennessee.

Poa alta Hitchcock. *Proc. Biol. Soc. Wash.* xliii. 93. (1930).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Shanxi: open slope of mountain below summit at Ningwu Xian, 21 Aug. 1929, *T. Tang 1439* (HT: US-1445582).

Recent Synonyms: *Poa mongolica* (Rendle) Keng, *Claves Gen. & Spec. Gramin. Sinic.* 166 (1957).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 410).

Derivation (Clifford & Bostock 2007): L. tall. Culms tall, relative to those of other members of the genus.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary. Culms erect, 100 cm long. Culm-internodes antrorsely scabrous. Lateral branches lacking. Leaf-sheaths antrorsely scabrous, glabrous on surface. Ligule an eciliate membrane, 2 mm long. Leaf-blades 15–30 cm long, 3–4 mm wide. Leaf-blade surface scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 12 cm long. Primary panicle branches appressed, 2 -nate, 5 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma margins ciliolate, hairy below. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**, **Mongolia**, **Eastern Asia**, **Russia**. China South Central, Inner Mongolia, Manchuria, China North-Central, Tibet, Xinjiang. Mongolia. Japan.

Shaanxi, Shanxi. Sichuan, Yunnan.

Poa altaica Trin. *Ledeb. Fl. Alt.* i. 97. (1829).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: Altai Mnts. (LE). Herb. Ledebour. Altai. ST: *Ledebour [164]*, Jun-Jul, Russia: Altai, monte crucis aplium Ulbnsium prope Riddersk (LE-TRIN-2576.02). [this matches the protologue loc. best. Fide: RJS 2002]. ST: *160*, (LE-TRIN-2577.01 (& fig.)). [close to type loc. protologue, fide. RJS 2002].

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From the Altai Mts., Mongolia.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Culms erect, 10–30 cm long. Culm-internodes smooth. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane. Leaf-blades flat or conduplicate, 1–3 mm wide. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 5–10 cm long. Primary panicle branches 2–4 -nate, whorled at most nodes. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.5–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma lateral veins obscure. Lemma margins ciliolate, hairy below. Lemma apex acute.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 28$ (1 ref TROPICOS), or 42 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia, **Middle Asia**, **China**, **Mongolia**. Altay, Buryatiya, Chita, Irkutsk, Tuva. Kazakhstan.

Poa ammophila A.E.Porsild. *Sargentia,* iv. 12 (1943).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Canada. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *A.E. Porsild & R.T. Porsild 2704*, 7–14 Aug 1927, Canada: Northwest Territories: Distr. Mackenzie Cape Dalhousie (CAN; IT: C, LE, US-1866325).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (593).

Derivation (Clifford & Bostock 2007): Gk. *ammos*, sand; *phileo*, love. Growing in sandy habitats.

Classification. Subfamily Pooideae. Tribe: Poeae.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Subarctic America**. Northwest Territories.

Poa amplexicaulis C.M.Weiller & Stajsic. *Muelleria* 22: 11 (2006).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia, Victoria, Ballarat: *Muir 5186* (MEL holo, CANB).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. Victoria.

Poa amplivaginata N.F. Refulio-Rodriguez. *Syst. Bot*. I37 (1): 130 (2012).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. **Basionym or Replaced Name**: *Dissanthelium amplivaginatum* Tovar, *Publ. Mus. Hist. Nat. Javier Prado, Ser. B, Bot.* 33: 7 (1985). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *O. Tovar, S. Rivas, C. Arnaiz, J. Loidi & P. Canto 9777*, 19 Mar 1983, Peru: Ancash: Prov. Bolognesi: de Pachacoto a la Unisn, alt. 4740 m, puna (USM; IT: MAF, MO-3812378, US-3029240).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 6–8 cm long. Leaf-sheaths inflated, striately veined. Ligule an eciliate membrane, 2.5–4 mm long. Leaf-blades conduplicate, 2.5 cm long, 1 mm wide. Leaf-blade apex abruptly acute or acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong or ovate, 2–3 cm long. Primary panicle branches ascending or spreading. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, reaching apex of florets, thinner than fertile lemma. Lower glume lanceolate, 5–5.5 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume lanceolate, 5–5.5 mm long, 1.1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 4.8–5 mm long, chartaceous, keeled, 3 -veined, 0–3 -veined. Lemma midvein scabrous. Lemma apex acute.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa anae O. Tovar. *Publ. Mus. Hist. Nat. Javier Prado, B,* 33: 6 (1985).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *O. Tovar, S. Rivas-Martínez & A. Crespo 9257*, Mar 1982, Peru: Junín: Yauli Prov., Collado de Ticlio, entre Lima la Oroya, Puna, borde de charca, casi acuetica, 4800 m (USM-185253; IT: MAF, MO-3812384, US-3029232).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): In honor of Ana Maria Crespo de Las Casas (1948-) Spanish botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 9–15 cm long. Lateral branches lacking. Leaf-sheaths 2–4.5 cm long, glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long. Leaf-blades flat or conduplicate, 2.5–6 cm long, 2–3 mm wide. Leaf-blade midrib keeled beneath.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear or oblong, interrupted, 3–4.5 cm long, 0.6–1 cm wide. Primary panicle branches appressed. Spikelets in pairs. Fertile spikelets sessile and pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.2–3.7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.8 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2.9 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.9–3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex acute.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa anceps Forst. f. *Prod.* 8. (1786).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Forster s.n.*, New Zealand (K; ILT: C-VAHL (ded. Dr. Fabricius), CHR-399138 (fragm.)). LT designated by Edgar, New Zealand J. Bot. 24: 450 (1986).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. two-edged. Culms laterally compressed.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 30–100 cm long. Ligule an eciliate membrane, 0.5 mm long. Leaf-blades 10–30 cm long, 2.5–6 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 5–30 cm long. Primary panicle branches whorled at lower nodes. Panicle branches capillary. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2–3 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume ovate, 3–4 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Palea 1 length of lemma. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. Kermadec Is, New Zealand North I, New Zealand South I.

Poa andicola S.A. Renvoize. *Gramineas de Bolivia:* 138 (1998).

TYPE from Bolivia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *X. Menhofer X-1846*, 13 Jan 1983, Bolivia: Dpto. La Paz, Prov. B. Saavedra, mas arriba de Amarete, 4250 m, cantizal fino en repoblacion (LPB).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-cola*, dweller. Andean species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms 2–3 cm long. Leaf-sheaths inflated. Ligule an eciliate membrane, 0.2 mm long. Leaf-blades conduplicate, 1–2 cm long, 1 mm wide. Leaf-blade surface glabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Panicle contracted, oblong or ovate, 1–1.5 cm long. Primary panicle branches appressed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 3.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2 mm long, 0.75 length of upper glume, hyaline, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2.5 mm long, 0.8–1 length of adjacent fertile lemma, hyaline, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.5–3 mm long, membranous, keeled, 1 -veined, 0–3 -veined. Lemma surface pubescent, hairy below. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.6 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Bolivia.

Poa androgyna Hack. *Fedde, Repert. Nov. Sp.* vi. 159 (1908).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Bolivia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Buchtien 846*, 15 Mar 1907, Bolivia: La Paz, Bergabhange, 3700 m (W; IT: US-1099694).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *aner*, man; *gyne*, woman. Spikelets three-flowered, the lower functionally male, the upper two functionally female.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 60–90 cm long. Ligule an eciliate membrane. Leaf-blade base simple or cordate. Leaf-blades erect, 15–25 cm long, 2–4 mm wide. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 10–15 cm long, with spikelets clustered towards branch tips. Primary panicle branches reflexed, 1–2 -nate, sparsely divided. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or oblong, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–4 mm long, 0.66–0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 3–4.5 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 3.5–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent, hairy below. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.5–3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Bolivia, Peru.

Poa angustifolia L. *Sp. Pl.* 67 (1753).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from Europe. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: (LINN-87.12 (excluding second culm from the left)). LT designated by Soreng in Cafferty et al., *Taxon* 49(2): 254 (2000).

Illustrations (Books): C.E.Hubbard, *Grasses* (1968) (188), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (165, Fig 103).

Derivation (Clifford & Bostock 2007): L. angustus, narrow; folium, leaf. Leaf-blades narrow.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Culms erect, 20–60 cm long, 2 -noded. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths keeled, smooth or scaberulous. Ligule an eciliate membrane, 0.5–1 mm long, obtuse. Leaf-blades filiform, conduplicate, 3–30 cm long, 1–2 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open or contracted, lanceolate or ovate, dense or loose, 3–14 cm long, 2–9 cm wide. Primary panicle branches spreading, 3–5 -nate. Panicle branches capillary, flexuous, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.3–2 mm long.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 2.5–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes definite, obscured by lemmas, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1.5–2.5 mm long, 0.7–0.8 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2–3 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 2–3 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins distinct, stopping well short of apex. Lemma margins ciliolate, hairy below. Lemma apex obtuse or acute. Palea 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

n = 32 (1 ref TROPICOS). $2n$ = 72 (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia, South America.

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Denmark, Finland, GB Aliens (Ryves et al), Iceland, Norway. : Austria, Belgium, Czechoslovakia, Germany, Hungary, Netherlands, Poland, Switzerland. : Baleares, Corsica, France, Portugal, Sardinia, Spain. : Bulgaria, Greece, Italy, Romania, Turkey Europe, Yugoslavia. Baltic States, Krym, Central European Russia, East European Russia, North European Russia, Northwest European Russia. **Macaronesia**. Azores. Siberia, Russian Far East, **Middle Asia**, **Caucasus**, **Western Asia**, **China**, **Mongolia**, **Eastern Asia**. Iran, Iraq. Manchuria. Japan, Korea. **Southern South America**. Argentina South.

Uttah Pradesh. Himachal Pradesh, Jammu Kashmir. Chubut, Neuquén, Río Negro.

Poa ankaratrensis A.Camus & H.Perrier. *Bull. Mus. Hist. Nat. Paris,* xxviii. 440. (1922).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Perrier de la Bathie 13382*, Dec 1920, Ankaratra (P). ST: *Perrier de la Bathie 13516*, Mar 1921, (P).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis,* denoting origin. From Ankaratra, Madagascar.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms decumbent, weak, 60 cm long, with 0.25–0.33 of their length below uppermost node. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1 mm long, erose. Leaf-blades 7–10 cm long, 1 mm wide. Leaf-blade venation with 3 secondary veins. Leaf-blade surface smooth, glabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 8 cm long. Primary panicle branches ascending, 2 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 2–5 mm long.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 4 mm long, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scaberulous. Lower glume apex acute. Upper glume lanceolate, 4.1–4.2 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex acute.

Florets. Fertile lemma lanceolate or ovate, 3–3.8 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Palea 2.5–2.8 mm long. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Poa annua L. *Sp. Pl.* 68. (1753).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983), T.Koyama, *Grasses of Japan and its neighboring regions* (1987), W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).

TYPE from Europe. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: (LINN-87.17 (right-hand plant)). LT designated by Soreng in Cafferty et al., Taxon 49(2): 254 (2000); same specimen indicated with uncertainty as HT by Veldkamp, Blumea 38: 421 (1994).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (294), C.E.Hubbard, *Grasses* (1968) (168), T. Cope & A. Gray, Grasses of the British Isles (40), G.Hegi, *Flora von Mitteleuropa* 1 (1909) (& as ssp. *supina*), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (53, Fig. 22), G.E.Gibbs Russell el al, *Grasses of Southern Africa* (1990) (271, Fig. 168), J.Bosser, *Graminees des Paturage et des Cultures a Madagascar (*1969) (189, Fig. 66), N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 322), L.Boulos, *Flora of Egypt* 4 (2005) (147, Fig. 41), C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (330), C-C Hsu,*Taiwan Grasses* (1975), K.M.Matthew, Illustrations on the *Flora of Tamilnadu Carnatic* (1982) (Pl. 916 & 917), H.J.Noltie, *The Grasses of Bhutan* (2000) (569, Fig. 18), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (145, Fig. 96), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (422, Fig 83), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (347), J.C.Tothill,& J.B.Hacker. *The grasses of southern Queensland* (1983) (352), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), K.F.Best, et al, *Prairie Grasses* (1971) (183), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (520), F.W.Gould, *The Grasses of Texas* (1975), A.S.Hitchcock, *Manual of the Grasses of the West Indies* (1936) (29, Fig. 10), S.A.Renvoize, *Gramineas de Bolivia* (1998) (127, Fig. 31), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (258, Fig. 55 & 259, Fig. 56), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina*), Pt II, Gramineas (1969) (84, Fig. 24), W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (489, Fig. 183), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (137, Fig. 87), B.Rosengurtt, *Gramineas UruguayasI* (1970), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 364), H.M. Longhi-Wagner, *Flora Ilustrada do Rio Grande do Sul, Gramineae, Poeae* (1987), E.Hafliger & E.Schultz, Grass Weeds, CIBA-GEIGY (2:118(1990)).

Illustrations (Journals): *Phytokeys* (15:14, Fig.2 (2012)).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);, L.Boulos, *Flora of Egypt* 4 (2005);, H.B.Gilliland et al., *Flora of Malaya Vol. 3 Grasses* (1971);, F.van Oudtshoorn, *Guide to Grasses of Southern Africa* (1999).

Derivation (Clifford & Bostock 2007): L. annual. Annuals.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Butt sheaths herbaceous. Culms erect or geniculately ascending or decumbent, 3–30 cm long, 2–4 -noded. Culm-internodes terete, smooth. Lateral branches lacking or sparse. Leaves mostly basal. Leaf-sheaths keeled, smooth. Ligule an eciliate membrane, 2–5 mm long, obtuse. Leaf-blades flat or conduplicate, 1–14 cm long, 1–5 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade margins scaberulous. Leaf-blade apex obtuse or abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal or ovate, 1–12 cm long. Primary panicle branches spreading, 1–2 -nate. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.3–4 mm long.

Fertile Spikelets. Spikelets comprising 3–10 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 3–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes obscured by lemmas, smooth. Floret callus glabrous or pubescent.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate or ovate, 1.5–3 mm long, 0.7–0.8 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic or oblong, 2–4 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 2.5–4 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma lateral veins stopping well short of apex. Lemma surface glabrous or pubescent, hairy below, hairy on veins. Lemma apex acute. Palea 0.9 length of lemma. Palea keels eciliate or ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.7–1.3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

n = 14 (14 refs TROPICOS), or 21 (1 ref TROPICOS). $2n$ = 28 (17 refs TROPICOS), or 42 (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Tropical Asia, Australasia (*), Pacific, North America, South America, Antarctica.

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Denmark, Finland, Foroyar, Great Britain, Iceland, Ireland, Northern Ireland, Norway, Sweden. : Austria, Liechstenstein, Belgium, Luxembourg, Czechoslovakia, Germany, Hungary, Netherlands, Poland, Switzerland. : Baleares, Corsica, Channel Islands, France, Monaco, Portugal, Sardinia, Andorra, Gibralter, Spain. : Albania, Bulgaria, Greece, Italy, San Marino, Vatican, Crete, Romania, Malta, Sicily, Turkey Europe, Yugoslavia. Belarus, Estonia, Kalingrad, Latvia, Lithuania, Baltic States, Krym, Central European Russia, East European Russia, North European Russia, South European Russia, Northwest European Russia, Moldova, Ukraine. **Northern Africa**, **Macaronesia**, **West Tropical Africa**, **West-Central Tropical Africa**, **Northeast Tropical Africa**, **East Tropical Africa**, **South Tropical Africa**, **Southern Africa** (*), **Middle Atlantic Ocean**, **Western Indian Ocean**. Algeria, Egypt, Libya, Morocco, Tunisia. Azores, Canary Is, Madeira. Cameroon, Annobon, Principe & Sao Tome, Bioko, Rwanda. Eritrea, Ethiopia (inc. Eritrea). Kenya, Tanzania, Uganda. Zambia, Zimbabwe. Namibia, Limpopo, North-West, Gauteng, Mpumalanga, Swaziland, Free State, Kwazulu-Natal, Lesotho, Northern Cape, Western Cape, Eastern Cape. Ascension, St Helena. Mauritius (*), Madagascar (*), Rodrigues (*). Siberia, Russian Far East, **Middle Asia**, **Caucasus**, **Western Asia**, **Arabian Peninsula**, **China**, **Mongolia**, **Eastern Asia**. Altay, Buryatiya, Chita, Irkutsk, Krasnoyarsk, Tuva. Amur, Kamchatka, Khabarovsk, Kuril Is, Magadan, Primorye, Sakhalin. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Afghanistan, Iran, Iraq. Gulf States, Kuwait. China South Central, Hainan, Inner Mongolia, Manchuria, China North-Central, Qinghai, China Southeast, Tibet, Xinjiang. Japan Hokkaido, or Honshu, or Shikoku, or Kyushu. Japan, Korea, Nansei-Shoto, Ogosawara-shoto, Taiwan. **Indian Subcontinent**, **Indo-China**, **Malesia**, **Papuasia**. Eastern Himalaya, Pakistan, Sri Lanka, West Himalaya. Myanmar, Vietnam. Java, Lesser Sunda Is, Malaya, Philippines, Sumatra. New Guinea West Papua (Irian Jaya). New Guinea. **Australia** (*), **New Zealand** (*). Western Australia (*), Northern Territory (*), South Australia (*), Queensland (*), New South Wales (*), A.C.T. (*), Victoria (*), Tasmania (*), Lord Howe-Norfolk Is (*). Antipodes Is, Chatham Is, Kermadec Is, New Zealand North I, New Zealand South I, Stewart Is, Campbell Is, Auckland Is, Snares Is, Macquarie Is. **Southwestern Pacific**, **South-central Pacific**, **North-central**

Pacific. New Caledonia (*). Easter Is (*). Hawaii (*). **Subarctic America**, **Western Canada**, **Eastern Canada**, **Northwest USA**, **North-central USA**, **Northeast USA**, **Southwestern USA**, **South-central USA**, **Southeastern USA**, **Mexico**. Central Mexico, Northeast Mexico, Gulf (Mexico), Northwest Mexico, Southwest Mexico, Southeast Mexico. **Mesoamerica**, **Caribbean**, **Northern South America**, **Western South America**, **Brazil**, **Southern South America**. Bermuda, Cuba, Haiti, Jamaica. Bolivia, Colombia. Brazil West Central, Brazil Southeast, Brazil South. Argentina Northeast, Argentina South, Argentina Northwest, Chile Central, Desventurados Is, Juan Fernandez Is. **Subantarctic islands**. Crozet Is, Falkland Is (Malvinas), Heard-McDonald Is, Kerguelen, Macquarie Is, South Georgia, Tristan de Cunha.

Gansu, Hebei, Shaanxi, Shandong, Shanxi. Anhui, Fujian, Guangdong, Guangxi, Henan, Hunan, Jiangsu, Jiangxi, Zhejiang. Hubei, Sichuan, Yunnan. Darjeeling, Bhutan, Sikkim. South-West. Central Australia. Southern. North, Central, South East. Coast, Tablelands, Western Slopes, Western Plains. Distrito Federal (*). Sao Paulo. Paraná, Rio Grande do Sul, Santa Catarina. Catamarca, Jujuy (*), La Rioja, Mendoza, Salta, Santiago del Estero, San Juan, Tucuman. Buenos Aires, Chaco, Cordoba, Corrientes, Distrito Federal, Entre Rios, Formosa, La Pampa, Misiones, Santa Fe. Chubut, Neuquén, Río Negro, Santa Cruz, Tierra del Fuego. Antofagasta. Coquimbo, Valparaiso, Santiago, O'Higgins, Maule, Biobio, La Araucania. Los Lagos, Aisen, Magellanes. Distrito Federal, Mexico State, Morelos, Puebla, Tlaxcala. Aguascalientes, Coahuila, Chihuahua, Durango, Guanajuato, Hidalgo, Neuvo Leon, Queretaro, San Luis Potosi, Tamaulipas, Zacatecas. Veracruz. Baja California, Baja California Sur. Colima, Jalisco, Michoacan, Oaxaca. Chiapas.

Poa antipoda Petrie. *Chilton, Subantarctic Isl. N. Zeal.* ii. 478 (1909).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *F.R. Chapman s.n.*, Auckland Islands ST: *H.C. Field s.n.*, Campbell Island LT: *T. Kirk s.n. [1474 to Hackel]*, Jan 1890, Antipodes Islands (WELT-66428; ILT: AK-1965, US-2044128 (ex hb. Cheeseman), WELT-29644, WELT-66404, WELT-66408, WELT-66409, WELT-66410, WELT-66411, WELT-66423). LT designated by Edgar, New Zealand J. Bot. 24: 454 (1986).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *anti*, opposite; *pous*, foot. Having the feet opposite, that is from the Antipodes.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Stolons present. Basal innovations extravaginal. Culms 20–60 cm long, rooting from lower nodes. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 1–4.5 mm long, scaberulous on abaxial surface, entire, acute. Leaf-blades 7.5–25 cm long, 2–4.5 mm wide, flaccid. Leaf-blade surface smooth, glabrous.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, 5–15 cm long. Primary panicle branches spreading. Panicle axis smooth. Panicle branches smooth or with occasional prickles. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5 mm long, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.5–3 mm long, 0.75–0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein smooth. Lower glume lateral veins absent. Lower glume apex acute or acuminate. Upper glume lanceolate, 2–3.5 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein smooth. Upper glume apex acute or acuminate.

Florets. Fertile lemma elliptic, 2.5–5 mm long, membranous, keeled, 3(–5) -veined, 0–3 -veined or more than 3-veined. Lemma midvein scaberulous, ciliate, hairy below. Lemma surface pubescent, hairy at base, hairy on veins. Lemma apex acute. Palea 2–4 mm long. Palea keels scabrous, ciliolate. Palea surface glabrous. Rhachilla extension 1 mm long.

Flower and Fruit. Lodicules 2, 0.4–0.5 mm long, membranous. Anthers 3, 0.5–1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. Antipodes Is, Stewart Is, Campbell Is, Auckland Is.

Poa apiculata N.F. Refulio-Rodriguez. *Syst. Bot.* 37 (1): 131 (2012).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. **Basionym or Replaced Name**: *Tovarochloa peruviana* T.D. Macfarlane & P.P.-H. But, *Brittonia,* 34(4): 478 (1982). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Peru, Ausangate: Rauh & Hirsch 1208 (US holo).

Illustrations (Journals): *Ruizia* (13:166, Fig 18l-o (1993)).

Derivation (Clifford & Bostock 2007): L. -ana, indicating location. From Peru.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms 0.4–1 cm long. Leaves without demarcation between sheath and blade. Leaf-sheaths inflated. Ligule an eciliate membrane, 0.3 mm long. Leaf-blades triangular, 0.2–0.3 cm long, 1.5 mm wide.

Inflorescence. Inflorescence a panicle, comprising 1–30 fertile spikelets, shorter than basal leaves, subtended by an inflated leaf-sheath, embraced at base by subtending leaf. Panicle capitate, 0.3–0.8 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–3.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, reaching apex of florets or shorter than spikelet, thinner than fertile lemma, parallel to lemmas or recurved at apex. Lower glume oblong, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex cuspidate. Upper glume oblong, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex cuspidate.

Florets. Fertile lemma oblong, 3–3.5 mm long, membranous, keeled, 1–5 -veined, 0–3 -veined or more than 3-veined. Lemma surface pubescent. Lemma apex cuspidate, muticous or mucronate. Palea 1 length of lemma, 1–2 -veined, without keels. Palea surface pubescent, hairy on back.

Flower and Fruit. Lodicules 2, membranous, 2-toothed. Anthers 3, 0.4–0.6 mm long. Stigmas 2. Ovary glabrous. Caryopsis with adherent pericarp, oblong, laterally compressed, 1.3–1.7 mm long. Embryo 0.4 length of caryopsis, projecting below grain. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa arachnifera Torr. *Marcy, Exp. Red Riv. Louis. Bot.* 301. (1853).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Marcy s.n.*, 1852, USA: Arkansas "crop timbers" (NY). LT designated by Hitchcock.

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (569), F.W.Gould, *The Grasses of Texas* (1975) (121, Fig. 59).

Images: R.Darke, *The Encylopaedia of Grasses for Liveable Landscapes* (2007);.

Derivation (Clifford & Bostock 2007): L. *arachne*, web*; fero*, bear. With lemmas bearing copious tangled hairs at their base.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Butt sheaths herbaceous. Culms erect, 25–85 cm long. Culm-internodes terete. Leaf-sheaths with 0.33–0.5 of their length closed, keeled. Ligule an eciliate membrane, 1–4 mm long, acute. Leaf-blades flat or conduplicate, 1.5–4.5 mm wide. Leaf-blade surface scaberulous, rough adaxially, glabrous. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong, interrupted, 3–15 cm long. Primary panicle branches 2–4 -nate, 2–7 cm long, naked below or bearing spikelets almost to the base. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–0.9 mm long, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume lanceolate, membranous, 1-keeled, 3–5 -veined. Upper glume primary vein smooth or scaberulous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma oblong, oblong in profile, 4.2–6.5 mm long, membranous, much thinner above, keeled, 5–7 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface smooth or papillose, glabrous. Lemma margins ciliate. Lemma apex acute. Palea 0.9 length of lemma. Palea keels eciliate or ciliate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.6–2.7 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets distinct from female, 2–10 flowered, 4–9 mm long, glabrous. Male spikelet lemma 3.5–5 mm long.

Distribution (TDWG). Continent. North America.

Country /Province /State. Marianas (*). **Northwest USA**, **North-central USA**, **South-central USA**, **Southeastern USA**. Idaho. Kansas, Oklahoma. Texas. Alabama, Arkansas, Florida, Georgia, Mississippi, North Carolina, South Carolina.

Poa araratica Trautv. *Act. Hort. Petrop.* ii. 486 (1873).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from Turkey. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Asia: Turkey: In armeniae monte Ararat majore, ad lacum Kup-gol, 8 Aug. 1871, *G. Radde 649* (HT: LE; IT: LE, W).

Recent Synonyms: *Poa psilolepis* keng, *Sunyatsenia,*6: 56 (1941). *Poa sinoglauca* Ohwi, *Journ. Jap. Bot.* 19: 169 (1943).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (as subspecies *oligophylla, ianthina, araratica, psilolepis* in Figures 419, 420, 422, 423).

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Mt. Ararat on the border of Turkey and former Soviet Union.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Rhizomes short. Butt sheaths herbaceous. Culms erect, (15–)25–30 cm long, with 0.25–0.33 of their length below uppermost node. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 1.5–2.5 mm long, lacerate. Leaf-blades filiform, convolute, 4–10 cm long, 1–1.5 mm wide. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, dense or loose, 4–9 cm long. Primary panicle branches ascending, 2 -nate. Panicle branches flexuous, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 4–6.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic or oblong, 3–3.8 mm long, 0.8 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume elliptic or oblong, 3.2–4.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, elliptic in profile or oblong in profile, (2.8–)3–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins ciliate. Lemma apex obtuse

or acute. Palea 0.9 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

2*n* = 42 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. Siberia, Russian Far East, **Middle Asia**, **Caucasus**, **Western Asia**, **China**, **Mongolia**, **Russia**. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Iran, Iraq. China South Central, Inner Mongolia, China North-Central, Qinghai, Tibet, Xinjiang. Mongolia. **Indian Subcontinent**. India, Nepal, Pakistan, West Himalaya.

Gansu, Hebei, Shaanxi. Sichuan, Yunnan. Himachal Pradesh.

Poa arctica R. Br. *Parry's 1st Voy. Suppl.* 288 (err. typ. 188) (1824).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Canada. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *Parry*, (LE fol.1, LE fol.2). IT: *Parry Hooker dedit Mart. 1825*, (LE). HT: *Capt. Parry [R.Br. no. 59]*, [1819–1820], Mellville Island (BM ["sheet I"]; IT: BM [sheet II], BM "59" separate, US-556777 ex PH drawn by A.Chase, US-556778 ex BM, LE).

Recent Synonyms: *Poa malacantha* Komarov, *Not. Syst. Herb. Hort. Petrop.* 5: 149 (1924).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (531 as subspecies *arctica, aperta, caespitans, grayana & lanata*).

Derivation (Clifford & Bostock 2007): Gk. *arktos*, north; L. *-ica*, belonging to. Occurring in and often extending beyond the Arctic.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary or caespitose. Rhizomes elongated. Butt sheaths herbaceous. Culms decumbent, 20–60 cm long, wiry. Culm-internodes terete, smooth. Leaf-sheaths with 0.5–0.75 of their length closed, without keel. Ligule an eciliate membrane, 3–7 mm long, glabrous on abaxial surface, acute or acuminate. Leaf-blades flat or conduplicate, 1–2.5 mm wide, mid-green or glaucous. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate or ovate, 4–15 cm long, bearing few spikelets, with spikelets clustered towards branch tips. Primary panicle branches ascending, 2 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.9 length of upper glume, membranous, much thinner on margins, 1-keeled. Lower glume primary vein smooth. Lower glume apex acute. Upper glume lanceolate, 3.5–6 mm long, 1 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein smooth. Upper glume apex acute.

Florets. Fertile lemma elliptic, oblong in profile, 3.5–6 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma lateral veins obscure. Lemma surface villous. Lemma margins ciliate. Lemma apex acute. Palea 0.9 length of lemma. Palea keels smooth or scaberulous, eciliate or ciliolate. Palea surface glabrous or pubescent, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.4–2.5 mm long, pallid or purple. Caryopsis with adherent pericarp. Hilum punctiform.

2*n* = 70 (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia, North America, South America.

Region. **Northern Europe**, **Eastern Europe**.

Country /Province /State. : Finland, Iceland, Norway, Svarlbad, Sweden. Central European Russia, East European Russia, North European Russia. Siberia, Russian Far East, **China**, **Eastern Asia**. Altay, Buryatiya, Chita, Irkutsk, Krasnoyarsk, Tuva. Amur, Kamchatka, Kuril Is, Magadan, Primorye, Sakhalin.

China North-Central, Qinghai, Xinjiang. Japan Honshu. Japan. **Subarctic America**, **Western Canada**, **Eastern Canada**, **Northwest USA**, **Southwestern USA**, **South-central USA**. Aleutian Is, Alaska, Yukon, Northwest Territories, Nunavut, Greenland. Alberta, British Columbia, Manitoba, Saskatchewan. Labrador, Newfoundland, Ontario, Quebec. Colorado, Montana, Oregon, Washington, Wyoming. California, Nevada, Utah. New Mexico. **Southern South America**. Argentina South.

Gansu, Hebei. Tierra del Fuego.

Poa arcuata N.F. Refulio-Rodriguez. *Syst. Bot*. I37 (1): 130 (2012).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Peru. **Basionym or Replaced Name**: *Dissanthelium breve* Swallen & Tovar, *Phytologia,* 11: 371 (1965). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *O. Tovar 1161*, 31 Mar 1953, Peru: Huancavelica: Huancavelica Prov. (US-2181263).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. short. Culms short.

Classification. Subfamily Pooideae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 6–8 cm long. Leaf-sheaths antrorsely scabrous. Ligule an eciliate membrane, 1–2 mm long. Leaf-blades ascending, conduplicate, 2–5 cm long, 1–2 mm wide. Leaf-blade venation distinct. Leaf-blade surface scaberulous, rough on both sides. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, shorter than basal leaves. Panicle spiciform, linear, 2–3 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 3.5–3.7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.3 mm long.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma, shiny. Lower glume lanceolate, 3.5–3.7 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume lanceolate, 3.5–3.7 mm long, 1.4 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 2.5–2.6 mm long, chartaceous, much thinner above, keeled, 3 -veined, 0–3 -veined. Lemma surface hispidulous. Lemma apex truncate. Palea keels ciliolate, adorned above.

Flower and Fruit. Anthers 3, 0.5–0.6 mm long. Ovary glabrous. Endosperm farinose.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Bolivia, Peru.

Poa arechavaletae L. Parodi. *Rev. Argent. Agron.* iii. 141. (1936).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Uruguay. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Uruguay: Montevideo, Nov 1877, *Arechavaleta 47 3/4* (HT: MVM).

Illustrations (Books): B.Rosengurtt, *Gramineas UruguayasI* (1970) (138, Fig. 51).

Derivation (Clifford & Bostock 2007): in honor of Josi Arechavaleta y Balpardo (1838–1912) Uruguayan botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms erect, 70 cm long, 2–3 -noded. Culm-internodes elliptical in section. Leaf-sheaths longer than adjacent culm internode, scaberulous, glabrous on surface. Ligule an eciliate membrane, 1–2 mm long, entire, truncate. Leaf-blades conduplicate or convolute, 20–25 cm long, 5–6 mm wide. Leaf-blade surface scaberulous, rough adaxially, glabrous. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, 15 cm long, 4–5 cm wide, contracted about primary branches. Primary panicle branches ascending, 4–9 cm long, naked below or bearing

spikelets almost to the base. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.5–1 mm long, scabrous.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume linear, 4 mm long, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acuminate. Upper glume linear, 4.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma lanceolate, 4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous, ciliolate, hairy below. Lemma lateral veins distinct. Lemma margins pubescent. Lemma apex acute. Palea 3 mm long, 2 -veined. Palea keels scaberulous, eciliate or ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp, fusiform, 1.8 mm long. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Uruguay.

Poa arida Vasey. *Contrib. U. S. Nat. Herb*. i. 270. (1893).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *G.R. Vasey 274*, 1881, USA: New Mexico (LE (specimen *a*)). *b* is *P. fendleriana* (Steud.) Vasey. IT: *G.R. Vasey s.n.*, 1881, USA: New Mexico: Socorro (GH, US-556854, US-748959, US-824665, US-918162).

Recent Synonyms: Poa glaucifolia Vasey, *Contrib. U. S. Nat. Herb*.1: 270. (1893).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (600).

Derivation (Clifford & Bostock 2007): L. dry. Growing in arid places.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Butt sheaths herbaceous. Culms 15–80 cm long. Culm-internodes terete, striate, smooth or scaberulous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths with 0.2 of their length closed, glabrous on surface. Ligule an eciliate membrane, 1–4 mm long, entire or lacerate, acute. Leaf-blades flat or conduplicate, 3–12 cm long, 1–5 mm wide, 1–6 cm long at summit of culm, light green or glaucous. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 4–12 cm long. Primary panicle branches appressed, 2–3 -nate. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth, pubescent. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 2.5–3.5 mm long, 0.9 length of upper glume, membranous, 1-keeled. Lower glume primary vein smooth or scaberulous. Lower glume apex acute. Upper glume oblong, 2.5–4 mm long, 0.66–0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein smooth or scaberulous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 2.5–4 mm long, membranous, keeled, lightly keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma lateral veins prominent. Lemma surface glabrous or pilose, hairy below. Lemma margins ciliolate, hairy below. Lemma apex obtuse or acute. Palea 0.9 length of lemma. Palea keels ciliolate or ciliate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.3–1.7 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

2*n* = 84 (1 ref TROPICOS).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Western Canada**, **Northwest USA**, **North-central USA**, **Southwestern USA**, **South-central USA**. Alberta, British Columbia, Manitoba, Saskatchewan. Colorado, Idaho, Montana, Wyoming. Iowa, Kansas, Minnesota, North Dakota, Nebraska, Oklahoma, South Dakota. Arizona, Nevada, Utah. New Mexico, Texas.

Poa arnowiae R.J. Soreng. *Novon,* 8(2): 197 (1998).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *M.E. Jones 5573*, 3 Jul 1894, USA: Utah: Utah Co.: Provo, 2438 mt (US-278718).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (544).

Illustrations (Journals): *Novon* (8: 198 Fig.2 (1998)).

Derivation (Clifford & Bostock 2007): In honor of Lois Goodell Arnow (1921-) United States botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary or caespitose, clumped loosely. Rhizomes short. Culms geniculately ascending or decumbent, 15–80 cm long. Leaf-sheaths tubular for much of their length, with 0.5–0.9 of their length closed, keeled, smooth or scaberulous, glabrous on surface. Ligule an eciliate membrane, 0.5–4 mm long, glabrous on abaxial surface or scaberulous on abaxial surface, entire or erose, truncate or obtuse. Leaf-blades 2.5–6 cm long, 2.5–6 mm wide. Leaf-blade surface smooth or scaberulous, rough on both sides, glabrous. Bisexual or gynodioecious ("male", in this context, indicating the bisexual state).

Inflorescence. Inflorescence a panicle. Panicle open, oblong or ovate, 5–22 cm long. Primary panicle branches spreading or reflexed, 2–4 -nate. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.5–3 mm long, 1 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume lateral veins absent or distinct. Lower glume apex acute. Upper glume elliptic, 1.5–3 mm long, 0.25–0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–6.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein eciliate. Lemma surface glabrous. Lemma margins eciliate. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.3–3.6 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Male spikelets resembling female.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Northwest USA** and **Southwestern USA**. Idaho, Wyoming. Utah.

Poa asirensis Cope. *Kew Bull*. 61: 243 (2006).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Saudi Arabia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Saudi Arabia: Sooda, near Abha, 7 Apr 1982, *S. Chaudhary 3873* (HT: K; IT: B, RIY).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes elongated. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Culms 15–25 cm long. Culm-internodes terete. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 1.5 mm long, obtuse. Leaf-blades 1.5–2.5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, dense or loose, 7–9 cm long. Primary panicle branches ascending, bearing spikelets almost to the base. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 3.5–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate or elliptic, 2.3–2.6 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate or elliptic, 2.7–2.9 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate or elliptic, 2.8–3.1 mm long, herbaceous, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous. Lemma lateral veins stopping well short of apex. Lemma apex obtuse. Palea 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Arabian Peninsula**. Saudi Arabia.

Poa asperiflora Hack. *Fedde, Repert.* xi. 28 (1912).

TYPE from Bolivia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Buchtien 2549*, Mar 1910, Bolivia: La Paz: Isla del Sol, Lago Titicaca, 3840 m (W; IT: B, BAA-2458, US-89699 (fragm. ex W)).

Recent Synonyms: *Poa megalothyrsa* Keng ex Tsvelev, *Akad. Nauk SSSR Bot. Inst. Komarova, Rast. Tsentral. Azii, Fasc.* 4, 136 (1968).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *asper*, rough; *flos*, flower. Spikelets and rhachides asperous.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 14–35 cm long, 2–3 -noded. Lateral branches lacking. Leaf-sheaths scaberulous, glabrous on surface. Ligule an eciliate membrane, 4–7 mm long. Leaf-blades involute, 5–25 cm long, 1–3 mm wide, coriaceous. Leaf-blade surface scabrous, rough on both sides. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle open, elliptic, 6–12 cm long. Panicle branches capillary, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.5–3.7 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 3.7–4.2 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4.2–4.8 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins prominent. Lemma surface pubescent, hairy below. Lemma apex acute. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**, **Southern South America**. Bolivia, Peru. Chile North.

Poa asperifolia Bor. *Kew Bull.* 1952, 130 (1952).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Xizang: Pemba La, 10–15 mi N of Lhasa, Sept. 1904, *H.J. Walton s.n.* (HT: K; IT: K).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 382).

Derivation (Clifford & Bostock 2007): L. *asper*, rough; *folium*, leaf. Leaf-blades rough.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Butt sheaths herbaceous. Culms erect or geniculately ascending, 25–50 cm long, 4 -noded. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths tight, striately veined, smooth, glabrous on surface. Ligule an eciliate membrane, 3–6 mm long, obtuse. Leaf-blades flat or conduplicate, 6–12 cm long, 2.5 mm wide. Leaf-blade surface scaberulous, rough on both sides. Leaf-blade margins scabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, elliptic, 15 cm long. Primary panicle branches ascending, 2–5 -nate, 5–10 cm long. Panicle branches flexuous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth or scaberulous. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 2.5–3 mm long, 0.7–0.8 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume oblong, 3.5–3.75 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 3.5–4 mm long, membranous, glandular on surface, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma surface pubescent, hairy at base. Lemma apex acute. Palea 0.9 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–1.7 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. China South Central, China North-Central, Qinghai, Tibet. **Indian Subcontinent**. Eastern Himalaya.

Gansu. Sichuan, Yunnan.

Poa astonii Petrie. *Trans. N. Z. Inst.* viii. 423 (1906).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealnd. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *D. Petrie s.n.*, New Zealand: Brighton, near Dunedin (WELT-66186). LT designated by Edgar, New Zealand J. Bot. 24: 439 (1986).

Illustrations (Books): E.Edgar. & H.E.Connor, *Flora of New Zealand* 5, *Gramineae* (2000).

Images: E.Edgar & H.E.Connor, *Flora of New Zealand* 5, *Gramineae* (2000);.

Derivation (Clifford & Bostock 2007): in honor of Bernard Cracroft Aston (1871–1951) English-born New Zealand scientist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Rhizomes elongated. Butt sheaths coriaceous. Basal innovations intravaginal. Culms 20–45 cm long. Lateral branches lacking. Leaves

mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1–2 mm long, scaberulous on abaxial surface, obtuse. Leaf-blades deciduous at the ligule, involute, 10–30 cm long, 0.5–1 mm wide. Leaf-blade surface glabrous. Leaf-blade apex filiform.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, linear, 5–10 cm long. Primary panicle branches appressed. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5.5–12 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–1 mm long, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2–5 mm long, 1 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent or distinct. Lower glume margins ciliolate. Lower glume apex acute or acuminate. Upper glume ovate, 2–5.5 mm long, 0.66–0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3(–5) -veined. Upper glume primary vein smooth or scaberulous. Upper glume margins ciliolate. Upper glume apex acute or acuminate.

Florets. Fertile lemma lanceolate, 3.5–7 mm long, membranous, keeled, 3–5 -veined, 0–3 -veined or more than 3-veined. Lemma midvein scabrous, ciliate, hairy below. Lemma surface scaberulous, rough between veins. Lemma margins ciliolate. Lemma apex acute or acuminate, mucronate. Palea 3–6 mm long. Palea keels scabrous. Palea surface pubescent, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, 0.5–1 mm long, membranous, glabrous or ciliate. Anthers 3, 2–3 mm long. Caryopsis with adherent pericarp, 1.5 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand South I, Stewart Is, Campbell Is, Auckland Is.

Poa atropidiformis Hack. ex Dusen. *Ergebn. Schwed. Exp. Magell.* iii. v. 224. (1900).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Bruno Ansorge 478*, 1896 or 1897 [1891? at W], Chile: [Isla Grande de Tierra del Fuego] hab. Fuegia orientalis, Río Cullen, páramo (W-8022; IT: B, BAA-2462 (fragm. ex B), US-89697).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (295), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (148, Fig 89).

Derivation (Clifford & Bostock 2007): L. *forma*, appearance. With the habit of *Atropis convolutae*.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 10–30 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 2–3 mm long, lacerate. Leaf-blades straight or curved, conduplicate, 2–4 cm long, 2–3 mm wide. Leaf-blade venation prominent. Leaf-blade margins scabrous. Leaf-blade apex abruptly acute or acute.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf or enclosed. Panicle contracted, linear, 5–10 cm long. Primary panicle branches appressed, 1–4 cm long. Panicle axis scabrous. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 3.5–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–1 mm long. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet or reaching apex of florets. Lower glume lanceolate, 3.5–5 mm long, 1 length of upper glume, membranous, much thinner on margins, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or distinct. Lower glume apex acute. Upper glume ovate, 3.5–5 mm long, 1.2–1.7 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma oblong, 2.5–3 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma surface smooth or scaberulous, rough above,

glabrous or pubescent. Lemma apex obtuse. Palea 1 length of lemma. Palea keels scabrous. Palea surface glabrous or pubescent, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.4–0.8 mm long. Caryopsis with adherent pericarp, ellipsoid, 1.2–1.5 mm long. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South, Chile South.

Santa Cruz, Tierra del Fuego. Chiloe, Aisen, Magellanes. Magellanes.

Poa atropurpurea Scribn. *U.S. Dept. Agric. Bull.Agrost.* xi. 53. (1898).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *S.B. Parish 2968*, 18 Jun 1894, USA: California: San Bernardino Mts., 6500 ft (US-213220). LT designated by A.S. Hitchcock, Man. Grasses U.S, f. 127 and p. 938 (1935).

ST: *Parish 3696*, Jun 1895, USA: California: San Bernardino Mts. (RSA).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (557).

Derivation (Clifford & Bostock 2007): L. *ater*, dark; *purpurea*;, purple or dull red. Panicles purple-red.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes elongated. Butt sheaths herbaceous. Culms erect, 30–40 cm long, with 0.4 of their length below uppermost node. Culm-internodes terete. Leaves basal and cauline. Ligule an eciliate membrane. Leaf-blades straight, conduplicate or involute, 1–2 mm wide.

Inflorescence. Inflorescence a panicle. Panicle spiciform, oblong, 3–5 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 1.5–2 mm long, 0.75 length of upper glume, membranous, purple, 1-keeled. Lower glume apex acute. Upper glume lanceolate, 1.5–2 mm long, 0.75 length of adjacent fertile lemma, membranous, purple, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.5 mm long, membranous, purple, keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface glabrous. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Southwestern USA**. California.

Poa attenuata Trin. *Bunge, Verz. Suppl. Fl. Alt.* 9 (1835).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Russia: Siberia: Altai Mt., in montosis ad fontem fluvii Jolo, 1833, *D. Bunge* (HT: ?; IT: LE).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (567, Fig. 17 & 571, Fig. 19), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 424 as *Poa attenuata* var. *attenuata*).

Derivation (Clifford & Bostock 2007): L. thin. Spikelets terete or narrow.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths herbaceous. Culms erect, (10–)25–50 cm long, with 0.25–0.33 of their length below uppermost node. Culm-internodes terete, smooth. Lateral

branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 1.5–2.5 mm long, obtuse. Leaf-blades involute or convolute, 1.5–10 cm long, 1–3 mm wide. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong, 2.5–9 cm long, bearing few spikelets. Primary panicle branches ascending, 1–2 -nate. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or ovate or cuneate, laterally compressed, 4–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2.3–3.3 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume ovate, (2.5–)3–3.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, (2–)2.3–3(–3.2) mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins ciliate. Lemma apex acute. Palea 0.9 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1–1.8 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 28$ (1 ref TROPICOS), or 42 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. Siberia, Russian Far East, **Middle Asia**, **China**, **Mongolia**, **Russia**. Altay, Buryatiya, Chita, Irkutsk, Krasnoyarsk, Tuva. Amur, Kamchatka, Khabarovsk, Magadan, Primorye. Kazakhstan, Kirgizistan, Tadzhikistan, Uzbekistan. China South Central, Inner Mongolia, China North-Central, Qinghai, Tibet, Xinjiang. Mongolia. **Indian Subcontinent**. Eastern Himalaya, India, Nepal, Pakistan, West Himalaya.

Gansu, Hebei, Shaanxi. Sichuan, Yunnan. Bhutan, Sikkim.

Poa aucklandica Petrie. *Chilton, Subantarctic Isl. N. Zeal.* ii. 478 (1909).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *B.C. Aston s.n.*, Nov 1907, New Zealand: mountain top behind Camp Cove, Carnley Harbour, Auckland Islands (WELT-66441; ILT: CHR-1437, CHR-29276, WELT-66431, WELT-66442). LT designated by Edgar, New Zealand J. Bot. 24: 465 (1986).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From the Aukland Islands.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Basal innovations extravaginal. Culms 2–40 cm long. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 0.3–2 mm long, obtuse. Leaf-blades flat or conduplicate or involute, 2–20 cm long, 0.5–1.5 mm wide, firm or flaccid. Leaf-blade surface scaberulous, rough adaxially, glabrous.

Inflorescence. Inflorescence a panicle. Peduncle antrorsely scabrous above. Panicle open, 1.5–7.5 cm long. Primary panicle branches bearing 1 fertile spikelets on each lower branch. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4.5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long, scaberulous. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 3–5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein smooth or scaberulous. Lower glume apex acute. Upper glume elliptic, 4–5.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3(–5) -veined. Upper glume primary vein smooth or scaberulous. Upper glume apex acute.

Florets. Fertile lemma oblong, 4–5.5 mm long, membranous, keeled, 5–7 -veined, more than 3-veined. Lemma surface scaberulous, rough on veins. Lemma apex obtuse. Palea 3–4.5 mm long. Palea keels scaberulous. Rhachilla extension 2 mm long.

Flower and Fruit. Lodicules 2, 0.5–0.7 mm long, membranous. Anthers 3, 0.3–0.7 mm long. Caryopsis with adherent pericarp, 1.5 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. Stewart Is, Campbell Is, Auckland Is.

Poa aurigae J.F. Veldkamp. *Blumea,* 38(2): 422 (1994).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Papua New Guinea. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.F. Veldkamp 6574*, 27 Apr 1975, Papua New Guinea: New Guinea, West Sepik, Star, 3350 m (L).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): From Mt. Auriga, Papua, Indonesia.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations extravaginal or intravaginal. Culms erect or geniculately ascending, 7–17 cm long. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 1.75–4 mm long, glabrous on abaxial surface, acute. Leaf-blades erect, flat or conduplicate, 3–7 cm long, 0.6–1.4 mm wide, stiff. Leaf-blade surface smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, 1.8–3.5 cm long, 0.6–1.4 cm wide. Primary panicle branches appressed or ascending, 2–5 -nate, 0.8–1.5 cm long, bearing 3–7 fertile spikelets on each lower branch. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2–3 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1–1.5 mm long, 0.8–0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 1.25–1.75 mm long, 0.66 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.15–2.6 mm long, membranous, keeled, 3 -veined, 0–3 -veined. Lemma apex acute. Palea keels smooth. Rhachilla extension 0.75–1.5 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5–0.75 mm long, eventually exserted or retained within floret. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea West Papua (Irian Jaya). New Guinea.

Poa austrouralensis Tzvelev. *Novosti Sist. Vyssh. Rast*. 41: 27 (2009).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Prov. Ufa, distr. Birsk, pag. Tatarkina, in silva frondosa in 4 verstae borealiter versus a pago, 7 Jun 1886, *S. Korshinsky s.n.,* LE.

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Culms geniculately ascending, 40–100 cm long, with 0.5 of their length below uppermost node. Culm-internodes distally pubescent. Leaves mostly basal. Leaf-sheaths smooth or scaberulous. Ligule an eciliate membrane, 0.7–1.3 mm long. Leaf-blades 2–5 mm wide. Leaf-blade surface scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, loose, 10–15 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising (1–)2(–3) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 3.5–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes glabrous. Floret callus pilose.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3–3.7 mm long, membranous, 1-keeled. Lower glume apex acute. Upper glume lanceolate, 3–3.7 mm long, membranous, 1-keeled. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.4–3.7 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface puberulous, hairy on veins. Lemma apex acute. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3.

Distribution (TDWG). Continent. Europe.

Region. **Eastern Europe**.

Poa autumnalis Muhl. *Ell. Sketch,* i. 159 (1816).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Herbemont*, Aug-Sep, USA: South Carolina: Columbia (CHARL-3969).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (513), F.W.Gould, *The Grasses of Texas* (1975) (115, Fig. 55).

Derivation (Clifford & Bostock 2007): L. of the autumn. Flowering in autumn.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths herbaceous. Culms weak, 30–70 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long. Leaf-blades 1–4.5 mm wide, flaccid. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, pyramidal, 8–18 cm long, with spikelets clustered towards branch tips. Primary panicle branches spreading or drooping, 2 -nate, 4–8 cm long, bearing 1–3 fertile spikelets on each lower branch. Panicle branches capillary, flexuous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 0.66 length of upper glume, membranous, 1-keeled. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume oblong, 0.5 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 3.5–4.5 mm long, membranous, much thinner above, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma surface pubescent, hairy all along or below. Lemma margins ciliate, hairy below. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1–1.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **North-central USA**, **Northeast USA**, **South-central USA**, **Southeastern USA**. Illinois. Indiana, Massachusetts, Michigan, Ohio, Pennsylvania. Texas. Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Virginia.

Poa ayacuchensis Tovar. *Bol. Soc. Peru. Bot.* 7:8 (1974).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *O. Tovar 7007*, 5 Nov 1972, Peru: Ayacucho: Huamanga Prov., desvio carretera Libertadores, carretera Ayacucho-Pisco, monte bajo, parte humeda, 3800 m (USM-185262; IT: MO-3812382 (fragm. ex USM as 3800 m), US-3029236).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis,* denoting origin. From Ayacucho, Humanga Province, Peru.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms robust, 100–150 cm long, 5–7 -noded. Leaf-sheaths keeled, antrorsely scabrous. Ligule an eciliate membrane, 4–7 mm long, truncate. Leaf-blades 25–40 cm long, 8–10 mm wide. Leaf-blade surface scabrous, rough on both sides. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 25–35 cm long, with spikelets clumped along branches. Primary panicle branches ascending or spreading, 7–15 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.8–4 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 4.8–5 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 5–5.4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex acute.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa ayseniensis Hack. Fedde*, Repert.* x. 173 (1911).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Chile austr.: in expeditione ad fl. Aysén, 17 Jan 1897, *P. Dusén 514*.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From the River Aysin, Chile.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 25–50 cm long, 3 -noded, with 0.33 of their length below uppermost node. Culm-internodes terete or elliptical in section, scaberulous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths mostly shorter than adjacent culm internode, keeled, scaberulous. Ligule an eciliate membrane, 1–2 mm long, truncate. Leaf-blades 8–12 cm long, 3 mm wide, stiff, glaucous. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade margins scaberulous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate or ovate, 7–14 cm long, 3–6 cm wide. Panicle axis scabrous. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the

upper sterile. Spikelets lanceolate or elliptic, laterally compressed, 4.5–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus sparsely hairy.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate or ovate, 3–3.5 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume lanceolate or ovate, 3–3.5 mm long, 0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma oblong or ovate, 4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma surface scaberulous. Lemma margins ciliolate, hairy below. Lemma apex obtuse. Palea 1 length of lemma. Palea keels ciliolate.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Chile South.

Aisen.

Poa bactriana Roshev. *Not. Syst. Herb. Hort. Petrop.* iv. 93 (1923).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Komarov 1892, Spiridonow 1915, Minkwitz 1913, Dessistoff 1913, Regel 1883, Lipsky 1896, Popow 1915*, (LE). LT: *V. Lipskii*, 8 Jul 1896, Gissar Range: Gissar, Pyanjkhan, 7800 ft, souther slope of Gissar range, along Gzigdya River (LE; ILT: LE, LE). LT cited by Tzvelev, Zlaki SSSR 450 (1976).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating location. From Baktroi, a province of the ancient Persian Empire, now mostly Turkestan, former Soviet Union.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths thickened and forming a bulb. Culms erect, 10–70 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 1.5–3 mm long, obtuse. Leaf-blades flat or conduplicate, 1.5–17 cm long, 1–3.5 mm wide. Leaf-blade surface smooth or scaberulous. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, oblong or pyramidal, dense or loose, 1.5–10 cm long. Primary panicle branches ascending, (1–)2–3(–4) -nate. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4(–6) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or ovate, laterally compressed, (3–)3.5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2–3(–3.5) mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2–3(–3.5) mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, lanceolate in profile or elliptic in profile, 2–3.5(–4) mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein without distinctive roughness or scaberulous. Lemma margins without distinctive roughness or scaberulous. Lemma apex obtuse or acute. Palea 0.9 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.6–2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **Middle Asia**, **Western Asia**, **China**. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Afghanistan, Iran. Tibet, Xinjiang. **Indian Subcontinent**. Pakistan, West Himalaya.

Himachal Pradesh.

Poa badensis Haenke ex Willd. *Sp. Pl.* i. 392 (1797).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Austria. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Haenke*, Austria: collibus uinem ad Baden nec non in montibus ad Petersdorf (LE-TRIN-2575.20, W (ex hb Jacq.)).

Illustrations (Books): G.Hegi, *Flora von Mitteleuropa* 1 (1909).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Baden, Lower Austria.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths persistent and investing base of culm. Basal innovations intravaginal. Culms erect, 20–35 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 2–6 mm long, 1–2 mm long on basal shoots, acute. Leaf-blades conduplicate, 2.5–6 cm long, 2–3 mm wide, glaucous. Leaf-blade margins cartilaginous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, dense, 4–7 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–9 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface pubescent. Lemma apex acute. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

$2n$ = 14 (2 refs TROPICOS), or 28 (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**.

Country /Province /State. : Austria, Czechoslovakia, Germany, Hungary, Switzerland. : France. : Albania, Bulgaria, Italy, Romania, Yugoslavia. **Caucasus**, **China**. Xinjiang.

Poa bajaensis Soreng. *Madrono* 48:123 (2002).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Mexico. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Mexico: Baja California, Sierra San Pedro Mátir, E rim above Yerba Buena, 31?01' N, 115ºW, 2700m, 1 Jun 1968, *R. Moran 15070* (HT: US-259736; IT: SD-69304).

Illustrations (Journals): *Phytokeys* (15:18, Fig.3 (2012)).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Baja California, Mexico.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths papery, persistent and investing base of culm. Basal innovations intravaginal. Culms erect, 20–50 cm long. Leaf-sheaths open for most of their length, with 0.33 of their length closed, 8–15 cm long, keeled, antrorsely scabrous. Ligule an eciliate membrane, 0.25–1.5(–2) mm long, scaberulous on abaxial surface, truncate or obtuse. Leaf-blades flat or conduplicate, 1–4 cm long, 1.5–2.75 mm wide. Leaf-blade surface smooth or scaberulous, rough on both sides. Leaf-blade apex abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 4–13 cm long. Primary panicle branches spreading or reflexed, 2–5 -nate, 3–7 cm long, bearing 5–15 fertile spikelets on each lower branch. Panicle

axis with lower internodes 1.8–3.9(–5.2) cm long, smooth. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising (1–)2–4(–6) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 3.75–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1.25–2 mm long, smooth. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, with lower narrower than upper, shorter than spikelet. Lower glume lanceolate, 2.5–3 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1(–3) -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent or obscure. Lower glume surface smooth or asperulous, rough on veins or between veins. Lower glume apex acute. Upper glume lanceolate, 2.8–3.8 mm long, 0.5–0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein smooth or scaberulous. Upper glume surface smooth or asperulous, rough on veins or between veins. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.2–4.2 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous. Lemma lateral veins obscure. Lemma surface glabrous or puberulous, hairy below. Lemma hairs 0.2–0.5 mm long. Lemma apex acute. Palea 1 length of lemma. Palea keels smooth or scaberulous. Palea surface glabrous or puberulous, hairy on back, hairy in the middle. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.7–3.2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Mexico**. Northwest Mexico.

Baja California.

Poa balbisii Parl. Fl. Ital. 1: 369 (1848).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Distribution (TDWG). Continent. Europe.

Region. **Southwestern Europe**.

Country /Province /State. : Corsica, Sardinia.

Poa barrosiana Parodi. *Physis,* xi. 134 (1932).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *L.R. Parodi 9820*, 31 Jan 1930, Argentina: Buenos Aires (BAA; IT: US-89694).

Illustrations (Books): A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (1120, Fig. 31).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Manual Barros (1880–1973), Argentinian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary. Rhizomes elongated. Culms geniculately ascending, 50–80 cm long, 5–6 -noded. Lateral branches lacking. Leaf-sheaths 10–25 cm long, longer than adjacent culm internode, striately veined, smooth, glabrous on surface. Ligule an eciliate membrane, 15–20 mm long, acuminate. Leaf-blades conduplicate, 15–25 cm long, 1.5–2 mm wide. Leaf-blade apex acuminate. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear or oblong, 8–18 cm long, 2–3 cm wide. Primary panicle branches 3–6 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, glabrous.

Fertile Spikelets. Spikelets comprising 5–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 9–11 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 8–10 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume apex acuminate. Upper glume ovate, 8.5–11 mm long, 1.1 length of adjacent fertile lemma, membranous, 1-keeled, 3–5 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma lanceolate, 8–9 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma apex acuminate. Palea 5–6 mm long. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 3–3.5 mm long. Caryopsis with adherent pericarp, lanceolate, concavo-convex, 3 mm long. Hilum punctiform.

Male inflorescence similar to female. Male spikelets similar to female but less developed. Male spikelet lemma 6–8 mm long.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northeast.

Buenos Aires.

Poa bergii Hieron. *Bol. Acad. Nac. Cordova,* iii. 374. (1879).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *C. Berg 205*, Argentina: Rio Negro, boca del Rio Negro (CORD).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (296), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (204, Fig 135).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Basal innovations extravaginal or intravaginal. Culms robust, 50–100 cm long. Leaf-sheaths longer than adjacent culm internode, smooth. Ligule an eciliate membrane, 7–25 mm long, acute. Leaf-blades convolute, 25–50 cm long, 3–6 mm wide. Leaf-blade surface puberulous, densely hairy, hairy adaxially. Leaf-blade apex acute. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, elliptic, interrupted, 12–25 cm long. Primary panicle branches appressed, 2–5 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, smooth.

Fertile Spikelets. Spikelets comprising 6–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 10–14 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly. Floret callus hairs 1 length of lemma.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 6–8.5 mm long, 1 length of upper glume, membranous, much thinner on margins, 1-keeled, 3–5 -veined. Lower glume primary vein scabrous. Lower glume apex acuminate. Upper glume ovate, 6.5–10 mm long, 0.9 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3–7 -veined. Upper glume primary vein scabrous. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma elliptic, 7.5–9.5 mm long, membranous, keeled, 5–9 -veined, more than 3-veined. Lemma midvein without distinctive roughness or scaberulous, ciliate, hairy below. Lemma margins ciliate, hairy below. Lemma apex acute. Palea keels pubescent, adorned below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp, ellipsoid, trigonous, 2.5–3 mm long. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northeast, Argentina South.

Buenos Aires. Río Negro.

Poa beringiana Probatova. *Novosti Sist. Vyssh. Rast.* 8: 29, 49 (1971).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *N. Probatova 532*, 26 Aug 1965, Isls. Komandor's: vic. village Preobrazhenskoe (LE). original label:" Komandorskie ostrova: okr. pos. Preobrazhenskoe:raznotravnaya al'pijskaya luzhajka na sklone u vershiny gory".

Recent Synonyms: *Poa chonotica* Phil., *Linnaea* 19: 97 (1859).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating location. From Bering Island.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Culms erect, 20–30 cm long. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 2–3 mm long, truncate. Leaf-blades 4–16 cm long, 1.5–3.5 mm wide, flaccid. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, oblong or pyramidal, 5–8 cm long. Primary panicle branches spreading or reflexed, 2–4 -nate, bearing 2–5 fertile spikelets on each lower branch. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3–3.5 mm long, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume surface scabrous, rough on veins. Lower glume apex acute. Upper glume ovate, 3.5–4 mm long, 1–1.1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume surface scabrous, rough on veins. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins obscure. Lemma margins ciliate, hairy below. Lemma apex acute. Palea keels scabrous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.8–1.1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East. Kamchatka.

Poa bigelovii Vasey. *Cat. Grass. U. St.* 81. (1885).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. **Basionym or Replaced Name**: *Poa annua* var. *stricta* Vasey ex Scribn., *Bull. Torrey Bot. Club* 10(1): 31 (1883). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *C.G. Pringle s.n.*, 1881, USA: Arizona (US-81668).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (537), F.W.Gould, *The Grasses of Texas* (1975) (113, Fig. 54).

Illustrations (Journals): *Phytokeys* (15:20, Fig.4 (2012)).

Derivation (Clifford & Bostock 2007): in honor of John Milton Bigelow (1804–1878) United States surgeon and botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose, clumped loosely. Butt sheaths herbaceous. Culms erect, 10–60 cm long. Culm-internodes terete. Leaves cauline. Leaf-sheaths with 0.25–0.5 of their length closed, keeled. Ligule an eciliate membrane, 1–6 mm long, glabrous on abaxial surface or scaberulous on abaxial surface, acute. Leaf-blades flat or conduplicate, 1.5–5 mm wide. Leaf-blade midrib keeled beneath. Leaf-blade surface glabrous. Leaf-blade apex abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, continuous or interrupted, 2–15 cm long, 0.5–1.5 cm wide. Primary panicle branches appressed, 2 -nate, naked below or bearing spikelets almost to the base. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the

upper sterile. Spikelets ovate, laterally compressed, 4–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes obscured by lemmas, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet, incurved at apex. Lower glume lanceolate, 0.9 length of upper glume, membranous, much thinner on margins, 1-keeled, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume lanceolate, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 3–5 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma lateral veins with distinct primaries but obscure intermediates. Lemma surface smooth or papillose, glabrous or puberulous, hairy below. Lemma margins ciliate. Lemma apex obtuse or acute. Palea 0.9 length of lemma. Palea keels ciliate. Palea surface papillose. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.2–1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

n = 14 (1 ref TROPICOS).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Northwest USA**, **North-central USA**, **Southwestern USA**, **South-central USA**, **Mexico**. Colorado. Oklahoma. Arizona, California, Nevada, Utah. New Mexico, Texas. Northeast Mexico, Northwest Mexico.

Coahuila, Chihuahua, Neuvo Leon. Baja California, Baja California Sur, Sonora.

Poa billardierei (Labill.) E.B. Alexeev. *Byull. Moskovsk. Obsc. Isp. Prir., Otd. Biol.* 81: 55. 1976.

Accepted by: D.Sharp, D. & B.K.Simon, *AusGrass* (2002) (as *Austrofestuca littoralis*).

TYPE from Australia. **Basionym or Replaced Name**: *Festuca littoralis* Labill. *Nov. Holl. Pl.* 1: 22, t. 27 (1804[1805]). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *Labillardiere*, Tasmania: Capite Van-Diemen (FI).

Recent Synonyms: *Austrofestuca littoralis* (Labill.) E.B. Alexeev, *Byull. Moskovsk. Obsc. Isp. Prir., Otd. Biol.* 81: 55 (1976). *Austrofestuca triticoides* (Trin.) E.B. Alexeev, *Novosti Sistematiki Vysshchikh Rastenii* 24: 15 (1987).

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (113, Fig 73 as *Austrofestuce littoralis*), C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952) (93, Pl 26 as *Festuca*), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (437, Fig 85 as *Austrafestuca littoralis*), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (348), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (273, Fig 36 as *Austrafestuca littoralis*).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);, E.Edgar & H.E.Connor, *Flora of New Zealand* 5, *Gramineae* (2000);.

Derivation (Clifford & Bostock 2007): L. lit(t)us, sea shore; *-ale*, pertaining to. Sand dune, salt marsh species or river-banks.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 25–60 cm long. Ligule an eciliate membrane, 0.8–1.5 mm long. Leaf-blades involute, 20–50 cm long, 1–2 mm wide, coriaceous, stiff. Leaf-blade venation comprising (7–)9–11(–15) vascular bundles, with continuous uniform subepidermal sclerenchyma layer on the underside. Leaf-blade surface pubescent, hairy adaxially. Leaf-blade apex pungent.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear or lanceolate, 7–16 cm long. Panicle branches pubescent. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, cuneate, 1–5 mm long, pubescent.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 15–18 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes pilose. Floret callus pubescent.

Glumes. Glumes persistent, similar, shorter than spikelet, similar to fertile lemma in texture. Lower glume linear, 10–13 mm long, 0.9 length of upper glume, coriaceous, 1-keeled, 3 -veined. Lower glume primary vein scaberulous. Lower glume surface asperulous. Lower glume apex acute. Upper glume ovate,

11–14 mm long, 1 length of adjacent fertile lemma, coriaceous, 1-keeled, 5 -veined. Upper glume primary vein scaberulous. Upper glume surface asperulous. Upper glume apex acute.

Florets. Fertile lemma ovate, 11–14 mm long, coriaceous, keeled, 7 -veined. Lemma midvein ciliolate. Lemma surface asperulous. Lemma apex dentate, 2 -fid, mucronate. Principal lemma awn from a sinus. Palea keels ciliolate. Palea surface asperulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous, ciliate, 2-toothed. Anthers 3, 6–9 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum elliptic.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**, **New Zealand**. Western Australia, South Australia, New South Wales, Victoria, Tasmania. Chatham Is, New Zealand North I, New Zealand South I, Stewart Is.

South-West. Southern. Coast.

Poa binata Nees. *Fl. Afr. Austr.* 379. (1841).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from South Africa. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *Drege*, Africa Austral (LE-TRIN-2571.04a (fragm.), W-242945a, W-221027a, W-242944a).

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (170, Fig. 92), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (54, Fig. 23 & 24-& as *P. heterogama*).

Derivation (Clifford & Bostock 2007): L. *bis*, twice; *natus*, born. Racemes borne in digitate pairs.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Culms erect or geniculately ascending, 30–60 cm long, 2 -noded. Culm-internodes elliptical in section (below). Leaves mostly basal. Ligule an eciliate membrane, 0.5–6 mm long. Leaf-blades flat or conduplicate, 2–15(–18) cm long, 2–5 mm wide. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal or ovate, loose or effuse, equilateral or nodding, 5–15 cm long, with spikelets clustered towards branch tips. Primary panicle branches spreading or reflexed, 1–2 -nate. Panicle branches flexuous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 2–3 mm long, 0.6–0.8 length of upper glume, membranous, 1-keeled, 1(–3) -veined. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume ovate, 3–4 mm long, 0.7–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong or ovate, lanceolate in profile, 4–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface glabrous or pubescent. Lemma apex emarginate or obtuse. Palea 1 length of lemma. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

n = 14 (1 ref TROPICOS), or 21 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **South Tropical Africa**, **Southern Africa**. Zimbabwe. Mpumalanga, Free State, Kwazulu-Natal, Lesotho, Eastern Cape.

Poa binodis Keng ex L.Liu. *Fl. Reipubl. Popularis Sin.* 9(2): 388 . (2002).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *K.L. Chu 7468*, 21 July 1940, "Sikiang" [Tibet, according to Chen S.L.] (NAS-704475). NAS-704475 was Keng's "Isotype". The province is uncertain at this point [07 2004 rjs].

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 367).

Derivation (Clifford & Bostock 2007): L. *bis*, twice; *nodus,* knot. Culms two-noded.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes elongated. Basal innovations extravaginal or intravaginal. Culms erect, 10–90 cm long, 2 -noded. Culm-internodes smooth. Lateral branches lacking. Leaf-sheaths open for most of their length, with 0.66 of their length closed, 7–16 cm long, with winged keel, smooth, pilose or hispid. Leaf-sheath oral hairs lacking or pubescent or ciliate. Ligule an eciliate membrane, 1–2 mm long. Leaf-blades conduplicate or involute, 4–10 cm long, 3 mm wide, indurate. Leaf-blade surface smooth or scaberulous, rough on both sides.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, loose, 12–20 cm long, 3–5 cm wide. Primary panicle branches 2–3 -nate, 3–9 cm long, bearing 10–17 fertile spikelets on each lower branch. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.5–1 mm long, 2 mm long at branch tip.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 3.5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–1.5 mm long, scaberulous. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–2.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein smooth. Lower glume lateral veins absent. Lower glume surface asperulous. Lower glume apex acuminate. Upper glume lanceolate, 2.8–3.5 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface asperulous. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 3–4 mm long, membranous, keeled, 5(–7) -veined, more than 3-veined. Lemma midvein scabrous. Lemma lateral veins prominent, less than two thirds length of lemma. Lemma surface smooth, puberulous. Lemma margins eciliate. Lemma apex acute. Palea keels scabrous, with 0.3–0.5 of their length adorned, with 30–50 enations per keel. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China South Central.

Sichuan.

Poa boecheri L. Parodi. *Rev. Argent. Agron.* xxviii. 100 (1962).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *T.W. Boecher, J.P. Hjerting & K. Rahn 801*, 4 Oct 1955, Argentina: Mendoza: Dpto. San Rafael: Valle del Atuel, El Sosneado, 35?S (BAA; IT: C).

Illustrations (Books): M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (200, Fig 130).

Derivation (Clifford & Bostock 2007): in honor of Tyge Wittrock Bvcher (1909–1983) Danish botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms erect, 30–60 cm long, 2–3 -noded. Leaf-sheaths longer than adjacent culm internode, smooth or scaberulous. Ligule an eciliate membrane, 5–12 mm long, acute. Leaf-blades convolute, 10–15 cm long, 1–2 mm wide, stiff. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear or oblong, 10–20 cm long. Primary panicle branches 4–8 cm long. Panicle axis smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 5–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 7–8.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pilose. Floret callus hairs 1–3 mm long, 0.33 length of lemma.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 4–7 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume ovate, 5–7.5 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, 7 mm long, membranous, much thinner above, much thinner on margins, keeled, 5–7 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma margins ciliate, hairy below. Lemma hairs 0.5–1 mm long. Lemma apex acute. Palea 4.5 mm long. Palea keels scabrous, ciliate, adorned below (as to hairs). Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.7–3.5 mm long. Caryopsis with adherent pericarp, trigonous, 2.5 mm long. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female, 4–7 flowered.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northeast, Argentina South.

Buenos Aires. Río Negro.

Poa boelckei E.G.Nicora. *Hickenia,* 1(18): 104 (1977).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *M.N. Correa et al. 5926*, 23 Feb 1974, Argentina: Neuquen, Dpto. Lacar, Co. Chapelco, encima del refugio, 1800–1870m (BAB).

Recent Synonyms: *Poa obvallata* Steud., *Syn. Pl. Gram.* 258. (1854).

Illustrations (Books): M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (195, Fig 129).

Derivation (Clifford & Bostock 2007): in honor of Osvaldo Boelcke, Argentine botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Butt sheaths persistent and investing base of culm. Basal innovations intravaginal. Culms 15–25 cm long, 1 -noded. Leaf-sheaths inflated, longer than adjacent culm internode, smooth. Ligule an eciliate membrane, 2.5–4 mm long, 1 mm long on basal shoots, scaberulous on abaxial surface, truncate or acute. Leaf-blades conduplicate, 5–8 cm long, 2.5 mm wide, 1–3.5 cm long at summit of culm, stiff. Leaf-blade surface smooth. Leaf-blade margins scabrous. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, ovate, 5.5–6.5 cm long. Panicle axis smooth. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scaberulous.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 6.5–8.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth or scaberulous. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 4–5.5 mm long, 0.75–0.85 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein smooth. Lower glume lateral veins absent or distinct. Lower glume apex acute. Upper glume ovate, 5.5–6.5 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, 6–6.5 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma lateral veins stopping well short of apex. Lemma surface scabrous, rough on veins. Lemma apex obtuse. Palea 4.5–5 mm long. Palea surface scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Staminodes present, 1.3–1.5 mm long. Caryopsis with adherent pericarp, fusiform, trigonous, 2.7–3 mm long. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South.

Neuquén.

Poa bolanderi Vasey. *Coult. Bot. Gaz.* vii. 32. (1882).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *Bolander 6115*, Mar 1882, USA: California: Ostrandas, Yosemite Valley (US-556795; IT: GH [Jul 1866]). US spc. has Mar 1882. PT: *M. E. Jones s.n.*, 25 Jul 1881, USA: California, Soda Springs (NA).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (535).

Derivation (Clifford & Bostock 2007): in honor of Henry Nicholas Bolander (1831–1897) United States botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect, 15–60 cm long. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1.5–3 mm long, obtuse. Leaf-blades 3–8 cm long, 3–5 mm wide. Leaf-blade apex abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong, 10–15 cm long. Primary panicle branches 2–5 -nate. Panicle branches stiff. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2 mm long, 0.8 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2.5 mm long, 0.7–0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, lanceolate in profile, 3–3.5 mm long, membranous, much thinner above, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous. Lemma apex acute. Palea 1 length of lemma. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.8 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Northwest USA**, **Southwestern USA**. Idaho, Oregon, Washington. California, Nevada, Utah.

Poa boliviana N.F. Refulio-Rodriguez. *Syst. Bot*. I37 (1): 130 (2012).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Bolivia. **Basionym or Replaced Name**: *Dissanthelium longiligulatum* Swallen & Tovar, *Phytologia,* 11: 369 (1965). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *A. Guerrero s.n.*, 20 Jan 1926, Bolivia: La Paz (US-1389108).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *longus*, long*; ligula*, small tongue; *-ata*, possessing. Ligule long.

Classification. Subfamily Pooideae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms geniculately ascending or decumbent, 12–15 cm long. Leaf-sheaths scaberulous. Ligule an eciliate membrane, 2–6 mm long. Leaf-blades flat or conduplicate, 5–7 cm long, 3–4 mm wide, stiff. Leaf-blade surface scaberulous, rough adaxially, glabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle, shorter than basal leaves. Panicle spiciform, linear or oblong, 5 cm long, 1–1.3 cm wide. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile.

Spikelets ovate, laterally compressed, 6–6.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.4–0.5 mm long.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein smooth or scaberulous. Lower glume apex acuminate. Upper glume lanceolate, 6–6.5 mm long, 1.5–1.6 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein smooth or scaberulous. Upper glume apex acuminate.

Florets. Fertile lemma ovate, 3.8–4 mm long, chartaceous, keeled, 3 -veined, 0–3 -veined. Lemma surface scaberulous. Lemma apex acute.

Flower and Fruit. Anthers 3, 0.6–0.7 mm long. Ovary glabrous. Endosperm farinose.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Bolivia.

Poa bomiensis C.Ling. *Acta Phytotax. Sin.,* 17(1): 101 (1979).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from Tibet. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *T.S. Ying & D.Y. Hong 65–863*, 3 Aug. 1965, Tibet: Bomi Co., shrubby grassland, 9 30" E x 2 55" N (PE-918726; IT: PE-887423 [or 887432?], PE-887334). [918726 is the one with C. Ling annotation and typus written on it].

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 366).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Pomi, Tibet Autonomous Region, China.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect, 20–35(–55) cm long, 0.8–1.5 mm diam., 2–3 -noded. Culm-internodes elliptical in section, antrorsely scabrous. Lateral branches lacking. Leaf-sheaths open for most of their length, with 0.4–0.5 of their length closed, 8–12 cm long, subequal to internodes, with winged keel, retrorsely scabrous, glabrous on surface. Ligule an eciliate membrane, 1–2.5 mm long, truncate or obtuse or acute. Leaf-blades 6–11 cm long, 2–5 mm wide. Leaf-blade surface smooth or scabrous, rough adaxially. Leaf-blade margins smooth or scaberulous.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, dense, 7–14 cm long, 1–3 cm wide. Primary panicle branches 2 -nate, 3–5 cm long, bearing 1–4 fertile spikelets on each lower branch. Panicle axis with lower internodes 2–2.5 cm long. Panicle branches flexuous, smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes scaberulous. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume linear or lanceolate, 2.3–3.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein smooth to scabrous. Lower glume lateral veins absent or obscure. Lower glume surface scabrous, rough above. Lower glume apex acuminate. Upper glume lanceolate, 3.3–4.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface scabrous, rough above. Upper glume apex acute.

Florets. Fertile lemma lanceolate or oblong or ovate, 3.2–5 mm long, membranous, keeled, 5(–7) -veined, more than 3-veined. Lemma lateral veins prominent. Lemma surface scaberulous. Lemma apex acuminate. Palea keels scabrous, with 0.66–0.75 of their length adorned. Palea surface scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1–1.7 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. Tibet.

Poa bonariensis (Lam.) Kunth. *Rev. Gram.* i. 115 (1829).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Argentina. **Basionym or Replaced Name**: *Festuca bonariensis* Lam., *Tabl. Encycl.* 1: 192 (1791)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *E. Commerson s.n.*, 7 or 9, 1767, [Argentina]: Buenos Aires, E. Bonaria Circa Monte-Video, inter rupes et maritimas (P; IT: BAA (fragm.), US-2875384 (a; fragm. ex P HT, b; fragm. ex hb. Haum? IT-fragm.?, c; fragm. ex P & photo)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (297), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina*), Pt II, Gramineas (1969) (85, Fig. 25), B.Rosengurtt, *Gramineas UruguayasI* (1970) (138, Fig. 51), H.M. Longhi-Wagner, *Flora Ilustrada do Rio Grande do Sul, Gramineae, Poeae* (1987).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Provincia de Buenos Aries, Argentina.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms 30–70 cm long, 3–4 -noded. Culm-internodes elliptical in section. Leaf-sheaths smooth. Ligule an eciliate membrane, 1–2.5 mm long. Leaf-blades flat or conduplicate, 15–30 cm long, 2–6 mm wide. Leaf-blade surface scabrous, rough adaxially. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 8–20 cm long, 3–3.5 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3 mm long, 0.85 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 3.5 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, 4–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma margins ciliolate. Lemma apex acute. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2–2.2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female, 4–8 flowered, 4–7 mm long. Male spikelet lemma 4.2 mm long.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Brazil**, **Southern South America**. Brazil South. Argentina Northeast, Chile North, Chile Central, Uruguay.

Rio Grande do Sul. Catamarca, Tucuman. Buenos Aires, Cordoba, Distrito Federal, Entre Rios, La Pampa, Santa Fe. Neuquén. Tarapaca, Antofagasta, Atacama, Coquimbo. Antofagasta, Atacama. Coquimbo, Valparaiso, Santiago, Biobio, La Araucania.

Poa borneensis Jansen. *Reinwardtia,* ii. 322 (1953).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Brunei. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *M.S. Clemens & J. Clemens 51527*, 17 Dec 1933, Brunei: Borneo (UC-557540; IT: L, US-2182705).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Borneo.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths purple. Culms erect, 20–30 cm long, 3–4 -noded. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 4 mm long. Leaf-blades filiform, conduplicate or involute, 5–15 cm long, 0.5–0.75 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 3–5 cm long. Primary panicle branches ascending, 2–3 -nate, 1 cm long, bearing spikelets almost to the base. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1–2 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 3–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.5 mm long, 0.6 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2.5 mm long, 0.7 length of adjacent fertile lemma, membranous, 1-keeled, 1(–3) -veined. Upper glume lateral veins absent or obscure. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 3.5 mm long, herbaceous, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Palea keels scabrous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Malesia**. Borneo.

Poa boxiana Luces. *Bol. Soc. Venez. Cienc. Nat.* xv. 4 (1953).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Venezuela. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Venezuela: ha sido coleccionado en el Páramo de La Negra, Edo. Táchira, 16 Mar 1949, *H.E. Box 3726a* (HT: VEN).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Harold Edmund Box (1898-) entomologist in Venezuela.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Culms geniculately ascending, slender, 30–40 cm long. Culm-internodes elliptical in section, distally glabrous. Culm-nodes glabrous. Lateral branches lacking. Leaf-sheaths longer than adjacent culm internode, glabrous on surface. Ligule an eciliate membrane, 4 mm long, erose, acute. Leaf-blades flexuous, flat or involute, 5–8 cm long, 1.5–2 mm wide. Leaf-blade surface scaberulous, glabrous.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear, 8–9 cm long, 0.7 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–2.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2.8–3 mm long, 0.75–1 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume primary vein scabrous. Upper glume lateral veins absent. Upper glume margins scaberulous. Upper glume apex acute.

Florets. Fertile lemma elliptic, 3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent, hairy on veins. Lemma apex acuminate, mucronate. Palea keels ciliolate.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Northern South America**. Venezuela.

Poa bradei Pilger. *Notizbl. Bot. Gart. Berlin,* xii. 689 (1935).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *R.K.F. Pilger s.n.*, Dec 1934, Brazil: Rio de Janeiro: Serra da Mantiquiera, Itatiania, 2200 m (B; IT: BAA-2479 (fragm. ex B), US-89689 (fragm. ex B)). [anthers ca 0.5 mm, web, lemmas pub on K and M veins].

Illustrations (Books): H.M. Longhi-Wagner, *Flora Ilustrada do Rio Grande do Sul, Gramineae, Poeae* (1987).

Derivation (Clifford & Bostock 2007): in honor of Alexander Curt Brade (1881–1971) German-born Brazilian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Culms erect or geniculately ascending, 30–75 cm long, with 0.4 of their length below uppermost node. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 1.5–3.2 mm long, obtuse or acute. Leaf-blades 7.5–17 cm long, 2–3 mm wide. Leaf-blade surface smooth, glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, 11–22 cm long. Primary panicle branches spreading. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising (2–)3(–4) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, compressed strongly, 6–8.5 mm long, 3–3.5 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.75–0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 3.2–5.5 mm long, 0.5–0.7 mm wide, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins stopping well short of apex. Lemma margins ciliate, hairy below. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.6–1 mm long. Caryopsis with adherent pericarp, 1.5–2 mm long. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Brazil**. Brazil Southeast, Brazil South.

Rio de Janeiro, Sao Paulo. Paraná, Rio Grande do Sul, Santa Catarina.

Poa breviglumis Hook. f. *Fl. Antarct.* 101. (1845).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.D. Hooker s.n.*, Dec 1840, New Zealand: Campbell's Island, moist banks near the sea, not uncommon (K; IT: AK-1956 (fragm.), CHR-309873 (fragm.)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *brevis*, short; *gluma*, husk. One or both glumes short with respect to the length of the spikelet.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Stolons present. Basal innovations extravaginal. Culms weak, 5–40 cm long, rooting from lower nodes. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 0.5–1.5 mm long, glabrous on abaxial surface, entire, obtuse. Leaf-blades 2–9 cm long, 0.5–1.5 mm wide. Leaf-blade surface scaberulous, rough adaxially, glabrous. Leaf-blade margins scaberulous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, ovate, 3–10 cm long. Primary panicle branches spreading, 2 -nate. Panicle branches capillary, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2–3 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5 mm long, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 0.3–0.8 mm long, 0.33–0.5 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 1–1.5 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma elliptic, 1.2–2 mm long, membranous, keeled, 3 -veined, 0–3 -veined. Lemma midvein scaberulous. Lemma surface smooth, glabrous. Lemma apex obtuse. Palea 1–1.5 mm long. Palea keels smooth or scaberulous (slightly), adorned above. Palea surface smooth.

Flower and Fruit. Lodicules 2, 0.4 mm long, membranous, glabrous or ciliate. Anthers 3, 0.2–0.3 mm long. Caryopsis with adherent pericarp, 0.9–1 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. Antipodes Is, New Zealand North I, New Zealand South I, Stewart Is, Campbell Is, Auckland Is.

Poa brevis Hitchcock. *Contrib. U. S. Nat. Herb.* xxiv. 328 (1927).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.F. MacBride 4356*, 10–24 Jun 1923, Peru: Tambo de Vaca, wet mossy rocky open uplands, about 1300 ft (F-535441; IT: US-1256333, USM fragm.).

Illustrations (Journals): *Ruizia* (13:113, Fig12k-l (1993)).

Derivation (Clifford & Bostock 2007): L. short. Culms short.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, slender, 4–7 cm long. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long, truncate. Leaf-blades conduplicate, 1.5–4.5 cm long, 1–2 mm wide. Leaf-blade surface glabrous. Leaf-blade margins smooth. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, linear, 2–4 cm long, 0.3 cm wide, bearing few spikelets. Primary panicle branches 1–2 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, smooth.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–3.3 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–2.3 mm long, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume lateral veins prominent. Lower glume apex acute. Upper glume ovate, 2–2.3 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume lateral veins prominent. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.5–2.7 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex acute.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.8 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa buchananii Zotov. *Trans. & Proc. Roy. Soc. N. Z.* lxxiii. 236 (1943).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. **Basionym or Replaced Name**: *Poa sclerophylla* Berggr., *Minneskr. Fysiogr. Sallsk. Lund* 8: 30–31 (1877). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J. Haast 629*, 1862, New Zealand: Mt. Darwin and Mt. Dobson, Canterbury, 4000–6000 ft (K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): In honor of John Buchanan (1819–1898) Scots-born New Zealand artist and botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths coriaceous. Basal innovations intravaginal. Culms 7–25 cm long. Lateral branches lacking. Leaves distichous. Leaf-sheaths wider than blade at the collar, glabrous on surface. Ligule an eciliate membrane, 0.5–1.5 mm long, scaberulous on abaxial surface, erose, obtuse. Leaf-blades conduplicate, 1.5–5 cm long, 3 mm wide, coriaceous, stiff, glaucous. Leaf-blade venation prominent. Leaf-blade surface scabrous, rough adaxially, glabrous. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Peduncle scaberulous above. Panicle spiciform, oblong, 1.5–5.5 cm long. Panicle axis scaberulous. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2.5–3.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5 mm long, scaberulous. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–2.5 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 2–2.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface smooth or asperulous, rough above. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 2–2.5 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma surface scaberulous or papillose, rough between veins, glabrous. Lemma apex obtuse. Palea 1.5 mm long. Palea keels scabrous. Palea surface papillose.

Flower and Fruit. Lodicules 2, 0.3–0.4 mm long, membranous. Anthers 3, 0.4–0.6 mm long. Caryopsis with adherent pericarp, 1 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand South I.

Poa bucharica Roshev. *Not. Syst. Herb. Hort. Petrop.* iv. 94 (1923).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Afghanistan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *V. Lipskii*, 2 Aug 1896, Afghanistan: Bukhara, southern slope of Gissar range, upper reaches of Sio River, 10000 ft (LE; IT: K(-44)). LT: cited by Tzvelev, Zlaki SSSR p. 462 (1976). [K-with same date, elev, river, det by Roshevits, ex LE].

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. -ica, belonging to. From Buchara District, Turkestan, former Soviet Union.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms decumbent, 50–100 cm long. Culm-internodes smooth, distally glabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane. Leaf-blades 7–15 cm long, 1–2 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic or oblong, dense, 5–10 cm long, 1–3 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes obscured by lemmas, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet, gaping. Lower glume lanceolate, 2 mm long, 0.66 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 3 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex obtuse. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **Middle Asia**, **Western Asia**, **China**. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Afghanistan. Xinjiang. **Indian Subcontinent**. Pakistan, West Himalaya.

Poa buchtienii Hack. *Fedde, Repert*. xi. 29 (1912).

TYPE from Bolivia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Buchtien 2467*, 1911, Bolivia (W; IST: US-89695 (fragm. ex W)). staminate. ST: *Buchtien 2468*, 1911, Bolivia (W; IST: GH, US-89695 (fragm. ex W)). staminate GH, US. ST: *Buchtien 2469*, 1911, Bolivia ST: *Buchtien 2470*, 1911, Bolivia ST: *Buchtien 2466*, 1911, Bolivia (W; IST: US-89695 (fragm. ex W)). pistillate.

Recent Synonyms: *Poa calchaquiensis* Hackel apud Stuckert, *An. Mus. Nac. Buenos Aires* 21: 148 (1911).

Illustrations (Books): S.A.Renvoize, *Gramineas de Bolivia* (1998) (135, Fig 33).

Derivation (Clifford & Bostock 2007): in honor of Otto Buchtien (1859–1946) German botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Basal innovations extravaginal. Culms 30–70 cm long, 2 -noded, with 0.33 of their length below uppermost node. Leaf-sheaths scaberulous. Ligule an eciliate membrane, 2–4 mm long, 2 mm long on basal shoots, truncate or obtuse. Leaf-blades flat or conduplicate, 20–40 cm long, 2–3 mm wide, firm. Leaf-blade venation prominent. Leaf-blade surface scabrous, rough adaxially. Leaf-blade apex acute. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle open, oblong or ovate, dense, 12–18 cm long. Primary panicle branches 5–6 -nate, 6 cm long. Panicle axis smooth. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 0.66 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma oblong, 3–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent, hairy below. Lemma surface puberulous, hairy below. Lemma margins pubescent, hairy below. Lemma apex obtuse. Palea keels ciliolate.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female, 3–5 flowered, 5–6 mm long. Male spikelet lemma 4–5 mm long.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**, **Southern South America**. Bolivia.

Poa bulbosa L. *Sp. Pl.* 70. (1753).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from France. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Hasselquist s.n.*, (LINN-87.57). LT designated by Meikle, *Fl. Cyprus* 2: 1742, but specific sheet not indicated; specific sheet indicated by Soreng in Cafferty et al., *Taxon* 49(2): 255 (2000).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (297), C.E.Hubbard, *Grasses* (1968) (170), T. Cope & A. Gray, Grasses of the British Isles (42), G.Hegi, *Flora von Mitteleuropa* 1 (1909), N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 317 as var. *bulbosa* & var. *hackelii*), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (146, Fig 97 as var. *bulbosa*), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (422, Fig 83 as var. *bulbosa*), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (348), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (308, Fig 41), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (517 as subsp. *bulbosa* & subsp. *vivipara*), E.Hafliger & E.Schultz, Grass Weeds, CIBA-GEIGY (2:119(1980)).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *bulbus*, onion; *-osa*, abundance. Culm-bases swollen.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths thickened and forming a bulb. Culms erect or geniculately ascending, 5–40 cm long, 2–4 -noded. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths smooth. Ligule an eciliate membrane, 2–4 mm long, acute. Leaf-blades flat or conduplicate, 1–10 cm long, 1–2 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade margins scaberulous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, oblong or ovate, dense, 2–6 cm long, 1–2.5 cm wide. Primary panicle branches ascending. Panicle branches capillary, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.3–3 mm long.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes obscured by lemmas, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2–3 mm long, 1 length of upper glume, membranous, much thinner on margins, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume ovate, 2–3 mm long, 0.8–0.9 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 2.5–3.5 mm long, membranous, much thinner above, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins stopping well short of apex. Lemma margins ciliate, hairy below. Lemma apex acute. Palea 1 length of lemma. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1–1.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

n = 14 (1 ref TROPICOS), or 21 (1 ref TROPICOS), or 29 (1 ref TROPICOS). $2n$ = 14 (1 ref TROPICOS), or 28 (2 refs TROPICOS), or 33 (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Tropical Asia, Australasia (*), North America, South America.

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Denmark, Finland, Great Britain, Northern Ireland, Norway, Sweden. : Austria, Liechstenstein, Belgium, Luxembourg, Czechoslovakia, Germany, Hungary, Netherlands, Poland, Switzerland. : Baleares, Corsica, Channel Islands, France, Monaco, Portugal, Sardinia, Andorra, Gibralter, Spain. : Albania, Bulgaria, Greece, Italy, San Marino, Vatican, Crete, Romania, Malta, Sicily, Turkey Europe, Yugoslavia. Belarus, Estonia, Kalingrad, Latvia, Lithuania, Baltic States, Krym, Central European Russia, East European Russia, South European Russia, Northwest European Russia, Moldova, Ukraine. **Northern Africa**, **Macaronesia**, **Northeast Tropical Africa**, **Southern Africa**. Algeria, Libya, Morocco, Tunisia. Canary Is, Madeira. Sudan. Northern Cape, Western Cape. Siberia, **Middle Asia**, **Caucasus**, **Western Asia**, **Arabian Peninsula**, **China**. Altay. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Afghanistan, Iran, Iraq. Tibet, Xinjiang. **Indian Subcontinent**. Nepal, Pakistan, West Himalaya. **Australia** (*), **New Zealand** (*). Western Australia (*), South Australia (*), New South Wales (*), A.C.T. (*), Victoria (*), Tasmania (*). New Zealand South I. **Western Canada**, **Northwest USA**, **North-central USA**, **Northeast USA**, **Southwestern USA**, **South-central USA**, **Southeastern USA**. British Columbia. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. Illinois, Iowa, Kansas, Minnesota, Missouri, North Dakota, Nebraska, Oklahoma, South Dakota. New York, Pennsylvania. Arizona, Utah. New Mexico. Kentucky, Tennessee. **Southern South America**. Chile South.

Uttah Pradesh. Himachal Pradesh, Jammu Kashmir. South-West. Southern. Tablelands, Western Slopes. Santa Cruz. Magellanes.

Poa bussmannii H. Scholz. *Willdenowia* 40 (2): 200–201 (2010).

TYPE from Turkey. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: C. Anatolia, *Bussman s.n.* HT: STU.

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Poa burmanica Bor. *Kew Bull.* 1948, 141 (1948).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from Burma. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Myanmar: Kachin State, Myitkyina Distr., Hpimaw Pass, 11,000 ft, 6 Aug. 1929, *Sukoe 10074* (HT: K; IT: K).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (573, Fig. 20).

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Burma, now Myanmar.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths herbaceous, yellow, persistent and investing base of culm, with fibrous dead sheaths. Culms decumbent, slender, 30 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths tight, smooth, glabrous on surface. Ligule an eciliate membrane, 1 mm long, scarious, white, scaberulous on abaxial surface. Leaf-blades 2–6 cm long, 1.5 mm wide. Leaf-blade surface scabrous, rough adaxially. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, oblong or pyramidal, 5–10 cm long, 2–5 cm wide. Primary panicle branches 2 -nate. Panicle branches capillary, flexuous, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume linear, 2.75–3 mm long, 0.8 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume oblong, 3–3.75 mm long, 0.75–0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acuminate.

Florets. Fertile lemma oblong, oblong in profile, 4–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous, ciliate, hairy below. Lemma lateral veins prominent. Lemma

surface pubescent. Lemma margins ciliate. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.9 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. China South Central, Tibet. **Indian Subcontinent**, **Indo-China**. Eastern Himalaya. Myanmar.

Sichuan, Yunnan. Bhutan.

Poa cabreriana A.M.Anton & Ariza. *Darwiniana,* 22(4): 535 (1980).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. **Basionym or Replaced Name**: *Poa serotina* var. *purpurea* Griseb., *Abh. Konigl. Ges. Wiss. Gottingen* 19: 251 (1874)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *P.G. Lorentz 653*, Feb 1872, Argentina: Catamarca: Depto. Belén: Yacutula, cerca de Belén (GOET; IT: B, BAA-2698 (fragm. ex B), CORD, US-3413584 (fragm. ex GOET)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (298).

Derivation (Clifford & Bostock 2007): L. *-ana,* indicating connection. In honor of Angel Lulio Cabrera (1908–1999) Argentinian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Culms erect or geniculately ascending, 15–30 cm long. Culm-internodes terete. Lateral branches lacking. Ligule an eciliate membrane, 1.5–2.5 mm long. Leaf-blades conduplicate, 5–10 cm long, 1–1.5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, oblong or ovate, 5–10 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes definite, obscured by lemmas, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–3 mm long, 0.8–1 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume surface asperulous. Lower glume apex acuminate. Upper glume elliptic or ovate, 2.5–3 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface asperulous. Upper glume apex acuminate.

Florets. Fertile lemma ovate, oblong in profile, 2.5–3 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma lateral veins stopping well short of apex. Lemma surface puberulous, hairy below, hairy on back or on veins. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northwest.

Catamarca, Salta.

Poa calchaquiensis Hackel apud Stuckert. *An. Mus. Nac. Buenos Aires,* xxi. 148 (1911).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Lillo 5605 (T.J.V. Stuckert HB. ARG. 17777)*, 29 Jan 1907, Argentina: Tucumán: Dpto. Taf? Cumbres Chalchaquíes a 4200m "Formando pajonales" (W; IT: BAA, CORD, LIL, US-89686 (ex W)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (298).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Cumbres Calcha-quies, a district of Argentina.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Basal innovations intravaginal. Culms erect, 6–12 cm long, 1 -noded, with 0.25 of their length below uppermost node. Lateral branches lacking. Ligule an eciliate membrane, 2–2.5 mm long, acute. Leaf-blades erect, filiform, convolute, 2–10 cm long, 0.5–0.8 mm wide, stiff. Leaf-blade surface glabrous. Leaf-blade apex acute. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear or oblong, interrupted, 1–3 cm long. Primary panicle branches appressed, 2 -nate. Panicle axis smooth. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–3 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume lanceolate, 2.5–3 mm long, 0.66 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma lanceolate, 3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate. Lemma margins ciliolate. Lemma apex acute. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**, **Southern South America**. Bolivia. Argentina Northwest.

Jujuy, La Rioja, Salta, Tucuman.

Poa calliopsis Litw. *Komarov, Fl. URSS,* ii. 414, 755 (1934).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Tajikistan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Th. Alexeenko 3023/1451*, (LE). LT designated as HT by Roshevits, Fl. SSSR 2: 755 (1934). ST: *S.I. Korchinskij*, 21 Jul 1897, ST: *S.I. Korchinskij s.n.*, 9 Jul 1895, ST: *S.I. Korchinskij s.n.*, 9 Jul 1895, ST: *S.I. Korchinskij s.n.*, 11 Jul 1897, ST: *S.I. Korchinskij s.n.*, 13 Jul 1897, ST: *Dzejver s.n.*, 4 Jul 1901,.

Recent Synonyms: *Poa phariana* Bor, *Kew Bull.* 1948, 141 (1948).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (567, Fig. 17 & 571, Fig. 19).

Derivation (Clifford & Bostock 2007): Gk. *kallion*, more beautiful; *opsis*, resemblance. Meaning obscure, not given by author.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Butt sheaths herbaceous, persistent and investing base of culm, with fibrous dead sheaths. Culms erect, 5–15 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 1.5–2 mm long, obtuse. Leaf-blades conduplicate, 1–4 cm long, 1.5–2 mm wide. Leaf-blade margins scaberulous. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Panicle open, oblong or pyramidal, 1.5–4.5 cm long, with spikelets clustered towards branch tips. Primary panicle branches spreading or reflexed, 1–2 -nate. Panicle branches capillary, straight or flexuous, smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising (1–)2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or ovate, laterally compressed, 3.5–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic or ovate, 2.3–2.8 mm long, 1 length of upper glume, membranous, 1-keeled, 1(–3) -veined. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume elliptic or ovate, 2.3–2.8 mm long, 0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 2.7–3.5 mm long, membranous, much thinner above, keeled, lightly keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins ciliate. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **Middle Asia**, **China**. Kirgizistan, Tadzhikistan. China South Central, China North-Central, Qinghai, Tibet, Xinjiang. **Indian Subcontinent**. Eastern Himalaya, India, Nepal, Pakistan, West Himalaya.

Gansu. Sichuan, Yunnan. Bhutan. Himachal Pradesh, Jammu Kashmir.

Poa callosa Stapf. *Kew Bull.* 1899, 116. (1901).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from PNG. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: British New Guinea. Mount Scratchley., *A. Giulianetti*.

Illustrations (Books): E.E.Henty, *A Manual of the Grasses of New Guinea* (1969) (152, Pl. 57).

Derivation (Clifford & Bostock 2007): L. hard-skinned. The base of the leaf-lamina is thickened.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 4–12 cm long, 1–2 -noded. Leaves distichous. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long, acute. Leaf-blades deciduous at the ligule, conduplicate or involute, 1.5–4.8 cm long, 1–2 mm wide, coriaceous, stiff. Leaf-blade venation with 5–7 secondary veins. Leaf-blade surface glabrous. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Peduncle scaberulous above. Panicle contracted, lanceolate, 1.2–1.8 cm long. Primary panicle branches appressed, 2.2–2.7 cm long, bearing 1–4 fertile spikelets on each lower branch. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 4.5–6.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1–1.75 mm long, smooth. Floret callus sparsely hairy.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2–3.1 mm long, 0.66–0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or distinct, meeting at apex. Lower glume apex acute. Upper glume lanceolate, 3–3.2 mm long, 0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3–5 -veined. Upper glume primary vein scabrous, ciliate. Upper glume lateral veins meeting at apex. Upper glume apex acute.

Florets. Fertile lemma elliptic, 3.2–3.7 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface scabrous, rough above or on veins. Lemma apex acute. Palea 2.6–2.9 mm long. Palea keels ciliate. Palea surface pilose, hairy on back or on flanks. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.6–0.7 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea.

Poa calycina (Presl) J. Kunth. *Enum. Pl.* 1: 326 (1833).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. **Basionym or Replaced Name**: *Brizopyrum calycinum* J. Presl, *Reliq. Haenk.* 1(4–5): 281 (1830)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *T. Haenke s.n.*, Peru (PR).

Recent Synonyms: *Dissanthelium calycinum* (Presl) Hitchcock, *Journ. Wash. Acad. Sc.* 13: 224 (1923). *Dissanthelium laxifolium* Swallen & Tovar, *Phytologia,* 11: 370 (1965).

Dissanthelium semitectum Swallen & Tovar,.

Illustrations (Books): S.A.Renvoize, *Gramineas de Bolivia* (1998) (160, Fig 38).

Illustrations (Journals): *Phytokeys* (15:28, Fig.6 (2012 as var. *matthewsii*)).

Derivation (Clifford & Bostock 2007): Gk. *kalyx*, cup; *-ina*, belonging to. The subtending glumes are as long or longer than the lemma thereby resembling a cup.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 2.5–13 cm long. Ligule an eciliate membrane, 0.5–2.5 mm long. Leaf-blades involute, 1–8 cm long, 0.5–3 mm wide. Leaf-blade surface scaberulous, rough adaxially.

Inflorescence. Inflorescence a panicle. Panicle spiciform, oblong or ovate, 1–4.5 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2.4–5.3 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.2–0.4 mm long.

Glumes. Glumes persistent, similar, reaching apex of florets, thinner than fertile lemma. Lower glume lanceolate, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein smooth or scaberulous. Lower glume apex acute or acuminate. Upper glume ovate, 2.4–5.3 mm long, 1.3–2 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute or acuminate.

Florets. Fertile lemma ovate, 1.8–2.7 mm long, chartaceous, keeled, 3 -veined, 0–3 -veined. Lemma lateral veins close to margins. Lemma surface asperulous or scaberulous. Lemma apex obtuse or acute. Palea keels smooth or scaberulous.

Flower and Fruit. Anthers 3, 0.4–0.7 mm long. Ovary glabrous. Endosperm farinose.

Distribution (TDWG). Continent. Europe (*), North America, South America.

Region. **Northern Europe** (*).

Country /Province /State. : GB Aliens (Ryves et al). **Mexico**. Central Mexico. **Western South America**. Bolivia, Peru.

Mexico State.

Poa candamoana Pilger. *Engl. Jahrb.* vii. 381 (1906).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *A. Weberbauer 472*, Feb 1902, Peru: Puno: ad Azangaro, in rupestris calcareis 4000 m (S; ILT: BAA-2491, US-81673 (fragm. ex B)). LT designated by Anton & Negritto, Willdenowia 27: 236 (1997).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, denoting connection. In honor of Manuel Candamo (1841–1904) President of Peru.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending, 10–30 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 0.5–1.8 mm long, truncate. Leaf-blades involute, 5–16 cm long, 2–3 mm wide. Leaf-blade surface smooth or scaberulous, rough adaxially. Leaf-blade margins scaberulous. Leaf-blade apex abruptly acute or acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 4–8 cm long. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, smooth or scaberulous.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4.3–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.8–3.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 3.5–4 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.5–4.3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent, hairy below. Lemma apex acute. Palea keels ciliolate.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2.2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Bolivia, Colombia, Peru.

Poa carazensis Pilger. *Engl. Jahrb.* vii. 380 (1906).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *A. Weberbauer 3073*, May 1903, Peru: Ancash: in Cordillera negra supra Caraz, in planatie montana, plantas pulvinares et rosylatas gignescente, 4200 m (S; ILT: BAA-2493, MO, US-81729 (fragm. ex B)). LT designated by Anton & Negritto, Willdenowia 27: 237 (1997).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Caraz, Peru.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Culms erect or geniculately ascending, 10–24 cm long, 2–3 -noded. Lateral branches lacking. Leaf-sheaths smooth or scaberulous, glabrous on surface. Ligule an eciliate membrane, 1.5–2.5 mm long, erose. Leaf-blades flat or conduplicate, 4–12 cm long, 1.5–4 mm wide. Leaf-blade surface scaberulous, rough on both sides. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, 5–12 cm long, 1–2 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, smooth or scaberulous.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1.7–2.4 mm long, 0.66 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2.2–2.8 mm long, 0.5 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.5–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins prominent. Lemma surface scabrous. Lemma apex entire or erose, obtuse. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2–2.7 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa caucasica Trin. *Mem. Acad. Sc. Petersb. Ser.* VI. i. 378. (1831).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *D. Meyer*, 7 Jul 1829, [Caucasus]: In rupestribus Mt. Junguschi: elev. 8600' (LE-TRIN-2598.12[fig. LE-TRIN-2598.11]; ILT: LE-[TRIN microfiche 432-c4]). LT cited by Tzvelev, Zlaki SSSR p. 460 (1976). ST: *D. Meyer*, 13 Jul, Caucasus: 7500 ft (LE-TRIN-2598.13; IST: LE [432-c3]).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Caucasus Mountains, former Soviet Union.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes elongated. Stolons present. Culms geniculately ascending, 10–30 cm long. Culm-internodes smooth. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1.5 mm long. Leaf-blades flat or conduplicate, 1.5–2 mm wide. Leaf-blade surface smooth, glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 4–5 cm long, bearing few spikelets. Primary panicle branches spreading, 2–3 -nate. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.75 length of upper glume, membranous, 1-keeled. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume ovate, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, 4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate. Lemma lateral veins obscure. Lemma margins ciliolate. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Caucasus**, **Western Asia**. North Caucasus. Turkey.

Poa celebica J.F. Veldkamp. *Blumea,* 38(2): 424 (1994).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Indonesia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *P.J. Eyma 869 a*, 20 Jun 1937, Indonesia: Sulawesi, Sulawesi Selatan, Rantemario, 3350 m (L).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Celebes, now Suluwasi.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations extravaginal or intravaginal. Culms erect, 4–9 cm long. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 0.85–1.6 mm long, 0.85–1.6 mm long on basal shoots, glabrous on abaxial surface, acute. Leaf-blades erect, filiform, involute, 2.5–3.2 cm long, 0.5 mm wide. Leaf-blade surface smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 1.6–2 cm long, 0.5–0.8 cm wide. Primary panicle branches ascending, 2 -nate, 0.8–1 cm long, bearing 2 fertile spikelets on each lower branch. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising (1–)2 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally

compressed, 2.1–2.85 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.2–0.25 mm long, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.1–1.75 mm long, 0.75–0.85 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume surface smooth. Lower glume apex acute. Upper glume ovate, 1.5–2 mm long, 0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume surface smooth. Upper glume apex acute.

Florets. Fertile lemma ovate, 1.85–2.4 mm long, membranous, keeled, 3(–5) -veined, 0–3 -veined or more than 3-veined. Lemma midvein without distinctive roughness or scaberulous. Lemma lateral veins obscure. Lemma surface smooth. Lemma apex acute. Palea keels smooth. Rhachilla extension 0.3–0.65 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, retained within floret. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Malesia**. Sulawesi.

Poa celsa E.Edgar. *New Zealand J. Bot.*, 24(3): 463 (1986).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: New Zealand: Luna L., NW Nelson, 4500 ft, rocky ground at foot of cliff, Jan 1974, *A.P. Druce s.n.* (CHR-275245).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. lofty. Alpine species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations extravaginal. Culms erect, 25–50 cm long. Lateral branches lacking. Leaf-sheaths scaberulous, glabrous on surface. Ligule an eciliate membrane, 1.5–3 mm long, scaberulous on abaxial surface, entire or erose, obtuse. Leaf-blades flat or conduplicate, 6–20 cm long, 3–6 mm wide, coriaceous. Leaf-blade surface scabrous, rough on both sides, glabrous. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Peduncle antrorsely scabrous above. Panicle open, lanceolate or elliptic, 8–15 cm long. Primary panicle branches ascending. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long, pubescent. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 3.5–5.5 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scaberulous. Lower glume surface asperulous. Lower glume apex acute. Upper glume elliptic, 4–5.5 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume surface asperulous. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 4–5.6 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface scabrous, rough generally or on veins. Lemma apex obtuse. Palea 3.5–4.5 mm long. Palea keels scabrous. Palea surface puberulous, hairy on back. Rhachilla extension 2 mm long.

Flower and Fruit. Lodicules 2, 0.5–0.6 mm long, membranous. Anthers 3, 1–1.5 mm long. Caryopsis with adherent pericarp, 1–2 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand South I.

Poa cenisia All. *Auct. Fl. Pedem.* 40. (1789).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from Italy. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Italy, Mt. Cenisio: Allioni.

Illustrations (Books): G.Hegi, *Flora von Mitteleuropa* 1 (1909).

Derivation (Clifford & Bostock 2007): L. from Mons Cenis, North Italy.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes short. Basal innovations extravaginal. Culms erect, 20–40 cm long. Culm-internodes terete. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 3–9 mm long, acute. Leaf-blades 2–3 mm wide, glaucous.

Inflorescence. Inflorescence a panicle. Panicle open or contracted, linear or oblong or ovate, 4.5–10 cm long. Panicle branches terete, scabrous, rough throughout or distally. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.8 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 0.8–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate. Lemma margins ciliolate. Lemma apex acute. Palea keels scabrous, eciliate or ciliolate, adorned below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 49$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**.

Country /Province /State. : Austria, Germany, Switzerland. : Corsica, France, Sardinia, Spain. : Albania, Bulgaria, Greece, Italy, Crete, Romania. **Western Asia**. Turkey.

Poa chaixii Vill. *Fl. Delph*. 7. (1786).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from France. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: France, Chaudun: *Villars* (GRM holo, LIV.

Illustrations (Books): C.E.Hubbard, *Grasses* (1968) (184), T. Cope & A. Gray, Grasses of the British Isles (51), G.Hegi, *Flora von Mitteleuropa* 1 (1909), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (541).

Derivation (Clifford & Bostock 2007): in honor of Dominique Chai x(1731–1800), French cleric and amateur botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths herbaceous. Basal innovations flabellate. Culms erect or geniculately ascending, 60–120 cm long, 2–3 -noded. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths keeled, smooth. Ligule an eciliate membrane, 0.5–1.5 mm long, truncate. Leaf-blades flat or conduplicate, 15–45 cm long, 5–10 mm wide, light green. Leaf-blade venation with obscure cross veins. Leaf-blade surface smooth, glabrous. Leaf-blade margins scaberulous. Leaf-blade apex abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Peduncle smooth or antrorsely scabrous above. Panicle open, oblong or ovate, effuse, equilateral or nodding, 10–25 cm long, 5–12 cm wide. Primary panicle branches spreading or drooping, 4–7 -nate. Panicle branches flexuous, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.5–3 mm long.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the

upper sterile. Spikelets oblong or ovate, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes obscured by lemmas, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–3.5 mm long, 0.7–0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume elliptic or ovate, 3–4 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 3.5–4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface asperulous. Lemma margins eciliate. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2–2.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

n = 7 (1 ref TROPICOS). 2n = 14 (6 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia, North America (*).

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Denmark, Finland, Great Britain (*), Norway, Sweden. : Austria, Belgium, Czechoslovakia, Germany, Netherlands, Poland, Switzerland. : France, Spain. : Albania, Bulgaria, Greece, Italy, Romania, Yugoslavia. Estonia, Latvia, Lithuania, Baltic States, Central European Russia, Northwest European Russia, Ukraine. **Caucasus**, **Western Asia**, **China**. Inner Mongolia, Xinjiang. **North-central USA**, **Northeast USA**. Wisconsin. New York.

Poa chamaeclinos Pilger. *Engl. Jahrb*. vii. 379 (1906).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *A. Weberbauer 5118*, Mar 1904, Peru: in andibus elevatis supra Lima ad 4500 m (USM; ILT: BAA-2510, US-89685 (fragm. ex B)). LT designated by Anton & Negritto, Willdenowia 27: 237 (1997).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (299), S.A.Renvoize, *Gramineas de Bolivia* (1998) (137, Fig 34).

Illustrations (Journals): *Phytokeys* (15:28, Fig.6 (2012)).

Derivation (Clifford & Bostock 2007): Gk. *chamai*, low growing; *klino*, couch. Forming a dense short sward.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 1.5–4 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5 mm long. Leaf-blades involute, 1–2 cm long, 0.5–1 mm wide, coriaceous, stiff. Leaf-blade surface glabrous or puberulous, hairy adaxially. Leaf-blade margins scaberulous. Leaf-blade apex obtuse or abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle spiciform, ovate, 1–1.5 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4.5–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3–3.5 mm long, 0.8–0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume ovate, 3.5–4 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4–4.5 mm long, coriaceous, purple, keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface smooth or scaberulous. Lemma apex acute. Palea keels scaberulous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**, **Southern South America**. Bolivia, Peru. Argentina Northwest.

Catamarca, Jujuy.

Poa chambersii R.J. Soreng. *Novon,* 8(2): 195 (1998).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: USA, Oregon, Oakridge: Chambers 5746 (US holo, K, OSC, WTU.

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (549).

Illustrations (Journals): *Novon* (8: 196 Fig.1 (1998)).

Derivation (Clifford & Bostock 2007): In honor of Kenton Lee Chambers (1929-) United Staes botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Butt sheaths persistent and investing base of culm. Culms geniculately ascending, 10–50 cm long, 0–2 -noded. Lateral branches ample. Leaf-sheaths tubular for much of their length, with 0.4–0.9 of their length closed, keeled. Ligule an eciliate membrane, 0.5–2 mm long, glabrous on abaxial surface, erose, truncate or obtuse. Leaf-blades flat or conduplicate, 4–8 cm long, 2–5 mm wide. Leaf-blade surface smooth, glabrous. Gynodioecious ("male", in this context, indicating the bisexual state) or dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong or ovate, 2–9 cm long, bearing few spikelets. Primary panicle branches ascending, 1–2 -nate, 1–3.5 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 6–12 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth or scaberulous. Floret callus glabrous or woolly (slightly).

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.5–4.5 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume elliptic, 3.5–4.5 mm long, 0.6–0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 5–7 mm long, membranous, keeled, 5–7 -veined, more than 3-veined. Lemma midvein eciliate or ciliolate, hairy below. Lemma margins eciliate or ciliolate, hairy below. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, 0.6 mm long, membranous. Anthers 3, 1.8–3.7 mm long. Caryopsis with adherent pericarp, 2 mm long. Hilum punctiform.

Male spikelets resembling female.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Northwest USA**. Oregon.

Poa chapmaniana Scribn. *Bull. Torrey Bot. Club,* xxi. 38. (1894).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: USA: Chapman ; USA, Tennessee, Knoxville: Gattinger (US syn); USA, St Louis: Hitchcock.

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (535).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Alvan Wentworth Chapman (1809–99) United States botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect or geniculately ascending or decumbent, 3–30 cm long, 2–4 -noded. Culm-internodes terete, smooth. Lateral branches lacking or sparse. Leaves mostly basal. Leaf-sheaths keeled, smooth. Ligule an eciliate membrane, 2–5 mm long, obtuse. Leaf-blades flat or conduplicate, 1–14 cm long, 1–5 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade margins scaberulous. Leaf-blade apex obtuse or abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 1–12 cm long. Primary panicle branches spreading, 1–2 -nate. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.3–4 mm long.

Fertile Spikelets. Spikelets comprising 3–10 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 3–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes obscured by lemmas, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate or ovate, 1.5–3 mm long, 0.7–0.8 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic or oblong, 2–4 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.5–4 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma lateral veins with distinct primaries but obscure intermediates, stopping well short of apex. Lemma apex acute. Palea 0.9 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.1–0.2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **North-central USA**, **Northeast USA**, **Southeastern USA**. Iowa, Kansas, Missouri. Indiana, Ohio, New Hampshire, New York, West Virginia. Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Virginia.

Poa chathamica Petrie. *Trans. Proc. N. Z. Inst.* iv. 394. (1902).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: L. Cockayne & F.A.D. Cox 6575; Jan 1890; New Zealand: growing on Sphagnum or very boggy ground, south end of Chatham Island (WELT-66386a; AK-1858(i), AK-1858(ii), AK-1859, WELT-66386b).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. -*ica*, belonging to. From the Chatham Islands of the South Pacific.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, mat forming or caespitose. Rhizomes elongated. Butt sheaths coriaceous. Basal innovations extravaginal. Culms rambling, 50–90 cm long. Lateral branches lacking. Leaf-sheaths keeled, smooth or antrorsely scabrous, glabrous on surface. Ligule a ciliolate membrane, 0.5–1 mm long, pubescent on abaxial surface, truncate. Leaf-blades flat or conduplicate, 5–30 cm long, 2.5–4.5 mm wide, coriaceous, light green. Leaf-blade surface ribbed, grooved adaxially, scabrous, glabrous. Leaf-blade margins cartilaginous, scabrous. Leaf-blade apex pungent.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open or contracted, 5.5–12 cm long. Primary panicle branches appressed or ascending or spreading. Panicle branches with occasional prickles. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6.5–14.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–1 mm long, glabrous or pubescent. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 4.5–7.5 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower

glume surface smooth or scabrous. Lower glume margins ciliolate. Lower glume apex acute or acuminate. Upper glume lanceolate, 4.5–8 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface smooth or scabrous. Upper glume margins ciliolate. Upper glume apex acute or acuminate.

Florets. Fertile lemma lanceolate or elliptic, 4.5–9 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma surface scabrous, rough between veins, pubescent, hairy at base, hairy on veins. Lemma apex obtuse. Palea 3.5–7.5 mm long. Palea keels scabrous. Palea surface puberulous, hairy on back. Rhachilla extension 1–2 mm long.

Flower and Fruit. Lodicules 2, 0.5–2 mm long, membranous, glabrous or ciliate. Anthers 3, 1.2–1.7 mm long. Caryopsis with adherent pericarp, 2 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. Chatham Is.

Poa cheelii Vickery. *Contrib. N. S. Wales Nat. Herb.* iv. 195 (1970).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: New South Wales: Blue Mts.: Between Mt. Victoria and Blackheath: 1 Jan 1958, *J. Vickery s.n.* (HT: NSW 43187).

Illustrations (Books): S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (348).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): in honor of Edmund Cheel (1872–1951) English-born Australian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary. Rhizomes short. Butt sheaths herbaceous, persistent and investing base of culm, with fibrous dead sheaths. Basal innovations extravaginal. Culms 40–100 cm long, 3 -noded. Culm-internodes terete, smooth. Culm-nodes glabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths keeled, scaberulous, glabrous on surface. Ligule an eciliate membrane, 1 mm long, pubescent on abaxial surface, truncate. Leaf-blades 8–25 cm long, 1–4 mm wide, stiff. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle open, elliptic, 8–25 cm long, with spikelets clustered towards branch tips. Primary panicle branches spreading, 2–6 -nate, 4–14 cm long. Panicle branches capillary, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 2–3 mm long, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume surface asperulous. Lower glume apex acute. Upper glume oblong, 2–3 mm long, 0.5–0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface asperulous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 3–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous, ciliate, hairy below. Lemma margins ciliate, hairy below. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous, adorned above. Palea surface pubescent, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.8–2.5 mm long. Caryopsis with adherent pericarp, 2 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. Queensland, New South Wales.

Central, South East. Coast, Tablelands, Western Slopes.

Poa chirripoensis R.W. Pohl. *Fieldiana, Bot.,* 38(2): 10 (1976).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Costa Rica. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: W.C. Burger & R.L. Liesner 7448; 19–22 Jan 1970; Costa Rica: San Jos? Valle de Los Conejos (upper Río Talar? and trails to Cerro Chirip?and the Valle de los Lagos, 3400–3820 m, 9.30ºN 83.13ºW (F; IT: CR-182844, US-2776629).

Illustrations (Books): W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (490, Fig 184).

Derivation (Clifford & Bostock 2007): L. -*ensis*, denoting origin. From Chirrips Grande, Costa Rica.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms erect, 37–58 cm long. Culm-internodes elliptical in section, distally glabrous. Culm-nodes brown. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths keeled, scaberulous, glabrous on surface. Ligule an eciliate membrane, 2–4.5 mm long. Leaf-blades erect, conduplicate, 15–30 cm long, 2–3 mm wide, stiff. Leaf-blade surface scaberulous. Leaf-blade apex abruptly acute, apiculate.

Inflorescence. Inflorescence a panicle. Peduncle 7–25 cm long, smooth. Panicle open, pyramidal, 6–8 cm long, 3–5 cm wide, with spikelets clustered towards branch tips. Primary panicle branches spreading, 2 -nate. Panicle branches flexuous, with scattered hairs. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 1–2 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.7–4.4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 3.5–4 mm long, 1 length of upper glume, membranous, 1-keeled, keeled below, 1 -veined. Lower glume primary vein scabrous. Lower glume surface scabrous, rough on veins. Lower glume apex acuminate. Upper glume ovate, 3.5–3.9 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface asperulous, rough on veins. Upper glume apex acuminate.

Florets. Fertile lemma ovate, 3.6–3.9 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface puberulous, hairy in lines, with turgid hairs. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous. Rhachilla extension 0.33–0.5 length of fertile floret.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Mesoamerica**, **Western South America**. Costa Rica. Colombia.

Poa chokensis S.M. Phillips. *Kew Bull.,* 41(4): 1027 (1989).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Ethiopia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Ethiopia: Evans & Hiller 565 (K holo).

Illustrations (Books): S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (21, Fig 10).

Illustrations (Journals): *Kew Bulletin* (44: 136, Fig.3 (1989)).

Derivation (Clifford & Bostock 2007): L. -*ensis*, denoting origin. From Choki Mts, Ethiopia.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms erect, 30–100 cm long. Ligule an eciliate membrane, 2–6 mm long. Leaf-blades flat or conduplicate, 1.7–3.3 mm wide. Leaf-blade apex abruptly acute, hooded, antrorsely scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 9–20 cm long. Primary panicle branches ascending. Panicle branches flexuous, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 6–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes obscured by lemmas. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 0.75 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume surface scabrous, rough on veins. Lower glume apex acute. Upper glume elliptic, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume surface scabrous, rough on veins. Upper glume apex acute.

Florets. Fertile lemma elliptic or oblong, lanceolate in profile, 4–5 mm long, chartaceous, keeled, 5–7 -veined, more than 3-veined. Lemma midvein scabrous. Lemma lateral veins prominent. Lemma apex acute. Palea 1 length of lemma. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.2–1.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Northeast Tropical Africa**. Ethiopia (inc. Eritrea).

Poa chrysantha Lindm. apud Skottsb. *Svensk. Vet.-Akad. Handl.* n. s. lvi. No. 5, 176 (1916).

TYPE from Argentina or Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Argentina or Chile: Feuerland; unweit der Mundung des Rio Azopardo (Bl. 2–3, 2, 3.08): Magelhaens Land. 1852.

Illustrations (Books): M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (167, Fig 106).

Derivation (Clifford & Bostock 2007): Gk. *chrysos*, yellow; *anthos*, flower. Spikelets golden-bronze.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Culms erect or geniculately ascending, 30–90 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths keeled, antrorsely scabrous. Ligule an eciliate membrane, 6–20 mm long, scaberulous on abaxial surface, acute. Leaf-blades flat or conduplicate, 15–30 cm long, 4–5 mm wide, stiff. Leaf-blade apex pungent.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 8–20 cm long. Primary panicle branches 3–4 -nate, whorled at lower nodes, 5–8 cm long. Panicle branches flexuous, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 3.5–5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume oblong, 5–6.5 mm long, 1–1.3 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4.5–5.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma surface scabrous, rough below. Lemma margins eciliate or ciliolate, hairy at base. Lemma apex acute. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2–2.5 mm long. Caryopsis with adherent pericarp, 1.8–2 mm long, dark brown. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South.

Chubut, Tierra del Fuego. Rest of Chile- Biobio, La Auracania, Maule, O'Higgins, Santado, Valpariso.

Poa chumbiensis H.J. Noltie. *Edinburgh J. Bot.*, 57(2): 282 (2000).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Xizang: Chumbi Valley, Yatung, 10000 ft, 18 April 1945.

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (555, Fig. 15).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Chumbi valley, Tibet.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 15–30 cm long. Leaf-sheaths keeled, antrorsely scabrous. Ligule an eciliate membrane, 2–6 mm long, acute. Leaf-blades 5–13 cm long, 2–4 mm wide. Leaf-blade surface scabrous, rough on both sides.

Inflorescence. Inflorescence a panicle. Peduncle antrorsely scabrous above. Panicle open, ovate, 7–14 cm long. Primary panicle branches spreading, 3 -nate, 5.7 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2.7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.5 mm long, 0.8–1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume oblong, 2.1 mm long, 1.1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acuminate.

Florets. Fertile lemma ovate, elliptic in profile or oblong in profile, 1.9 mm long, 1.2 mm wide, membranous, mid-green and purple, tipped with last colour, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma lateral veins prominent, stopping well short of apex. Lemma surface scaberulous. Lemma apex obtuse. Palea 1.8 mm long. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indian Subcontinent**. Eastern Himalaya.

Poa cita E.Edgar, nom nov. *New Zealand J. Bot.,* 24(3): 446 (1986).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: Forster s.n.; ; New Zealand (B-W-1894; IT: CHR-399139 (fragm. ex K), K).

Illustrations: None found.

Images: E.Edgar & H.E.Connor, *Flora of New Zealand* 5, *Gramineae* (2000);, R.Darke, *The Encylopaedia of Grasses for Liveable Landscapes* (2007);.

Derivation (Clifford & Bostock 2007): L. swift. The species grows rapidly and colonizes recently denuded ground.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Basal innovations intravaginal. Culms erect or rambling, 30–100 cm long. Lateral branches lacking. Leaf-sheaths smooth or scaberulous, glabrous on surface. Ligule a ciliolate membrane, 0.5 mm long, truncate. Leaf-blades flat or conduplicate, 20–60 cm long, 1–1.5 mm wide, coriaceous. Leaf-blade surface ribbed, smooth, puberulous, hairy adaxially. Leaf-blade apex hardened.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle open, ovate, 10–20 cm long. Primary panicle branches ascending or spreading. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long, scaberulous. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.5–5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface smooth or asperulous. Lower glume apex acute or acuminate. Upper glume elliptic, 3.5–5 mm long, 1 length of adjacent fertile lemma, 1–1.1 length of spikelet, membranous, 1-keeled, 3 -veined. Upper glume surface smooth or asperulous. Upper glume margins scaberulous. Upper glume apex acute or acuminate.

Florets. Fertile lemma elliptic or oblong, 3–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous, ciliate, hairy below. Lemma surface scaberulous, rough between veins. Lemma margins ciliate, hairy below. Lemma apex obtuse. Palea 3–4 mm long. Palea keels ciliolate. Palea surface scabrous.

Flower and Fruit. Lodicules 2, 0.5 mm long, membranous, ciliate. Anthers 3, 2–3 mm long. Caryopsis with adherent pericarp, 1 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. Chatham Is, Kermadec Is, New Zealand North I, New Zealand South I, Stewart Is.

Poa clavigera J.F. Veldkamp. *P. van Royen, Alp. Fl. New Guinea,* 2: 1094 (1994).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from PNG. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: J.F. Veldkamp 6589; 1 May 1975; Papua New Guinea: New Guinea, West Sepik, Dagabulon, camp 10, 3400 m (L).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *clava*, club; *gero*, carry. Rhachilla projecting.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Basal innovations intravaginal. Culms 5–10 cm long. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 0.5–0.75 mm long, scaberulous on abaxial surface, obtuse. Leaf-blades curved, filiform, involute, 1–5 cm long, 0.5 mm wide, stiff. Leaf-blade surface glabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear, 2–2.9 cm long, 0.2 cm wide, bearing few spikelets. Primary panicle branches 1–2 -nate, 1–1.7 cm long, bearing 1–3 fertile spikelets on each lower branch. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2.5–3 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1.1–1.6 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 1.5–1.9 mm long, 0.66 length of adjacent fertile lemma, membranous, 1-keeled, 1–3 -veined. Upper glume primary vein scabrous. Upper glume lateral veins absent or distinct. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 2.25–2.75 mm long, membranous, keeled, 3–5 -veined, 0–3 -veined or more than 3-veined. Lemma midvein without distinctive roughness or scaberulous. Lemma apex acute or apiculate. Palea keels scabrous, adorned above.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.75 mm long. Caryopsis with adherent pericarp, fusiform, 1.75 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea West Papua (Irian Jaya). New Guinea.

Poa clelandii Vickery. *Contrib. N. S. Wales Nat. Herb.* iv. 193 (1970).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: South Australia: National Park (near Adelaide): 17 Dec 1949, *J.B. Cleland* (HT: AD 95626093).

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (147, Fig 98), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (429, Fig 84), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (323, Fig 43), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Derivation (Clifford & Bostock 2007): in honor of John Burton Cleland (1878–1971) Australian medical pathologist and naturalist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rootstock evident. Cataphylls evident. Rhizomes absent or short. Butt sheaths herbaceous. Basal innovations extravaginal. Culms 40–75 cm long, 3–4 -noded. Culm-internodes terete, smooth. Lateral branches lacking. Leaf-sheaths loose, keeled, smooth or scaberulous, glabrous on surface. Ligule an eciliate membrane, 0.25–1.75 mm long, pubescent on abaxial surface, truncate. Leaf-blades 10–25 cm long, 1–3 mm wide. Leaf-blade surface smooth or scaberulous, glabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, lanceolate, 10–20 cm long. Primary panicle branches ascending, 2–3 -nate. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume oblong, 0.66–0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 1.75–3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous. Lemma surface pubescent, hairy below. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous, ciliolate, adorned below (ciliate). Palea surface pubescent, hairy on back, hairy below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.3 mm long, yellow or purple. Caryopsis with adherent pericarp, 1.5 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. South Australia, Victoria, Tasmania.

Southern.

Poa clivicola Vickery. *Contrib. N. S. Wales Nat. Herb.* iv. 213 (1970).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: New South Wales: Kosciusko Plateau: jct. of Wragge's and Piper's Creeks: 9 Jan 1956, *J.Vickery & M. E. Phillips* (HT: NSW 46029).

Illustrations (Books): S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (348).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *clivus*, hill; *-cola*, dweller. Mountain species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths herbaceous, pallid. Basal innovations intravaginal. Culms slender, 15–60 cm long, 1–2 -noded. Culm-internodes terete, smooth. Culm-nodes glabrous. Lateral branches lacking. Leaf-sheaths smooth or scaberulous, glabrous on surface. Ligule a ciliolate membrane, 0.5–1.5 mm long, glabrous on abaxial surface or scaberulous on abaxial surface, truncate. Leaf-blades filiform, involute, 3–15 cm long, 0.2–0.4 mm wide. Leaf-blade surface scaberulous, glabrous.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, elliptic, effuse, 2–12 cm long. Primary panicle branches 2–5 -nate, sparsely divided. Panicle branches capillary, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scaberulous.

Fertile Spikelets. Spikelets comprising 2–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume surface smooth or asperulous, rough above. Lower glume apex acute. Upper glume lanceolate, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface smooth or asperulous, rough above. Upper glume apex acute.

Florets. Fertile lemma oblong, lanceolate in profile, 3–4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein without distinctive roughness or scaberulous, eciliate or ciliolate, hairy below. Lemma margins eciliate or ciliolate, hairy at base. Lemma apex acute. Palea 0.9 length of lemma. Palea keels scabrous, adorned above. Palea surface smooth or scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2.5 mm long, yellow or purple. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. New South Wales, A.C.T., Victoria.

Tablelands.

Poa cockayneana Petrie. *Trans. & Proc. New Zealand Inst.* 45: 274 (1913).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: L. Cockayne s.n.; 7 Apr 1911; New Zealand: Rolleston R., Westland (WELT-66379a; ILT: AK-1857, CHR-3000, WELT-66378, WELT-66379B) LT designated by Edgar, New Zealand J. Bot. 24: 448 (1986).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Leonard Cockayne (1855–1934) English-born New Zealand botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, mat forming or pluricaespitose. Stolons present. Basal innovations intravaginal. Culms decumbent, 20–40 cm long. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule a ciliolate membrane, 0.5 mm long, pubescent on abaxial surface, truncate. Leaf-blades 10–35 cm long, 2–4 mm wide, coriaceous. Leaf-blade venation prominent. Leaf-blade surface smooth, puberulous, hairy adaxially. Leaf-blade margins smooth or scabrous.

Inflorescence. Inflorescence a panicle, shorter than basal leaves. Peduncle smooth or scaberulous above. Panicle open, ovate, effuse, 10–20 cm long, with spikelets clustered towards branch tips. Primary panicle branches spreading. Panicle branches capillary, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 7–9.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1–1.5 mm long, scaberulous, glabrous or sparsely hairy. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 5–6.5 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume surface smooth or asperulous, rough between veins. Lower glume apex acuminate. Upper glume lanceolate, 5–6.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface smooth or asperulous, rough between veins. Upper glume margins scabrous. Upper glume apex acuminate.

Florets. Fertile lemma elliptic or oblong, 5–6.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma lateral veins prominent. Lemma surface scabrous, rough generally. Lemma margins ciliate, hairy below. Lemma apex obtuse. Palea 4–4.5 mm long. Palea keels ciliolate. Palea surface pubescent, hairy below. Rhachilla extension 2–3 mm long.

Flower and Fruit. Lodicules 2, 0.5 mm long, membranous. Anthers 3, 2 mm long. Caryopsis with adherent pericarp, 2 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand South I.

Poa colensoi Hook. f. *Handb. N. Zeal. Fl.* 340. (1864).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: Colenso 1589; ; New Zealand: top Ruahine Mountain, grass (K; ILT: WELT-21953) LT designated by Edgar, New Zealand J. Bot. 24: 440 (1986).

Illustrations: None found.

Images: E.Edgar & H.E.Connor, *Flora of New Zealand* 5, *Gramineae* (2000);, R.Darke, *Ornamental Grasses* (2004);, R.Darke, *The Encylopaedia of Grasses for Liveable Landscapes* (2007);.

Derivation (Clifford & Bostock 2007): in honor of William Colenso (1811–1899), English-born New Zealand cleric and botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths yellow or grey. Basal innovations intravaginal. Culms 5–30 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5–5.5 mm long, glabrous on abaxial surface or scaberulous on abaxial surface, obtuse. Leaf-blades deciduous at the ligule, involute, 5–15 cm long, 0.5 mm wide, stiff, glaucous. Leaf-blade surface scabrous, rough adaxially, glabrous. Leaf-blade margins scaberulous. Leaf-blade apex obtuse or acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, ovate, 1–10 cm long. Primary panicle branches spreading. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, (3.5–)5–7(–10) mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–1 mm long, smooth. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–3 mm long, 0.9–1 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein smooth. Lower glume lateral veins absent or distinct. Lower glume apex acute. Upper glume lanceolate, 2.5–3.5 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 5 -veined. Upper glume primary vein smooth. Upper glume apex acute.

Florets. Fertile lemma elliptic or ovate, 3–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein eciliate or ciliolate, hairy below. Lemma surface smooth or scaberulous, rough generally or on veins or between veins, glabrous or puberulous, hairy below, hairy between veins. Lemma margins eciliate or ciliolate. Lemma apex obtuse. Palea 2–4 mm long. Palea keels scabrous. Palea surface scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, 0.5 mm long, membranous. Anthers 3, 1–2 mm long. Caryopsis with adherent pericarp, 1–2 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand North I, New Zealand South I, Stewart Is.

Poa compressa L. *Sp. Pl.* 69. (1753).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983), T.Koyama, *Grasses of Japan and its neighboring regions* (1987), W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: (LINN-87.41). LT designated by Soreng in Cafferty et al., *Taxon* 49(2): 255 (2000).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (300), C.E.Hubbard, *Grasses* (1968) (194), T. Cope & A. Gray, Grasses of the British Isles (49), G.Hegi, *Flora von Mitteleuropa* 1 (1909), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (349), K.F.Best, et al, *Prairie Grasses* (1971) (187), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (581), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (161, Fig 101), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 404), E.Hafliger & E.Schultz, Grass Weeds, CIBA-GEIGY (2:120(1980)).

Illustrations (Journals): *Phytokeys* (15:11, Fig.1 (2012)).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *comprimo*, squeeze together. Culms flattened.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary or caespitose. Rhizomes elongated. Culms erect or geniculately ascending, 10–60 cm long, wiry, 4–6 -noded. Culm-internodes elliptical in section, smooth. Lateral branches lacking. Leaf-sheaths keeled, smooth. Ligule an eciliate membrane, 0.5–3 mm long, obtuse. Leaf-blades flat or conduplicate, 2–12 cm long, 1–4 mm wide, stiff. Leaf-blade surface smooth or scaberulous, glabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open or contracted, oblong or ovate, dense or loose, 1.5–10 cm long, 0.5–3 cm wide. Primary panicle branches ascending, 2–4 -nate, bearing spikelets almost to the base. Panicle branches straight, angular, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.3–2 mm long.

Fertile Spikelets. Spikelets comprising 3–10 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or oblong or ovate, laterally compressed, 3–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes obscured by lemmas, smooth. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2–3 mm long, 0.9–1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume ovate, 2–3 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 2.5–3 mm long, membranous, much thinner above, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins obscure, stopping well short of apex. Lemma margins ciliate, hairy below. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.3–1.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

n = 21 (1 ref TROPICOS). 2n = 14 (2 refs TROPICOS), or 35 (1 ref TROPICOS), or 42 (8 refs TROPICOS), or 49 (1 ref TROPICOS), or 56 (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Tropical Asia, Australasia (*), North America, South America.

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Denmark, Finland, Great Britain, Ireland, Northern Ireland, Norway. : Corsica, Channel Islands, France, Monaco, Sardinia, Andorra, Gibralter, Spain. : Albania, Bulgaria, Greece, Italy, San Marino, Vatican, Romania, Malta, Sicily, Turkey Europe, Yugoslavia. Belarus, Estonia, Kalingrad, Latvia, Lithuania, Baltic States, Krym, Central European Russia, East European Russia, North European Russia, South European Russia, Northwest European Russia, Moldova, Ukraine. **Northern Africa**, **Macaronesia**. Algeria, Morocco. Madeira. Siberia, Russian Far East, **Middle Asia**, **Caucasus**, **Western Asia**, **China**, **Eastern Asia**. Kamchatka, Primorye. Kazakhstan. Iran. China South Central, China North-Central, Qinghai, China Southeast, Xinjiang. Japan Hokkaido, or Honshu, or Shikoku, or Kyushu. Japan, Taiwan. **Indian Subcontinent**. India, Pakistan. **Australia** (*), **New Zealand** (*). New South Wales (*), Tasmania (*). New Zealand North I, New Zealand South I. Hawaii (*). **Subarctic America**, **Western Canada**, **Eastern Canada**, **Northwest USA**, **North-central USA**, **Northeast USA**, **Southwestern USA**, **South-central USA**, **Southeastern USA**, **Mexico**. Aleutian Is, Alaska, Yukon, Northwest Territories, Nunavut, Greenland. Alberta, British Columbia, Manitoba, Saskatchewan. Colorado, Idaho, Montana,

Oregon, Washington, Wyoming. Illinois, Iowa, Kansas, Minnesota, Missouri, North Dakota, Nebraska, Oklahoma, South Dakota, Wisconsin. Arizona, California, Nevada, Utah. New Mexico, Texas. Alabama, Arkansas, Delaware, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, District of Columbia. Central Mexico, Northeast Mexico, Southwest Mexico. **Caribbean**, **Southern South America**. Haiti, Jamaica. Argentina Northeast, Argentina South, Chile Central, Chile South.

Hebei, Shandong. Jiangxi. Yunnan. Himachal Pradesh. Coast, Tablelands, Western Slopes. Mendoza. Buenos Aires. Chubut, Neuquén, Río Negro. La Araucania. Los Lagos, Magellanes. Mexico State. Coahuila. Michoacan.

Poa confinis Vasey. *Illustr. N. Am Grass.* ii. t. 75 (1893).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: T.J. Howell s.n.; 11 Jul 1882; USA: Oregon (US-133404, US-824640) ST: T.J. Howell 69; 17 Jul 1882; USA: Oregon: on the sandy ocean beach, Tillamook Bay (US-556843; IST: F, NY, WTU).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (555).

Derivation (Clifford & Bostock 2007): L. adjoining. Geographical distribution overlapping that of another species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Culms geniculately ascending, 10–25 cm long. Culm-internodes terete. Leaf-sheaths with 0.33–0.5 of their length closed. Ligule an eciliate membrane, 0.8–2 mm long, entire, acute. Leaf-blades involute, 1–2 mm wide, firm. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate or oblong, 1.5–3.5 cm long. Primary panicle branches appressed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–3 mm long, 0.75–0.8 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, membranous, 1-keeled, 3 -veined. Upper glume primary vein smooth or scaberulous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, oblong in profile, 3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface smooth or asperulous. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, 1 mm long, membranous, irregularly toothed. Anthers 3, 1.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets similar to female but less developed.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Western Canada**, **Northwest USA**, **Southwestern USA**. British Columbia. Oregon, Washington. California.

Poa congesta N.F.Refulio-Rodriguez. *Syst. Bot.* 37 (1): 130 (2012).

TYPE from Peru. **Basionym or Replaced Name**: *Dissanthelium densum* Swallen & Tovar, *Phytologia,* 11: 374 (1965). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *O. Tovar 2547*, 11 May 1956, Peru: Huancavelica: Huancavelica Prov. (US-2207162).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): dense. Growing in large clumps.

Classification. Subfamily Pooideae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 6–8 cm long. Leaf-sheaths antrorsely scabrous. Ligule an eciliate membrane, 1–2 mm long. Leaf-blades ascending, conduplicate, 2–5 cm long, 1–2 mm wide. Leaf-blade venation distinct. Leaf-blade surface scaberulous, rough on both sides. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, shorter than basal leaves. Panicle spiciform, linear, 2–3 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 3.5–3.7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.3 mm long.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma, shiny. Lower glume lanceolate, 3.5–3.7 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume lanceolate, 3.5–3.7 mm long, 1.4 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 2.5–2.6 mm long, chartaceous, much thinner above, keeled, 3 -veined, 0–3 -veined. Lemma surface hispidulous. Lemma apex truncate. Palea keels ciliolate, adorned above.

Flower and Fruit. Anthers 3, 0.5–0.6 mm long. Ovary glabrous. Endosperm farinose.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa cookii (Hook.f.) Hook. f. *Phil. Trans.* clxviii. 14. (1879).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: J.D.Hooker 762; May-Aug 1840; Kerguelen's Land, Christmas Harbour, on rocks and in moist places always near the sea, abundant (K-H2003/00969–290; ILT: LE) LT designated by Edgar, New Zealand J. Bot. 24: 433 (1986) ST: Anderson (in Cook's Voyage) s.n.; ; Hab. Kerguelen's Land ST: D. Lyall s.n.; ; Kerguelen's Land (K-H2003/00969–289) [Lyall was on the Terror, on the 1839–1843 voyage].

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of James Cook (1728–1779) English navigator.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths light brown or dark brown, persistent and investing base of culm, with fibrous dead sheaths. Basal innovations intravaginal. Culms erect, 9–25 cm long. Culm-internodes smooth. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 4–7.5 mm long, lacerate. Leaf-blades (9–)15–30 cm long, 3.5–5.5 mm wide, coriaceous. Leaf-blade midrib keeled beneath. Leaf-blade surface ribbed, grooved adaxially, scaberulous, rough adaxially. Leaf-blade margins smooth.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong, 5–25 cm long. Primary panicle branches appressed. Panicle axis smooth. Panicle branches tuberculate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4.5–8.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–3 mm long, 0.66–0.75 length of upper glume, membranous, 1-keeled, 1(–3) -veined. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume elliptic, 3–4 mm long, 0.66 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acuminate.

Florets. Fertile florets with the lowest dissimilar. Lowest fertile lemma female. Fertile lemma elliptic or oblong, 4.8–6 mm long, membranous, light green, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma surface smooth, puberulous, hairy at base. Lemma apex acuminate. Palea 4 mm long. Palea keels scabrous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, 1 mm long, membranous. Anthers 3, 2–3 mm long (lowest) or 0.2–0.4 mm long. Caryopsis with adherent pericarp, 1 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia, Antarctica.

Country /Province /State. **New Zealand**. Macquarie Is. **Subantarctic islands**. Crozet Is, Heard-McDonald Is, Kerguelen, Macquarie Is, Marion-Prince Edward Is.

Poa cooperi H.J. Noltie. *Edinburgh J. Bot.,* 57(2): 283 (2000).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Sikkim. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: R.E. Cooper 118; 1 Jul 1913; India: Sikkim: Laghep, 10000ft (E-70/88 197).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (565, Fig. 16).

Derivation (Clifford & Bostock 2007): In honor of Ronald Edgar Cooper (1890–1962) English botanical collector in Sikkim State, India and the Kingdom of Bhutan.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 7–13 cm long. Culm-internodes smooth. Leaf-sheaths smooth. Ligule an eciliate membrane, 1.5–2.2 mm long, erose, truncate. Leaf-blades involute, 4.5–6.9 cm long, 2.2 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 8–16 cm long. Primary panicle branches ascending, 1 -nate, 7.7 cm long. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising (3–)4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4.5–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.4–2.5 mm long, 0.66–0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface scabrous. Lower glume apex acute. Upper glume oblong, 3.1–3.4 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, lanceolate in profile or oblong in profile, 3.6–3.8 mm long, 1.8 mm wide, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins stopping well short of apex. Lemma surface scabrous, rough above and between veins, puberulous, hairy below, hairy between veins. Lemma margins pubescent, hairy at base. Lemma apex acute. Palea 3.5 mm long. Palea keels scaberulous. Palea surface puberulous, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, elliptic, membranous. Anthers 3, 0.9 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indian Subcontinent**. Eastern Himalaya.

Sikkim.

Poa costiniana Vickery. *Contrib. N. S. Wales Nat. Herb*. iv. 214 (1970).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *R. Helms 45793*, Feb 1893, Australia: New South Wales, Kosciusko Mt, 1524 m (L).

Illustrations (Books): S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (349).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. -ana, indicating connection. In honor of Alec Baillie Costin (1925-) Australian plant ecologist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths herbaceous, pallid. Basal innovations intravaginal. Culms erect, 15–80 cm long, 1–2 -noded. Culm-internodes terete, smooth. Culm-nodes glabrous. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule a ciliolate membrane, 1–3 mm long, pubescent on abaxial surface, obtuse. Leaf-blades convolute, 7–40 cm long, 0.3–1.75 mm wide. Leaf-blade surface scabrous, rough adaxially, glabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, pyramidal, 5–20 cm long. Primary panicle branches spreading, 2–5 -nate. Panicle branches capillary, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 6–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or obscure. Lower glume surface smooth or asperulous. Lower glume apex acute or acuminate. Upper glume oblong, membranous, 1-keeled, 3(–5) -veined. Upper glume primary vein scabrous. Upper glume surface smooth or asperulous. Upper glume apex acute or acuminate.

Florets. Fertile lemma lanceolate, oblong in profile, 3.5–5.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous, ciliate, hairy below. Lemma surface smooth or scaberulous, rough on veins. Lemma margins ciliolate, hairy at base. Lemma apex acute. Palea 0.9 length of lemma. Palea keels scabrous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2–2.6 mm long, yellow or purple. Caryopsis with adherent pericarp, oblong, 2.5 mm long. Hilum punctiform.

Vegetative proliferation occurs.

Distribution (TDWG). Continent. Europe (*), Australasia.

Region. **Northern Europe** (*).

Country /Province /State. : GB Aliens (Ryves et al). **Australia**. New South Wales, A.C.T., Victoria, Tasmania.

Tablelands.

Poa crassicaudex Vickery. *Contrib. N. S. Wales Nat. Herb*. iv. 233 (1970).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: South Australia: Hindmarsh Tiers: 10 Nov 1950, *J.B. Cleland* (HT: AD 95626061).

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (148, Fig 99).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *crassus*, thick; *caudex*, stem. Culms thick.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rootstock evident. Butt sheaths herbaceous, pallid. Basal innovations extravaginal. Culms 50–90 cm long, 3 -noded, not swollen at the base or swollen at the base, forming an ovoid corm. Culm-internodes terete, smooth, distally pubescent (below nodes). Lateral branches lacking. Leaves mostly basal. Leaf-sheaths loose, smooth, pubescent. Ligule an eciliate membrane or a ciliolate membrane, 1.5 mm long, pubescent on abaxial surface, truncate or obtuse. Leaf-blades flat or involute, 15–30 cm long, 0.75–3 mm wide. Leaf-blade surface pubescent, hairy on both sides. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth, glabrous or pubescent above. Panicle open, elliptic, 8–17 cm long, with spikelets clustered towards branch tips. Primary panicle branches ascending or spreading. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume surface asperulous. Lower glume apex acute. Upper glume ovate, 0.75–0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface asperulous. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 2–4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma surface pubescent, hairy below. Lemma margins ciliate, hairy below. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous, ciliolate, adorned below (ciliolate). Palea surface pubescent. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5 mm long, yellow. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. South Australia.

Southern.

Poa crassicaulis Pilger. *Engl. Jahrb*. lxii. 458 (1929).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from PNG. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: New Guinea, Suruwaged Mts.: *Keysser 4* .

Illustrations (Books): E.E.Henty, *A Manual of the Grasses of New Guinea* (1969) (152, Pl. 57).

Derivation (Clifford & Bostock 2007): L. crassus, thick; *caulis*, stem. Culms thick.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, mat forming. Basal innovations intravaginal. Culms 5–20 cm long, 1–3 -noded. Culm-internodes scaberulous. Leaves distichous. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 0.5 mm long, erose, truncate. Leaf-blades oblong, 1.2–3 cm long, 3–5 mm wide. Leaf-blade surface ribbed, glabrous. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong, 1.5–2 cm long. Primary panicle branches appressed or ascending, 0.5–4 cm long. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising (1–)2(–4) fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 1.8–3.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1.5–3 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 1.6–3.2 mm long, 0.75–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, 2–3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex obtuse. Palea 1.5–2 mm long. Palea keels scabrous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea.

Poa crassinervis Honda. *Bot. Mag., Tokyo,* 1926, xl. 442. (1926).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from Japan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: ; ; (TI-M04–02–13, TI-M04–02–14)

ST: K. Mayebara 80; 19 Apr 1925; Japan: Sashiki, Prov. Higo (TI-M04–02–15)

ST: K. Mayebara 81; 19 Apr 1925; Japan: Sashiki, prov. Higo (TI-M04–02–16)

ST: K. Mayebara 99; 19 Apr 1925; Japan: Sashiki, Prov. Higo (TI-M04–02–20)

ST: K. Mayebara 179; 25 Apr 1926; Japan: Matsutaka, prov. Higo (TI-M04–02–17)

ST: K. Mayebara 181; 18 Apr 1926; Japan: Oono, Prov. Higo (TI-M04–02–19)

ST: K. Mayebara 180; 9 Apr 1926; Japan: Hitoyoshi, Prov. Higo (TI-M04–02–18)

ST: K. Mayebara s.n.; 19 Apr 1925; Japan: Kinsin - Prov. Higo, Sashiki (KYO s.n.).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *crassus*, thick; *nervus*, nerve. Lemmas conspicuously nerved.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose, clumped loosely. Culms decumbent, 10–30 cm long, rooting from lower nodes. Lateral branches ample. Leaves cauline. Leaf-sheaths tubular for much of their length, with 0.5–0.66 of their length closed, 2–6 cm long, smooth. Ligule an eciliate membrane, 1.8–2.5 mm long, white. Leaf-blades 4–10 cm long, 1.8–4 mm wide. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 6–10 cm long, 2–3 cm wide. Primary panicle branches spreading, 1–3 -nate, simple, 2–5 cm long, bearing 6–12 fertile spikelets on each lower branch. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 1–1.5 mm long, smooth.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 4–6 mm long, 1.5–2 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1.2–1.7 mm long, 0.66 length of upper glume, membranous, much thinner on margins, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2–2.5 mm long, 0.75–1 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 2–3.5 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma lateral veins prominent. Lemma surface pubescent, hairy on veins. Lemma apex obtuse or acute. Palea 0.9 length of lemma. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5–0.8 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Eastern Asia**. Japan Honshu, or Shikoku, or Kyushu. Japan.

Poa cucullata Hack. *Oesterr. Bot. Zeitschr.* 1902, 377. (1902).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Ecuador. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: Sodiro s.n. [36/1 at W]; ; Ecuador: Pichincha (W-1111).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *cucullus*, hood; *-ata*, possessing. Apex of leaf-blade forming a hood.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Cataphylls evident. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Basal innovations extravaginal. Culms erect, 20–30 cm long, 0 -noded. Culm-internodes terete. Leaves mostly basal. Ligule an eciliate membrane, 3 mm long, 1 mm long on basal shoots, acute. Leaf-blades conduplicate, 3–10 cm long, 5 mm wide. Leaf-blade surface glabrous. Leaf-blade apex obtuse, hooded.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, dense, 8 cm long, with spikelets clustered towards branch tips. Primary panicle branches 2 -nate, 2–4 cm long. Panicle axis smooth. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 4.5 mm long, 1.1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 4 mm long, membranous, purple, keeled, (3–)5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma surface asperulous. Lemma apex acute. Palea 0.75 length of lemma. Palea keels scabrous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1–2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Ecuador.

Poa cumingii Trin. *Bull. Sc. Acad. Petersb*. ser. 6, 4,2(1): 66. (1836).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: Cuming s.n.; dt. am. Prescott, 1832; Chile (LE-TRIN-2611.01a; IT: US-89678 (fragm. ex LE-TRIN-2611.01a)) 2611.01 b "mis. de Martius 1835 Chile 12" is the same species and perhaps the same collector, both a & b are pistillate. W-s.n. Cuming 176, 1831/4, staminate det as P. curva by Munro OM: Cuming 460 as ~Koeleria cummingii~; 1832; Chile: Valparaiso (BM (ex hb. Shuttleworth, mixed with Trisetum), K, US-89678 (fragm. ex K)) Possible type. the US fragm. ex K seems to be a different ~Poa~, certainly not ~Koeleria cumingii~. This seems to be the same as LE-TRIN-2611.01b, web present.

Recent Synonyms: *Distichlis volckmannii* Phil., *Anal. Univ. Chil.* 571. (1878).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): In honor of Hugh Cuming (1791–1865) English naturalist and traveller.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Butt sheaths papery, persistent and investing base of culm. Culms erect, 8–22 cm long. Culm-internodes terete. Lateral branches lacking. Leaves basal and cauline. Leaf-sheaths smooth, glabrous on surface. Ligule a ciliolate membrane, 0.5 mm long. Leaf-blades erect or spreading, involute, 2–10 cm long, 2–4 mm wide (at base), stiff, glaucous. Leaf-blade surface ribbed, grooved adaxially, glabrous. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, dense, 3.5–4.5 cm long, 1–2.5 cm wide. Panicle branches flexuous, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.5–2.5 mm long.

Fertile Spikelets. Spikelets comprising 4–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 7–11 mm long, 2–7 mm wide, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly. Floret callus hairs 1–3 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 6–7 mm long, 1 length of upper glume, chartaceous, 1-keeled, 3 -veined. Lower glume primary vein spinulose. Lower glume margins ciliolate. Lower glume apex acute. Upper glume ovate, 6–7 mm long, 0.8–0.9 length of adjacent fertile lemma, chartaceous, 1-keeled, 5 -veined. Upper glume primary vein spinulose. Upper glume margins pubescent. Upper glume apex acute.

Florets. Fertile lemma oblong or ovate, 7–8 mm long, chartaceous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous, pubescent. Lemma surface puberulous, hairy on veins. Lemma apex acute. Palea 5.5 mm long, membranous, 2-keeled. Palea keels puberulous. Palea surface puberulous, hairy on margins. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Caryopsis with adherent pericarp, trigonous, 3.5 mm long. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Chile Central.

Rest of Chile- Biobio, La Auracania, Maule, O'Higgins, Santado, Valpariso. Valparaiso, Biobio.

Poa cusickii Vasey. *Contrib. U. S. Nat. Herb.* i. 271. (1893).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: W.C. Cusick 1219; May 1885; USA: Oregon: Baker Co.: Powder River (US-556821; ILT: NY, ORE-15047, US-1869103, US-924906, US-824863, WSU-115340) LT designated by Soreng, Syst. Bot. 16: 518 (1991).

Illustrations (Books): K.F.Best, et al, *Prairie Grasses* (1971) (189), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (561 as subspecies *cusickii, pallida, epilis & purpurascens*).

Illustrations (Journals): *Systematic Botany* (16: 515. Fig.4 (1991)).

Derivation (Clifford & Bostock 2007): L. *curvus,* bent; *-ula*, diminutive. Leaf-blades curved.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms 20–40 cm long. Lateral branches lacking. Leaf-sheaths tubular for much of their length, with 0.5 of their length closed. Ligule an eciliate membrane, 1–3 mm long, erose, acuminate. Leaf-blades flat or involute, 10–20 cm long, 0.5–3.5 mm wide. Leaf-blade surface scabrous, glabrous.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong or ovate, 2–9 cm long, 1–2 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous or woolly (slightly).

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.5–5 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume elliptic, 3.5–5 mm long, 0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4.5–6 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein eciliate to ciliate. Lemma surface smooth to scabrous. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.2–3.2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 56$ (1 ref TROPICOS).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Subarctic America**, **Western Canada**, **Northwest USA**, **Southwestern USA**. Alaska, Northwest Territories. Alberta, British Columbia, Manitoba, Saskatchewan. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. Arizona, California, Nevada, Utah.

Poa cuspidata Nutt. *Barton, Comp. Fl. Philad.* i. 61 (1818).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Around Philadelphia in rocky situations, on the banks of the Schuylkill.

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (544).

Derivation (Clifford & Bostock 2007): L. *cuspis*, head of a spear; *-ata*, possessing. Glumes or lemmas long tapering or terminating in a sharp tip.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes elongated. Culms erect, 30–50 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Culm-sheaths present, glabrous. Leaves mostly basal. Leaf-sheaths smooth. Ligule an eciliate membrane, 1–3 mm long, truncate. Leaf-blades 30–50 cm long, 2–3 mm wide. Leaf-blade surface smooth. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, dense or loose, 7–12 cm long, with spikelets clustered towards branch tips. Primary panicle branches ascending or spreading, distant, 2 -nate. Panicle branches flexuous, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 2–4 mm long.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the

upper sterile. Spikelets ovate, laterally compressed, 3–6 mm long, with hairs extending 6–8 mm beyond apex, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 4–5 mm long, membranous, 1-keeled, 1(–3) -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume lanceolate, 2 mm long, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma elliptic, elliptic in profile or oblong in profile, 4–6 mm long, membranous, of similar consistency above, of similar consistency on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous, pubescent, hairy all along. Lemma lateral veins distinct, stopping well short of apex. Lemma surface scaberulous. Lemma margins pubescent, hairy below. Lemma apex acute. Palea keels scaberulous or scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 1, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Northeast USA** and **Southeastern USA**. Ohio, Pennsylvania, West Virginia. Alabama, Georgia, North Carolina, South Carolina, Tennessee.

Poa curtifolia Scribn. *US Dept. Agric., Div. Agrost. Circ.* 16:3 (1899).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: A.D.E. Elmer 1148; Aug 1898; USA: Washington: Kittitas Co.: Mount Stuart (US-343119) ST: A.D.E. Elmer 1150; Aug 1898; USA: Washington: Kittitas Co.: Mount Stuart (US).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (591).

Derivation (Clifford & Bostock 2007): L. *curtus*, short; *folium*, leaf. Leaf-blades short.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 15–30 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths open for most of their length, with 0.2–0.33 of their length closed, smooth. Ligule an eciliate membrane, 2–4 mm long, erose, obtuse or acute. Leaf-blades flat or conduplicate, 1–2.5 cm long, 1.5–2.5 mm wide. Leaf-blade venation prominent. Leaf-blade margins cartilaginous. Leaf-blade apex abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle open, linear or lanceolate, 4–8 cm long. Primary panicle branches appressed, bearing 1–3 fertile spikelets on each lower branch. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 7–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus bearded.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 4–5 mm long, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume elliptic, 4.5–5.5 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 5–6 mm long, membranous, keeled, lightly keeled, 5 -veined, more than 3-veined. Lemma midvein without distinctive roughness to scabrous. Lemma margins eciliate or pubescent, hairy below. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.2–3.5 mm long, purple. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 42$ (1 ref TROPICOS).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Northwest USA**. Washington.

Poa damavandica Assadi & Kavousi. *Iran. J. Bot.* 15(1): 57–59, f. (2009).

TYPE from Iran. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South slope of Kuh-e Damavand (XVI), 3700–4350 m; 22 Jul 2003, *M.Assadi & S.M.M.Hamdi 85739*, HT: TARI.

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Culms erect or geniculately ascending, 25 cm long. Culm-internodes scaberulous. Leaves mostly basal. Leaf-sheaths longer than adjacent culm internode. Ligule an eciliate membrane, 2–2.8 mm long, obtuse. Leaf-blades conduplicate or involute, 5–9.1 cm long, 1–1.3 mm wide, 4.8–7.2 cm long at summit of culm. Leaf-blade surface ribbed, scabrous. Leaf-blade apex hooded.

Inflorescence. Inflorescence a panicle, comprising 15–55 fertile spikelets. Panicle contracted, oblong, 5–9.1 cm long, 0.6–1.1 cm wide. Primary panicle branches 2–3 -nate, 1.9–3.9 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate or cuneate, laterally compressed, 6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes glabrous. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 3 mm long, membranous, much thinner on margins, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume ovate, 3.5 mm long, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma elliptic, 3.2–3.5 mm long, membranous, yellow or purple, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma lateral veins obscure. Lemma margins ciliolate, hairy below. Lemma apex obtuse. Palea 2.7 mm long. Palea keels scaberulous, ciliate, adorned above, with 0.66 of their length adorned. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.1 mm long, yellow.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Western Asia**.

Poa darwiniana L. Parodi. *Rev. Argent. Agron.* iv. 243 (1937).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

Basionym or Replaced Name: *Triodia antarctica* Hook. f., *Fl. Antarct.* 2: 380 (1846). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *C. Darwin [518]*, Jan or Feb 1833, South part of Tierra del Fuego (K; ILT: BM, CGE, US-s.n. (fragm. ex CGE, fragm. ex K)). LT designated by D. M. Porter, Bot. J. Linn. Soc. 93: 36. 1986.. ST: *J.D. Hooker*, [Sep-Nov 1842], Tierra del Fuego: Rocks near the tops of the mountains of Hermite Island (K; IST: LE). K is a sterile specimen, fide ASH, DMPorter.

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (300), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (148, Fig 90).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Charles Robert Darwin (1809–1882) English naturalist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 1.5–10 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5–2 mm long, acuminate. Leaf-blades aciculate, conduplicate, 0.5–4 cm long, 0.5–1 mm wide. Leaf-blade surface scabrous, rough adaxially. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Panicle contracted, oblong, continuous or interrupted, 1–2.5 cm long. Primary panicle branches appressed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.5–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.6–0.7 mm long. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–2.7 mm long, 1 length of upper glume, membranous, much thinner on margins, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2.5–2.7 mm long, 0.8–0.9 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 2.8–3 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma surface scaberulous. Lemma apex acute. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, 0.5 mm long, membranous. Anthers 3, 0.4–0.5 mm long. Caryopsis with adherent pericarp, 1.5–1.7 mm long. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South, Chile South.

Tierra del Fuego. Chiloe, Aisen, Magellanes. Magellanes.

Poa davisii Bor. *Notes Roy. Bot. Gard. Edinburgh.* 31 (3): 395 (1972).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Turkey. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Turkey, C4. Antalya: Ak Dag (south of Geyik Dag), 2300m, shady cliffs near little lake, *Davis 14391* (HT: E; IT: K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Peter Hadland Davis (1918-) Scots botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes elongated. Culms decumbent, 15–35 cm long. Culm-internodes smooth. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 1–1.5 mm long, obtuse. Leaf-blades filiform, 5–10 cm long, 1–2 mm wide. Leaf-blade surface smooth. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 5–9 cm long, 1–2 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2(–4) fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 4–4.5 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acuminate. Upper glume ovate, 4–4.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4.5 mm long, membranous, much thinner above, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface pubescent, hairy below. Lemma apex obtuse. Palea keels ciliate, adorned below.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Western Asia**. Turkey.

Poa deminuta N.F. Refulio-Rodriguez. *Syst. Bot.* 37 (1): 130 (2012).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. **Basionym or Replaced Name**: *Dissanthelium pygmaeum* Swallen & Tovar, *Phytologia,* 11: 367 (1965). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *O. Tovar 2545*, 11 May 1956, Peru: Huancavelica: Huancavelica Prov. (US-2207161).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. dwarf. Culms shorter than those of many other species in the genus.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, cushion forming. Culms 2–3 cm long. Ligule an eciliate membrane, 0.7–1 mm long, truncate. Leaf-blades spreading, flat or conduplicate, 1–2 cm long, 1–2 mm wide. Leaf-blade surface pubescent, sparsely hairy, hairy adaxially. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle, shorter than basal leaves. Panicle spiciform, lanceolate, 1–1.5 cm long, 0.5–0.6 cm wide, bearing few spikelets. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, glabrous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4.5–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.3 mm long.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma, shiny. Lower glume oblong, 1 length of upper glume, cartilaginous, 1-keeled, 3 -veined. Lower glume lateral veins ribbed. Lower glume surface glabrous. Lower glume apex acute. Upper glume oblong, 4.5–5 mm long, 1.1–1.2 length of adjacent fertile lemma, cartilaginous, 1-keeled, 3 -veined. Upper glume lateral veins ribbed. Upper glume apex acute.

Florets. Fertile lemma ovate, 4–4.5 mm long, cartilaginous, keeled, 3 -veined, 0–3 -veined. Lemma midvein without distinctive roughness. Lemma surface smooth, glabrous. Lemma apex acute or acuminate.

Flower and Fruit. Anthers 3, 2 mm long. Ovary glabrous. Endosperm farinose.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa densa Troitzky. *Bull. Jard. Bot. Princ. URSS,* xxvii. 619 (1928).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: PT: *N. Troitzky s. n.*, 17 Jun 1927, see sp. # 1 (LE). Orig. label: Gruziya, Tiflissk. u., Garedzhijskaya step' (na vodorazdele mezhdu rr. Ioroj i Kuroj..

LT: *N. Troitzky s. n.*, 17 Jun 1927, [Caucasus: Georgia]: Dist. Tiflis: Garedzhijskaya steppe (LE). Orig. label: Tifl. u., Garedzhijskaya steppe..

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Butt sheaths thickened and forming a bulb. Culms erect, 20–40 cm long. Culm-internodes smooth. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane. Leaf-blades flat or conduplicate, 5–8 cm long, 1.5–3 mm wide. Leaf-blade surface smooth, glabrous.

Inflorescence. Inflorescence a panicle. Panicle contracted, elliptic, 4–7 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface scabrous, rough on veins. Lemma apex acute.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 14$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Middle Asia**, **Caucasus**, **China**. Tadzhikistan. Xinjiang.

Poa denticulata Hack. *Fedde, Repert.* xi. 27 (1912).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Bolivia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *O. Buchtien 2584*, Nov 1910, Bolivia: Unduavi, onninge abhange, 3200 m (W: IT: US-71872, US-1099669).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *dens*, tooth; *-ulus*, diminutive; *-ata*, possessing. Margins of glumes or pedicels with small teeth.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Basal innovations extravaginal or intravaginal. Culms geniculately ascending, 15–25 cm long, 2 -noded, with 0.25–0.33 of their length below uppermost node. Culm-internodes elliptical in section. Leaf-sheaths smooth. Ligule a ciliolate membrane, 1.5 mm long, obtuse. Leaf-blades flat or conduplicate, 6–8 cm long, 2–3 mm wide, stiff. Leaf-blade surface smooth. Leaf-blade margins smooth or scaberulous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 6–8 cm long. Primary panicle branches 2–5 -nate. Panicle axis smooth. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2.5 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent, hairy below. Lemma apex erose, obtuse. Palea 1 length of lemma. Palea keels scaberulous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Bolivia.

Poa dentigluma O. Tovar. *Publ. Mus. Hist. Nat. Javier Prado, B,* 33: 5 (1985).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *O. Tovar, S. Rivas-Martínez & A. Crespo 9173*, Mar 1982, Peru: Junín: Yauli Prov., abra entre Chinchan y Marcapomacocha, Puna alta, 4800 m (USM-185252; IT: MAF, MO-3812385, US-3029232).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 3–6 cm long, 0 -noded. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.3–0.5 mm long. Leaf-blades flat or conduplicate, 1–2.2 cm long, 1.5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, 1.5–2 cm long. Primary panicle branches appressed, bearing spikelets almost to the base. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2.8–3 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.1–2.4 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex erose, obtuse. Upper glume ovate, 2.1–2.4 mm long, 0.8–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex erose, obtuse.

Florets. Fertile lemma ovate, 2.5–2.6 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface scaberulous, rough above. Lemma apex obtuse.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa denudata Steud. *Syn. Pl. Gram.* 259. (1854).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *W. Lechler [R.F. Hohenacker exiccata] 578*, Nov. 1850, Chile: Prov. Valdivia: near Corral (P-STEUD-388; IT: BAA (fragm.), GOET-5632, K, LE, US-946979 (fragm. ex LE), US-946980 (fragm. ex P), W-s.n. (staminate), W-s.n. (pistillate), W-s.n.).

Recent Synonyms: *Poa chiloensis* Phil., *Linnaea* 30:206 (1859).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (301), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (204, Fig 133).

Derivation (Clifford & Bostock 2007): L. lacking in hairs. Foliage of spikelets glabrous or weakly hairy.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Basal innovations extravaginal or intravaginal. Culms 20–70 cm long, 2–4 -noded. Leaf-sheaths longer than adjacent culm internode, smooth or antrorsely scabrous. Ligule an eciliate membrane, 2–6 mm long, 0.5–1 mm long on basal shoots, acute. Leaf-blades flat or conduplicate, 4–20 cm long, 2–6 mm wide. Leaf-blade surface scabrous, rough adaxially or on both sides. Leaf-blade apex attenuate. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong, 6–20 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5.5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly. Floret callus hairs 1 length of lemma.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 3–4.5 mm long, 1 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or distinct. Lower glume apex acute. Upper glume ovate, 3.5–5 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, 4–6 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma margins ciliate, hairy at base. Lemma apex acute. Palea keels ciliolate, adorned below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2–2.5 mm long. Caryopsis with adherent pericarp, fusiform, trigonous, 1.5 mm long. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female, 4–8 flowered, 4–7 mm long.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South, Chile Central, Chile South. Chubut, Neuquén, Río Negro. Chiloe, Aisen, Magellanes. Biobio, La Araucania. Los Lagos.

Poa deschampsioides Ohwi. *Bot. Mag., Tokyo,* xlv. 195. (1931).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Korea. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J. Ohwi 2741*, 26 Jul 1930, Korea: Mt. Tsuryusan (KYO; IT; TNS-234026 (ex hb. Ohwi), US-1964502).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *-oides* resembling. Resembling *Deschampsia*.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes absent. Culms geniculately ascending, 15–30 cm long, 1–2 -noded. Culm-internodes distally glabrous. Lateral branches lacking. Ligule an eciliate membrane, 0.5–1 mm long. Leaf-blades 2–5 cm long, 2–2.5 mm wide. Leaf-blade surface scabrous, rough adaxially. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 5–6 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4.5–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long, pilose. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3 mm long, 0.9 length of upper glume, membranous, much thinner on margins, 1-keeled, 3 -veined. Lower glume surface scabrous, rough above. Lower glume apex acute. Upper glume lanceolate, 3.5 mm long, 1 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume surface scabrous, rough above. Upper glume apex acute.

Florets. Fertile lemma elliptic, 3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent. Lemma margins pubescent. Lemma apex acute. Palea 1 length of lemma. Palea keels ciliolate. Palea surface puberulous, hairy on flanks, hairy below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.8 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Eastern Asia**. Korea.

Poa diaboli Soreng & Keil. *Madrono* 50:306 (2003).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: (HT-3526258: US; IT: OBI-55333, CAS, K, RSA).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (555).

Derivation (Clifford & Bostock 2007): From Diablo Canyon, California, USA.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes elongated. Stolons present. Basal innovations extravaginal or intravaginal. Culms geniculately ascending, 25–50 cm long, 0.5–0.9 mm diam., with 0.33–0.5 of their length below uppermost node. Lateral branches sparse, arising from lower culm. Leaf-sheaths with 0.4–0.7 of their length closed, 4.5–9 cm long, keeled, scaberulous. Ligule an eciliate membrane, 1–3 mm long, scaberulous on abaxial surface, truncate or obtuse or acute. Leaf-blades flat or conduplicate, 2.6–11 cm long, 0.8–2 mm wide. Leaf-blade venation prominent. Leaf-blade margins scabrous. Leaf-blade apex hooded. Monoecious, gynomonoecious with sex changing according to season.

Inflorescence. Panicle open, ovate or pyramidal, 4–10.5 cm long. Primary panicle branches ascending or spreading, 2.1–7 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising (2–)3–6(–7) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 5.3–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1–1.3 mm long, eventually visible between lemmas, smooth or scaberulous. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–3.8 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume lanceolate,

2.3–3.9 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile florets bisexual or female. Fertile lemma lanceolate, 3.2–5 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma lateral veins prominent. Lemma surface asperulous, glabrous. Lemma apex acute, muticous or mucronate. Palea 0.8–1 length of lemma. Palea keels scabrous. Palea surface asperulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, lanceolate, 1 mm long, membranous. Anthers 3, 1.4–2.6 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets similar to female but less developed.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Southwestern USA**. California.

Poa diaphora Trin. *Bull. Sc. Acad. Petersb.* 1: 69 (1836).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. **Basionym or Replaced Name**: *Aira altaica* Trin., *Mem. Acad. Imp. Sci. St.-Petersbourg Divers Savans* 2: 526 (1835). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Xinjiang?: sterilissimus salsuginoisis deserti editi Tschujae, 1800–3000 m, July 1832, *A. Bunge* (HT: LE; IT: LE) Altai??.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk *dia*, all through; phero, bear. Rhacilla not prolonged, that is spikelets lack a terminal sterile floret.

Classification. Subfamily Pooideae. Tribe: Poeae.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **Middle Asia**, **Western Asia**, **China**. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Afghanistan. Tibet, Xinjiang. **Indian Subcontinent**. India, Pakistan.

Poa dimorphantha Murb. *Act. Univ. Lund.* vi. *Afd.* II. no. 1, 20. (1900).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Morocco. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Mellerio*, Marocco: Environs de Casablanca (P; IT: US- (fragm. ex P), W (sent by Murbeck)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *dis*, twice; *morphe*, appearance; *anthos*, flower. Spikelets with hermophrodite and female florets in the same spikelet.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose, clumped loosely. Culms erect, 8–25 cm long. Culm-nodes brown. Leaf-sheaths keeled, smooth, glabrous on surface. Ligule an eciliate membrane, 2–3 mm long, obtuse. Leaf-blades 5–10 cm long, 2–4 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade margins smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate or oblong, 4–10 cm long, 0.5–4 cm wide. Primary panicle branches ascending, 2–4 -nate. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, tip rectangular.

Fertile Spikelets. Spikelets comprising 1–4 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2.2–3.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1–1.4 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume obovate, 1.4–1.6 mm long, 0.5–0.66 length of adjacent fertile lemma, membranous, with scarious margins, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex emarginate or obtuse.

Florets. Fertile florets bisexual (below) or female (uppermost), with the uppermost dissimilar (ovate, 1–1.5mm). Fertile lemma lanceolate, 2.2–3 mm long, membranous, light green or purple, suffused with last colour, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent, hairy on veins. Lemma apex obtuse. Palea keels ciliolate, adorned below.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.8–2 mm long. Filaments 4–6 mm long. Ovary glabrous. Caryopsis with adherent pericarp, oblong, 0.9–1 mm long. Embryo 0.25 length of caryopsis. Hilum punctiform.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Northern Africa**. Morocco.

Poa dipsacea Petrie. *Trans. N. Z. Inst.* xxvi. 271. (1894).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *D. Petrie s.n.*, New Zealand: source of Broken River, 3500–4000 ft (WELT-68267a; ILT: WELT-68267b).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *dipsas*, thirst; *-ea*, possessed by. Growing in the spray of waterfalls.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Basal innovations extravaginal. Culms 15–30 cm long. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long, glabrous on abaxial surface, entire, truncate or obtuse. Leaf-blades flat or conduplicate, 5–20 cm long, 1.5–3 mm wide, firm, mid-green or glaucous, discolorous with last colour beneath. Leaf-blade surface scaberulous, rough adaxially, glabrous. Leaf-blade margins smooth or scaberulous. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, 4–6 cm long. Primary panicle branches spreading. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scaberulous.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–8.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5 mm long. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 2.5–5 mm long, 1 length of upper glume, chartaceous, 1-keeled, 3 -veined. Lower glume primary vein smooth or scaberulous. Lower glume apex obtuse. Upper glume elliptic, 2.5–3.5 mm long, 1 length of adjacent fertile lemma, chartaceous, 1-keeled, 3 -veined. Upper glume primary vein smooth or scaberulous. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 3.5–5.5 mm long, membranous, keeled, 5(–7) -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma surface pubescent, hairy at base, hairy on veins. Lemma apex obtuse. Palea 3–4.5 mm long. Palea keels scabrous. Palea surface glabrous or puberulous, hairy on back.

Flower and Fruit. Lodicules 2, 0.5–0.7 mm long, membranous. Anthers 3, 1.6–2.7 mm long. Caryopsis with adherent pericarp, 2 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand South I.

Poa disjecta Ovczinn. *Bull. Tadjik. Acad. Sc.* i. 1. 25 (1933).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *P. Ovchinninikov*, 2 Oct 1932, Tajikistan: Alai Range, Zeravshan range, southern slopes of Surkhant pass, alpine stony places (LE; IT: K (-41, fragm. ex Akad Sci. USSR & photo), LE).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Culms 20–40 cm long. Culm-internodes terete, smooth, distally glabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths tubular for much of their length, with 0.33–0.5 of their length closed. Ligule an eciliate membrane, 1–1.3 mm long, obtuse. Leaf-blades flat or conduplicate, 0.5–1.5 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, effuse, nodding. Primary panicle branches spreading, 2.5–4 cm long. Panicle branches scabrous, rough distally. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate or oblong, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.5–4.5 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma lateral veins obscure. Lemma surface pubescent, hairy below, hairy on veins. Lemma apex erose, acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.8–1.3 mm long, yellow. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Middle Asia**. Turkmenistan.

Poa dissanthelioides O. Tovar Serpa. *Rev. Cienc. Univ. Nacion. Mayor San Marcos,* 73(1): 102 (1981).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *O. Tovar 6529*, 3 Mar 1970, Peru: Junin: Yauli Prov., los alrededores de la hacienda Corpacancha, 4250 m (USM; IT: MO-3812386, US-3029234).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resembling. Similar to *Dissanthelium*.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 3–5 cm long, 1 -noded. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1–2 mm long. Leaf-blades 1.5–2 cm long, 1 mm wide, coriaceous. Leaf-blade apex abruptly acute or acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong, 1.5–2 cm long, 0.8–1 cm wide. Primary panicle branches appressed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–2.5 mm long, 0.75 length of upper glume, membranous, much thinner on margins, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2.5–3 mm long, 0.75 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 3.5–4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent. Lemma apex acute.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa diversifolia (Boiss. & Bal.) Hack. ex Boiss. *Fl. Orient.* v. 600. (1884).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Turkey. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Balansa 136*, 11 Jun 1854, [Turkey: Manisa], in parte media Sipyli (Manisa Da.) prope Magnesiam (K; ILT: BM, BM, US-1129355, US-1063611 (ex Manilla), US-1127140 (ex W)). LT: J.R.Edm. Fl. Turkey 9: 480 (1985). ST: *B. Balansa Pl. d' Orient 1855 no. 746*, 30 Jun 1855, Region montagneuse du Taurus, pres du defile des Portes Ciliciennes (BM, US-153432, US-1006558 (ex hb. J. Gay)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *diversus*, variable; *folium*, leaf. Lower leaf-blades of culm lanceolate, upper leaf-blades somewhat cordate.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 42–74 cm long. Culm-internodes terete. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1–3 mm long, truncate. Leaf-blades involute, 0.8–1.5 mm wide. Leaf-blade apex abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, dense, 10–18 cm long. Primary panicle branches 3–5 -nate. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 4 mm long, 1 length of upper glume, membranous, 1-keeled. Lower glume apex acute. Upper glume ovate, 4 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled. Upper glume apex acute.

Florets. Fertile lemma ovate, 4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Western Asia**, **China**. Xinjiang.

Poa dolichophylla Hackel apud Stuckert. *An. Mus. Nac. Buenos Aires,* xxi. 150 (1911).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. **Basionym or Replaced Name**: *Poa calamagrostoidea* Hack. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Lillo 5066 (T.J.V. Stuckert Hb. Arg. 17778)*, 8 Jun 1906, Argentina: Tucumán: Dept. Tafi: Bajo de Anfama, a 1600 m (W; IT: CORD, LIL, US-1867541, US-00089670 (fragm. ex W)).

Recent Synonyms: *Poa calamagrostoidea* Hack., *An. Mus. Nac. Buenos Aires,* 21: 150 (1911).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (302).

Derivation (Clifford & Bostock 2007): Gk. *dolichos*, narrow; *phyllon*, leaf. Leaf-blades long and narrow.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Culms erect, 60 cm long, 3–4 -noded, with 0.5 of their length below uppermost node. Culm-internodes terete, smooth. Leaf-sheaths scaberulous. Ligule an eciliate membrane, 1–2 mm long, truncate or obtuse. Leaf-blades 30–60 cm long, 4 mm wide, flaccid. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade margins scaberulous. Leaf-blade apex acute. Dioecious.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle open, ovate, 15–20 cm long, contracted about secondary branches. Primary panicle branches 5–7 -nate, whorled at most nodes, 6–12 cm long. Panicle axis scabrous. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3–3.5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 3–3.5 mm long, 0.66 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, 4–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins prominent. Lemma surface pubescent, hairy below, hairy on veins. Lemma apex acute. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northwest.

Catamarca, Jujuy, La Rioja, Salta, Tucuman.

Poa douglasii Nees. *Ann. Nat. Hist. Ser*. I. i. 284. (1838).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *Douglas s.n.*, USA: California (BM, CGE (Lindley herb.), GH, LE-TRIN-2622.01, LE (fragm.), NY, US-(fragm. ex CGE (Lindley herb.) (fragm. ex LE-TRIN (misit. Hooker 1835))). California herb. no. 5. IT: *Douglas s.n.*, 1833, Nova California (LE-TRIN-2509.01a (ex herb. Soc. Hort. Lond.)).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (553).

Derivation (Clifford & Bostock 2007): in honor of David Douglas (1799–1834) Scots-born botanical explorer of the north-western Pacific.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Butt sheaths papery. Culms geniculately ascending or decumbent, 15–30 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane. Leaf-blades filiform, involute, 5–15 cm long, 1 mm wide. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted or spiciform, oblong or ovate, 2–5 cm long, 1–2 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 6–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 4–6 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume ovate, 4–6 mm long, 0.66–0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, 6–7 mm long, membranous, keeled, 5–7 -veined, more than 3-veined. Lemma midvein scaberulous (above), pubescent, hairy below. Lemma margins pubescent. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Southwestern USA**. California.

Poa dozyi J.F. Veldkamp. *Blumea,* 30(1): 71 (1984).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Indonesia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *ANU 10967*, 19 Jan 1972, Indonesia: New Guinea, Irian Jaya, Carstensz Mountains, 4360 m (BO, CANB, L).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Jean Jacques Dozy (1908-) Dutch geologist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, cushion forming. Basal innovations intravaginal. Culms erect, 38 cm long. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 0.75–2.5 mm long, 0.75–1.5 mm long on basal shoots, truncate (basal) or acute (cauline). Leaf-blades erect, involute, 1–3.5 cm long, 0.7–1 mm wide, stiff. Leaf-blade surface smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 1.5–2.5 cm long, 0.2–0.4 cm wide. Primary panicle branches appressed, 1–2 -nate, 0.9–1.2 cm long, bearing 2(–3) fertile spikelets on each lower branch. Panicle branches pubescent. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.75–1 mm long, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.8–3 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent or obscure. Lower glume surface smooth. Lower glume apex acute. Upper glume ovate, 2–3.2 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins obscure. Upper glume surface smooth. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.25–3.6 mm long, membranous, keeled, 3(–5) -veined, 0–3 -veined or more than 3-veined. Lemma midvein scaberulous. Lemma lateral veins obscure. Lemma surface smooth. Lemma apex acute. Palea keels scaberulous, ciliolate, adorned above. Rhachilla extension 1.25–2 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.8–1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea.

Poa drummondiana Nees. *Hook. Lond. Journ. Bot.* ii. 418 (1843).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: "Novae Hollandiae": ad flumen Cygnorum, *Drummond* (HT: CGE).

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (148, Fig 100), C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (422, Fig 83), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (308 & 314, Fig 41 & 42), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of James Drummond (c. 1784–1863) Scots-born Australian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes short. Butt sheaths herbaceous. Culms erect or geniculately ascending, 25–80 cm long, 2–3 -noded, swollen at the base, forming an ovoid corm. Culm-internodes terete, smooth. Culm-nodes glabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths loose, smooth, glabrous on surface. Ligule an eciliate membrane, 2–6 mm long, glabrous on abaxial

surface or scaberulous on abaxial surface, truncate or obtuse or acute. Leaf-blades flat or conduplicate, 8–30 cm long, 2–4 mm wide. Leaf-blade surface ribbed, scabrous, rough on both sides.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle open, lanceolate or pyramidal, 10–20 cm long. Primary panicle branches ascending or spreading, 2–5 -nate, sparsely divided, 5–11 cm long. Panicle branches capillary, scabrous. Spikelets pendulous, solitary. Fertile spikelets pedicelled. Pedicels present, 2–12 mm long, scabrous.

Fertile Spikelets. Spikelets comprising 3–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 7–12 mm long, 6–10 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.6 mm long, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 2.5–5 mm long, 0.75–0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein smooth or scabrous. Lower glume apex obtuse or acute. Upper glume oblong, 3–6 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3–5 -veined. Upper glume primary vein smooth or scabrous. Upper glume apex obtuse or acute.

Florets. Fertile lemma oblong, oblong in profile, 3–6 mm long, membranous, much thinner above, keeled, lightly keeled, 5 -veined, more than 3-veined. Lemma midvein eciliate or ciliate, hairy below. Lemma margins ciliate. Lemma apex truncate or obtuse. Palea 0.9 length of lemma. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.2–3 mm long, yellow. Caryopsis with adherent pericarp, oblong, trigonous, 5 mm long. Embryo 0.2 length of caryopsis. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. Western Australia, South Australia, Victoria.

Eremean, South-West. Southern.

Poa dudkinii Prob. *Bot. Zhurn. [Moscow & Leningrad]* 95(6): 867 (2010).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Sakhalin, Okhinskij r-n, 15 km vostochnee pos, Pil'tun, peschanye valy, 31 Aug 2000, *R. V. Dudkin & V. M. Peshechod'ko*, HT: VLA.

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes elongated. Culms erect, (15–)20–40(–45) cm long. Leaves mostly basal. Ligule an eciliate membrane. Leaf-blades flat or convolute, 3–4(–7) cm long. Leaf-blade apex pungent.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 5–7(–8.5) cm long. Primary panicle branches (3–)4–5 -nate. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3(–4) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 5.5–7(–8) mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes glabrous. Floret callus pilose.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 5–5.5 mm long, membranous, 1-keeled. Lower glume apex acute. Upper glume lanceolate, 5–5.5 mm long, membranous, 1-keeled. Upper glume apex acute.

Florets. Fertile lemma ovate, 5–5.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins pilose. Lemma apex acute. Palea keels scaberulous. Palea surface puberulous, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.6–2 mm long.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East.

Poa durifolia L.M. Giussani, E.G. Nicora & F.A. Roig. *Darwiniana,* 38: 53 (2000).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. **Basionym or Replaced Name**: *Poa ligularis* var. *stricta* Nicora & F.A. Roig, *Hickenia* 2(58): 275, f. 1 (g-j) (1998). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Argentina: Mendoza Dpto. San Rafael, rta. 40, El Portezuelo, entre Arroyo La Fja y El Sosneado, 21 Nov 1961, *F.A. Roig 4164* (HT:MERL. IT:BAA).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (302).

Derivation (Clifford & Bostock 2007): L. *durus*, hard; *folium*, leaf. Leaf-blades tough.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths not bulbous or thickened and forming a bulb. Basal innovations intravaginal. Culms 20–40 cm long. Leaf-sheaths 5–16 cm long, smooth. Ligule an eciliate membrane, 9–20 mm long, lacerate, acute. Leaf-blades filiform, conduplicate, 8–30 cm long, 1.5–2.5 mm wide, stiff. Leaf-blade apex pungent. Dioecious.

Inflorescence. Inflorescence a panicle, aerial or shorter than basal leaves. Panicle contracted, elliptic, 7–12 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 7–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 4.3–5.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume lateral veins absent or distinct. Lower glume apex acute. Upper glume elliptic, 4.5–6 mm long, 0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, 5–6.5 mm long, 0.9–1.5 mm wide, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface puberulous, hairy between veins. Lemma apex acute. Palea 3.5–4.7 mm long. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, 0.6–0.85 mm long, membranous. Anthers 3, 2.5–3 mm long. Staminodes present. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female, 3–7 flowered, glabrous. Male spikelet glumes 2, lanceolate, 3–4 mm long, 1–3 -veined. Male spikelet lemma 4–5.2 mm long.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northwest.

Mendoza. Neuquén.

Poa dusenii Hack. *Arkiv Bot. Stockh.* vii. No. 2, 8 (1907).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *P.K.H. Dusén 5318*, 17 Jan 1905, Argentina: Santa Cruz: Dpto. Deseado: Pto. Mazaredo, 47?1'S (W-12264; IT: BAA (fragm.), S, US-89702 (ex W), US-1161178). [date on W is 17 Jan 1905, S is 17 "a." 1904].

Illustrations (Books): M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (186, Fig 122).

Derivation (Clifford & Bostock 2007): in honor of Per Karl Hjalmar Dusin (1855–1926) Swedish civil engineer and traveller who collected in Africa, Greenland and South America.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths thickened and forming a bulb. Basal innovations intravaginal. Culms erect, 12–35 cm long, 1 -noded. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 5–8 mm long, acute. Leaf-blades filiform, 4–10 cm long, 0.5 mm wide. Leaf-blade surface smooth or scaberulous, rough abaxially. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear or oblong, 3–9 cm long, 1.5 cm wide. Primary panicle branches 2–3 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous or sparsely hairy.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 3.5–5 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acuminate. Upper glume ovate, 3.5–5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma ovate, 3.5–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma surface pilose, hairy below. Lemma apex acute. Palea keels ciliate, adorned below. Palea surface pubescent, hairy on back, hairy below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2–2.8 mm long. Caryopsis with adherent pericarp, 2 mm long. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South.

Chubut, Santa Cruz.

Poa dzongicola H.J. Noltie. *Edinburgh J. Bot.*, 57(2): 283 (2000).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from Bhutan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Bhutan: Upper Mo Chu district, Lingshi Dzong, 27?55', 89?27', on wall of dzong, 4100 m, 28 Sept. 1984, *Sinclair & Long 5396* (HT: E; IT: K).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (555, Fig. 15).

Derivation (Clifford & Bostock 2007): L. *-cola,* dweller. Growing on walls at Lingshi Dong, Tibet Autonomous Region, China.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 13–32 cm long. Leaf-sheaths smooth or scaberulous. Ligule 4–6 mm long, acute. Leaf-blades 4.7–22 mm wide, 2–3 cm long at summit of culm. Leaf-blade surface smooth. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle open, pyramidal, 6.5–16 cm long. Primary panicle branches spreading, 1–2 -nate, 3–8 cm long, bearing 1–2 fertile spikelets on each lower branch. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising (2–)3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–7.4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.9–3.8 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume lateral veins absent or distinct. Lower glume apex acuminate. Upper glume oblong, 3.3–4.3 mm long, 1.1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma ovate, lanceolate in profile, 3.1–4.1 mm long, 1.2–1.8 mm wide, membranous, mid-green and purple, tipped with last colour, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma lateral veins prominent, stopping well short of apex. Lemma surface smooth or scaberulous, rough on veins. Lemma apex acute. Palea 2.6–3.4 mm long. Palea keels scaberulous. Palea surface smooth or scaberulous (at base). Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2. Anthers 3, 0.9–1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. China South Central, Tibet. **Indian Subcontinent**. Eastern Himalaya, India.

Sichuan. Bhutan.

Poa egorovae Tzvelev. *Novosti Sist. Vyssh. Rast.* 41: 29–30 (2009).

TYPE from Ukraine. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: prov. Transcarpatica, jugum Svidovetz , declivitates calcarei in summo monte Geraschavskaja, 1800 m, Jul 1964, *T. Egorova 232*, HT: LE.

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 30–50 cm long, with 0.5 of their length below uppermost node. Culm-internodes smooth. Leaves mostly basal. Leaf-sheaths pubescent. Ligule an eciliate membrane, 0.2–0.4 mm long. Leaf-blades convolute, 0.5–2.5 mm wide. Leaf-blade surface scabrous, rough adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, loose, 5–8 cm long. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 3.5–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes pubescent. Floret callus pilose.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.6–3.7 mm long, membranous, 1-keeled. Lower glume apex acute. Upper glume lanceolate, 2.6–3.7 mm long, membranous, 1-keeled. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.2–3.8 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface pilose, hairy below, hairy on veins. Lemma apex acute. Palea keels scaberulous, ciliolate, adorned below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3.

Distribution (TDWG). Continent. Europe.

Region. **Eastern Europe**.

Poa eigii Feinbr. *Kew Bull.* 1940, 280 (1941).

TYPE from Palestine. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Palestine: Judean Desert: km. 18 on the Jerusalem-Jericho road, 1935, *Eig, Zohary & Grizi s.n.* (HT: HUJ).

Illustrations (Books): N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 318).

Derivation (Clifford & Bostock 2007): In honor of Alexander Eig (1895–1938) Russian-born Palestine botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, mat forming or caespitose, clumped densely. Butt sheaths thickened and forming a bulb, persistent and investing base of culm, with compacted dead sheaths. Culms erect or geniculately ascending, 10–25 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 1–1.5 mm long. Leaf-blades involute, 1 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate or oblong, 2.5–5 cm long. Primary panicle branches appressed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 3–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, with lower narrower than upper, shorter than spikelet. Lower glume oblong or ovate, 2–2.5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume oblong or ovate, 2–2.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma ovate, oblong in profile, 2–2.5 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma lateral veins obscure, stopping well short of apex. Lemma margins ciliolate, hairy below. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Vegetative proliferation absent, or occurs.

Distribution (TDWG). Continent. Temperate Asia.
Country /Province /State. **Western Asia**. Palestine, Israel & Jordan.

Poa eleanorae Bor. *Kew Bull.* 1948, 142 (1948).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India, Bhutan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *H. A. Cummins*, "Laid in" 13 Jun 1894, India: Northeast Sikkim (K(-194)). K(-239) has the same data but is not *P. eleanorae*, but is *P. polyneuron*. PT: *H. A. Cummins*, Aug-Sep 1893, Bhutan: Gnatong (K?). [Bor's notes on the HT conserning dates do not coincide with dates cited in his publication].

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (571, Fig. 19).

Derivation (Clifford & Bostock 2007): in honor of Eleanor Constance Bor (?-1957).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Butt sheaths scarious, yellow, persistent and investing base of culm, with fibrous dead sheaths. Culms geniculately ascending, 20–40 cm long, rooting from lower nodes. Culm-internodes terete, smooth. Culm-nodes glabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths loose, smooth, glabrous on surface. Ligule an eciliate membrane, 2–2.5 mm long. Leaf-blades erect or ascending, convolute, 9–18 cm long, 2–3 mm wide. Leaf-blade surface scabrous, rough on both sides. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, elliptic, 12–24 cm long, 5–10 cm wide. Primary panicle branches 2 -nate. Panicle branches flexuous, smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 6.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1.5 mm long, smooth, pubescent. Floret callus glabrous.

Glumes. Glumes persistent, similar, reaching apex of florets. Lower glume oblong, 6–6.5 mm long, 0.9 length of upper glume, membranous, purple, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume oblong, 6.5–7 mm long, 1.2–1.3 length of adjacent fertile lemma, membranous, purple, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 5–6 mm long, membranous, much thinner above, mid-green or purple, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous, ciliate, hairy below. Lemma lateral veins obscure. Lemma surface asperulous. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous. Palea surface scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.75–1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.
Country /Province /State. **China**. Tibet. **Indian Subcontinent**. Eastern Himalaya, Nepal.
Sichuan, Yunnan. Sikkim.

Poa ensiformis Vickery. *Contrib. N. S. Wales Nat. Herb.* iv. 188 (1970).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: New South Wales: ridge above Happy Jacks township, ca. 12 miles s of Kiandra: 20 Jan 1958, *J. Vickery* (HT: NSW 43474).

Illustrations (Books): S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (349).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *ensis,* sword; *forma*, appearance. Leaf-blades sword-like.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Cataphylls evident. Rhizomes elongated. Butt sheaths herbaceous, purple. Basal innovations extravaginal. Culms 30–110 cm long, 2–3 -noded. Culm-

internodes terete, smooth. Culm-nodes glabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths loose, keeled, smooth or scaberulous, glabrous on surface. Ligule a ciliolate membrane, 0.5–2 mm long, pubescent on abaxial surface, truncate. Leaf-blades flat or conduplicate, 5–30 cm long, 2–5 mm wide, stiff, dark green. Leaf-blade surface smooth or scaberulous, glabrous. Leaf-blade margins scabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle open, lanceolate, 6–18 cm long. Primary panicle branches 1–5 -nate, 4–10 cm long. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex obtuse or acute. Upper glume oblong, 0.66–0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface asperulous. Upper glume apex obtuse or acute.

Florets. Fertile lemma oblong, oblong in profile, 3–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma surface pubescent, hairy at base. Lemma margins ciliate. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous, adorned above. Palea surface glabrous or pubescent, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2–3 mm long, yellow or purple. Caryopsis with adherent pericarp, 2 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. New South Wales, A.C.T., Victoria.

Coast, Tablelands.

Poa epileuca (Stapf) Stapf. *Hook. Ic. Pl. sub t.* 2607 (1899).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Borneo, Sabah. **Basionym or Replaced Name**: *Deyeuxia epileuca* Stapf, *Trans. Linn. Soc. London, Bot.* 4: 247, t. 20c, 10–16 (1894). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Haviland 1401*, Borneo: Sabah: Mount Kinabalu, 3200 m (K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *epi*, on; *leukos*, white. Upper surface of leaf-blade glaucous-white.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, cushion forming or caespitose. Culms erect, 10–20 cm long. Ligule an eciliate membrane or absent, 0.1 mm long. Leaf-blades erect, aciculate, conduplicate, 2–7 cm long, 1–2 mm wide. Leaf-blade surface papillose, rough abaxially. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, dense, 2–3 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1–2 fertile florets, with a barren rhachilla extension or with diminished florets at the apex. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate or ovate, laterally compressed, 2–3 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1–1.5 mm long, 1 length of upper glume, membranous, without keels, 3 -veined. Lower glume apex acute. Upper glume ovate, 1–1.5 mm long, 0.5–0.6 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, lanceolate in profile, 2–2.5 mm long, membranous, much thinner above, keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma apex acute. Palea 1 length of lemma. Palea keels scaberulous. Rhachilla extension 0.25 length of fertile floret. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Malesia**, **Papuasia**. Borneo, Sulawesi. New Guinea.

Poa erectifolia Hitchcock. *Brittonia,* ii. 111 (1936).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Papua New Guinea. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Papua New Guinea: Central Division: in the vicinity of rocks on open grasslands, Mt. Albert Edward, 3680 m, 24 June 1933, *Brass 4326* (HT: NY; IT: US-1614473).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *erectus*, tending towards being erect; *folium*, leaf. With at least some leaf-blades erect.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths grey or purple. Basal innovations intravaginal. Culms erect, 20–40 cm long, 2–3 -noded. Leaf-sheaths 2–5 cm long, smooth, glabrous on surface. Ligule an eciliate membrane, 1.5–4 mm long, acute. Leaf-blades conduplicate or involute, 8–20 cm long, 1–2 mm wide. Leaf-blade venation with 7–9 secondary veins. Leaf-blade surface scabrous, rough adaxially, glabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle open, pyramidal, 4–8 cm long. Primary panicle branches appressed or ascending, 1–3 -nate, 1.5–3 cm long. Panicle branches flexuous, angular, scabrous, rough distally. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 3.5–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.3–0.5 mm long, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.2–3.5 mm long, 0.66–0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or distinct. Lower glume surface scabrous. Lower glume apex acute. Upper glume lanceolate, 3.2–3.7 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface scabrous. Upper glume margins ciliolate. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface scabrous. Lemma margins eciliate or ciliolate. Lemma apex acute. Palea elliptic, 3.5–3.8 mm long. Palea surface scabrous. Rhachilla extension 0.75–1.5 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.1–2.25 mm long. Caryopsis with adherent pericarp, fusiform, 1.7 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea.

Poa erinacea Speg. *Anal. Mus. Buenos Aires*, 7:. 198 (1902).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: N. Illin s.n.; Dec 1899; Argentina: R. Chubut, in aridissimis subsalsis secus R. Chubut (LPS-67; IT: BAA-2534 (ex herb. Speg.), US-88783 (fragm. ex herb. Speg.)).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**.

Chubut.

Poa faberi Rendle. *Journ. Linn. Soc.* vi. 423. (1904).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: (K). ST: *Hugh*, Jun 1897, China: Shensi, Mt. Laoysan, Teuizscien (BM). [3 sheets at BM agree with this location, 1) is annotated P. faberi, 2) is denser panicled and may be P. ochotensis, 3) is P. acroleuca according to Liou Liang (1998). ST: *Hugh*, 1895, China: Shensi, Kaolinsien (BM). ST: *Hugh*, Oct 1898, China: Shensi: Hansunfu, Mt. Leansan (BM).

Recent Synonyms: *Poa prolixior* Rendle, *Journ. Linn. Soc.* 6: 427 (1904).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 414 as *P. faberi* var. *longifolia*).

Derivation (Clifford & Bostock 2007): In honor of Ernst Faber (1839–1899) English cleric who collected in China.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rootstock evident. Culms geniculately ascending, 45–60 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths scaberulous, glabrous on surface. Ligule an eciliate membrane, 2–3 mm long, acute. Leaf-blades 4–10 cm long, 0.7–1.2 mm wide. Leaf-blade venation with 3 secondary veins. Leaf-blade surface scabrous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, dense, 7–11 cm long. Primary panicle branches 3–5 -nate, 2.5–5 cm long, bearing spikelets almost to the base. Panicle branches flexuous, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scaberulous.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblanceolate or obovate, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–3 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume surface scabrous, rough on veins. Lower glume apex acute. Upper glume lanceolate, 3–4 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface scabrous, rough on veins. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous, ciliate. Lemma surface scaberulous. Lemma margins ciliate, hairy below. Lemma apex acute. Palea 1 length of lemma. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.8 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China South Central, China North-Central, China Southeast, Tibet, Xinjiang.

Gansu, Shaanxi, Shanxi. Anhui, Henan, Hunan. Guizhou, Hubei, Sichuan, Yunnan.

Poa falconeri Hook. f. *Fl. Brit. Ind.* vii. 342. (1896).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: (BM-200 IST: BM-198). [Jumnotri to Kasauli, Uttar Pradesh to Himachal Pradesh]. ST: *Duthie 288*, 16 Aug. 1983, [India: Uttar Pradesh]: Tihri-Garwhal, in Nila Valley 12–13,000 ft (BM).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Hugh Falconer (1808–1865) Scots-born Indian physician and botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Butt sheaths coriaceous, persistent and investing base of culm, with compacted dead sheaths. Culms decumbent, robust, 25–75 cm long, rooting from lower nodes. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly

basal. Ligule an eciliate membrane, 2.5–4 mm long, obtuse or acute. Leaf-blades 6–20 cm long, 2–4 mm wide, flaccid. Leaf-blade surface scabrous, rough on both sides. Leaf-blade margins scabrous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 8–15 cm long. Primary panicle branches appressed, 1–2 -nate. Panicle branches flexuous, smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or oblong, laterally compressed, 7–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong or ovate, 3.5–4 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1(–3) -veined. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume oblong or ovate, 4.5–5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile florets divergent. Fertile lemma ovate, elliptic in profile or oblong in profile, 4–5 mm long, membranous, glandular on surface, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate. Lemma surface pubescent, hairy below. Lemma margins ciliolate. Lemma apex acute. Palea 0.9 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

n = 21 (2 refs TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. Tibet. **Indian Subcontinent**. India, Nepal, Pakistan, West Himalaya.

Uttah Pradesh. Himachal Pradesh, Jammu Kashmir.

Poa fauriei Hack. *Bull. Herb. Boiss.* vii. 711. (1899).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from Japan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: (LE (fragm.)). ST: *Faurie 8259*, 11 {Jul?} 1892, Japan: Karibasan (W-11090). ST: *P.U.J. Faurie 9874*, 9 Jun 1893, Japan: falaises de Shakotan (W-11090; IT: US-88782).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Urbain Jean Faurie (1847–1914) French cleric and amateur botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms decumbent, 20–60 cm long, rooting from lower nodes. Leaf-sheaths smooth. Ligule an eciliate membrane, 1 mm long, truncate. Leaf-blades 4–12 cm long, 2–3 mm wide. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate or ovate, nodding, 2–10 cm long, 1–3 cm wide. Primary panicle branches 2 -nate, bearing 1–5 fertile spikelets on each lower branch. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.5–4.7 mm long, 1 length of upper glume, membranous, much thinner on margins, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 3.5–4.7 mm long, 0.9 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 4–5 mm long, membranous, keeled, 5(–7) -veined, more than 3-veined. Lemma surface pubescent, hairy at base, hairy on veins. Lemma apex erose, obtuse. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2–3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Eastern Asia**. Japan Hokkaido. Japan.

Poa fawcettiae Vickery. *Contrib. N. S. Wales Nat. Herb.* iv. 232 (1970).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: New South Wales: Victoria: Bogong High Plains: ca. 5500 ft: in subalpine grassland: 14 Jan 1959, *J. Vickery* (HT: NSW 51303).

Illustrations (Books): S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (350).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): in honor of Stella Grace Maisie Fawcett (1912–1988) Australian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths herbaceous, purple. Basal innovations intravaginal. Culms 20–60 cm long, 1–2 -noded. Culm-internodes terete, smooth or scaberulous. Culm-nodes pubescent. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 0.5–1.5 mm long, pubescent on abaxial surface, truncate or obtuse. Leaf-blades erect or ascending, conduplicate or involute, 4–35 cm long, 1–2 mm wide, glaucous. Leaf-blade surface smooth, glabrous. Leaf-blade apex pungent.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, pyramidal, 3–18 cm long. Primary panicle branches spreading, 1–5 -nate. Panicle branches capillary, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume ovate, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 3–3.5 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent, hairy below. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous, ciliolate, adorned below (ciliolate). Palea surface pubescent. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. New South Wales, Victoria, Tasmania.

Tablelands.

Poa fax (Willis & Court) Clayton. *Kew Bull.,* 40(4): 728 (1985).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Neuropoa*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. **Basionym or Replaced Name**: *Poa lepida* F. Muell., *Fragm.* 8: 170 (1873). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Burkitt s.n.*, Australia: between Darling and Lachlan Rivers (MEL). LT cited by Clayton, Kew Bull. 40: 728 (1985).

Recent Synonyms: *Neuropoa fax* (Willis & Court) Clayton, *Kew Bull.*, 40(4): 728 (1985).

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (149, Fig 101), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (422, Fig 83), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (348), A.Wilson (ed.),

Flora of Australia, Vol 44A. *Poaceae* (2009) (308, Fig 41), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Derivation (Clifford & Bostock 2007): L. a torch. With an inflorescence bearing a fanciful resemblance to a torch with ascending flames.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms erect, 5–30 cm long, 2–3 -noded. Ligule an eciliate membrane, 1–4 mm long. Leaf-blades 2–5 cm long, 1–2.5 mm wide, flaccid.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 3–15 cm long. Primary panicle branches appressed, 1–2 cm long. Spikelets appressed, solitary. Fertile spikelets pedicelled. Pedicels present, linear, 0.5–3 mm long.

Fertile Spikelets. Spikelets comprising 5–13 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, compressed strongly, 5–13 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–1 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 2–3 mm long, 0.6–1 length of upper glume, membranous, 1-keeled, 3–5 -veined. Lower glume apex obtuse. Upper glume ovate, 2–5 mm long, 0.6–1.1 length of adjacent fertile lemma, membranous, 1-keeled, 3–5 -veined. Upper glume apex obtuse.

Florets. Fertile lemma elliptic, linear in profile, 3.5–4.5 mm long, chartaceous, much thinner on margins, keeled, (5–)9–11 -veined, more than 3-veined. Lemma lateral veins ribbed. Lemma surface pilose, hairy below, hairy on veins. Lemma apex emarginate or obtuse. Palea linear, 1 length of lemma, 2 -veined. Palea keels eciliate or ciliate, adorned below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 2–3 mm long. Caryopsis with adherent pericarp, 0.6–2 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. Western Australia, South Australia, New South Wales, Victoria.

South-West. Southern. Western Slopes, Western Plains.

Poa fendleriana (Steud.) Vasey. *Illustr. N. Am. Grass.* ii. t. 74 (1893).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *A. Fendler 932*, 1847, USA: New Mexico: [probably in Santa Fe Canyon above Santa Fe (P; ILT: GH, GH, GH, NY, NY, US-2891469). LT designated by Marsh, Amer. Midl. Naturalist 47: 202–250 (1952). Type locality originally given as Mexico; see Soreng, Great Basin Nat. 45: 407 (1985)..

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (558 as subspecies *albescens, fendleriana & longiligula*), F.W.Gould, *The Grasses of Texas* (1975) (117, Fig. 57).

Illustrations (Journals): *Phytokeys* (15: 33, Fig.8 (2012)).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of August Fendler (1813–1883) German-born United States botanical collector.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Butt sheaths herbaceous. Culms erect, 25–60 cm long. Culm-internodes terete. Leaves mostly basal. Leaf-sheaths with 0.33 of their length closed, striately veined, antrorsely scabrous. Ligule an eciliate membrane, 1–3 mm long, scaberulous on abaxial surface, truncate or obtuse. Leaf-blades flat or conduplicate, 1–20 cm long, 0.8–2 mm wide, 0.1–1 cm long at summit of culm, stiff, mid-green. Leaf-blade surface scabrous, rough adaxially, glabrous. Dioecious.

Inflorescence. Inflorescence a panicle, comprising 15–60 fertile spikelets. Peduncle scaberulous above. Panicle contracted, lanceolate, (3–)4–8(–12) cm long. Primary panicle branches appressed, naked below or bearing spikelets almost to the base. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 3–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.9–1.3 mm long, smooth or scaberulous, glabrous or sparsely hairy. Floret callus glabrous or pubescent.

Glumes. Glumes persistent, similar, shorter than spikelet, shiny. Lower glume oblong, 0.9 length of upper glume, membranous, much thinner on margins, 1-keeled, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume lanceolate, 0.5–0.66 length of adjacent fertile lemma, membranous, with scarious margins, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma oblong, oblong in profile, 3–6 mm long, membranous, much thinner on margins, mid-green, shiny, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins with distinct primaries but obscure intermediates. Lemma surface smooth or papillose. Lemma margins ciliate, hairy below. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous, eciliate or ciliate. Palea surface scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–3 mm long. Staminodes absent or present, 0–0.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Western Canada**, **Northwest USA**, **North-central USA**, **Southwestern USA**, **South-central USA**, **Mexico**. Alberta, British Columbia. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. North Dakota, Nebraska, Oklahoma, South Dakota. Arizona, California, Nevada, Utah. New Mexico, Texas. Northeast Mexico, Northwest Mexico.

Coahuila, Chihuahua. Baja California, Sonora.

Poa feratiana Boiss. & Reut. *Pugill. Pl. Nov.* 128 (1852).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, T.G.Tutin et al, *Flora Europaea* 5 (1980).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Firat (fl. 1818) who collected in Pyrenees.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Stolons present. Basal innovations extravaginal. Culms geniculately ascending, 50–90 cm long. Culm-internodes smooth. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 3.5–6.5 mm long, acute. Leaf-blades 1–2 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate or elliptic, 15–25 cm long. Primary panicle branches 2 -nate. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma apex acute.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Europe.

Region. **Southwestern Europe**.

Country /Province /State. : France, Spain.

Poa fernaldiana Nannf. *Symb. Bot. Upsal. No.* 5 , 50: 5 (1935).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *E.F. Williams & B.L. Robinson s.n., P. Exsic. Gray. 123*, 24 Jul 1903, USA: New Hampshire: Mt. Washington, the most abundant grass in thin soil between rocks at the summit, 1890 m (U; IT: CU, DAO, NY, NY, TEX, US-1100338).

Poa griffithsii Hitchcock, *Contrib. U. S. Nat. Herb.* 17: 375 (1913).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Merritt Lyndon Fernald (1873–1950) United States botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Culms slender, 10–20 cm long. Culm-internodes terete. Lateral branches lacking. Leaf-sheaths open for most of their length. Ligule an eciliate membrane, 1 mm long, truncate. Leaf-blades 3–6 cm long, 1 mm wide, mid-green. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate or pyramidal, 2–6 cm long, bearing few spikelets. Primary panicle branches ascending. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous or woolly (sparsely).

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.7 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume elliptic, 2.3 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent, hairy below. Lemma margins pubescent, hairy below. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Eastern Canada**, **Northeast USA**. Newfoundland, Nova Scotia, Prince Edward I. Maine, Massachusetts, New Hampshire, Rhode Island, Vermont.

Poa ferreyrae Tovar. *Mem. Mus. Hist. Nat. ' Javier Prado', Lima, No.* 15. 37 (1965).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *R. Ferreyra 7619*, 9 Jun 1950, Peru: La Libertad: Otuzco Prov. (US-2014570).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Ramon Alejandro Ferreyra (1910–2005) Peruvian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths withering. Culms geniculately ascending, 50–80 cm long, 4–5 -noded. Lateral branches lacking. Leaf-sheaths without keel, smooth, glabrous on surface. Ligule an eciliate membrane, 4–7 mm long, truncate. Leaf-blades 10–30 cm long, 2–4 mm wide. Leaf-blade surface scaberulous, rough on both sides. Leaf-blade margins scaberulous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 18–25 cm long. Panicle branches capillary. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scaberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4.5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2.5–3.4 mm long, 0.66 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume ovate, 3–4 mm long, 0.66 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.5–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface scaberulous. Lemma apex acute. Palea keels scaberulous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa fibrifera Pilger. *Engl. Jahrb.* vii. 380 (1906).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *A. Weberbauer 2662*, Mar 1903, Peru: Ancash: Cajatambo Prov. prope Ocros, in graminosis ubi numerosi intermixti sunt, 3200–3400 m (MOL; ILT: BAA-2535, S, US-2947087 (fragm. ex B)). LT designated by Anton & Negritto, Willdenowia 27: 237 (1997).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *fibra*, fibre; *fero*, bear. Leaf-sheaths fibrous at the base.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Culms geniculately ascending, 20–60 cm long, 3–4 -noded. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 3–5 mm long, erose, truncate. Leaf-blades 10–20 cm long, 2–3.8 mm wide. Leaf-blade surface scabrous, rough on both sides. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 10–16 cm long. Panicle branches capillary, smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, smooth or scaberulous.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–4 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2–3.5 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume margins scaberulous. Upper glume apex acute.

Florets. Fertile lemma ovate, 4.2–5.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins prominent. Lemma surface scabrous. Lemma apex acute. Palea keels scaberulous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.4–2.7 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa filiculmis Roshev. *Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS,* xi. 28 (1949).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: 2 IT: (LE).

HT: *I.Vasilev 1160*, 13 Jul 1933, Basin of Rv.Anadyr: valley of rv.Anadyr: mouth of Rv.Majna: on sands (LE). orig.label: "Bassein r.Anadyrya: dolina r.Anadyrya pri ust'e r.Majna: peschanye otlozheniya".

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *filum*, thread; *culm*us, stalk. Culms slender.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Culms erect, 30–35 cm long. Culm-internodes antrorsely scabrous. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 1–2 mm long, entire or lacerate, truncate. Leaf-blades flat or convolute, 1–3.5 cm long, 1 mm wide. Leaf-blade surface scabrous.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, 3–6 cm long, 1–1.5 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3–4 mm long, membranous, 1-keeled. Lower glume apex acute. Upper glume ovate, 3–4 mm long, membranous, 1-keeled. Upper glume apex acute.

Florets. Fertile lemma ovate, 4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma lateral veins distinct. Lemma surface pubescent, hairy below. Lemma margins ciliate. Lemma apex acute. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia, Russian Far East. Kamchatka.

Poa flabellata (Lam.) Raspail. *Saigey & Raspail, Ann. Sc. Observ.* ii. 76, 78 (1829).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from South America. **Basionym or Replaced Name**: *Festuca flabellata* Lam., *Encycl.* 2: 462 (1788). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *M. Commerson s.n.*, Dec 1767- Jan 1768, Straights of Magellan (P; IT: US-2875414 (2 fragms. ex P)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (303), T. Cope & A. Gray, Grasses of the British Isles (52), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (148, Fig 88).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Basal innovations flabellate. Culms erect, 100–250 cm long. Leaf-sheaths keeled. Ligule an eciliate membrane, 7–12 mm long, entire or lacerate, obtuse or acute. Leaf-blades 30–70 cm long, 10–15 mm wide. Leaf-blade surface scabrous, rough adaxially, glabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, pyramidal or ovate, 5–20 cm long, 1–4 cm wide, contracted about primary branches. Primary panicle branches appressed, bearing spikelets almost to the base. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, compressed strongly, 6–8 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 4–6 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume margins ciliolate. Lower glume apex acuminate. Upper glume lanceolate, 4–6

mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 1–3 -veined. Upper glume margins ciliolate. Upper glume apex acuminate.

Florets. Fertile lemma lanceolate, laterally compressed, 4–6 mm long, chartaceous, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous. Lemma surface puberulous. Lemma apex obtuse to acuminate, awned, 1 -awned. Principal lemma awn 0.5–3 mm long overall. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 2–2.5 mm long. Ovary glabrous. Hilum punctiform.

Distribution (TDWG). Continent. Europe, South America, Antarctica.

Region. **Northern Europe**.

Country /Province /State. : Great Britain (*). **Southern South America**. Argentina South, Chile South. **Subantarctic islands**. Falkland Is (Malvinas), South Georgia.

Tierra del Fuego. Chiloe, Aisen, Magellanes. Magellanes.

Poa flaccidula Boiss. & Reut. *Pugill. Pl. Nov.* 128. (1852).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from Spain. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Boissier & Reuter*, Jun 1849, Spain: Serrania de Ronda ST: *Boissier & Reuter*, Spain: Cerro de San Cristoval ST: *Boissier & Reuter*, Spain: Sierra de la Nieve.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *flaccidu*s, unable to support its own weight; -ula, diminutive. Inflorescence branches drooping.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms erect or geniculately ascending, 25–60 cm long. Leaf-sheaths longer than adjacent culm internode, keeled, smooth or scaberulous, glabrous on surface. Ligule an eciliate membrane, 4–5 mm long, lacerate, acute. Leaf-blades 5–10 cm long, 2–4 mm wide. Leaf-blade surface scabrous, rough abaxially, glabrous. Leaf-blade margins scabrous. Leaf-blade apex acute, callose.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate or ovate, 8–16 cm long, 5–10 cm wide. Primary panicle branches ascending or spreading, 2–3 -nate. Panicle branches capillary, flexuous, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous, tip widened.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes scaberulous. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3 mm long, 0.8–0.9 length of upper glume, membranous, much thinner on margins, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 3.5 mm long, 0.75–1 length of adjacent fertile lemma, membranous, with scarious margins, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex acute.

Florets. Fertile lemma oblong, 3.5–4.5 mm long, chartaceous, much thinner above, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy all along. Lemma surface pubescent, hairy below. Lemma margins ciliate, hairy below. Lemma apex erose, emarginate or obtuse. Palea 0.2–0.25 length of lemma. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.6–1.8 mm long, yellow. Ovary glabrous. Caryopsis with adherent pericarp, oblong, 2.25 mm long. Embryo 0.25 length of caryopsis. Hilum punctiform.

$2n = 28$ (2 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Africa.

Region. **Southwestern Europe**.

Country /Province /State. : Baleares, Spain. **Northern Africa**. Algeria, Morocco, Tunisia.

Poa foliosa (Hook.f.) Hook. f. *Handb. N. Zeal. Fl.* 338. (1864).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from Antarctica. **Basionym or Replaced Name**: *Festuca foliosa* Hook. f., *Fl. Antarct.* 1: 99, t. 55 (1845). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.D. Hooker [Herb.]*, Dec 1840, Antart. Exp. 1839–1843, Lord Auckland's Islands: abundant, especially in rocky places near the sea, on the ground forming large green tufts on the cliffs never far from the sea, 2–3 ft (K-H203/00969–288; IT: CHR-278601 (fragm.), LE). Relig. Ledebour. OM: *J.D. Hooker*, McQuarrie's Island (K-H2003/00969–287 p.p.). "Festuca foliosa, Hook. fil. vars.". OM: *J. D. Hooker 1633*, Dec 1840, Campbell's Island, in elevated dense tufts on banks near the sea (K-H2003/00969–287 p.p. cental plant). LT var. Beta designated by Edgar, N.Z. J. Bot. 24: 434 (1986).

Illustrations: None found.

Images: E.Edgar & H.E.Connor, *Flora of New Zealand* 5, *Gramineae* (2000);.

Derivation (Clifford & Bostock 2007): L. *folium*, leaf; *-osa*, abundance. Culms with many leaves often separated by long evenly spaced internodes.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Rhizomes short. Butt sheaths coriaceous, persistent and investing base of culm, with fibrous dead sheaths. Basal innovations extravaginal. Culms robust, 100–150 cm long. Lateral branches lacking. Leaf-sheaths keeled, smooth, glabrous on surface. Ligule an eciliate membrane, 1–3 mm long, scaberulous on abaxial surface, obtuse. Leaf-blades 15–40 cm long, 3–6 mm wide, coriaceous. Leaf-blade midrib keeled beneath. Leaf-blade surface grooved on either side of midline, scaberulous, glabrous. Leaf-blade margins cartilaginous. Leaf-blade apex hardened. Dioecious.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle contracted, 10–25 cm long. Primary panicle branches appressed, bearing spikelets almost to the base. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 7–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5 mm long, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3–5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1(–3) -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent or obscure. Lower glume apex acuminate. Upper glume elliptic, 4–5.5 mm long, 0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma oblong, 5–6 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma surface scabrous, pubescent, hairy below. Lemma apex acute. Palea 3.5–4.5 mm long. Palea keels ciliate. Palea surface puberulous.

Flower and Fruit. Lodicules 2, 0.4–0.7 mm long, membranous, glabrous or ciliate. Anthers 3, 2.5–3.5 mm long. Staminodes present, 0.6–1 mm long. Caryopsis with adherent pericarp, 2 mm long. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. Australasia, Antarctica.

Country /Province /State. **New Zealand**. Antipodes Is, Stewart Is, Campbell Is, Auckland Is, Macquarie Is. **Subantarctic islands**. Macquarie Is.

Poa fordeana F. Muell. *Fragm.* viii. 130 (1873).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Mrs. Forde*, Australia: Darling River [lower] (MEL; ILT: K).

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (150, Fig 102), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (422, Fig 83), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (350), A.Wilson (ed.),

Flora of Australia, Vol 44A. *Poaceae* (2009) (308, Fig 41), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Helena Forde (1830–1910) New South Wales plant collector.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary. Rhizomes elongated. Butt sheaths herbaceous, persistent and investing base of culm, with fibrous dead sheaths. Culms geniculately ascending, 20–100 cm long, without nodal roots or rooting from lower nodes. Culm-internodes elliptical in section, antrorsely scabrous. Lateral branches lacking or sparse. Leaf-sheaths tubular for much of their length, with 0.5 of their length closed, longer than adjacent culm internode, keeled, antrorsely scabrous, glabrous on surface. Ligule an eciliate membrane, 1–5 mm long, truncate or obtuse. Leaf-blades 5–30 cm long, 1.5–4 mm wide. Leaf-blade venation distinct. Leaf-blade surface scabrous, glabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, elliptic or pyramidal, 6–15 cm long, with spikelets clustered towards branch tips. Primary panicle branches 2 -nate, branching divaricately, 5–10 cm long. Panicle branches scabrous, with prominent pulvini. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.5–8 mm long.

Fertile Spikelets. Spikelets comprising 3–12 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear or lanceolate, laterally compressed, compressed strongly, 5–11 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.75–1 mm long, smooth, sparsely hairy, hairy at tip. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 3–4 mm long, 0.9 length of upper glume, herbaceous, much thinner on margins, 1-keeled, 3 -veined. Lower glume primary vein smooth or scaberulous. Lower glume apex obtuse or acute. Upper glume ovate, 3–4 mm long, 0.66–0.9 length of adjacent fertile lemma, herbaceous, with membranous margins, 1-keeled, 3–5 -veined. Upper glume primary vein smooth or scaberulous. Upper glume apex obtuse or acute.

Florets. Fertile lemma oblong, oblong in profile, 3.5–5 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface pubescent, hairy below. Lemma margins ciliate, hairy below. Lemma apex emarginate or obtuse. Palea 0.9 length of lemma. Palea keels scabrous, adorned above. Palea surface glabrous or pubescent, hairy on back, hairy below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2.2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Europe (*), Australasia.

Region. **Northern Europe** (*).

Country /Province /State. : GB Aliens (Ryves et al). **Australia**. South Australia, Queensland, New South Wales, Victoria.

NW & Lake Eyre, Southern. Central, South East. Coast, Tablelands, Western Slopes, Western Plains.

Poa formosae Ohwi. *Fedde, Repert.* vi. 41 (1934).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: (US-1647212). IT: *J. Ohwi 2504*, 1 Jun 1933, Formosa: Mt. Nankotaisan (US-1964381).

Illustrations (Books): C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (332), C-C Hsu,*Taiwan Grasses* (1975).

Derivation (Clifford & Bostock 2007): from Formosa, now Taiwan.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Culms slender, 25–50 cm long, 2 mm diam. Culm-internodes terete. Lateral branches lacking. Ligule an eciliate membrane, 1–1.5 mm long, obtuse. Leaf-blades 9–10 cm long, 3–5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 10–20 cm long, 4–8 cm wide. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, pubescent.

Fertile Spikelets. Spikelets comprising 4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper

sterile. Spikelets elliptic, laterally compressed, 5 mm long, 3 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume lanceolate, 2.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.5 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface pubescent, hairy on veins. Lemma apex acute. Palea 2.5 mm long. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1 mm long. Caryopsis with adherent pericarp, oblong, 1.5 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Eastern Asia**. Taiwan.

Poa fragilis Ovczinn. *Fl. Tadjikist.* i. 150 (1957).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Tajikistan: W. Pamir, Shugnan, Bogusch-Ganncza sca Pass, 6 Aug. 1904, *B.A. Fedtschenko s.n.* (HT: LE).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Culms erect or geniculately ascending, 20–38 cm long. Culm-internodes terete, scaberulous, distally glabrous. Lateral branches lacking. Leaf-sheaths open for most of their length, with 0.2–0.25 of their length closed, longer than adjacent culm internode, smooth. Ligule an eciliate membrane, 1–2 mm long. Leaf-blades flat or involute, 1 mm wide. Leaf-blade surface smooth or scaberulous.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, 6–7 cm long. Primary panicle branches 0.6–1 cm long. Panicle branches stiff, scabrous, rough throughout. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or oblong, laterally compressed, 6–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, membranous, purple, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, membranous, purple, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3 mm long, membranous, purple, keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface glabrous. Lemma apex erose, acuminate. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Middle Asia**. Turkmenistan.

Poa gamblei Bor. *Kew Bull.* 1948, 144 (1948).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.S. Gamble 18129*, Sep 1886, India: Madras, Nilgiris Distr. Ootacamund, 7000 ft (K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of James Sykes Gamble (1846–1925) English-born Indian forester and botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Butt sheaths scarious, persistent and investing base of culm, with compacted dead sheaths. Culms erect, 20–45 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths tight, scaberulous, glabrous on surface. Ligule an eciliate membrane, 1.5 mm long, obtuse. Leaf-blades conduplicate, 4–8 cm long, 2–3 mm wide. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Peduncle scaberulous above. Panicle open, elliptic, 6–12 cm long, 10 cm wide. Primary panicle branches 2 -nate, 3–7 cm long. Panicle branches flexuous, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 6.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 5 mm long, 0.9 length of upper glume, membranous, purple, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume surface asperulous, rough at apex. Lower glume apex acute. Upper glume elliptic, 5.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface scabrous, rough at apex. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 5.5 mm long, membranous, much thinner above, yellow, keeled, 5 -veined, more than 3-veined. Lemma lateral veins prominent. Lemma surface scabrous. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.75 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. China South Central, Tibet. **Indian Subcontinent**. India.

Yunnan. Orissa.

Poa gammieana Hook. f. *Fl. Brit. Ind.* vii. 345. (1896).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Sikkim: Tankra Mts., 4000 m, 5 Aug. 1892, *G.A. Gammie 641* (HT: K).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (569, Fig. 18).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of James Alexander Gammie (1839–1924), Scottish botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Butt sheaths herbaceous. Culms 30–60 cm long, 6 -noded. Culm-internodes terete, smooth. Culm-nodes glabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths loose, keeled, scaberulous or antrorsely scabrous, glabrous on surface. Ligule an eciliate membrane, 4 mm long. Leaf-blades 5–10 cm long, 3–7 mm wide. Leaf-blade surface smooth or scaberulous, rough abaxially. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, elliptic, 5–10 cm long, 3–6 cm wide. Primary panicle branches spreading, 2–3 -nate. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long, smooth, pubescent. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume linear, 4 mm long, 0.9 length of upper glume, membranous, glandular, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume oblong, 4.5 mm long, 1 length of adjacent fertile lemma, membranous, glandular, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 4.5–5 mm long, membranous, glandular on surface, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous, ciliate, hairy below. Lemma lateral veins prominent. Lemma surface asperulous, rough below. Lemma apex obtuse. Palea 0.9 length of lemma.

Palea keels scabrous, ciliate, adorned below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. Tibet. **Indian Subcontinent**. Eastern Himalaya.

Bhutan, Sikkim.

Poa garhwalensis D.C. Nautiyal & R.D. Gaur. *J. Bombay Nat. Hist. Soc.*, 96(2): 285 (1999).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: India, NW Himalaya, Leptal: Nautyal 13501 (GUH holo).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 45–60 cm long, 3 mm diam., 2 -noded. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths 10–20 cm long, keeled. Ligule an eciliate membrane, 1.5–3 mm long, obtuse. Leaf-blades 4–10 cm long, 2–3 mm wide. Leaf-blade surface scabrous, rough on both sides. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 4–10 cm long, 3–4 cm wide. Primary panicle branches spreading, 3–5 -nate. Panicle axis scabrous. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 5.1 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–0.8 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 3–3.2 mm long, 0.85 length of upper glume, membranous, much thinner on margins, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume oblong, 3.2–3.8 mm long, 0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma elliptic, 4–4.5 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous (above), ciliate, hairy below. Lemma margins ciliate, hairy below. Lemma apex acute. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2–2.5 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indian Subcontinent**. West Himalaya.

Poa gayana E.Desv. *C. Gay, Fl. Chil.* vi. 416. (1853).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *C. Gay 90*, 1828–1834 (VI, 416 on photos at BAA), Chile: Province de [nothing further] (P; IT: BAA-4099 (a, fragm. ex P), b, fragm. ex P), K, US-88728 (fragm. ex K, fragm. ex P & photo)). Pistillate and staminate lemmas glabrous, on different plants.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Claude Gay (1800–1873) French botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Butt sheaths papery. Culms erect, 20–30 cm long. Lateral branches lacking. Ligule an eciliate membrane, 2.5–3 mm long. Leaf-blades conduplicate, 5–8 cm long, 1–2 mm wide. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear or oblong, 5–9 cm long. Panicle branches hispidulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 6–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 4 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Chile Central.

Neuquén. Santiago, O'Higgins, Maule.

Poa gigantea (Tovar) N.F. Refulio-Rodriguez. *Syst. Bot.* 37 (1): 130 (2012).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. **Basionym or Replaced Name**: *Dissanthelium giganteum* O. Tovar, *Publ. Mus. Hist. Nat. Javier Prado, B,* 33: 8 (1985). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *O. Tovar, S. Rivas, C. Arnaiz, J. Loidi & P. Canto 9831*, 22 Mar 1983, Peru: Ancash: de Huaraz a La Unisn, carretera, puna, panojal, alt. 4590 m (USM; IT: MAF, MO-3812371, MO-3099119, US-3029239).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. very large. Culms tall compared with those of related species.

Classification. Subfamily Pooideae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 22–35 cm long. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 2.5–5 mm long. Leaf-blades conduplicate, 8–20 cm long, 4 mm wide, stiff.

Inflorescence. Inflorescence a panicle, shorter than basal leaves. Panicle spiciform, linear, 9–11 cm long, 0.5–0.7 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 5–5.5 mm long, 1 length of upper glume, membranous, 1-keeled. Lower glume primary vein scaberulous. Lower glume apex acute. Upper glume lanceolate, 5–5.5 mm long, 1.6–1.7 length of adjacent fertile lemma, membranous, 1-keeled. Upper glume primary vein scaberulous. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 3–3.5 mm long, chartaceous, keeled, 3 -veined, 0–3 -veined. Lemma midvein scabrous. Lemma surface scaberulous, rough above. Lemma apex acute.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa gilgiana Pilger. *Engl. Jahrb.* vii. 507 (1906).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *A. Weberbauer 477*, 28 Feb 1902, Peru: Puno: ad Azangaro, in calcareis ad 4000 m (S; BAA-2548, US-2947086 (fragm. ex B)). LT designated by Anton & Negritto, Willdenowia 27: 237 (1997).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana,* indicating connection. In honor of Ernest Gilg (1867–1933), German botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms erect, 25–35 cm long, 3–4 -noded. Lateral branches lacking. Leaf-sheaths keeled, smooth or scaberulous, glabrous on surface. Ligule an eciliate membrane, 2–3.5 mm long, erose. Leaf-blades conduplicate, 8–25 cm long, 3–4 mm wide, stiff. Leaf-blade surface scabrous, rough on both sides. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 8–13 cm long, with spikelets clustered towards branch tips. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 7–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1.2–1.7 mm long. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 4.5–5.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 6.2–6.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume lateral veins prominent. Upper glume apex acute.

Florets. Fertile lemma ovate, 6.2–6.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins distinct. Lemma surface smooth or scaberulous, rough on veins. Lemma apex acute. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.5–2.8 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Bolivia, Peru.

Poa glaberrima Tovar. *Mem. Mus. Hist. Nat. ' Javier Prado', Lima, No.* 15. 40 (1965).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *A.S. Hitchcock 22216*, 29 Oct 1923, Peru: Junin: near Junín, hacienda Atocsico, sheep camp, rocky slope on Montaro R., 4000 m (US-1164472).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (304), S.A.Renvoize, *Gramineas de Bolivia* (1998) (135, Fig 33).

Derivation (Clifford & Bostock 2007): L. most free of hairs. Plant glabrous.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths withering. Culms erect, 12–23 cm long. Lateral branches lacking. Leaf-sheaths without keel, glabrous on surface. Ligule an eciliate membrane, 2–3 mm long, truncate. Leaf-blades flat or conduplicate, 2–4 cm long, 2–3 mm wide. Leaf-blade surface smooth. Leaf-blade margins scaberulous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 5–8 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, smooth or scaberulous.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5.5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 3–3.5 mm long, 0.66 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 4–4.6 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4.3–5 mm long, coriaceous, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Palea keels smooth or scaberulous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.6–3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Bolivia, Peru.

Poa glabriflora Roshev. ex Komarov. *Fl. URSS,* ii. 376 (1934).

Accepted by: S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from Kyrgyzstan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Kyrgyzstan: Alai Vallley, Dara River, from Izmail burial ground to Arau-Kungo winter quarters, soft hillocks, 2400–4000 m, 25 June 1913, *N. Desyatova* (HT: LE; IT: LE).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *glaber*, smooth; *flos*, flower. Lemmas glabrous.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Butt sheaths thickened and forming a bulb, persistent and investing base of culm. Culms slender, 8–16 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths as wide as blade at the collar, smooth, glabrous on surface. Ligule an eciliate membrane, 1.5–2 mm long, acute. Leaf-blades 1–2 cm long, 1 mm wide. Leaf-blade surface smooth or scabrous, rough on both sides. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Peduncle smooth, tipped by a glumaceous appendage. Panicle contracted, linear, 1–2 cm long, 0.3–0.5 cm wide. Primary panicle branches appressed, 1–2 -nate, 1–1.5 cm long. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or ovate, laterally compressed, 3.5–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 2.25 mm long, 0.9 length of upper glume, hyaline, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 2.5 mm long, 1 length of adjacent fertile lemma, hyaline, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 2.5 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.8–1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **Western Asia**. Afghanistan, Iran. **Indian Subcontinent**. Pakistan.

Poa glauca Vahl. *Fl. Dan.* 17:3 (1790).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from Norway. **Basionym or Replaced Name**: *Poa litwinowiana* Ovczinn., *Bull. Tadjik. Acad. Sc.*1: 1. 22 (1933). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: [Norway]: legi in Alpibus Norvegica Valders verser Vang (C (hb. Vahlian.)). web tiny, ligule 1mm, lemma pub on 3 nerves, branches scabrous angled.

Recent Synonyms: *Poa glaucantha* Gaud., *Alpina* 3 36 (1808).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (305), C.E.Hubbard, *Grasses* (1968) (180), T. Cope & A. Gray, Grasses of the British Isles (47), G.Hegi,

Flora von Mitteleuropa 1 (1909) (as *P. caesia*), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (577 as subspecies *glauca, pekulnejensis & rupicola*), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (161, Fig 100), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (as subspecies *glauca, altaica* in Figure 428).

Derivation (Clifford & Bostock 2007): L. *glauca*, bluish-green. Whole plant or any of its parts glaucous.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths herbaceous. Culms erect, 10–40 cm long, 2–3 -noded. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths without keel or keeled, smooth. Ligule an eciliate membrane, 1–2.5 mm long, truncate. Leaf-blades flat or conduplicate, 2–8 cm long, 2–4 mm wide, stiff, glaucous. Leaf-blade surface smooth, glabrous. Leaf-blade apex abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle open or contracted, lanceolate or ovate, dense or loose, 2–10 cm long, 1–4 cm wide. Primary panicle branches spreading, 2–3 -nate. Panicle branches stiff, straight, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.5–4 mm long.

Fertile Spikelets. Spikelets comprising 2–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes obscured by lemmas, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 3–4.5 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scaberulous. Lower glume apex acute. Upper glume elliptic or ovate, 3–4.5 mm long, 1–1.1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 3–4 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins stopping well short of apex. Lemma surface glabrous or puberulous, hairy below, hairy on veins. Lemma margins ciliate, hairy below. Lemma apex acute. Palea 1 length of lemma. Palea keels smooth or scaberulous, eciliate or ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

n = 28 (1 ref TROPICOS). 2n = 42 (1 ref TROPICOS), or 56 (2 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia, Tropical Asia, North America, South America.

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Finland, Foroyar, Great Britain, Iceland, Norway, Svarlbad, Sweden. : Austria, Czechoslovakia, Poland, Switzerland. : France. : Greece, Italy, Yugoslavia. Central European Russia, East European Russia, North European Russia. Siberia, Russian Far East, **Middle Asia**, **Caucasus**, **Western Asia**, **China**, **Mongolia**, **Eastern Asia**, **Russia**. Altay, Buryatiya, Chita, Irkutsk, Krasnoyarsk, Tuva. Amur, Kamchatka, Khabarovsk, Magadan, Primorye, Sakhalin. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Iran. China South Central, Inner Mongolia, China North-Central, Qinghai, Tibet, Xinjiang. Mongolia. Japan Honshu. Japan, Korea, Taiwan. **Indian Subcontinent**. India, Nepal, Pakistan, West Himalaya. **Subarctic America**, **Western Canada**, **Eastern Canada**, **Northwest USA**, **North-central USA**, **Northeast USA**, **Southwestern USA**, **South-central USA**. Aleutian Is, Alaska, Yukon, Northwest Territories, Nunavut, Greenland. Alberta, British Columbia, Manitoba, Saskatchewan. Labrador, New Brunswick, Newfoundland, Nova Scotia, Ontario, Prince Edward I, Quebec. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. Maine, New Hampshire, Rhode Island, Vermont. Arizona, California, Nevada, Utah. New Mexico. **Southern South America**. Argentina South, Chile South.

Gansu, Shaanxi. Sichuan, Yunnan. Jammu Kashmir. Chubut, Santa Cruz. Magellanes.

Poa glomerifera Hackel apud Stuckert. *An. Mus. Nac. Buenos Aires,* xxi. 151 (1911).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *T.J.V. Stuckert HB. ARG. 17744 ex Lillo 5622*, 1 Feb 1907, Argentina: Tucumán: Dept. Taf? Cumbres Calchaquíes a 4250 m, entre rocas (W; IT: BAA, CORD, LIL, US-2947088 (fragm.)).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Butt sheaths papery. Culms erect, robust, 40–100 cm long, 3 -noded. Leaf-sheaths scaberulous. Ligule an eciliate membrane, 5 mm long, obtuse. Leaf-blades 15–30 cm long, 4–8 mm wide, glaucous. Leaf-blade surface scabrous, rough on both sides. Leaf-blade margins scabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 12–20 cm long, contracted about secondary branches. Primary panicle branches 2 -nate. Panicle axis scabrous. Panicle branches scabrous. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 7–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 5.5–6 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume surface asperulous. Lower glume apex acute. Upper glume lanceolate, 5.5–6 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface asperulous. Upper glume apex acute.

Florets. Fertile lemma ovate, 6 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma surface scaberulous. Lemma apex acute. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northwest.

Tucuman.

Poa golestanensis H. Scholz & H. Akhani. *Edinburgh J. Bot.,* 55(3): 449 (1998).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Iran. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *H. Akhani 11329*, 18 Jun 1995, Iran: E. Mazandaran [Prov. Golestan]: ca. 11km ENE of Tangegol, summit of Divar Kaji Mount (MMTT; IT: B, W-1999–04934).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Golestan National Park, Iran.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Rhizomes absent or elongated. Culms 55–100 cm long. Culm-internodes terete, antrorsely scabrous. Culm-nodes glabrous. Lateral branches lacking. Leaf-sheaths antrorsely scabrous (above). Ligule an eciliate membrane, 1–2 mm long, entire or erose, truncate or obtuse. Leaf-blades flat or conduplicate, 25–50 cm long, 2–5 mm wide. Leaf-blade surface scabrous, rough abaxially. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle. Panicle contracted, elliptic, 7–16 cm long. Panicle axis scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 6–7.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.8–3.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 3.5–4.7 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 4–5 mm long, 2 mm wide, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface asperulous. Lemma apex acute. Palea elliptic, 3–4 mm long. Palea keels scabrous. Palea apex dentate, 2 -fid. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2–2.6 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.
Country /Province /State. **Western Asia**. Iran.

Poa grandis Hand.-Mazz. *Symb. Sin.* Pt. VII. 1284 (1936).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Handel-Mazzetti 8081*, Tibeticas, sub jugo Doker-la , 28?15' N, in regionis alpinae, altoherbertis, substr. granitico, 4200–4250 m (W). ST: *Handel-Mazzetti*, China: NW Yunnan, häufig wieter s. im obersten Doyon-lumba bis ins Tal Schidsaru, 28?9'N, 4050m HT: (W-14528).

Recent Synonyms: *Poa spontanea* Bor, *Kew Bull.* 1953, 271 (1953).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 385).

Derivation (Clifford & Bostock 2007): L. tall. Plants robust and vigorous, often with tall culms.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rootstock evident. Culms erect, 50–120 cm long, 2–5 mm diam., 5–12 -noded. Culm-internodes smooth. Culm-nodes swollen, pubescent. Lateral branches sparse. Leaf-sheaths tubular for much of their length, with 0.75 of their length closed, 6–9 cm long, keeled, glabrous on surface. Ligule an eciliate membrane, 2–6 mm long, glabrous on abaxial surface or scaberulous on abaxial surface, truncate or obtuse. Leaf-blades 7–25 cm long, 2–12 mm wide. Leaf-blade midrib keeled beneath. Leaf-blade surface smooth, glabrous or puberulous, hairy adaxially. Leaf-blade margins smooth or scaberulous. Leaf-blade apex hooded.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, effuse, 15–35 cm long, 10–20 cm wide. Primary panicle branches spreading or reflexed, 2–9 -nate, 6–12 cm long, bearing 7–26 fertile spikelets on each lower branch. Panicle axis with lower internodes 3–8 cm long. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.3–1 mm long, smooth or scaberulous, glabrous or sparsely hairy. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate or ovate, 2.3–4 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein smooth to scabrous. Lower glume lateral veins absent or obscure. Lower glume apex acuminate. Upper glume lanceolate or ovate, 3.5–5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface papillose. Upper glume apex acute.

Florets. Fertile florets bisexual or female. Fertile lemma lanceolate or elliptic, 3.5–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy above. Lemma surface scabrous. Lemma margins ciliolate, hairy above. Lemma apex acute. Palea keels scabrous, eciliate or ciliolate, adorned in the middle. Palea surface scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.8–2.8 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.
Country /Province /State. **China**. China South Central, Tibet. **Indo-China**. Myanmar.
Sichuan, Yunnan.

Poa granitica Braun-Blanquet. *Arch. Bot. Caen, Bull*. iii. 46. (1929).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *P. deylii*).

TYPE from Hungary. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Hab.: in glareosis graniticis regionis alpin. Tatrae ubi frequens; Jul-Aug 1928, *J. Braun-Banquet (Excursion Phytogeographique Internationale)*.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Eng. granite; L. *-ica*, belonging to. Growing on granitic soils.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes short. Basal innovations extravaginal. Culms erect, 25–30 cm long. Culm-internodes terete. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 2–5 mm long, entire or lacerate, truncate or obtuse. Leaf-blades 3–5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 5–10 cm long. Panicle branches terete. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.8–0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 0.8–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins ciliate. Lemma apex acute. Palea keels ciliate, adorned below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2–2.4 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Vegetative proliferation absent, or occurs.

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Middle Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Czechoslovakia, Poland. : Romania. Northwest European Russia, Ukraine. **China**. Xinjiang.

Poa grayana Vasey. *Contrib. U. S. Nat. Herb.* i. 272 (1893).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *H.N. Patterson 14*, 1885, USA: Colorado: High mountains about Gray's Peak, near timberline (US-556767; IT: GH).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating location. From Gray's Peak, Colorado, USA.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Culms 30–60 cm long. Culm-internodes terete. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths open for most of their length, with 0.33 of their length closed, smooth. Ligule an eciliate membrane, 1–3 mm long, glabrous on abaxial surface or pubescent on abaxial surface, erose, truncate or obtuse or acute or acuminate. Leaf-blades flat or conduplicate, 2–4 mm wide. Leaf-blade surface smooth or scabrous. Leaf-blade margins scabrous. Leaf-blade apex obtuse, hooded.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, loose, 4–10 cm long. Primary panicle branches spreading. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 7–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus sparsely hairy.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.5–4 mm long, 0.75 length of upper glume, membranous, purple, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume elliptic, 4–6 mm long, 1–1.2 length of adjacent fertile lemma, membranous, purple, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4–5 mm long, membranous, purple, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent, hairy all along or below. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, 0.7 mm long, membranous. Anthers 3, 2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.
Country /Province /State. **Northwest USA**, **South-central USA**. Colorado, Wyoming. New Mexico.

Poa greuteri N. Gabrialjan. *Willdenowia* 36(1): 437–440, f. 1–2. (2006).

TYPE from Armenia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Armenia: Jugum Geghamicum, in viciniis boreali-occidentalibus lac. Aknalicz, 3300 m, 4 Aug 1960, *E. Gabrielan s.n.* (HT: ERE; IT: B).
Illustrations: None found.
Classification. Subfamily Pooideae. Tribe: Poeae.
Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Stolons present. Basal innovations extravaginal. Culms erect, 13–15 cm long. Culm-internodes smooth, distally glabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths open for most of their length, with 0.5–0.66 of their length closed, keeled. Ligule an eciliate membrane, 0.5–1 mm long, lacerate, truncate. Leaf-blades conduplicate, 15–25(–30) cm long, 2 mm wide. Leaf-blade surface glabrous. Leaf-blade apex abruptly acute, apiculate.
Inflorescence. Inflorescence a panicle. Panicle spiciform, elliptic or oblong, 2 cm long, 1 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.
Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 3–4 mm long, 2 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.
Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate or ovate, 1.5–2.5 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume lateral veins prominent. Lower glume apex acute. Upper glume lanceolate or ovate, 1.5–2.5 mm long, 0.5–0.66 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein conspicuous. Upper glume apex acute.
Florets. Fertile lemma ovate, 3–3.5 mm long, membranous, much thinner above, shiny, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous, adorned above. Apical sterile florets resembling fertile though underdeveloped.
Flower and Fruit. Anthers 3, 0.5–1 mm long, pallid. Caryopsis with adherent pericarp.
Distribution (TDWG). Continent. Temperate Asia.
Country /Province /State. **Caucasus**. Transcaucasus.

Poa grisebachii R. Fries. *Nov. Act. Soc. Sci. Upsal. Ser*. IV. i. no. 1, 182. (1906).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).
TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Kurtz 11412 (leg. F. Claren)*, 10 Jan 1901, Argentina: Jujuy: Depto. Santa Catalina: región de la Puna (S; ILT: BAA, CORD, US-91465 (fragm. ex S), w). LT designated by Negritto & Anton, Kurtziana 27(2): 366 (1999). ST: *F. Kurtz 11409*, 10 Jan 1901, Argentina: Jujuy: Dept. Santa Catalina: región de la Puna (CORD, S, US-91465 (fragm. ex S)).
Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (305).
Derivation (Clifford & Bostock 2007): in honor of August Heinrich Rudolf Grisebach (1814–1879) German botanist.
Classification. Subfamily Pooideae. Tribe: Poeae.
Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Culms erect, 12–18 cm long. Culm-internodes smooth. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 2 mm long, lacerate. Leaf-blades flat or convolute, 5–9 cm long, 1.5–2.5 mm wide. Leaf-blade surface scabrous, rough adaxially, glabrous. Leaf-blade margins scabrous. Leaf-blade apex acute.
Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 5–9 cm long. Primary panicle branches appressed, 4–6 -nate, 3–5 cm long. Panicle axis glabrous. Panicle branches glabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 1–2 mm long.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1.5–2 mm long, 0.66–0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2.5 mm long, 0.5 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma ovate, 4.5–5 mm long, 2 mm wide, membranous, keeled, 3 -veined, 0–3 -veined. Lemma surface glabrous or puberulous, hairy below, hairy on veins. Lemma apex acute. Palea 4 mm long. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northwest.

Jujuy.

Poa gunnii Vickery. *Contrib. N. S. Wales Nat. Herb.* iv. 217 (1970).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: Tasmania: Summit of Mt. Wellington: 7 Jan 1841, *Gunn 1466* (HT: K; IT: NSW 45698).

Illustrations: None found.

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): in honor of Ronald Campbell Gunn (1808–1881) South African-born Tasmanian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths herbaceous, pallid. Basal innovations intravaginal. Culms 6–40 cm long, 1–2 -noded. Culm-internodes terete, smooth or scaberulous. Culm-nodes glabrous. Lateral branches lacking. Leaf-sheaths wider than blade at the collar, smooth or scaberulous, glabrous on surface. Ligule a ciliolate membrane, 1.5 mm long, scaberulous on abaxial surface or pubescent on abaxial surface, truncate. Leaf-blades involute, 5–25 cm long, 0.3–0.75 mm wide. Leaf-blade surface scabrous, rough adaxially, glabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth or antrorsely scabrous above. Panicle open, elliptic, 3–8 cm long. Primary panicle branches spreading, 1–5 -nate. Panicle branches capillary, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume oblong, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 3–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein eciliate or ciliate, hairy below. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scaberulous, adorned above. Palea surface scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2 mm long, pallid or purple. Caryopsis with adherent pericarp. Hilum punctiform.

Vegetative proliferation occurs.

Distribution (TDWG). Continent. Europe (*), Australasia.

Region. **Northern Europe** (*).

Country /Province /State. : GB Aliens (Ryves et al). **Australia**. Tasmania.

Poa gymnantha Pilger. *Engl. Jahrb. lvi. Beibl.* 123, 28 (1920).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Weberbauer 6905*, Apr 1914, Peru: 15?0'-16?0'S, südlich von Sumbay, Eisenbahn Arequipa-Puno, Tola-Heide, 4000 m (S; ILT: BAA-2555, MOL, US-1498091, US-2947085 (specimen & fragm. ex B), USM). LT designated by Anton & Negritto, Willdenowia 27: 236 (1997). ST: *Weberbauer 5440*, May 1910, Peru: Silbergruben von Sta. Ines, Hochanden zwischen 13 und 14 S, zwischen dem Hafen Pisco und der Gebirgsstadt Ayacucho, Felsen eines Berggipfels bei 4900 m (B (destroyed); IST: BAA (fragm. ex B), S, US-2947085 (fragm. ex B)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (306).

Illustrations (Journals): *Phytokeys* (15:28, Fig.6 (2012)).

Derivation (Clifford & Bostock 2007): Gk. *gymnos*, naked; *anthos*, flower. Lemmas glabrous.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Culms erect, 13–25 cm long. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 4–8 mm long. Leaf-blades involute, 5–12 cm long, 2–3 mm wide, stiff. Leaf-blade surface puberulous, hairy adaxially. Leaf-blade margins scabrous. Leaf-blade apex abruptly acute or acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, 3–5.5 cm long, 0.8–1.3 cm wide. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, pubescent.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.5–3.8 mm long, 0.8–0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 4–4.5 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4.6–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface scabrous. Lemma apex acute. Palea keels scaberulous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**, **Southern South America**. Bolivia, Peru. Argentina South, Chile North.

Jujuy, Salta. Tarapaca, Antofagasta.

Poa hachadoensis E.G.Nicora. *Hickenia,* 1(18): 102 (1977).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J. Valla 3026*, 22 Jan 1963, Argentina: Prov. Neuquen: Dpt. Picunches: Pino Hachado, Refugio Coonel Pringes, 500 msm (BAA; IT: BAA (orrilla de un afluente del Arroyo Haichal)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (307), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (152, Fig 94).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Pino Hachado, Argentina.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 20–50 cm long. Culm-internodes smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths keeled, glabrous on surface. Ligule an

eciliate membrane, 1.5–3 mm long, truncate. Leaf-blades conduplicate, 4–10 cm long, 2–3 mm wide. Leaf-blade surface glabrous. Leaf-blade margins scabrous. Leaf-blade apex obtuse, hooded.

Inflorescence. Inflorescence a panicle, exserted or embraced at base by subtending leaf. Panicle open, elliptic, nodding, 6–10 cm long. Primary panicle branches 2–4 -nate, 3–6 cm long. Panicle branches flexuous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 4–5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume surface scabrous, rough on veins. Lower glume apex acute. Upper glume ovate, 4.5–6 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface asperulous, rough on veins. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 5.5–6.7 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma lateral veins prominent. Lemma surface scabrous, with basal hair tufts near margin, bearing 2 hair tufts in all. Lemma apex emarginate. Palea 4–5 mm long. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.8–1.2 mm long. Caryopsis with adherent pericarp, 2–2.5 mm long. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South, Chile Central, Chile South.

Chubut, Neuquén. Rest of Chile- Biobio, La Auracania, Maule, O'Higgins, Santado, Valpariso. Maule, Biobio. Los Lagos.

Poa hackelii Post. *Bull. Herb. Boiss*. v. 760. (1897).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Mesopotamia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Post 37*, 1893, Mesopotamia (W-14390; IT: G).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Eduard Hackel (1850–1926) Bohemian-born Austrian botanist with special interest in the grasses.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Culms erect or geniculately ascending, 25–50 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, acute. Leaf-blades 15–30 cm long, 1 mm wide. Leaf-blade surface glabrous. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong, interrupted, 5–10 cm long. Primary panicle branches bearing spikelets almost to the base. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong or ovate, 2–2.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume oblong or ovate, 2.5–3 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 3 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma lateral veins stopping well short of apex. Lemma margins ciliolate, hairy below. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.
Country /Province /State. **Western Asia**. Lebanon-Syria.

Poa hakusanensis Hack. *Bull. Herb. Boiss*. vii. 709. (1899).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from Japan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J. Matsumura 236*, 8 Aug 1881, Japan: monte Hakusan prov. Kaga (W-14387; IT: TI-M04–03–5, TI-M04–03–6 [sheet divided], US-3413579 (fragm. ex W)). TI-M04–03–6 agrees with Hackel's descr., -5 does not [fide rjs 2004].

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Hakusan, Japan.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes short. Culms erect, 35–70 cm long, 0.8–1.5 mm diam., 2–3 -noded. Leaf-sheaths tubular for much of their length, with 1 of their length closed, without keel, smooth. Ligule an eciliate membrane, 1 mm long, truncate. Leaf-blades 10–20 cm long, 2–6 mm wide. Leaf-blade margins smooth. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 8–16 cm long, 3.5–9 cm wide. Primary panicle branches 2–4 -nate, 3–6 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or ovate, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.5–3.7 mm long, 0.75–0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume lanceolate, 3.8–4.8 mm long, 0.75–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume surface scabrous, rough on veins. Upper glume apex acute.

Florets. Fertile lemma ovate, 5–5.2 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent, hairy at base. Lemma surface pubescent, hairy at base, hairy on veins. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.
Country /Province /State. **Eastern Asia**. Japan Hokkaido, or Honshu. Japan.

Poa halmaturina J. M. Black. *Trans. Roy. Soc. S. Austral.* lxvi. 248 (1943).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: Rocky River, Kangaroo Isl: in burnt consolidated dumes: Dec 1940, *J.B.Cleland (Tate Soc. Exped.)* (HT: AD).

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (151, Fig 103).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): Gk. *halme*, sea water that has dried; *-ina*, belonging to. Growing in salt marshes.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Rhizomes elongated, scaly. Butt sheaths herbaceous, pallid or purple. Basal innovations extravaginal. Culms erect, 5–10 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule a ciliolate membrane, 0.5 mm long, truncate. Leaf-blades aciculate, involute, 2–8 cm long, 0.7 mm wide, stiff. Leaf-blade surface scabrous, rough adaxially, glabrous. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle contracted, linear, 1.5–3 cm long, bearing few spikelets. Primary panicle branches 1–3 in number, 1 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 3 mm long, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume oblong, 3 mm long, 0.8–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 3–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface glabrous or pubescent, hairy below. Lemma margins ciliate. Lemma apex acute. Palea 0.9 length of lemma. Palea keels scabrous. Palea surface pubescent, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. South Australia, Victoria, Tasmania.

Southern.

Poa hartzii Gandoger. *Bull. Soc. Bot. France*, lxvi. 302 (1920).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Greenland. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Hartz s.n.*, Aug 1890, Greenland: Kordlunguak (LY; IT: US-1107736 (ex hb. Gandoger)). "f. arenaria" is penciled in on the sheet at US.

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (593 as subspecies *hartzii, vrangelica & alaskana*).

Derivation (Clifford & Bostock 2007): in honor of Nikolaj Eg Kruse Hartz (1867–1937) Danish botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms erect, 15–25 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 2–5 mm long. Leaf-blades erect or ascending, involute, 2–7 cm long, 1 mm wide, stiff. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 3–5 cm long. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 3 mm long, 0.9 length of upper glume, membranous, much thinner on margins, 1-keeled, 3 -veined. Lower glume lateral veins obscure. Lower glume apex acute. Upper glume elliptic, 3.5 mm long, 0.66 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume lateral veins obscure. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 4–5 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface pubescent, hairy below. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Vegetative proliferation occurs.

2*n* = 70 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, North America.

Country /Province /State. Russian Far East. Kamchatka. **Subarctic America**. Northwest Territories, Nunavut, Greenland.

Poa hayachinensis Koidz. *Bot. Mag., Tokyo,* i. 254. (1917).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from Japan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *G. Koidzumi*, Jul 1914, Japan: prov. Rikutsiu, Mt. Hayachinesan, alpine belt (TI-M04–03–3; IT: TI-M04–03–4).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Hayachinesan, a mountain in Rikuchin Province, Japan.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary. Rhizomes short. Stolons present. Culms geniculately ascending, 30–60 cm long, 1–1.7 mm diam., 2–3 -noded. Leaf-sheaths tubular for much of their length, with 0.5 of their length closed, smooth. Ligule an eciliate membrane, 0.5–1 mm long, truncate. Leaf-blades 7–18 cm long, 4–6 mm wide. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, nodding, 8–15 cm long, 3–6 cm wide. Primary panicle branches spreading, 2–3 -nate, 3–6 cm long. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 7–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.8–4 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume lanceolate, 5–5.2 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma lanceolate, 5–5.2 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent, hairy below. Lemma surface asperulous, pubescent, hairy at base, hairy on veins. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.5–3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**, **Eastern Asia**. Xinjiang. Japan Hokkaido, or Honshu. Japan.

Poa hedbergii S.M. Phillips. *Kew Bull.*, 44(1): 134 (1989).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Ethiopia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Ethiopis.

Illustrations (Books): S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (21, Fig 10).

Illustrations (Journals): *Kew Bulletin* (44: 136, Fig.3 (1989)).

Derivation (Clifford & Bostock 2007): in honor of Karl Olov Hedberg (1923-) Swedish botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms erect or geniculately ascending, 15–35 cm long. Ligule an eciliate membrane, 1.5–8 mm long. Leaf-blades flat or convolute, 0.8–2.3 mm wide.

Inflorescence. Inflorescence a panicle. Panicle contracted, elliptic or oblong, continuous or interrupted, 4–8 cm long, contracted about primary branches. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.75 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume surface smooth. Lower glume apex acuminate. Upper glume elliptic or oblong, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume surface smooth. Upper glume apex acuminate.

Florets. Fertile lemma lanceolate or oblong, lanceolate in profile, 5–5.3 mm long, membranous, purple or yellow, bordered with last colour, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma surface scabrous. Lemma apex acuminate. Palea 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.3–2.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Northeast Tropical Africa**. Ethiopia (inc. Eritrea).

Poa helenae J.F. Veldkamp. *Blumea,* 38(2): 428 (1994).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from PNG. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: New Guinea, Lake Omha: *Hopkins 871* (L holo, UPNG).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of the collector, Helen Collingwood Fortune Hopkins (1953-) English botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations extravaginal or intravaginal. Culms erect, 12–17 cm long. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 0.75–1.75 mm long, glabrous on abaxial surface or scaberulous on abaxial surface, acute. Leaf-blades erect, filiform, involute, 4–6.5 cm long, 0.4–1 mm wide, stiff. Leaf-blade surface smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 1.8–3.5 cm long, 0.5–1 cm wide. Primary panicle branches ascending, 2 -nate, 0.9–1.1 cm long, bearing 3–7 fertile spikelets on each lower branch. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 1.8–2 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1–1.25 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface asperulous, rough on veins. Lower glume apex acute. Upper glume ovate, 1–1.3 mm long, 0.66–0.75 length of adjacent fertile lemma, membranous, 1-keeled, 1(–3) -veined. Upper glume lateral veins absent or obscure. Upper glume surface asperulous, rough on veins. Upper glume apex acute.

Florets. Fertile lemma ovate, 1.6–1.75 mm long, membranous, keeled, 3 -veined, 0–3 -veined. Lemma midvein scaberulous. Lemma surface asperulous. Lemma apex acute. Palea keels scaberulous. Rhachilla extension 0.25 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.6 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea.

Poa helmsii Vickery. *Contrib. N. S. Wales Nat. Herb.* iv. 205 (1970).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: New South Wales: Mt. Kosciusko: Pretty Point: 5000 ft: Feb 1893, *R. Helms* (HT: NSW 44113).

Illustrations (Books): S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (351).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): in honor of Richard Helms (1842–1914) German born New Zealand and Australian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rootstock evident. Butt sheaths herbaceous, pallid. Basal innovations intravaginal. Culms 50–150 cm long, 3–6 mm diam. Culm-internodes elliptical in section, smooth. Culm-nodes glabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths loose, keeled, antrorsely scabrous, glabrous on surface. Ligule a ciliolate membrane, 0.5–2 mm long, pubescent on abaxial surface, truncate. Leaf-blades 5–50 cm long, 3–8 mm wide, light green. Leaf-blade midrib conspicuous. Leaf-blade surface grooved on either side of midline, scabrous, glabrous. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Peduncle antrorsely scabrous above. Panicle open, lanceolate, 15–35 cm long. Primary panicle branches spreading, 5–7 -nate, 4–12 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex obtuse to acuminate. Upper glume oblong, 0.5–0.66 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex obtuse to acuminate.

Florets. Fertile lemma lanceolate, oblong in profile, 2.75–3.75 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma surface pilose, hairy at base. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scaberulous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2 mm long, yellow or purple. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. New South Wales, Victoria.

Coast, Tablelands, Western Slopes.

Poa hentyi J.F. Veldkamp. *P. van Royen, Alp. Fl. New Guinea,* 2: 1091 (1994).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from PNG. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: New Guinea: Veldkamp & Vinas 7539 (L holo, LAE).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of E.E. Henty (fl. 1974) Australian-born Papua New Guinea botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations intravaginal. Culms 2–9 cm long. Leaves distichous. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane. Leaf-blades deciduous at the ligule, conduplicate, 2–3 cm long, 0.5–1 mm wide. Leaf-blade surface glabrous. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle, comprising 3–13 fertile spikelets. Peduncle smooth. Panicle contracted, linear, 2.2–3.3 cm long, 0.3–0.4 cm wide, bearing few spikelets. Primary panicle branches appressed, 1–2 -nate, 1.2–2.3 cm long, bearing 1–5 fertile spikelets on each lower branch. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising (1–)2–3(–4) fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the

upper sterile. Spikelets ovate, laterally compressed, 2.5–3.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.25–0.5 mm long, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 1.3–1.75 mm long, 0.9 length of upper glume, membranous, much thinner on margins, 1-keeled, 1–3 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent or distinct. Lower glume apex acute. Upper glume lanceolate, 1.5–1.85 mm long, 0.75 length of adjacent fertile lemma, membranous, with scarious margins, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, 1.9–2.6 mm long, membranous, keeled, 3 -veined, 0–3 -veined. Lemma midvein without distinctive roughness or scaberulous. Lemma lateral veins obscure. Lemma apex acute. Palea keels scabrous, adorned all along. Rhachilla extension 1.5–1.6 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5–0.65 mm long, purple. Caryopsis with adherent pericarp, oblong, 1.2 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea West Papua (Irian Jaya). New Guinea.

Poa hesperia E.Edgar. *New Zealand J. Bot.*, 24(3): 442 (1986).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *P. Wardle s.n.*, 21 Feb 1972, New Zealand: Lower Otoko Pass, at head of Clarke tributary of Landsborough River, dominant in stony grassland, 4500 ft (CHR-223875).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *Hesperus*, the west. Grows mainly on the west coast of the South Island, New Zealand.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, mat forming. Rhizomes absent or elongated. Butt sheaths grey or light brown. Basal innovations intravaginal. Culms erect, 20–40 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long, scaberulous on abaxial surface, obtuse. Leaf-blades deciduous at the ligule, conduplicate, 5–10 cm long, 0.5–1 mm wide, coriaceous, firm, light green. Leaf-blade surface glabrous or puberulous, hairy adaxially. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, ovate, 2–5.5 cm long. Primary panicle branches spreading, bearing 1–3 fertile spikelets on each lower branch. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4.5–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5 mm long, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–3.5 mm long, 0.9–1 length of upper glume, membranous, 1-keeled, (1–)3 -veined. Lower glume primary vein smooth. Lower glume apex acute or acuminate. Upper glume lanceolate, 3–4 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein smooth. Upper glume apex acute or acuminate.

Florets. Fertile lemma elliptic, 3.5–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma surface puberulous, hairy at base, hairy on veins. Lemma margins ciliolate, hairy all along or above. Lemma apex acute. Palea 2.5–4 mm long. Palea keels scabrous, adorned below. Palea surface smooth. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, 0.5 mm long, membranous. Anthers 3, 1.5–2.5 mm long. Caryopsis with adherent pericarp, 1 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand South I, Stewart Is.

Poa hiemata Vickery. *Contrib. N. S. Wales Nat. Herb.* iv. 230 (1970).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: New South Wales: Mt. Kosciusko: 5000–7000 ft: Feb 1893, *R. Helms* (HT: NSW 39172).

Illustrations (Books): S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (351).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *hiems*, cold; *-ata*, possessing. A component of high alpine grassland in south-eastern Australia, a region with a cold climate.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths herbaceous, pallid. Basal innovations intravaginal. Culms erect or geniculately ascending, 15–60 cm long, 2 -noded. Culm-internodes terete, smooth. Culm-nodes glabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths smooth, glabrous on surface. Ligule a ciliolate membrane, 0.5 mm long, scaberulous on abaxial surface, truncate. Leaf-blades conduplicate or involute, 5–25 cm long, 1–2 mm wide, light green. Leaf-blade surface scabrous, rough adaxially, glabrous.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle open, pyramidal, 5–12 cm long. Primary panicle branches spreading, 1–3 -nate. Panicle branches capillary, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute or acuminate. Upper glume oblong, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute or acuminate.

Florets. Fertile lemma oblong, oblong in profile, 2–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent, hairy below. Lemma apex obtuse or acute. Palea 0.9 length of lemma. Palea keels scabrous, ciliolate, adorned below (ciliolate). Palea surface pubescent. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2 mm long, yellow. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. New South Wales, A.C.T., Victoria, Tasmania.

Coast, Tablelands.

Poa hieronymi Hack. *Oesterr. Bot. Zeitschr.* 1902, 380. (1902).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Lorentz & Hieronymous 654*, 15–20 Jan 1879, Argentina: La Rioja: en las cercanías del pie de la cuesta, más arriba del Vallecito, Sierra de Famatina (W; IT: B, BAA-2562 (fragm. ex B), CORD, LIL, US).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (308).

Derivation (Clifford & Bostock 2007): in honor of George Hans Emmo Wolfgang Hieronymus (1846–1921) German botanist, sometime resident of Argentina.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Culms geniculately ascending, 100–150 cm long, 20 -noded. Culm-internodes antrorsely scabrous. Lateral branches lacking. Leaf-sheaths mostly shorter than adjacent culm internode, scaberulous. Ligule an eciliate membrane, 2 mm long, erose, truncate. Leaf-blades

10–20 cm long, 2–4 mm wide. Leaf-blade surface scabrous, rough adaxially, glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, nodding, 20 cm long. Primary panicle branches 5 -nate, whorled at most nodes, profusely divided, 6–12 cm long. Panicle axis scabrous. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 3–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2.5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2.5 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 2 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma surface scaberulous, rough on veins. Lemma apex acute. Palea 1 length of lemma. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northwest.

Jujuy, La Rioja, Salta, Tucuman.

Poa himalayana Nees ex Steud. *Syn. Pl. Gram.* 256. (1854).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India, Nepal. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Royle 163 on 187/163*, India: Uttar Pradesh, Mussooree, Shalma (LIV-12514; ILT-LE-TRIN-2631.01). LT LT designated by Noltie, Edinburgh J. Bot. 57(2): 289 (2000). LT: *Wallich 8885 ["Alia spec. 3802"]*, 1821, Nepal (K-155; K-154). LT (rej.) LT incorrectly proposed by Bor, Kew Bull 6: 181–186 (1951), this collection not orignal material. This collection belongs to *P. rajbhandari* Noltie.

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 393).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating location. From the Himalayas.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual or perennial, short-lived, caespitose. Rhizomes absent or elongated. Butt sheaths herbaceous. Culms 5–30 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 1–2 mm long. Leaf-blades 5–15 cm long, 2 mm wide, flaccid. Leaf-blade surface scabrous, rough on both sides. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, ovate, 8–16 cm long, 4–8 cm wide. Primary panicle branches spreading, 2 -nate, 1–3 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4.5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1.5 mm long, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume linear, 2.25–2.5 mm long, 0.7–0.8 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume surface scabrous, rough at apex. Lower glume apex acuminate. Upper glume lanceolate, 2.75–3.5 mm long, 0.7–0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume margins scabrous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 4–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous, ciliate, hairy below. Lemma lateral veins extending close to apex.

Lemma surface scaberulous or pitted. Lemma margins ciliate, hairy below. Lemma apex acute. Palea 0.9 length of lemma. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.75–1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. China South Central, Tibet. **Indian Subcontinent**. India, Pakistan, West Himalaya.

Sichuan, Yunnan. Sikkim. West Bengal. Jammu Kashmir.

Poa hirtiglumis Hook. f. *Fl. Brit. Ind.* vii. 343. (1896).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *[J.D. Hooker] Herb. Ind. Or. Hf. & T.*, 9 Sept. 1849, Sikkim: Donkaih Pass, 18,000 ft (K-184 (& fig.)[Bor's LT], K-185). ["P. alpina partly, & P. flexuosa, ?? partly"] LT designated by Bor B.N.H.S.J. 51: 94 (1952), without indication of herb.. ST: *J.D. Hooker*, Sikkim: Lachoong Valley, 11,000 ft ["P. alpina partly, & P. flexuosa, ?? partly"].

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (569, Fig. 18), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 398 as *P. hirtiglumis* var. *nimuana*).

Derivation (Clifford & Bostock 2007): L. *hirtus*, hairy; *gluma*, husk. Glumes hairy.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths herbaceous, persistent and investing base of culm. Culms erect or geniculately ascending, 16–25 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths tight, smooth, glabrous on surface. Ligule an eciliate membrane, 3–4 mm long. Leaf-blades 5–7.5 cm long, 3–4 mm wide. Leaf-blade margins scabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, pyramidal, 5–9 cm long. Primary panicle branches drooping, 3 -nate. Panicle branches flexuous, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or obovate or cuneate, laterally compressed, 4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous or pubescent.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–3 mm long, 0.9 length of upper glume, membranous, much thinner on margins, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume ovate, 2.75–3.25 mm long, 1.3–1.4 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 2–2.5 mm long, membranous, much thinner above, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy all along. Lemma surface pubescent, hairy all along. Lemma hairs yellow. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels ciliate, adorned all along. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.75–1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. China South Central, China North-Central, Qinghai, Tibet. **Indian Subcontinent**. Assam, Eastern Himalaya, Nepal.

Gansu. Sichuan. Bhutan, Sikkim.

Poa hisauchii Honda. *Bot. Mag., Tokyo,* xlii. 132. (1928).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from Japan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Japan: Hondo: Kagoska Prov. Suruga, 4 June 1926, *K. Hisauchi 272 [on TNS sheet]* (HT: TI; IT: KYO, TNS).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 388).

Derivation (Clifford & Bostock 2007): in honor of Kiyotaka Hisauchi or Hisauti (1884–1981) Japanese botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose, clumped loosely. Culms 30–45 cm long, 3–4 -noded. Leaf-sheaths tubular for much of their length, with 0.5–0.66 of their length closed, smooth. Ligule an eciliate membrane, 1–1.6 mm long, white. Leaf-blades 4–14 cm long, 1.5–3 mm wide. Leaf-blade margins scaberulous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, linear or oblong, 9–15 cm long, 0.8–2 cm wide. Primary panicle branches 2–4 -nate, bearing 4–10 fertile spikelets on each lower branch. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 3.75–4 mm long, 1.8–2 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.8–1 mm long, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.5–1.8 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein smooth. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2–2.2 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma elliptic or ovate, 2.2–3 mm long, membranous, keeled, 3–5 -veined, 0–3 -veined or more than 3-veined. Lemma midvein eciliate or ciliolate, hairy below. Lemma apex acute. Palea 2–2.5 mm long. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5–0.7 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 28$ (3 refs TROPICOS), or 35 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**, **Eastern Asia**. China North-Central, China Southeast. Japan Hokkaido, or Honshu, or Shikoku, or Kyushu. Japan, Korea.

Hebei. Zhejiang.

Poa hissarica Roshev. ex Komarov. *Komarov, Fl. URSS,* ii. 416 (1934).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: V: *V. Lipski 4823*, 10 July 1896, Bukhara, Gissar, Karatogmon pass, 11000–12000 ft (LE). "HT" cited by Tzvelev, Zlaki SSSR 452 (1976), but not among the elements cited by Ovchennikov. Roshevits (1934) only provides "Gissar Range" and indicates his type is in LE.. ST: *A.I. Michelson 2809*, ST: *A.I. Michelson 2490*, ST: *A. Regel*, Aug 1884, ST: *V.I. Lipsky*, 11 Jul 1896, ST: *V.I. Lipsky*, 27 Jun 1899, ST: *A. Regel*, 20 Aug 1884, ST: *V.L. Komarov*, 16 Jul 1893,.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Hissar District, Turkestan.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms 15–40 cm long. Culm-internodes smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1 mm long, obtuse. Leaf-blades flat or conduplicate, 1–2 mm wide. Leaf-blade surface scabrous, rough adaxially, glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 5–10 cm long. Primary panicle branches 2–5 cm long. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the

upper sterile. Spikelets oblong, laterally compressed, 7–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.66–0.75 length of upper glume, membranous, 1-keeled. Lower glume apex acute. Upper glume ovate, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Middle Asia**, **China**, **Mongolia**. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Xinjiang.

Poa holciformis J. & C. Presl. *Rel. Haenk.* i. 272. (1830).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *T. Haenke s.n.*, Chile (PR; IT: B, BAA-2564 (fragm. ex B), LE-TRIN-2599.06b, MO-3049180 (Bernhardi herb.), US-88777 (fragm.)). pistillate, stout plant ca 30 cm tall, infl. ca 10 cm, interupted, blades 3 mm wide the upper diverging at ca 16 cm, about 4 cm long.

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (308), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (183, Fig 116).

Derivation (Clifford & Bostock 2007): L. *forma*, appearance. Inflorescence a dense panicle as with *Holcus*.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms geniculately ascending or decumbent, 10–50 cm long, 2–3 -noded, without nodal roots or rooting from lower nodes. Leaf-sheaths smooth or scaberulous. Ligule an eciliate membrane, 4–8 mm long. Leaf-blades straight or curved, conduplicate, 10–20 cm long, 2.5–3.5 mm wide, coriaceous, stiff. Leaf-blade surface scabrous, rough adaxially. Leaf-blade apex acute, hardened. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, interrupted, 5–15 cm long, 1–2 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 7–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 4.5–5.5 mm long, 0.75–0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or distinct. Lower glume apex acute. Upper glume ovate, 5–7 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, 5–7 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.5–3 mm long. Caryopsis with adherent pericarp, lanceolate, trigonous, 2.8–3 mm long, dark brown. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South, Chile Central.

Mendoza, Salta, San Juan. Neuquén. Rest of Chile- Biobio, La Auracania, Maule, O'Higgins, Santado, Valpariso. Coquimbo, Valparaiso, Santiago, O'Higgins, Maule, Biobio, La Araucania.

Poa homomalla Nees. *Lehm. Pl. Preiss.* ii. 104. (1846).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: In solo sublimoso vallis Toodyay-valley: Mar 1840, *Hb. Preiss 1829* (IT: LE, MEL).

Illustrations: None found.

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): Gk. *homos*, alike; *mallos*, stem of onion. Culms with only two leaves.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary. Rhizomes short or elongated, scaly. Butt sheaths papery. Culms erect, 30–75 cm long, 5–9 -noded. Culm-internodes elliptical in section, antrorsely scabrous. Lateral branches lacking or sparse. Leaves cauline. Leaf-sheaths tight, longer than adjacent culm internode, keeled, striately veined, smooth or scaberulous, glabrous on surface. Ligule an eciliate membrane, 3–7 mm long, pilose on abaxial surface, obtuse or acute. Leaf-blades 10–20 cm long, 1.5–4 mm wide. Leaf-blade venation indistinct. Leaf-blade surface smooth or scabrous, rough abaxially. Leaf-blade margins scabrous. Leaf-blade apex abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle contracted, lanceolate, 5–20 cm long. Primary panicle branches appressed, 2 -nate, 2.5–9 cm long. Panicle branches scaberulous. Spikelets appressed, solitary. Fertile spikelets pedicelled. Pedicels present, smooth or scabrous.

Fertile Spikelets. Spikelets comprising 2–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 2–3.5 mm long, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein smooth. Lower glume apex acute. Upper glume oblong, 2–3.5 mm long, 0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein smooth. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 2.2–4.5 mm long, membranous, much thinner above, keeled, 5 -veined, more than 3-veined. Lemma midvein eciliate or ciliate. Lemma lateral veins prominent. Lemma surface glabrous or pubescent. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous, eciliate or ciliate, adorned below (ciliate). Palea surface glabrous or pubescent, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5 mm long, yellow. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. Western Australia.

South-West.

Poa hookeri Vickery. *Contrib. N. S. Wales Nat. Herb.* iv. 222 (1970).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: Tasmania: M B, Kenmore: 19 Nov 1842, *Gunn 1469* (HT: NSW 9051; IT: K).

Illustrations (Books): N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (429, Fig 84), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (351), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (323, Fig 43), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths herbaceous, pallid or light brown. Basal innovations intravaginal. Culms slender, 25–50 cm long, 1–2 -noded. Culm-internodes terete, smooth or scaberulous. Culm-nodes glabrous. Lateral branches lacking. Leaf-sheaths antrorsely scabrous, glabrous on surface. Ligule an eciliate membrane, 1–4.5 mm long, glabrous on abaxial surface or scaberulous on

abaxial surface, acute or acuminate. Leaf-blades filiform, involute, 5–15 cm long, 1 mm wide, flaccid. Leaf-blade surface scabrous, glabrous or hispid.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, elliptic, 3–10 cm long. Primary panicle branches 1–4 -nate. Panicle branches capillary, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume oblong, membranous, 1-keeled, 3 -veined. Upper glume primary vein smooth or scaberulous. Upper glume apex acute.

Florets. Fertile lemma oblong, dorsally straight along back, oblong in profile, 2–2.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein eciliate or ciliolate, hairy below. Lemma surface glabrous or puberulous, hairy below. Lemma margins eciliate or ciliolate, hairy below. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scaberulous, adorned below. Palea surface glabrous or pubescent, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. New South Wales, Victoria, Tasmania.

Tablelands.

Poa horridula Pilger. *Engl. Jahrb.* vii. 506 (1906).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *A. Weberbauer 3113*, May 1903, Peru: Ancash: inter Samanco et Caraz, infra Hacienda Cajambamba, in formatione plantis herbaceis et fruticibus mixta, 3000–3500 m (MOL; ILT: BAA-2569, S (fragm.), US-81728 (fragm. ex B)). LT designated by Anton & Negritto, Willdenowia 27: 237 (1997).

Illustrations (Journals): *Ruizia* (13:132, Fig13j-k (1993)).

Derivation (Clifford & Bostock 2007): L. *horridus*, prickly; *-ula*, diminutive. Leaf-blades stiff erect.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes short. Culms erect or geniculately ascending, robust, 30–90 cm long, 3–4 -noded. Lateral branches lacking. Leaf-sheaths antrorsely scabrous, glabrous on surface. Ligule an eciliate membrane, 3–6 mm long, scaberulous on abaxial surface, truncate. Leaf-blades 10–40 cm long, 5–10 mm wide, herbaceous or coriaceous. Leaf-blade surface scabrous, rough on both sides. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 16–30 cm long, 7–10 cm wide. Primary panicle branches 7–15 cm long. Panicle branches capillary, flexuous, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5.7–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–3.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 3–4.2 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein smooth or scaberulous. Upper glume apex acute.

Florets. Fertile lemma ovate, 4.5–6 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface smooth or scaberulous, rough above, pubescent, hairy below. Lemma apex obtuse. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.2–2.8 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Bolivia, Colombia, Ecuador, Peru.

Poa hothamensis Vickery. *Contrib. N. S. Wales Nat. Herb.* iv. 191 (1970).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: Victoria: Mt. Buffalo: on granite: 4300 ft: 19 Jan 1913, *R.H.Cambage 3742* (HT: NSW 9059; IT: K, SYD).

Illustrations (Books): N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (429, Fig 84 as var. *hothamensis*), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (323, Fig 43), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Mt. Hotham, Victoria, Australia.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rootstock not evident, or evident. Rhizomes short. Butt sheaths herbaceous, purple. Basal innovations extravaginal. Culms erect or geniculately ascending, 15–90 cm long, 3 -noded. Culm-internodes terete, scaberulous. Culm-nodes pubescent. Lateral branches lacking. Leaf-sheaths loose, antrorsely scabrous, glabrous on surface. Ligule a ciliolate membrane, 0.5–2 mm long, pubescent on abaxial surface, truncate. Leaf-blades 7–30 cm long, 1.5–5 mm wide, dark green or glaucous. Leaf-blade surface scaberulous, rough abaxially, pilose, sparsely hairy, hairy adaxially. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle open, elliptic, 3–25 cm long. Primary panicle branches 2–5 -nate, 1–12 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 2 mm long, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume oblong, 2 mm long, 0.66 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma lanceolate, oblong in profile, 2.75–3.75 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface pubescent, hairy below. Lemma margins ciliate. Lemma apex obtuse or acute. Palea 0.9 length of lemma. Palea keels scabrous, ciliate, adorned in the middle (ciliate). Palea surface pubescent, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. Victoria.

Poa howellii Vasey & Scribn. *Vasey. Illustr. N. Am. Grass*. ii. t. 78 (1893).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Thomas Howell*, 24 May 1882, USA: near Shell Rock: Columbia River (LE). Possible type. Howell's Pacific Coast Plants.

HT: *T.J. Howell 25*, May 1881, USA: Oregon: in fir forests near Portland (US-556797; IT: GH).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (535).

Derivation (Clifford & Bostock 2007): in honor of Thomas Jefferson Howell (1842–1912) United States botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect, 40–80 cm long. Lateral branches lacking. Leaf-sheaths tubular for much of their length, with 0.5 of their length closed, keeled, scaberulous. Ligule an eciliate membrane, 1–5 mm long, pubescent on abaxial surface, erose, obtuse or acute or acuminate. Leaf-blades flat or conduplicate, 5–10 cm long, 2–5 mm wide. Leaf-blade surface scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 20–25 cm long. Primary panicle branches whorled at most nodes. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2 mm long, 0.8 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2.5 mm long, 0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins distinct. Lemma surface pubescent. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.7 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Western Canada**, **Northwest USA**, **Southwestern USA**. British Columbia. Oregon, Washington. California.

Poa huancavelicae Tovar. *Mem. Mus. Hist. Nat. ' Javier Prado', Lima, No.* 15. 52 (1965).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *O. Tovar 2846*, 2 Mar 1958, Peru: Dpto. Huancavelica: Prov. Castrovirreyna: alrededores de Choclococha, entre Huancavelica y Castrovirreyna, rocoso, 4500–4600 m (USM-185264; IT: MO-3812379).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): from Huancavelica, Peru.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms geniculately ascending, 25–45 cm long, 3–4 -noded. Culm-internodes scaberulous. Lateral branches lacking. Leaf-sheaths scaberulous, glabrous on surface. Ligule an eciliate membrane, 5–12 mm long, acuminate. Leaf-blades conduplicate, 4–12 cm long, 2.5–4 mm wide. Leaf-blade surface smooth or scaberulous, rough abaxially. Leaf-blade margins scaberulous. Leaf-blade apex abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 5–9 cm long, with spikelets clumped along branches. Panicle branches capillary, smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4.5–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.3–4 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume apex acuminate. Upper glume ovate, 3.8–4.3 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma ovate, 4–4.5 mm long, coriaceous, keeled, 5 -veined, more than 3-veined. Lemma surface scaberulous. Lemma apex acute. Palea keels scaberulous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa hubbardiana L. Parodi. *Not. Mus. La Plata, Bot.*, ii. 10 (1937).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *L.R. Parodi 7501*, 1–4 Dec 1926, Argentina: Córdoba: Sierra de Achala, al bajar de la Pampa de Achala (BAA; IT: US-1721255).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (309).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Charles Edward Hubbard (1900–1980) English agrostologist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 40–60 cm long, 2–3 -noded. Culm-internodes elliptical in section. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 2–3 mm long. Leaf-blades conduplicate, 20–40 cm long, 3–4 mm wide. Leaf-blade surface glabrous. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 8–12 cm long, 1.5 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 10–15 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 6–6.5 mm long, 0.8–0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume lanceolate, 7–7.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma lanceolate, 7–8 mm long, 1.5 mm wide, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent, hairy below. Lemma margins pubescent, hairy below. Lemma apex acute. Palea 4.5 mm long. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female, 4 flowered, 7 mm long. Male spikelet lemma 5.5 mm long.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northwest, Chile South.

San Luis. Cordoba.

Poa huecu L. Parodi. *Rev. Argent. Agron.* xvii. 183 (1950).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Argentina: Neuquen: Cordillera del Viento, Cajon Grande: 25 Jan 1935, *A. Ragonese 284A*.

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (310), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (178, Fig. 114).

Derivation (Clifford & Bostock 2007): The vernacular name huecu means "intoxicator" in the Araucanian language of Chile and western Argentina. Plants host an ergot fungus toxic to grazing animals.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations intravaginal. Culms 30–50 cm long, 2–3 -noded. Leaf-sheaths smooth or scaberulous. Ligule an eciliate membrane, 3–10 mm long. Leaf-blades conduplicate, 8–15 cm long, 2–3 mm wide, stiff. Leaf-blade surface smooth or scaberulous. Leaf-blade apex acute, pungent. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, continuous or interrupted, 7–10 cm long, 1 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous, glabrous or puberulous.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2.5–4.2 mm long, 0.75–0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume ovate, 3–4.5 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, 3.8–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma apex acute. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2–2.5 mm long. Caryopsis with adherent pericarp, fusiform, 2.5 mm long, dark brown. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South.

La Rioja, Mendoza, San Juan. Chubut, Neuquén.

Poa humilis Ehrh. ex Hoffm. *Deutschl. Fl.* 1:45 (1800).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Sweden. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *Ehrhart 115*, Upsaliae (LE (plant B on sheet with P. alpigena plant A), LE-TRIN-2598.02). LE IT has 2 plants and IX, 93 (ref. to Herb. norm. Fasc.), plant B. is *Poa humilis*, A. is *Poa pratensis* var. *alpigena* [with rare pilose hairs on intermediate veins; rjs 2004].

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. low growing. Short-statured in comparison with related species and often prostrate.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary. Rhizomes elongated. Culms erect or geniculately ascending, 10–36 cm long, 1–2 -noded. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths keeled, smooth. Ligule an eciliate membrane, 1–2 mm long, obtuse. Leaf-blades flat or conduplicate, 3–15 cm long, 1.5–4 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade apex abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, effuse, 2–8 cm long, 2–6 cm wide. Primary panicle branches spreading, 2–3 -nate. Panicle branches flexuous, smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.5–3.5 mm long.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or ovate, laterally compressed, 4–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes obscured by lemmas, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 3–4.5 mm long, 0.9–1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acuminate. Upper glume ovate, 3–5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acuminate.

Florets. Fertile lemma ovate, oblong in profile, 3–5 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma lateral veins distinct, stopping well short of apex. Lemma margins ciliate, hairy below. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Europe and Temperate Asia.

Region. **Eastern Europe**.

Country /Province /State. South European Russia. Russian Far East, **Caucasus**, **Western Asia**, **China**. North Caucasus, Transcaucasus. Afghanistan, Iran, Lebanon-Syria. Xinjiang.

Poa humillima Pilger. *Engl. Jahrb.* vii. 378 (1906).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Weberbauer 2602*, Feb 1903, Peru: Junín: prope la Oroya, in planitie montana, plantas pulvinares et plantas rosulatas gignescente, 4300 m (S; ILT: BAA-2576, CORD, MOL, US-88776 (fragm. ex B), USM). LT designated by Anton & Negritto, Willdenowia 27: 236 (1997). ST: *Weberbauer 5113*, 2 Mar 1904, Peru: in andibus supra Lima, 4300 m (B (destroyed); IST: S, US (fragm.)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (310), S.A.Renvoize, *Gramineas de Bolivia* (1998) (137, Fig 34).

Derivation (Clifford & Bostock 2007): L. most low growing. Low growing with respect to related species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 1–4 cm long. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5–0.8 mm long, truncate. Leaf-blades conduplicate, 0.5–3 cm long, 1–2 mm wide, herbaceous or coriaceous, stiff. Leaf-blade surface glabrous. Leaf-blade margins scabrous. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle, shorter than basal leaves, embraced at base by subtending leaf. Panicle spiciform, oblong or ovate, 0.5–1.5 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.3–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.6–2 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume ovate, 1.8–2.3 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 2.3–3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex obtuse. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.6–0.7 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**, **Southern South America**. Bolivia, Ecuador, Peru. Argentina Northwest, Chile North.

Catamarca, Salta, Tucuman. Antofagasta.

Poa hybrida Gaud. *Alpina,* iii. 46. (1808).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Switzerland. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Gay*, Switzerland: auf den höchsten Bergen der Jurakette ST: Switzerland: auf der Dolaz und au creux du vent.

Illustrations (Books): G.Hegi, *Flora von Mitteleuropa* 1 (1909).

Derivation (Clifford & Bostock 2007): L. of mixed parentage. Sharing the characters of two or more species and not necessarily genetic hybrids.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Basal innovations extravaginal. Culms erect, robust, 50–150 cm long. Culm-internodes elliptical in section. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 3–5 mm long, obtuse or acute. Leaf-blades 5–8 mm wide. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 15–20 cm long. Panicle branches terete, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.5–0.66 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 0.5–0.66 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein smooth or scaberulous. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma apex acute. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 14$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Austria, Germany, Switzerland. : France. : Greece, Italy, Romania, Yugoslavia. Northwest European Russia, Ukraine. **China**. Xinjiang.

Poa hylobates Bor. *Bull. Bot. Surv. Ind.* vii. 132 (1965).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from Nepal. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Nepal: near Tarakoti, Bheri River, 10500 ft, grassy clearings in mixed forest, 13 July 1952, *Polunin, Sykes & Williams 2445* (HT: K; IT: BM).

Recent Synonyms: *Poa elanata* Keng ex Tsvelev, *Akad. Nauk SSSR Bot. Inst. Komarova, Rast. Tsentral. Azii*, Fasc. 4, 142 (1959).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. one who haunts the woods. Growing in shady places.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 10–75 cm long. Culm-internodes smooth. Lateral branches lacking. Leaf-sheaths loose, smooth, glabrous on surface. Ligule an eciliate membrane, 3–4.5 mm long, scaberulous on abaxial surface, acute. Leaf-blades flat or conduplicate, 3–6 cm long, 1–2 mm wide. Leaf-blade surface scabrous, rough on both sides, glabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 5–9 cm long, 3–4 cm wide. Primary panicle branches spreading. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume linear, 2.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex attenuate or setaceously acuminate. Upper glume elliptic, 3 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 3–3.5 mm long, membranous, keeled, keeled above, 5 -veined, more than 3-veined. Lemma midvein scabrous, ciliate, hairy below. Lemma surface pubescent, hairy below, hairy on veins. Lemma apex obtuse. Palea surface scabrous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. China South Central, Qinghai, Tibet, Xinjiang. **Indian Subcontinent**. Nepal.

Sichuan.

Poa hypsinephis Veldkamp. *Alpine Fl. New Guinea* 2: 1093 (1979).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Papua New Guinea. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *ANU 5163*, May 1965, Papua New Guinea: New Guinea, Chimbu, Wilhelm Mountain, 4115 m (CANB, K, L, LAE, US).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *hypsos*, lofty; *nephos*, cloud. Growing at high altitudes.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations intravaginal. Culms 2–12 cm long. Leaves distichous. Leaf-sheaths 2–5 cm long, smooth, glabrous on surface. Ligule an eciliate membrane, 0.8–2 mm long, scaberulous on abaxial surface. Leaf-blades erect, deciduous at the ligule, conduplicate, 2.2–4.5 cm long, 0.75–1.5 mm wide. Leaf-blade surface glabrous. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle, comprising 5–38 fertile spikelets. Peduncle 0.8–3.5 cm long. Panicle contracted, linear or lanceolate, 2.1–4.1 cm long, 0.3–0.8 cm wide, bearing few spikelets. Primary panicle branches appressed, 1–2 -nate, 1.4–2.9 cm long, bearing 1–8 fertile spikelets on each lower branch. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2.35–3.7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.3–0.7 mm long, smooth.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 1.2–1.6 mm long, 0.75 length of upper glume, membranous, much thinner on margins, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 1.5–2 mm long, 0.9 length of adjacent fertile lemma, membranous, with scarious margins, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, 1.7–2.25 mm long, membranous, keeled, 3 -veined, 0–3 -veined. Lemma midvein scabrous. Lemma apex acute. Rhachilla extension 0.6–1.5 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5–0.75 mm long, purple. Caryopsis with adherent pericarp, oblong, 1.25 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea.

Poa ibarii R. Phil. *Anal. Univ. Chil.* xciv. 170. (1896).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *H. Ibar s.n.*, Jan 1877, Chile: Dpto. Ultma Esperanza, Lago Pinto (SGO; IT: BAA).

Illustrations (Books): M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (183, Fig 118).

Derivation (Clifford & Bostock 2007): in honor of Enrique Ibar (fl. 1877–78) who collected in Patagonia.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths thickened and forming a bulb, persistent and investing base of culm. Culms 12–20 cm long, 1 -noded. Culm-internodes smooth or antrorsely scabrous. Leaf-sheaths smooth or scaberulous. Ligule an eciliate membrane, 4.5–8 mm long, acute. Leaf-blades filiform, convolute, 2.5–6 cm long, 1 mm wide. Leaf-blade surface scabrous, rough adaxially or on both sides. Leaf-blade margins scabrous. Dioecious.

Inflorescence. Inflorescence a panicle. Peduncle antrorsely scabrous above. Panicle contracted, lanceolate, 4–7 cm long, 0.5–1 cm wide, bearing few spikelets. Panicle branches scabrous, glabrous in axils or pubescent in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 8.5–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous or pubescent.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 6–7.5 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acuminate. Upper glume ovate, 6.5–7.5 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma ovate, 6.5–8.5 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma surface glabrous or puberulous, hairy at base. Lemma margins ciliate, hairy below. Lemma apex acute. Palea 4–5.5 mm long. Palea keels ciliate, adorned below. Palea surface glabrous or puberulous, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp, 2.5 mm long. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Chile South.

Santa Cruz. Chiloe, Aisen, Magellanes.

Poa iberica Fisch. Mey. & Ave-Lall. *Ind. Sem. Hort. Petrop*. ix. *Suppl.* 15 (1843).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Sem. legit Wilhelms in Iberia prope Kodian. Cult. in horto Bot. Petropolit, 1834, (IT: LE, LE, LE).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Iberia, a province in Transcaucasia, former Soviet Union.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary or caespitose. Culms geniculately ascending, 70–150 cm long, 2.5–5 mm diam. Culm-internodes elliptical in section, smooth or scaberulous, distally glabrous. Lateral branches lacking. Leaf-sheaths tubular for much of their length, with 0.33–0.66 of their length closed, keeled or with winged keel. Ligule an eciliate membrane, 2–3 mm long. Leaf-blades 3–8 mm wide. Leaf-blade surface scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong, continuous or interrupted, 10–15 cm long. Primary panicle branches 6–12 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 8–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth, glabrous. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.5 mm long, 0.5 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume

apex acute. Upper glume lanceolate, 3 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.5–5.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma lateral veins distinct. Lemma surface glabrous. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous, adorned above, with 0.5 of their length adorned. Palea surface smooth. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 28$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Caucasus**. North Caucasus, Transcaucasus.

Poa igoshinae Tzvelev. *Novosti Sist. Vyssh. Rast.* 41:44–45 (2009).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Pauraralia Polaris,opp. Beregoboe HT: LE.

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Poa imbecilla Spreng. *Fl. Hal. Mant.* i. 33 (1807).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Forster s.n.*, New Zealand (B-W-1896; IT: CHR-312713 (fragm. ex K), K).

Illustrations: None found.

Images: E.Edgar & H.E.Connor, *Flora of New Zealand* 5, *Gramineae* (2000);.

Derivation (Clifford & Bostock 2007): L. feeble. Inflorescence slender.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes short. Basal innovations extravaginal. Culms 15–50 cm long. Culm-nodes swollen. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 0.2–0.4 mm long, scaberulous on abaxial surface, entire, obtuse. Leaf-blades filiform, conduplicate, 5–12 cm long, 0.5–1 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade margins scaberulous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, ovate, 8–15 cm long. Primary panicle branches spreading. Panicle axis smooth or scaberulous. Panicle branches capillary, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, scabrous.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–1 mm long, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.8–1.5 mm long, 0.7–0.8 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume lanceolate, 1.3–1.8 mm long, 0.7–0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume margins scaberulous. Upper glume apex obtuse.

Florets. Fertile lemma elliptic, 1.8–2.2 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins with distinct primaries but obscure intermediates. Lemma surface scaberulous, rough above or on veins, glabrous. Lemma margins scaberulous. Lemma apex obtuse. Palea 1.2–2 mm long. Palea keels scabrous, ciliate. Palea surface scabrous.

Flower and Fruit. Lodicules 2, 0.2 mm long, membranous. Anthers 3, 0.2–0.4 mm long. Caryopsis with adherent pericarp, 1 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Europe (*), Australasia.

Region. **Northern Europe** (*).

Country /Province /State. : GB Aliens (Ryves et al). **New Zealand**. Chatham Is, New Zealand North I, New Zealand South I, Stewart Is.

Poa imperialis Bor. *Kew Bull.* 1957, 414 (1958).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from Nepal. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Nepal: Tamur Valley, Yangma Khola, NE of Walungchung Gola, 14500 ft, on stones at edge of stream, 24 July 1956, *J.D.A. Stainton 1105* (HT: BM, IT: BM, K, US).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *imperium*, rule; *-alis*, pertaining to. The finest of all Himalayan species of *Poa*.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary. Rhizomes elongated. Culms decumbent, 40–80 cm long, rooting from lower nodes. Culm-internodes terete. Culm-nodes glabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths loose, smooth. Ligule an eciliate membrane, 4–6 mm long. Leaf-blades 15–20 cm long, 5–6 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade margins scaberulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 20–30 cm long, 15–20 cm wide. Primary panicle branches 2 -nate. Panicle branches flexuous, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 6 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 3 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume oblong, 3 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 5 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma surface pilose, hairy on veins. Lemma margins ciliate. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous, ciliolate, adorned below (ciliolate).

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.6 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. China South Central. **Indian Subcontinent**. Nepal.

Sichuan.

Poa inconspicua J.F. Veldkamp. *P. van Royen, Alp. Fl. New Guinea,* 2: 1062 (1994).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Papua New Guinea. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.F. Vedlkamp 6494*, 19 Apr 1975, Papua New Guinea: New Guinea, West Sepik, Capella, 3850 m (L).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. inconspicuous. Easily overlooked.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, cushion forming or mat forming, clumped densely. Basal innovations intravaginal. Culms erect, weak, 1–10 cm long. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 0.1–0.25 mm long, 0.1–0.25 mm long on basal shoots, glabrous on abaxial surface, obtuse or acute. Leaf-blades ascending or spreading, filiform, involute, 0.6–2 cm long, 0.3–0.6 mm wide, stiff. Leaf-blade surface smooth. Leaf-blade margins scaberulous. Leaf-blade apex acute.

Inflorescence. Inflorescence comprising only a few spikelets, comprising 1 fertile spikelets, shorter than basal leaves. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2.5–3 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.5–0.75 mm long, 0.66 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume lateral veins obscure. Lower glume apex acute. Upper glume ovate, 0.85–1.25 mm long, 0.33–0.5 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume lateral veins obscure. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.5–2.6 mm long, membranous, keeled, 0–3 -veined, 0–3 -veined, without veins or one-veined or several-veined. Lemma lateral veins obscure. Lemma surface smooth. Lemma apex acute. Palea keels smooth. Rhachilla extension 1.15–1.35 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.6–0.9 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea West Papua (Irian Jaya). New Guinea.

Poa incrassata Petrie. *Trans. Proc. N. Z. Inst.* iv. 394. (1902).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *F.R. Chapman s.n.*, Jan 1891, New Zealand: plant taken from the Auckland Islands (jan. 1890) and grown in Mr. F.R. Chapman's garden at Dunedin (WELT-66452; IT: AK-1934, CHR-8629).

Recent Synonyms: *Poa exigua* Hook.f., *Handb. N. Zeal. Fl.* 338. (1864).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. thickened. Culm base swollen.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths glossy. Basal innovations extravaginal. Culms 5–15 cm long. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.2–0.7 mm long, glabrous on abaxial surface, erose, obtuse. Leaf-blades conduplicate, 1–6 cm long, 0.6–2 mm wide, glaucous. Leaf-blade venation indistinct. Leaf-blade surface smooth, glabrous. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle contracted or spiciform, linear, 0.5–2.5 cm long. Panicle axis scabrous. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2.5–3.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5 mm long, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 1.5–2.5 mm long, 1 length of upper glume, membranous, 1-keeled, 1(–3) -veined. Lower glume lateral veins absent or obscure. Lower glume apex obtuse. Upper glume ovate, 1.5–2.5 mm long, 0.75–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma lanceolate, 2–2.5 mm long, membranous, much thinner on margins, keeled, 5(–7) -veined, more than 3-veined. Lemma midvein scabrous. Lemma surface papillose, glabrous. Lemma apex obtuse. Palea 1.5–2.3 mm long. Palea keels scabrous, adorned above. Palea surface smooth. Rhachilla extension 1 mm long.

Flower and Fruit. Lodicules 2, 0.4–0.5 mm long, membranous. Anthers 3, 0.2–0.5 mm long. Caryopsis with adherent pericarp, 1–1.3 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand South I, Stewart Is.

Poa indigesta L. Parodi. *Rev. Argent. Agron.* xvii. 187 (1950).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *G. Dawson 1227*, 7 Dec 1946, Argentina: Neuquén: Zapala, Campito cerca del cementerio d. Zapala (IT: US-2150654 (staminate)).

Illustrations (Books): M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (178, Fig 115).

Derivation (Clifford & Bostock 2007): L. *in-*, not; *digero,* dissolve. The rigid and pungent leaf-blades are not edible.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms 60–70 cm long, 2–3 -noded. Leaf-sheaths longer than adjacent culm internode, glabrous on surface. Ligule an eciliate membrane, 4–15 mm long, scaberulous on abaxial surface. Leaf-blades conduplicate, 15–35 cm long, 4–6 mm wide, 8–15 cm long at summit of culm. Leaf-blade surface smooth. Leaf-blade margins scabrous. Leaf-blade apex acute, hardened. Dioecious.

Inflorescence. Inflorescence a panicle, exserted or embraced at base by subtending leaf. Panicle open or contracted, oblong, 25–30 cm long. Primary panicle branches 4–8 cm long, bearing spikelets almost to the base. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous, glabrous or puberulous.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–5.7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 4–5 mm long, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume ovate, 4.2–5.5 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, 4.5–5 mm long, membranous, much thinner above, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma lateral veins stopping well short of apex. Lemma apex acute. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2–2.3 mm long. Caryopsis with adherent pericarp, ovoid, 2.5 mm long, dark brown. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South.

Neuquén.

Poa induta Vickery. *Contrib. N. S. Wales Nat. Herb.* iv. 236 (1970).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: New South Wales: Tooma Rd. above Tumut Pond: 3 Feb 1956, *M.E. Phillips* (HT: NSW 39543).

Illustrations (Books): S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (351).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *induo*, clothe. Glumes and/or lemmas densely hairy.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths herbaceous, pallid. Basal innovations intravaginal. Culms 50–90 cm long, 1–2 -noded. Culm-internodes terete, scaberulous, distally glabrous or pubescent. Culm-nodes pubescent. Lateral branches lacking. Leaf-sheaths smooth, pilose. Ligule a ciliolate membrane, 1 mm long, pubescent on abaxial surface, truncate or obtuse. Leaf-blades filiform, involute, 10–25 cm long, 0.7–0.8 mm wide. Leaf-blade surface pilose. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, lanceolate or pyramidal, 4–18 cm long. Primary panicle branches 2–6 -nate. Panicle branches capillary, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 2–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth, pubescent. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or obscure. Lower glume surface smooth or asperulous. Lower glume apex acute. Upper glume oblong, 0.66–0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface smooth or asperulous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 2.2–2.8 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface pubescent, hairy below. Lemma margins ciliate, hairy at base. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous, ciliolate, adorned below (ciliolate). Palea surface pubescent. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.3–1.5 mm long, yellow or purple. Caryopsis with adherent pericarp, oblong. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. New South Wales, A.C.T.

Tablelands.

Poa infirma H. B. & K. *Nov. Gen. et Sp*. i. 158. (1815).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Colombia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IST: *Humboldt Willd. hb. 1974, plate 223*, [Colombia]: Nova Granada (LE-TRIN-2638.01 (fragm., illustr.)). ST: *Humboldt & Bonpland 134*, Aug 1801, Colombia (P; IST: US-1851276 (fragm. ex P), US-2851277 (fragm. ex P-HUMB]).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (311), C.E.Hubbard, *Grasses* (1968) (166), T. Cope & A. Gray, Grasses of the British Isles (41), N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 323), L.Boulos, *Flora of Egypt* 4 (2005) (147, Fig 41), N.L.Bor, *Gramineae* in *Flora of Iraq* (1968) (123, Pl. 42), T.A.Cope, *Flora of Pakistan* 143: *Poaceae* (1982) (396, Fig. 42), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (151, Fig 104), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (352), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 365).

Illustrations (Journals): *Phytokeys* (15:14, Fig.2 (2012)).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *lax*, weak. Culms decumbent.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Butt sheaths herbaceous. Culms erect or geniculately ascending or decumbent, 1–25 cm long, 1–3 -noded. Culm-internodes terete, smooth. Lateral branches lacking or sparse. Leaves mostly basal. Leaf-sheaths keeled, smooth. Ligule an eciliate membrane, 2–3 mm long, obtuse. Leaf-blades flat or conduplicate, 0.5–8 cm long, 1–4 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade margins scaberulous. Leaf-blade apex obtuse or abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate or ovate, dense or loose, 0.5–10 cm long. Primary panicle branches spreading, 1–2 -nate. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.3–3 mm long.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 2–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas, smooth. Floret callus pubescent.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1–1.5 mm long, 0.6–0.7 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic or oblong, 1.3–2.5 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 1–3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma ovate, oblong in profile, 2–2.5 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma lateral veins stopping well short of apex. Lemma surface pubescent, hairy below, hairy on veins. Lemma apex obtuse. Palea 1 length of lemma. Palea keels ciliate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.2–0.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

n = 7 (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Tropical Asia, Australasia (*), North America, South America.

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Great Britain. : Austria. : Corsica, France, Portugal, Sardinia, Spain. : Greece, Crete, Turkey Europe. **Northern Africa**, **Macaronesia**. Egypt, Libya. Canary Is. **Middle Asia**, **Caucasus**, **Western Asia**, **Arabian Peninsula**, **China**, **Eastern Asia**. Kazakhstan, Tadzhikistan. Iran, Iraq. Kuwait. China South Central, China North-Central, China Southeast. Japan. **Indian Subcontinent**. India, Pakistan, West Himalaya. **Australia** (*), **New Zealand** (*). South Australia (*), New South Wales (*), A.C.T. (*), Victoria (*), Tasmania (*). New Zealand North I, New Zealand South I. **Western Canada**, **Southwestern USA**. British Columbia. California. **Western South America**, **Southern South America**. Bolivia, Colombia, Peru. Chile Central.

Shanxi. Fujian, Zhejiang. Sichuan. Arunachal Pradesh, Darjeeling, Bhutan, Sikkim. South-West. Southern. Tablelands, Western Plains. Valparaiso, Santiago.

Poa interior Rydb. *Bull. Torr. Bot. Club,* 1905: 604. (1905).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Tweedy 3706*, 1900, USA: Wyoming: headwaters of Clear Creek and the Crazy Woman River (NY; IT: US-919842b (fragm. ex NY, mounted with E. Nelson 5129)).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (577).

Derivation (Clifford & Bostock 2007): L. interior. From inland areas such as the central part of the United States.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths herbaceous. Culms erect, 5–50 cm long, wiry, with 0.33–0.66 of their length below uppermost node. Culm-internodes terete, smooth. Lateral branches lacking. Ligule a ciliolate membrane, 1–2 mm long, scaberulous on abaxial surface, truncate or obtuse. Leaf-blades 6–15 cm long, 1–2.5 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle open, pyramidal, 2–15 cm long. Primary panicle branches ascending, 2 -nate, sparsely divided, 3–6 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2.5–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet, incurved at apex or recurved at apex. Lower glume oblong, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scaberulous. Lower glume apex acute. Upper glume lanceolate, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 2.5–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy all along. Lemma lateral veins with distinct primaries

but obscure intermediates. Lemma surface papillose, glabrous or pubescent, hairy on veins. Lemma margins ciliate. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels smooth or scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.1–1.8 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Subarctic America**, **Western Canada**, **Eastern Canada**, **Northwest USA**, **North-central USA**, **Northeast USA**, **Southwestern USA**, **South-central USA**. Alberta, British Columbia, Manitoba, Saskatchewan. Ontario, Quebec. Colorado, Idaho, Montana, Washington, Wyoming. Minnesota, North Dakota, Nebraska, South Dakota, Wisconsin. Michigan, Vermont. Arizona, Utah. New Mexico, Texas.

Poa intrusa E.Edgar. *New Zealand J. Bot.,* 24(3): 463 (1986).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: New Zealand: Craigieburn Range, head of Craigieburn, tussock grassland among *Chionochloa pallens* and *C. flavescens*, ca. 4500 ft, 19 Feb 1968, *I.M. Ritchie s.n.* (HT: CHR-187790).

Illustrations (Books): K.M.Matthew, *Flora Palni Hills* (1996) (863, Pl 863 as *Schizostachyum flavescens*).

Derivation (Clifford & Bostock 2007): L. i*ntrudo*, thrust in. The geographical distribution of the species is included within that of a related taxon.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Basal innovations extravaginal. Culms 30–60 cm long. Lateral branches lacking. Leaf-sheaths keeled, smooth or scaberulous, glabrous on surface. Ligule a ciliolate membrane, 0.5–1.5 mm long, acute. Leaf-blades flat or conduplicate, 7–15.5 cm long, 2–3.5 mm wide, coriaceous. Leaf-blade surface scaberulous, rough adaxially, glabrous. Leaf-blade margins scaberulous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, oblong or ovate, 6.5–18 cm long. Primary panicle branches spreading, bearing 2–4 fertile spikelets on each lower branch. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6.5–9.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long, scaberulous. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate or elliptic, 4–5 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume lanceolate or elliptic, 4–5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 2.5–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex obtuse. Rhachilla extension 2 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand South I.

Poa ircutica Roshev. *Bot. Mater. Gerb. Glavn. Bot. Sada RSFSR* 3: 91 (1922).

Accepted by: N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *N. Struzinsky & B. & V. Ogiewsky*, 26 Jun 1913, Russia: Prov. Irkutsk, Baical, Komar. Daban. Alpais (LE: IT: LE, LE, LE). [possibly two collections], [Tzvelev in Zlaki SSSR p.460 (1976), gives a V. Smirnov collection in 1927 as the type, but that date is inconsistent with the protologue].

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Irkutsk Province, Siberia.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Stolons present. Culms geniculately ascending, 50–90 cm long. Culm-internodes smooth. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 2 mm long, obtuse. Leaf-blades 4–15 cm long, 4–7 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 7–15 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume apex acute. Upper glume ovate, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma lateral veins distinct. Lemma margins ciliolate, hairy below. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 28$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia, **China**. Irkutsk.

Poa iridifolia Hauman. *An. Mus. Nac. Buenos Aires,* xxix. 407 (1917).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Argentina: est abondante entre 500 et 900 m: del la sierra del la Ventana,.

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (312), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (116, Fig. 30).

Derivation (Clifford & Bostock 2007): L. *folium*, leaf. Leaf-blades rather wide and flat, the plants thereby resembling *Iris* species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Basal innovations flabellate. Culms robust, 60–100 cm long, 5–7 mm diam., 2 -noded. Culm-internodes elliptical in section. Leaf-sheaths 15–25 cm long, glabrous on surface. Ligule an eciliate membrane, 1 mm long, erose, obtuse. Leaf-blades 40–50 cm long, 10–18 mm wide, coriaceous. Leaf-blade surface glabrous. Leaf-blade apex acute. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, dense, 20 cm long, 4 cm wide. Primary panicle branches 4–6 -nate, 5–10 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3–3.5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 3–3.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma lanceolate, 3–4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins with distinct primaries but obscure intermediates. Lemma margins ciliate, hairy below. Lemma apex acute. Palea keels ciliolate.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female, 2–4 flowered.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northeast.
Buenos Aires.

Poa irkutica Roshev. *Not. Syst. Herb. Hort. Petrop*. 3: 91 (1922).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Khamar-Daban range: Smirnov (LE holo).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia. Buryatiya.

Poa jansenii J.F. Veldkamp. *P. van Royen, Alp. Fl. New Guinea,* 2: 1077 (1994).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Indonesia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *L.J. Brass & R. Schodde 9929*, Sep 1938, Indonesia: New Guinea I., Irian Barat Prov. (US-1761717). Poa jansenii j.f. veldkamp is the replaced name for poa turfosa publ. in reinwardtii 2: 239. 1953.. HT: *L.J. Brass; E. Meyer-Dress 9929*, Sep 1938, Indonesia: New Guinea, Irian Jaya, Wilhelmina Mountain, 3720 m (L).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Pieter Jansen (1882–1955) Dutch agrostologist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Basal innovations intravaginal. Culms 20–35 cm long. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 3 mm long, acute. Leaf-blades conduplicate or involute, 5–10 cm long, 1–2 mm wide. Leaf-blade venation with 11 secondary veins. Leaf-blade surface scabrous, rough adaxially, glabrous. Leaf-blade margins scabrous. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Peduncle scaberulous above. Panicle open, ovate, 5–8 cm long. Primary panicle branches spreading or reflexed, 1–2 -nate, 0.5–1.5 cm long. Panicle branches flexuous, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 3.5–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.3–0.5 mm long, smooth.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong or ovate, 2.1–3.5 mm long, 0.8–0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume obovate, 2.5–3.7 mm long, 0.8–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–4.1 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma apex acute.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.3–1.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea West Papua (Irian Jaya). New Guinea.

Poa jeremiadis J.F. Veldkamp. *Blumea,* 38(2): 431 (1994).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Jeremy M.B. Smith (fl.1990) the collector and for the fact that any treatment of the genus is likely to be a jeremiad.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Basal innovations extravaginal or intravaginal. Culms geniculately ascending, 9–23 cm long. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 0.75–1.4 mm long, glabrous on abaxial surface, acute. Leaf-blades erect, filiform, 4.5–7.5 cm long, 0.6–0.8 mm wide, stiff. Leaf-blade surface smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 3.5–4 cm long, 1.5–2 cm wide. Primary panicle branches ascending or spreading or reflexed, 1–2 -nate, 1.3–1.9 cm long, bearing 4–6 fertile spikelets on each lower branch. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1–2 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.3–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.75–1.35 mm long, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.85–2.15 mm long, 0.8–0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface smooth. Lower glume apex acute. Upper glume ovate, 2.25–2.5 mm long, 0.8–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3(–5) -veined. Upper glume surface smooth. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.9–3.15 mm long, membranous, keeled, 5(–7) -veined, more than 3-veined. Lemma surface smooth. Lemma apex acute. Palea keels smooth. Rhachilla extension 1.1–1.5 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.6 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea.

Poa jubata Kern. *Oestr. Bot. Zeitschr.* xxiii. 6 (1873).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, T.G.Tutin et al, *Flora Europaea* 5 (1980).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *jubum*, mane; *-ata*, possessing. The inflorescence or awn resembles a fox tail.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, culms solitary. Culms erect or geniculately ascending or decumbent, slender, 12–27 cm long. Culm-internodes terete, purple (at base), smooth. Leaf-sheaths smooth. Ligule an eciliate membrane, 1–2.5 mm long, acute. Leaf-blades conduplicate, 1–3 cm long, 1–4 mm wide. Leaf-blade surface smooth, glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 2–5 cm long, bearing few spikelets. Primary panicle branches 1 -nate. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–11 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 3–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, with lower narrower than upper, shorter than spikelet. Lower glume ovate, 0.6–0.7 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic or oblong, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 1–3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma ovate, oblong in profile, 2–2.5 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma lateral veins stopping well short of apex. Lemma surface hirsute. Lemma margins villous. Lemma apex obtuse. Palea 1 length of lemma. Palea keels ciliate, adorned all along. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.6–0.7 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Europe.

Region. **Southeastern Europe**.

Country /Province /State. : Albania, Greece, Turkey Europe, Yugoslavia.

Poa jugicola D.I.Morris. *Muelleria,* 7(2): 167 (1990).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: Tasmania: Quamby Bluff, 6 Mar 1986, *A. Moscal 12591* (HT: HO-96575; IT: NSW).

Illustrations: None found.

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *jugum*, mountain ridge; *-cola*, dweller. From the Central Highlands of Tasmania.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely or moderately or densely. Rhizomes elongated. Stolons present. Butt sheaths pallid, dull or glossy, glabrous or pubescent. Culms geniculately ascending, slender, 45–90 cm long, 2 -noded. Culm-internodes terete. Culm-nodes glabrous. Leaves mostly basal. Leaf-sheaths glabrous on surface to pubescent. Ligule a ciliolate membrane, 0.5–2 mm long, pubescent on abaxial surface, truncate or obtuse. Leaf-blades involute, 15–35 cm long, 1–2 mm wide. Leaf-blade surface glabrous or pilose, sparsely hairy. Leaf-blade apex abruptly acute, hooded, antrorsely scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 10–25 cm long. Panicle axis angular, scabrous. Panicle branches capillary, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3 mm long, 1 length of upper glume, membranous, much thinner on margins, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or obscure. Lower glume surface smooth or asperulous. Lower glume apex acute. Upper glume lanceolate, 3 mm long, 0.66–0.9 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface smooth or asperulous. Upper glume apex acute.

Florets. Fertile lemma lanceolate or oblong, 3.5–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous, ciliate, hairy below. Lemma surface smooth or scaberulous, rough above. Lemma margins ciliate, hairy below. Lemma apex obtuse. Palea keels scabrous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.5 mm long, yellow or purple. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. Tasmania.

Poa jujuyensis (Pirodi ex Nicora) Giussani, Soreng & Anton. *Darwiniana* 49: 91 (2011.

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Juyjuy, Humahumaca, Mina Aguilar, 4600–4800 m, *J. Fernadez s.n.* (holo: BAA-4785; iso: SI).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (312).

Classification. Subfamily Pooideae. Tribe: Poeae.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northwest.

Jujuy, Salta, Tucuman.

Poa kamczatensis Probatova. *Novosti Sist. Vyssh. Rast.,* 10: 70 (1973).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Russia: Kamczatka, Petropavlovsk, promontorium Signaljnyj, in parte inferiore declivitatis monticuli, 8 Aug 1971, *N. Probatova* (HT: LE).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. -*ensis*, denoting origin. From Kamchatka, Eastern Siberia.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Culms decumbent, 30–70 cm long, 3–5 -noded. Lateral branches lacking. Leaf-sheaths open for most of their length, with 0.25–0.33 of their length closed, scaberulous, glabrous on surface. Ligule an eciliate membrane, 2.5–5 mm long, acute. Leaf-blades 2.5–4 mm wide. Leaf-blade surface scabrous, rough on both sides. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate or elliptic, 7–10 cm long. Primary panicle branches 2–3 -nate, bearing 6–15 fertile spikelets on each lower branch. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes pubescent. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.9–4.2 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume ovate, 2.9–4.2 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma lateral veins with distinct primaries but obscure intermediates. Lemma surface scabrous, rough above. Lemma margins ciliate. Lemma apex obtuse. Palea keels scabrous, ciliolate, adorned below (as to hairs). Palea surface puberulous, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.3–1.9 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 49$ (1 ref TROPICOS), or 56 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East. Kamchatka.

Poa keckii R.J. Soreng. *Syst. Bot.,* 16(3): 520 (1991).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.T. Howell 20566*, 15 Aug 1944, USA: California: Toulomne Co.: Mt. Connes, 3658 mt (US-1895937).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (583).

Derivation (Clifford & Bostock 2007): in honor of David Daniels Keck (1903-) United States botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Basal innovations intravaginal. Culms 3–7(–22) cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths open for most of their length, with 0.1–0.2 of their length closed. Ligule an eciliate membrane, 0–3 mm long, membranous, translucent, glabrous on abaxial surface or scaberulous on abaxial surface, entire, obtuse or acute. Collar glabrous. Leaf-blades involute, angular in section, 3–6(–12) cm long, firm. Leaf-blade venation distinct, comprising 7–15 vascular bundles. Leaf-blade surface smooth or scabrous, rough adaxially, glabrous.

Inflorescence. Inflorescence a panicle, comprising 8–30 fertile spikelets, aerial or shorter than basal leaves (mostly). Peduncle 2–12.5 cm long. Panicle open or contracted, lanceolate to ovate, 1.5–6(–10) cm

long, 0.25–0.5 of culm length. Panicle branches terete or angular, scabrous, rough throughout. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, (0.5–)1.5–5 mm long (mostly more than 2).

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–1 mm long, eventually visible between lemmas, smooth, glabrous or sparsely hairy. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet, shiny. Lower glume lanceolate, 3–4.7 mm long, 0.9–1 length of upper glume, membranous, 1-keeled. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume elliptic, 3–4.9 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile florets bisexual (sometimes female). Fertile lemma lanceolate, widest at 0.15 of its length from base, lanceolate in profile, 3–3.8–4.8 mm long, 1 mm wide, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein without distinctive roughness or scaberulous, eciliate or ciliate. Lemma lateral veins with distinct primaries but obscure intermediates. Lemma surface smooth to scaberulous, rough below and on veins or between veins. Lemma apex truncate. Palea lanceolate, 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2. Anthers basifixed, 0.6–1.7(–2) mm long, purple. Ovary glabrous. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Southwestern USA**. California.

Poa kelloggii Vasey. U.S.D.A. *Div. Bot. Bull.* 13 (2): 79, t.79 (1893).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *H.N.Bolander 4705*, 1866, USA: California, woodlands (US-556765; IT: GH, US-749199(a), US-918210, W-14324 (possible IT)).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (513).

Derivation (Clifford & Bostock 2007): in honor of Albert Kellog (1813–87) United States physician and amateur botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms 30–60 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths scaberulous, glabrous on surface. Ligule an eciliate membrane. Leaf-blades flat or conduplicate, 15–30 cm long, 2–4 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 7–15 cm long. Primary panicle branches spreading or reflexed, 1–2 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume ovate, 4 mm long, 0.8–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma apex acute or cuspidate. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Northwest USA**, **Southwestern USA**. California.

Poa kenteica Ivanova. *Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS,* vii. 278 (1938).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Mongolia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Ikonnikovi-Galitzkie N.P. & V.A. 579*, 26 Jul 1928, Mongolia: E Kentei: Rv. Kerulen: NW from mts. Kentei-chan (LE; IT: LE).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Kentei-chan, a mountain in Mongolia.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Stolons absent or present. Culms erect, 15–35 cm long. Culm-internodes smooth, distally glabrous. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long, obtuse. Leaf-blades 3–5 cm long, 2–2.5 mm wide. Leaf-blade surface smooth, glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate or pyramidal, 4–6 cm long, 2–3 cm wide. Primary panicle branches ascending, 2 -nate, bearing 2–3 fertile spikelets on each lower branch. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5 mm long, 0.8 length of upper glume, membranous, much thinner on margins, purple, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 3 mm long, 0.7–0.8 length of adjacent fertile lemma, membranous, with hyaline margins, purple, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex acute.

Florets. Fertile lemma oblong, 3.2–4 mm long, membranous, much thinner on margins, mid-green or yellow, tipped with last colour, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma lateral veins distinct. Lemma surface puberulous, hairy below, hairy between veins. Lemma margins ciliate. Lemma hairs 0.5 mm long. Lemma apex obtuse.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Mongolia**, **Russia**. Mongolia.

Poa kerguelensis (Hook. f.) Steud. *Syn. Pl. Glum.* 1:257 (1854).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Kerguelen Land. **Basionym or Replaced Name**: *Triodia kerguelensis* Hook. f., *Fl. Antarct.* 379, t. 138 (1847)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.D. Hooker 761*, May 1840, Kerguelen Land: on the debris of the rocks common [perennial] and alpina, Christmas Harbour (K-H2003/00969–293; IT: CN, US-1127149 (fragm. ex CGE) (fragm. ex CN)).

Recent Synonyms: *Poa kerguelensis* (Hook.f.) Steud., *Syn. Pl. Gram.* 257 (1854). *Tzvelevia kerguelensis* (Hook.f.) E.B.Alexeev.

Festuca kerguelensis (Hook.) F. Muell., *Veg. Chatham Islands,* 60 (1864).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Kerguelen Island in the Antarctic Ocean.

Type species: HT: *J.D. Hooker*, Kerguelen Land (CGE; IT: CN, US-1127149 (fragm. ex CGE) (fragm. ex CN)).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 5–8 cm long. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5 mm long. Leaf-blades aciculate, conduplicate, 1–2 cm long, 0.5 mm wide. Leaf-blade venation comprising 7 vascular bundles,

with 9 subepidermal sclerenchyma strands, with subepidermal sclerenchyma free from veins. Leaf-blade surface glabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear, 1–1.5 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 4–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet or reaching apex of florets. Lower glume lanceolate, 2–3 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 4 mm long, 1.3 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate. Lemma surface puberulous. Lemma apex acute. Palea 1 length of lemma, 2 -veined. Palea keels ciliolate.

Flower and Fruit. Anthers 3. Ovary glabrous. Caryopsis with adherent pericarp, linear, sulcate on hilar side, glabrous. Hilum linear.

Distribution (TDWG). Continent. Antarctica.

Country /Province /State. **Subantarctic islands**. Heard-McDonald Is, Kerguelen.

Poa keysseri Pilger. *Engl. Jahrb.* lxii. 460 (1929).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

Illustrations (Books): E.E.Henty, *A Manual of the Grasses of New Guinea* (1969) (152, Pl. 57 as *P. saruwagedica*).

Derivation (Clifford & Bostock 2007): in honor of Christian Keysser (1877-) German missionary, linguist and ethnographer.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths dark brown. Basal innovations intravaginal. Culms erect, 25–120 cm long, 3–6 -noded. Leaf-sheaths smooth, glabrous on surface. Ligule a ciliolate membrane, 0.4–0.7 mm long. Leaf-blades erect, flat or conduplicate, 10–14 cm long, 2–3 mm wide, stiff. Leaf-blade venation with 5–9 secondary veins. Leaf-blade surface scabrous or papillose, rough adaxially, glabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Peduncle antrorsely scabrous above. Panicle open, oblong or ovate, 7–25 cm long. Primary panicle branches appressed or ascending, 1–7 -nate, 3–6 cm long. Panicle branches terete or angular, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.7–0.8 mm long, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.7–5.5 mm long, 0.66–1 length of upper glume, membranous, 1-keeled, 3–5 -veined. Lower glume primary vein scabrous. Lower glume surface scabrous, rough on veins. Lower glume margins ciliolate. Lower glume apex acute. Upper glume lanceolate, 2.5–5.3 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface scabrous, rough on veins. Upper glume apex acute.

Florets. Fertile lemma elliptic, 2.2–5.5 mm long, membranous, keeled, 5–11 -veined, more than 3-veined. Lemma surface asperulous. Lemma margins ciliolate, hairy above. Lemma apex obtuse or acute. Palea elliptic, 2–4.5 mm long. Palea keels scabrous. Rhachilla extension 1–1.75 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.8–2.7 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea.

Poa khasiana Stapf. *Hook.f. Fl. Brit. Ind.* vii. 343. (1896).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *J.D. Hooker [17 Poa]*, Sikkim Himalaya, 11–14000 ft (BM, GOET-5927). [IT of *P. lachenensis* Noltie]. ST: *King's Collector*, Sikkim Himalaya ST: *J.D. Hooker & T. Thompson, Herb Ind. Or. Hf. & T. 17 p.p.*, Khasia Hills, 4–6000 ft 17 other part. is type of P. lachnensis Noltie. ST: *Clarke*, Khasia Hills LT: *J. D. Hooker [1081 Poa]*, 18 June 1850, India: Khasia Hills, Cherrapunji, 2000 m (K-151;). LT designated by Bor, Bombay Natur. Hist. Soc. J. 50: 831 (1952), without indication of herb. As in the protolog, this was originally det as P. himalayana Nees. Stapf figure pinned on illustrates this and H.I.O.H.f.&T. Poa n. 17 [from Sikkim], the latter being *P. lachenensis* Noltie..

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 396).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating location. From the Khasia Hills, India.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths herbaceous. Culms erect or geniculately ascending, 35–70 cm long, rooting from lower nodes. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths loose, smooth, glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long, erose. Leaf-blades 10–20 cm long, 2–3 mm wide, flaccid. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade margins smooth. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, pyramidal, 10–15 cm long, bearing few spikelets. Primary panicle branches spreading, 3–5 -nate, bearing 1–3 fertile spikelets on each lower branch. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or cuneate, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1.25–1.5 mm long, smooth. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 2–2.5 mm long, 0.6–0.7 length of upper glume, membranous, glandular, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 3–3.5 mm long, 0.8–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface scabrous, rough above. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 3–4 mm long, membranous, glandular on surface, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous, ciliate, hairy below. Lemma lateral veins extending close to apex. Lemma margins ciliate. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

n = 4 (1 ref TROPICOS). 2n = 28 (2 refs TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**, **Eastern Asia**. China South Central, Tibet. Taiwan. **Indian Subcontinent**, **Indo-China**. India. Myanmar.

Guizhou, Sichuan, Yunnan. Arunachal Pradesh, Sikkim. Meghalaya. West Bengal.

Poa kilimanjarica (Hedb.) Markgraf-Dannenberg. *Willdenowia,* v. 273 (1969).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

Basionym or Replaced Name: *Koeleria convoluta* var. *vulcanica* Domin, *Biblioth. Bot.* 14(65): 111, t. 1, f. 16, t. 6, f. 3–9 (1907). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Volkens 1507*, 1907, Tanganyika: Kilimanjaro (B).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Mt. Kilimandjaro, East Africa.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths withering. Culms 14–20 cm long. Leaves mostly basal. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 3–3.5 mm long. Leaf-blades aciculate, 5–10 cm long, 0.5–1 mm wide.

Inflorescence. Inflorescence a panicle. Panicle contracted or spiciform, linear, 4–7 cm long. Panicle branches scabrous, glabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 4.5–5 mm long, 0.8–0.9 length of upper glume, chartaceous, without keels, 3 -veined. Lower glume apex acute. Upper glume lanceolate, 5–6 mm long, 1.2–1.3 length of adjacent fertile lemma, chartaceous, without keels, 3–5 -veined. Upper glume apex acute.

Florets. Fertile lemma elliptic, 4–5 mm long, chartaceous, keeled, keeled above, 5 -veined, more than 3-veined. Lemma apex obtuse. Palea 1 length of lemma, 2 -veined. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1 mm long. Ovary glabrous. Caryopsis with adherent pericarp, glabrous. Hilum punctiform.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **East Tropical Africa**. Tanzania.

Poa kirkii J. Buch. *Indig. Gras. N. Zeal. t.* 51 (1880).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *A. Mackay s.n.*, New Zealand: Mount Arthur (WELT-59610 (Buchanan's folio); IT: CHR-51649).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Thomas Kirk (1828–1898) English-born New Zealand forester and amateur botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Stolons absent or present. Basal innovations extravaginal. Culms 20–50 cm long. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 1–4 mm long, glabrous on abaxial surface or scaberulous on abaxial surface, entire, acute. Leaf-blades 7.5–10 cm long, 1–3 mm wide, coriaceous. Leaf-blade surface scabrous, rough adaxially or on both sides, glabrous. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle open, 5–10 cm long. Primary panicle branches spreading. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–6.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–1 mm long. Floret callus glabrous or sparsely hairy.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.5–4 mm long, 0.75–0.8 length of upper glume, membranous, purple, 1-keeled, 1–3 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent or distinct. Lower glume apex acute. Upper glume ovate, 2–5 mm long, 1 length of adjacent fertile lemma, membranous, purple, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex acute.

Florets. Fertile lemma oblong or ovate, 2–5 mm long, membranous, much thinner above, keeled, 5 -veined, more than 3-veined. Lemma midvein eciliate or ciliolate, hairy below. Lemma surface scaberulous, rough on veins. Lemma apex truncate or obtuse. Palea 1.5–4 mm long. Palea keels ciliolate. Palea surface glabrous or puberulous, hairy on back. Rhachilla extension 1–2 mm long.

Flower and Fruit. Lodicules 2, 0.3–0.6 mm long, membranous, glabrous or ciliate. Anthers 3, 0.6–1 mm long. Caryopsis with adherent pericarp, 1–1.5 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand North I, New Zealand South I, Stewart Is.

Poa klokovii Tzvelev. *Novosti Sist. Vyssh. Rast.* 41: 31–31. 2009.

TYPE from Ukraine. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Herbarium florae chersonensis, vallis inundata fl. Dnestr prope pag. Jasski, 23 May 1905, *Paczoski s.n.*, HT: LE.

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Culms erect or geniculately ascending, 30–80 cm long, with 0.5 of their length below uppermost node. Culm-internodes smooth. Leaves mostly basal. Leaf-sheaths smooth. Ligule an eciliate membrane, 1.5–3 mm long. Leaf-blades flat or convolute, 1.5–3.5 mm wide. Leaf-blade surface scabrous, rough adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, effuse. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 2.5–3.2 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes glabrous. Floret callus pilose.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.6–2.2 mm long, membranous, 1-keeled. Lower glume apex acute. Upper glume lanceolate, 1.5–2.2 mm long, membranous, 1-keeled. Upper glume apex acute.

Florets. Fertile lemma ovate, 1.7–2.2 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface puberulous, hairy below, hairy on veins. Lemma apex acute. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1 mm long.

Distribution (TDWG). Continent. Europe.

Region. **Eastern Europe**.

Poa koksuensis Golosk. *Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS,* xiv. 72 (1951).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Kazakhstan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *V. Goloskokov*, 24 Aug 1948, Kazakhstan: [Jungarian Alatau] Koksu basin, glacial origin of Korzhu River, moist places among mosses near the present moraines, 3000 m (AA; IT: LE, LE).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. -*ensis*, denoting origin. From Koksu River, Kazakhstan.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Culms geniculately ascending, 20–40 cm long. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long, obtuse. Leaf-blades 2–3 mm wide. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 3–5 cm long, bearing few spikelets. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, membranous, 1-keeled. Lower glume apex obtuse or acute. Upper glume ovate, membranous, 1-keeled. Upper glume apex obtuse or acute.

Florets. Fertile lemma ovate, 3–4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins distinct. Lemma apex obtuse or acute. Palea keels smooth. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2–3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Middle Asia**. Kazakhstan.

Poa kolymensis Tsvelev. *Bot. Zhurn.*, 57(6): 646 (972) (1972).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Kazakhstan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *A. Khokhryakov s.n.*, 25 Jul 1969, [Primorskij Territ.]: Khasanskij Distr.: Chernoe Lk. (LE). orig.label:"Khasanskij rajon: Chornoe ozero : shchebnistyj sklon S-E ehkspozitsii".

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis,* denoting origin. From the Kolyma Basin, Eastern Siberia.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 7–25 cm long. Lateral branches lacking. Leaf-sheaths tubular for much of their length, with 1 of their length closed, glabrous on surface. Ligule an eciliate membrane, 2–4 mm long, 0.7–2 mm long on basal shoots. Leaf-blades flat or conduplicate, 0.6–1.5 mm wide. Leaf-blade surface scabrous, rough on both sides.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle open or contracted, elliptic, 2–5 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes scaberulous. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.3–3.8 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume ovate, 2.8–3.8 mm long, 0.8–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.5–4.3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface scaberulous. Lemma apex acute. Palea keels scabrous, adorned below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.3–1.7 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East, **China**. Magadan. Manchuria.

Poa korshinskyi Tzvelev. *Novosti Sist. Vyssh. Rast.* 41: 39 (2009).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Permj, Krasnofimsk, Enaraeva: Korshinsky (LE holo).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 20–40 cm long, with 0.2–0.33 of their length below uppermost node. Culm-internodes smooth. Leaves mostly basal. Leaf-sheaths smooth. Ligule an eciliate membrane, 0.5–2.5 mm long. Leaf-blades convolute, 0.5–2.5 mm wide. Leaf-blade surface scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, loose, 4–8 cm long. Primary panicle branches 2–4 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 2.5–3.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.8–2.8 mm long, membranous, 1-keeled. Lower glume apex acute. Upper glume lanceolate, 1.8–2.8 mm long, membranous, 1-keeled. Upper glume apex acute.

Florets. Fertile lemma ovate, 2–3.3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface puberulous, hairy on veins. Lemma apex acute. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3.

Distribution (TDWG). Continent. Europe.

Region. **Eastern Europe**.

Poa kronokensis Prob. *Fl. Rastitel'n. Dal'nego Vostoka* 449, 358–359 (2006).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Russia: [Far East] Kamschatka, distr. Elizovskij, reservatum Kronotzkij, ad fontes fluminis Unana, in declivo jugi Valaginskij, prope rivulum, 29.V11I.1978, *V. Petjko* (HT: VLA).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary. Rhizomes elongated. Culms geniculately ascending, 20–25 cm long. Leaf-sheaths scaberulous. Ligule an eciliate membrane, 2.3 mm long. Leaf-blade surface smooth, glabrous or puberulous, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, effuse, 5–12 cm long. Panicle branches capillary, smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, smooth or scaberulous.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pilose.

Glumes. Glumes persistent, similar, with lower narrower than upper, shorter than spikelet. Lower glume lanceolate, 0.9 length of upper glume, membranous, much thinner on margins, 1-keeled. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume lanceolate, membranous, with hyaline margins, 1-keeled. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma elliptic, 3.5 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate. Lemma margins pubescent. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.5–1.3 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East. Kamchatka.

Poa kuborensis J.F. Veldkamp. *Blumea,* 38(2): 434 (1994).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Papua New Guinea. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *W. Vink 16184*, 26 Jul 1963, Papua New Guinea: New Guinea, Western Highlands, Kubor, 3860 m (L).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Kubor Range, Papua New Guinea.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations extravaginal or intravaginal. Culms erect, 2.5–8 cm long. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 2–3.5 mm long, 1.25–2 mm long on basal shoots, glabrous on abaxial surface or scaberulous on abaxial surface, acute. Leaf-blades erect, conduplicate, 1.3–4.5 cm long, 1.25 mm wide, stiff. Leaf-blade midrib keeled beneath. Leaf-blade surface smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 2.5–3.5 cm long, 0.3–0.6 cm wide. Primary panicle branches appressed, 1 -nate, 2–2.5 cm long, bearing 1–2 fertile spikelets on each lower branch. Panicle branches scaberulous, rough distally. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising (2–)3(–4) fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–7.6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–1 mm long, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 4.15–5.25 mm long, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume lateral veins obscure. Lower glume surface smooth. Lower glume apex acute. Upper glume ovate, 4.5–5.1 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume surface smooth. Upper glume apex acute.

Florets. Fertile lemma ovate, 4.6–5.35 mm long, membranous, keeled, 5–7(–9) -veined, more than 3-veined. Lemma surface smooth. Lemma apex acute, muticous or mucronate. Palea keels scaberulous, adorned above. Rhachilla extension 0.6–2.75 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.8 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea.

Poa kumgansani Ohwi. *Acta Phytotax. & Geobot*. iv. 62. (1935).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Korea. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J. Ohwi*, 12–13 Aug 1932, Korea: (KYO s.n.; IT: TNS-233984).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): from Kongosan, a mountain in Korea.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 40–50 cm long, 4–5 -noded. Culm-internodes terete, scaberulous. Lateral branches lacking. Leaf-sheaths scaberulous. Ligule an eciliate membrane, 0.2–0.5 mm long, truncate. Leaf-blades 7–14 cm long, 1–2 mm wide. Leaf-blade surface scaberulous, rough adaxially, glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 8–12 cm long. Primary panicle branches ascending, 2–3 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–4 mm long, 0.8–1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acuminate. Upper glume lanceolate, 3–4 mm long, 0.66–0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, 5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins stopping well short of apex. Lemma margins ciliate, hairy below. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Eastern Asia**. Korea.

Poa kurdistanica Chrtek & Hadac. *Candollea* 25: 260 (1970).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths thickened and forming a bulb. Culms geniculately ascending, 20–30 cm long. Culm-internodes elliptical in section, scaberulous. Lateral

branches lacking. Leaves mostly basal. Leaf-sheaths scaberulous. Ligule an eciliate membrane, 1–1.5 mm long. Leaf-blades 2.5–7 cm long, 1–2 mm wide. Leaf-blade surface scaberulous, glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 5–9 cm long. Panicle axis scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes glabrous. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2.6–3 mm long, 0.9 length of upper glume, membranous, 1-keeled. Lower glume apex acute. Upper glume ovate, 2.8–3.1 mm long, 0.8–0.9 length of adjacent fertile lemma, membranous, 1-keeled. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 3–3.2 mm long, membranous, glaucous and purple, tipped with last colour, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma surface glabrous. Lemma margins pubescent, hairy below. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.2–1.5 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Western Asia**. Iraq.

Poa kurtzii R. Fries. *Nov. Act. Soc. Sci. Upsal. Ser.* IV. i. no. 1, 183. (1906).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Kurtz 11584 (leg. F. Claren)*, 5 Feb 1901, Argentina: Jujuy: Depto. Santa Catalina: región de la Puna, Timón Cruz, 3850 m (S; ILT: BAA (fragm.), CORD, US-88772 (fragm. ex S)). LT designated by Negritto & Anton, Kurtziana 27(2): 366 (1999). ST: *Kurtz 11598 (leg. F. Claren)*, 6 Feb 1901, Argentina: Jujuy: Depto. Rinconada: Cuesta de San Jos? cerca de de Rinconada, 4200 m, ad ripam amnis (BAA, CORD, S). same species as 11584 fide ASH. ST: *Kurtz 11609 (leg. F. Claren)*, 8 Feb 1901, Argentina: Jujuy: región de la Puna, Rinconada, 3800 m, in petrosis (BAA, BAF, CORD). same species as 11584 fide ASH.

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (313).

Derivation (Clifford & Bostock 2007): in honor of Fritz Kurtz (1854–1920) who collected in South America.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 30–65 cm long. Culm-internodes antrorsely scabrous. Lateral branches lacking. Leaf-sheaths smooth or antrorsely scabrous. Ligule an eciliate membrane, 5–8 mm long, acute. Leaf-blades convolute, 10–25 cm long, 1–2 mm wide. Leaf-blade surface scabrous. Leaf-blade apex pungent. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 8–20 cm long, bearing few spikelets. Primary panicle branches 2–3 -nate, 4–8 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.5–2 mm long, scabrous.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 3–4 mm long, 0.66–0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, 4–5 mm long, 2.5 mm wide, membranous, purple and yellow, tipped with last colour, keeled, 5 -veined, more than 3-veined. Lemma surface smooth or scaberulous. Lemma apex acute. Palea 3.5 mm long. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**, **Southern South America**. Bolivia, Peru. Argentina Northwest, Chile North.

Catamarca, Jujuy, La Rioja, Salta, Tucuman. Tarapaca.

Poa labillardieri Steud. *Syn. Pl. Gram.* 262. (1854).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: N. Holl., *Labillardier* (HT: ex herb. Labillandieri); HT: (IT: K).

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (152, Fig 105 as var. *labillardieri*), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (429, Fig 84 as var. *labillardieri*), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (352), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (323 & 333, Fig 43 & 44 as var.*labillardieri*), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);, R.Darke, *The Encylopaedia of Grasses for Liveable Landscapes* (2007);.

Derivation (Clifford & Bostock 2007): in honor of Jacques Julian Houtlan de Labillardihre (1755–1834) French botanist and explorer.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Rootstock evident. Butt sheaths herbaceous, pallid. Basal innovations extravaginal. Culms 30–120 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths antrorsely scabrous, glabrous on surface. Ligule a ciliolate membrane, 0.5 mm long, pubescent on abaxial surface, truncate. Leaf-blades flat or involute, 40–80 cm long, 3–5 mm wide, dark green. Leaf-blade surface scabrous, rough on both sides, glabrous. Leaf-blade margins scabrous. Leaf-blade apex attenuate, filiform.

Inflorescence. Inflorescence a panicle. Peduncle antrorsely scabrous above. Panicle open, lanceolate, 10–25 cm long. Primary panicle branches spreading, 3 -nate, 4–12 cm long. Panicle branches capillary, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume oblong, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 2.5–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma surface scaberulous, rough above, pilose, hairy at base. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous, adorned above. Palea surface scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 28$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe (*), Australasia.

Region. **Northern Europe** (*).

Country /Province /State. : GB Aliens (Ryves et al). **Australia**, **New Zealand** (*). South Australia, Queensland, New South Wales, A.C.T., Victoria, Tasmania. New Zealand North I, New Zealand South I.

Southern. Central, South East. Coast, Tablelands, Western Slopes, Western Plains.

Poa lachenensis H.J. Noltie. *Edinburgh J. Bot.,* 57(2): 286 (2000).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J. D. Hooker [hb. Ind. Or. Hook. fil. & Thomson] 17 Poa, p.p.*, 11 Jun 1849, Sikkim: Lachin, 11–13000 ft (K-178; IT: BM). [K "Lachen, 11000 ft June 11/49"; BM "11–13000 ft", both say "Poa 17", but the BM specimen seems to be of a 2nd gathering, as it is also of a smaller more slender individual of the same species. RJS 2003].

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (565, Fig. 16).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Lachen, Sikkim State, India.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual or perennial, short-lived, caespitose. Stolons absent or present. Culms 16–45 cm long. Culm-internodes smooth. Leaf-sheaths smooth. Ligule an eciliate membrane, 0.4–2.3 mm long, glabrous on abaxial surface or pubescent on abaxial surface, truncate. Leaf-blades 4–12 cm long, 0.9–2.5 mm wide. Leaf-blade surface smooth or scaberulous, rough adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, loose, 8–18 cm long. Primary panicle branches ascending, distant, subdividing 1–4 times, 3–7 cm long. Spikelets solitary. Fertile spikelets pedicelled.

Fertile Spikelets. Spikelets comprising 2–3(–4) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, 4.1–6.2 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.5–2.2 mm long, 0.66–0.75 length of upper glume, membranous, much thinner on margins, 1-keeled, 1 -veined. Lower glume apex acute. Upper glume oblong, 2.2–2.3 length of adjacent fertile lemma, 0.75 length of spikelet, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, lanceolate in profile, 2.8–4.2 mm long, 1.6 mm wide, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein eciliate. Lemma lateral veins stopping well short of apex. Lemma surface smooth or punctate, glabrous. Lemma margins eciliate. Lemma apex acute. Palea 2.1–2.8 mm long. Palea keels ciliolate, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.6–0.9 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indian Subcontinent**. Eastern Himalaya.

Sikkim.

Poa laetevirens R. Fries. *Nov. Act. Soc. Sci. Upsal. Ser.* IV. i. no. 1, 181. (1905).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Fries 806*, 21 Feb 1901, Argentina: Jujuy: Depto. Tumbaya: Moreno, in ripa rivyli humidi [US: ad margines fossarum], 3500 m, (S; ILT: BAA (fragm.), CORD, US-946937 (ex S), US-1162321 (ex S)). LT designated by Negritto & Anton, Kurtziana 27(2): 366 (1999).

ST: *Kurtz 11614a*, 8 Feb 1901, Argentina: Jujuy: Dpto. Rinconada, in ripar. humidissimis, 3800 m (BAA, BAF, CORD, S, US-88771 (fragm. ex S)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (314).

Derivation (Clifford & Bostock 2007): L. *laetum*, bright; *virens*, green. Foliage bright-green.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes elongated. Culms decumbent, 5–15 cm long, 3–6 -noded. Lateral branches lacking. Leaf-sheaths keeled, glabrous on surface. Ligule an eciliate membrane, 1–2 mm long, erose. Leaf-blades flat or conduplicate, 3–8 cm long, 1–2 mm wide. Leaf-blade surface glabrous. Leaf-blade margins smooth. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle, shorter than basal leaves, embraced at base by subtending leaf. Panicle spiciform, elliptic, 3–5 cm long, 0.5–1 cm wide. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, smooth.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.5–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1 mm long, 0.66 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 1.5 mm long, 0.66 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins distinct. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.6–0.7 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**, **Southern South America**. Bolivia, Peru. Argentina Northwest, Chile North.

Jujuy, La Rioja, Salta. Tarapaca, Antofagasta, Atacama.

Poa lamii Jansen. *Reinwardtia,* ii. 326 (1953).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Indonesia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *H.J. Lam 1664*, 18 Oct 1920, Indonesia: New Guinea, Irian Jaya, Doorman Mountain (L).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Hermann Johannes Lam (1892–1977) Dutch botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Basal innovations extravaginal. Culms erect, 25–40 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths 4–5 cm long. Ligule an eciliate membrane, 2–2.5 mm long, acute. Leaf-blades filiform, involute, 10–15 cm long, 0.75–1 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 4–6 cm long, with spikelets clustered towards branch tips. Primary panicle branches reflexed, bearing 1–4 fertile spikelets on each lower branch. Panicle branches capillary, flexuous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2(–3) fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 2 mm long (distal), villous. Floret callus glabrous or pubescent (sparsely).

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.5–4.5 mm long, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume lanceolate, 3.5–4.5 mm long, 1.1–1.5 length of adjacent fertile lemma, membranous, 1-keeled, 3(–5) -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 3 mm long, herbaceous, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Palea keels scabrous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea West Papua (Irian Jaya). New Guinea.

Poa lanata Scribn. & Merrill. *Contrib. U. S. Nat. Herb.* xiii. 72 (1910).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *F.V. Coville & T.H. Kearney 2191*, 17 Jul 1899, USA: Alaska: Aleutian Islands, Unalaska [from Kearney's notes: "Dutch Harbor"... "spent a few hours ascending the mountain (about 1800 ft high) near the wharf", it is apparent that they collected from the coastal belt on up to near the summit.] (US-376421). [rachilla segments glabrous to pilose. Fide RJS 2003].

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *lana*, wool; *-ata*, possessing. Lemmas and/or glumes densely pubescent.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary. Rhizomes short. Culms 20–40 cm long. Culm-internodes terete, smooth, distally glabrous. Lateral branches lacking. Leaf-sheaths open for most of their length, with 0.33 of their length closed, smooth. Ligule an eciliate membrane, 2 mm long. Leaf-blades 2–4 cm long, 2–3 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, 5–7 cm long, 3–3.5 cm wide. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 6–8 mm long, 5 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth, glabrous. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume ovate, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 4.5–5.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma lateral veins obscure. Lemma surface pubescent. Lemma margins ciliate. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous. Palea surface puberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East, **China**. Manchuria, Xinjiang.

Poa langtangensis A.Melderis. *Enum. Fl. Pl. Nepal,* 1: 143 (1978).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from Nepal. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Nepal: central, Langtang Valley, river side, in mica silt, 4000 m, 28 June 1965, *Schilling, Sayers & Bista 461* (HT: K; IT: US).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis,* denoting origin. From Langtang, Nepal.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes elongated. Culms erect, slender, 9–25 cm long. Culm-internodes terete, smooth, distally glabrous. Lateral branches lacking. Ligule an eciliate membrane, 0.5–1.2 mm long. Leaf-blades filiform, involute, 2–5 cm long, 1–2 mm wide. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, effuse, 3–5 cm long. Primary panicle branches spreading, 2 -nate, 1–3 cm long. Panicle branches capillary, flexuous, smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate or cuneate, laterally compressed, 3–3.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, with lower narrower than upper, shorter than spikelet. Lower glume lanceolate, 1.6–2 mm long, 0.7–0.8 length of upper glume, membranous, much thinner on margins, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2–2.5 mm long, 0.7–0.8 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume lateral veins obscure. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 2.5–3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins obscure. Lemma surface pubescent, hairy below, hairy on veins. Lemma margins ciliate, hairy below. Lemma apex acute. Palea keels scaberulous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5 mm long, purple. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **Western Asia**, **China**. Tibet. **Indian Subcontinent**. Nepal.

Poa languida Hitchcock. *Proc. Biol. Soc. Wash.* xli. 159 (1928).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. **Basionym or Replaced Name**: Poa debilis Torr., *Fl. New York* 2: 459 (1843). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Torrey*, 1831, USA: New York, Gorham (NY). LT designated by A. Haines, Bot. Not. (Woodlot Alternatives, Inc. 10: 2. 2004). ST: *Torrey herbarium*, Jun 1834, USA: New York, Watertown (NY-TORR, US- (fragm. & photostat ex NY-TORR)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. weak. Culms spreading.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Culms weak, 30–60(–100) cm long. Culm-internodes smooth. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 1 mm long. Leaf-blades 6–15 cm long, 2–4 mm wide, flaccid. Leaf-blade surface smooth.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, nodding, 5–10 cm long, with spikelets clustered towards branch tips. Primary panicle branches ascending, 2–3 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 3–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.66–0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 0.75–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 2–3 mm long, chartaceous, keeled, 5 -veined, more than 3-veined. Lemma apex obtuse. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Eastern Canada**, **North-central USA**, **Northeast USA**, **Southeastern USA**.

Poa languidior Hitchc. *Brittonia* 2(2): 111 (1936).

TYPE from PNG. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Central Division: in open forest, Mt. Albert Edward, 3680 m, 17 Jun 1933, L.J. Brass 4238, HT: NY; IT: L, US.

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Basal innovations extravaginal and intravaginal. Culms geniculately ascending, weak, 28–100 cm long, 4–6 -noded, rooting from lower nodes. Leaf-sheaths antrorsely scabrous, glabrous on surface. Ligule an eciliate membrane, 1.2–3 mm long, acute. Leaf-blades 5–12 cm long, 1–2 mm wide, flaccid. Leaf-blade surface scabrous, rough adaxially, glabrous. Leaf-blade margins scabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, effuse, nodding, 10–22 cm long. Primary panicle branches spreading or reflexed, 1–2 -nate, 3–6 cm long. Panicle branches flexuous, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1–2 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 1.5–3 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1.5–2.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2.5–3 mm long, 0.66–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.9–4.6 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma apex apiculate. Palea 2.5–3.2 mm long. Palea keels scabrous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.1–1.4 mm long. Caryopsis with adherent pericarp, ovoid, 2 mm long, dark brown. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**.

Poa lanigera Nees. *Agrost. Bras.* 491. (1829).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *F. Sellow mis. am. [Trinius] de Chamisso. 1834*, Brazil (B, BAA-4101 (fragm. ex B), LE-TRIN-2643.03, US-88765 (fragm. ex LE)). pistillate, cespitose. IST: (LE-TRIN-2643.02). pistillate, cespitose.

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (314), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina*), Pt II, Gramineas (1969) (87, Fig. 26), B.Rosengurtt, *Gramineas UruguayasI* (1970) (133, Fig. 49), H.M. Longhi-Wagner, *Flora Ilustrada do Rio Grande do Sul, Gramineae, Poeae* (1987).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths thickened and forming a bulb. Culms 20–70 cm long, 2–3 -noded. Culm-nodes glabrous. Ligule an eciliate membrane, 1–2 mm long, truncate or obtuse. Leaf-blades flat or conduplicate, 25–55 cm long, 1.5–4 mm wide. Leaf-blade surface smooth. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, dense, 5–15 cm long, 2.5–3.5 cm wide. Primary panicle branches bearing spikelets almost to the base. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4.5–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume lanceolate, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma lanceolate, 4–5.5 mm long, 1 mm wide, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins distinct. Lemma apex acuminate. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Brazil**, **Southern South America**. Brazil South. Argentina Northeast, Paraguay, Uruguay.

Mato Grosso. Rio Grande do Sul. La Rioja, Mendoza, San Luis, Tucuman. Buenos Aires, Cordoba, Corrientes, Distrito Federal, Entre Rios, La Pampa, Misiones, Santa Fe. Neuquén, Río Negro.

Poa lanuginosa Poir. *Encyc*. v. 91. (1804).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Uruguay. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Commerson [Poiret no. 55]*, no date, Uruguay: Montevideo (P; IT: BAA (fragm.), US-88769 (fragm. ex P)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (315 & 316), E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (318, Fig. 108), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina*), Pt II, Gramineas (1969) (84, Fig. 24), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (204, Fig. 134), B.Rosengurtt, *Gramineas UruguayasI* (1970) (138, Fig. 51).

Derivation (Clifford & Bostock 2007): L. *lanuginus*, woolly; *-osum*, abundance. Leaf-blades densely woolly.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Basal innovations intravaginal. Culms 30–60 cm long, 2–4 -noded. Leaf-sheaths mostly shorter than adjacent culm internode. Ligule an eciliate membrane, 5–12 mm long, lacerate, acute. Leaf-blades conduplicate or convolute, 10–40 cm long, 2–4 mm wide. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle open, linear or lanceolate, 10–20 cm long. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 4–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 8–12 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly. Floret callus hairs 1 length of lemma.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 4.5–7.5 mm long, 0.8–0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or obscure. Lower glume apex acuminate. Upper glume lanceolate, 5.5–8 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma ovate, 6–8 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins ciliate. Lemma apex acute. Palea keels scabrous, ciliate, adorned below (as to hairs). Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2–2.5 mm long. Caryopsis with adherent pericarp, ellipsoid, trigonous, 2–2.2 mm long. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female, 5–7 flowered, 7–7.5 mm long.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Brazil**, **Southern South America**. Argentina Northeast, Argentina South, Chile South, Uruguay.

La Rioja, Mendoza, Santiago del Estero, San Juan, San Luis. Buenos Aires, Cordoba, Corrientes, Distrito Federal, Entre Rios, La Pampa, Santa Fe. Chubut, Neuquén, Río Negro, Santa Cruz, Tierra del Fuego. Tarapaca, Antofagasta, Atacama, Coquimbo, Rest of Chile- Biobio, La Auracania, Maule, O'Higgins, Santado, Valpariso. Coquimbo, Valparaiso, Biobio, La Araucania.

Poa lapponica Prokudin. *Journ. Inst. Bot. Acad. Sci. Ukraine,* No. 20 (28) 198 (1939).

Accepted by: S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Russia: Kola Peninsula, Murmansk, Tuloma River, 1839, *Schrenk s.n.* (HT: LE; IT: LE).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (as subspecies *amocalyx, pilipes* in Figures 408, 409 respectively).

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Lapponia, now Lapland.

Classification. Subfamily Pooideae. Tribe: Poeae.

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Eastern Europe**.

Country /Province /State. North European Russia. **Middle Asia**, **China**, **Mongolia**, **Eastern Asia**, **Russia**. Kazakhstan, Kirgizistan. Inner Mongolia, Manchuria, China North-Central, Xinjiang. Mongolia. Japan, Korea.

Hebei, Shaanxi. Sichuan, Yunnan.

Poa lavrenkoi Kuczerov. *Bot. Zhurn*. 86(11): 132 (2001).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Russia, Urals, Peczora R.: Kuczerov & Bezgodov (LE holo).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Basal innovations intravaginal. Culms erect, 18–30 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths tubular for much of their length, with 0.8 of their length closed. Ligule an eciliate membrane, 0.5–0.8 mm long, truncate. Leaf-blades flat or conduplicate, 1–2 mm wide, glaucous.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic. Primary panicle branches 2–4 -nate. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 2.5–3.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes scaberulous. Floret callus pilose. Floret callus hairs 0.33–0.5 length of lemma.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1.8–2.2 mm long, 1–1.5 length of upper glume, membranous, 1-keeled. Lower glume apex acute. Upper glume elliptic or ovate, 1.5 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 1.8–2.2 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent, hairy below. Lemma surface pubescent, hairy below, hairy on veins. Lemma apex acute. Palea 1 length of lemma. Palea keels smooth or scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1–1.8 mm long.

Distribution (TDWG). Continent. Europe.

Region. **Eastern Europe**.

Country /Province /State. East European Russia.

Poa laxa Haenke. *Jirasek, Beob. Riesengeb.* 118. (1791).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Hall. Hist. II. p. 221. no. 1457....Scheuchz. Agrost p. 163. Prodr. 19 Tab IV cited,.

Recent Synonyms: *Poa flexuosa* Sm., *Eng. Bot.* t. 1123 (1800).

Illustrations (Books): T. Cope & A. Gray, Grasses of the British Isles (as *P. flexuosa*), G.Hegi, *Flora von Mitteleuropa* 1 (1909), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (571 as subspecies *banffiana & fernaldiana*).

Derivation (Clifford & Bostock 2007): L. loose. Inflorescence much branched either as a single panicle or from branching of the culms.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Basal innovations extravaginal. Culms erect, 13–20 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths mostly shorter than adjacent culm internode, glabrous on surface. Ligule an eciliate membrane, 2–3 mm long, entire or lacerate, truncate or obtuse or acute. Leaf-blades 0.8–1.5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate or oblong, 2.8–3.5 cm long. Panicle branches channelled, smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins ciliate, hairy all along. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1–1.3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

n = 14 (1 ref TROPICOS). $2n$ = 28 (2 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia, North America.

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**.

Country /Province /State. : Great Britain. : Austria, Czechoslovakia, Germany, Poland, Switzerland. : Corsica, France, Spain. : Bulgaria, Italy, Romania, Yugoslavia. **China**. Xinjiang. **Western Canada**, **Eastern Canada**, **Northwest USA**, **Northeast USA**. Alberta. Quebec. Montana, Oregon, Washington. Maine, New York, Vermont.

Poa laxiflora Buckl. *Proc. Acad. Sc. Philad.* 1862 :96 (1863).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Nuttall s.n.*, USA: Oregon: Columbia Woods (PH; IT: NY, US-556800 (fragm. ex PH & photostat)).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (539).

Derivation (Clifford & Bostock 2007): L. *laxus*, loose*; flos*, flower. Spikelets with widely separated florets.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary. Rhizomes elongated. Culms erect, 90–120 cm long. Culm-internodes retrorsely scabrous. Lateral branches lacking. Leaf-sheaths tubular for much of their length, with 0.5 of their length closed, keeled, retrorsely scabrous. Ligule an eciliate membrane, 1–3 mm long, scaberulous on abaxial surface, erose, obtuse. Leaf-blades 2–5 mm wide. Leaf-blade surface scabrous, rough on both sides. Leaf-blade apex abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 12–20 cm long. Primary panicle branches spreading or reflexed, 2–3 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3 mm long, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume elliptic, 3.5 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, 4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent. Lemma lateral veins obscure. Lemma margins pubescent. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Subarctic America**, **Western Canada**, **Northwest USA**. Alaska. British Columbia. Oregon, Washington.

Poa laxiuscula (Blytt) Lange. *Fl. Dan. t.* 2946 (1880).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Scandinavia. **Basionym or Replaced Name**: *Poa aspera* var. *laxiuscula* Blytt, *Norges Fl.* 1 122 (1861). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Scandinavia: Fries herb. norm. Fasc. 3 n. 95,.

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (as *P. laxa x glauca*).

Derivation (Clifford & Bostock 2007): L. *laxius,* looser; -*ula*, diminutive. Spikelets more lax than those of related species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Western Canada**, **Northwest USA**. British Columbia. Oregon, Washington.

Poa legionensis (Lanz) Fernandez Casas & M. Lainz. M. Lainz*, Mis contrib. conocim. fl. Asturias:* 83: (1982).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 15–35 cm long. Culm-internodes terete, smooth. Ligule an eciliate membrane, 0.3–0.4 mm long, erose. Leaf-blades flat or conduplicate, 6–12 cm long, 1–3 mm wide. Leaf-blade surface glabrous. Leaf-blade apex acute, hooded or simple.

Inflorescence. Inflorescence a panicle. Panicle open, oblong or pyramidal, 5–8 cm long. Primary panicle branches spreading, 1 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 2.5–4.6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.9–2.8 mm long, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2.2–3.2 mm long, membranous, 1-keeled, 3 -veined. Upper glume lateral veins obscure. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 2.9–3.3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent, hairy at base. Lemma apex truncate or acute. Palea 2.6–3.1 mm long. Palea keels smooth or scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, 0.3–0.4 mm long, membranous. Anthers 3, 1.5–2 mm long. Caryopsis with adherent pericarp, 1.5 mm long. Hilum punctiform.

n = 7 (1 ref TROPICOS). 2n = 28 (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe.
Region. **Southwestern Europe**.

Poa lehoueroui Dobignard & Portal. *Index Syn. Fl. Afrique N.* 1: 443–446, f. 13, 14 (2010).

TYPE from Tunisia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Redeyef, 50km E de Tamerza, *Le Houérou 660414–03–04*, HT: MPU.

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Rhizomes short. Butt sheaths thickened and forming a bulb, pubescent, persistent and investing base of culm. Culms 8–22 cm long. Ligule an eciliate membrane, 2–4 mm long. Leaf-blades convolute, 1.5–4 cm long, 0.7–1 mm wide. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Panicle spiciform, oblong, 2–6 cm long, 1–2.5 cm wide. Primary panicle branches ascending, 1 -nate. Panicle branches capillary, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 3.5–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes scaberulous. Floret callus woolly. Floret callus hairs 1.5–2.5 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2.5–2.8 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume margins ciliolate. Lower glume apex acute. Upper glume ovate, 2.5–2.8 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume margins ciliolate. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.6–3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate. Lemma margins ciliolate. Lemma apex acute. Palea 2.2–2.6 mm long. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.2–1.4 mm long.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Northern Africa**.

Poa leibergii Scribn. *U.S. Dept. Agric. Bull. Agrost.* viii. 6. (1897).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Leiberg 2171*, 31 May 1896, USA: Oregon: Malheur Co.: summits of ridges which form the NW angle of the barren valley, Owyhee-Malheur Divide, alt. 1250 m (US-276821; ILT: GH, UC, US-1869462, US-748849). LT designated by Hitchcock, Man. Grass. U.S. f. 250, 934 (1935).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (565).

Illustrations (Journals): *Systematic Botany* (16: 515. Fig.4 (1991)).

Derivation (Clifford & Bostock 2007): in honor of John Bernhard Leiberg (1853–1913), United States forester and plant collector.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 10–30 cm long. Culm-internodes smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths tubular for much of their length, with 0.5–0.66 of their length closed, smooth. Ligule an eciliate membrane, 1–4 mm long, entire or erose, obtuse. Leaf-blades curled, flat or involute, 2–6 cm long, 1 mm wide. Leaf-blade margins scaberulous. Leaf-blade apex abruptly acute, hooded.

Inflorescence. Inflorescence a panicle, comprising 3–10 fertile spikelets. Panicle open, pyramidal, dense or loose, 2–8 cm long, bearing few spikelets. Primary panicle branches bearing 1–2 fertile spikelets on each lower branch. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus bearded.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–3.5 mm long, 0.8 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume elliptic, 3–4.2 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–4.5 mm long, membranous, purple, keeled, 5 -veined, more than 3-veined. Lemma lateral veins distinct. Lemma surface smooth or asperulous. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.8–3.2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Subarctic America**, **Western Canada**, **Northwest USA**, **Southwestern USA**. Alaska. British Columbia. Idaho, Oregon, Washington.

Poa leioclada Hack. *Oesterr. Bot. Zeitschr.* 1902, 452. (1902).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Ecuador. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *A. Sodiro S, 36/2*, 1887, Ecuador: Pichincha: 3000–4000 m (W-14258).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *leios*, smooth; *klados*, branch. Panicle branches smooth.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes short. Basal innovations intravaginal. Culms erect, 30–50 cm long, 3 -noded, with 0.5 of their length below uppermost node. Culm-internodes terete. Leaf-sheaths scaberulous. Ligule an eciliate membrane, 5 mm long, erose, obtuse. Leaf-blades flat or conduplicate, 7–14 cm long, 1–1.5 mm wide. Leaf-blade surface scaberulous. Leaf-blade margins scaberulous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate. Primary panicle branches 2 -nate. Panicle axis smooth. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.7 mm long, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3 mm long, 0.85 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 3.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent, hairy below. Lemma surface asperulous. Lemma margins pubescent, hairy below. Lemma apex acute. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Ecuador.

Poa lepidula (Nees & Meyen) soreng & L.J. Gillespie. Alsio 23: 431 (2007).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Peru. **Basionym or Replaced Name**: *Anthochloa lepidula* Nees & Meyen, *Reise* 2: 14 (1834). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *Meyen s.n.*, Peru: Andes, Lake Titicaca, 15000 ft (IT: LE-TRIN-2483.01, US-865410 (fragm.)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (317), S.A.Renvoize, *Gramineas de Bolivia* (1998) (153, Fig. 36), E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (280, Fig. 90).

Illustrations (Journals): *Ruizia* (13:146, Fig15j-l (1993) as *Antochloa*).

Derivation (Clifford & Bostock 2007): L. *lepidus*, pretty; *-ula*, diminutive.

Classification. Subfamily Pooideae. Tribe: Meliceae.

Habit, Vegetative Morphology. Perennial, cushion forming. Culms 3–12 cm long. Ligule an eciliate membrane, lacerate. Leaf-blades 1–5 cm long, 0.5–2 mm wide.

Inflorescence. Inflorescence a panicle, shorter than basal leaves, embraced at base by subtending leaf. Panicle spiciform, oblong or ovate, 0.7–3 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 3–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 4–7 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1.5–2 mm long, 0.6–0.8 length of upper glume, hyaline, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume orbicular, 2–3 mm long, 0.6–0.7 length of adjacent fertile lemma, hyaline, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma flabellate, 3–4 mm long, hyaline (herbaceous near base), pallid, without keel, 5 -veined, more than 3-veined. Lemma apex emarginate. Palea 0.5 length of lemma, hyaline, 2 -veined. Palea apex lobed, 4 -fid. Apical sterile florets resembling fertile though underdeveloped.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**, **Southern South America**. Colombia, Peru. Argentina Northwest, Chile North.

Jujuy, La Rioja, Salta, Tucuman. Tarapaca, Antofagasta.

Poa leptalea J.F. Veldkamp. *Blumea,* 38(2): 437 (1994).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *leptaleos*, delicate. Habit of plant slender.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary. Basal innovations extravaginal or intravaginal. Culms erect, weak, 13–25 cm long. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 1.4–3.5 mm long, acute. Leaf-blades erect or ascending, 8.7–12.5 cm long, 1–1.5 mm wide, flaccid. Leaf-blade surface smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, nodding, 3.5–4.5 cm long, 0.7–1.5 cm wide. Primary panicle branches appressed, 2 -nate, 1.2–1.7 cm long, bearing 4–7 fertile spikelets on each lower branch. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1(–2) fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.4–3.8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.7 mm long, smooth or scaberulous. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet or reaching apex of florets or exceeding apex of florets. Lower glume lanceolate, 2.5–2.8 mm long, 0.8 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2.9–3.5 mm long, 0.9–1.1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.1–3.25 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Palea 1 length of lemma. Palea keels smooth. Rhachilla extension 0.4–1 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea.

Poa leptoclada Hochst. ex A. Rich. *Tent. Fl. Abyss.* ii. 422. (1850).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Ethiopia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Schimper 1826*, Ethiopia (TUB; IST: K).

ST: *Petit s.n.*, Ethiopia (P).

Illustrations (Books): G.V.Pope et al., *Flora Zambesiaca* 10 (1(1971):49, t. 13), S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (21, Fig 10), T.A.Cope, in M.Thulin, *Poaceae* (Gramineae). *Flora of Somalia* (1995) (154, Fig 77).

Illustrations (Journals): *Kew Bulletin* (44: 136, Fig.3 (1989)).

Derivation (Clifford & Bostock 2007): Gk. *leptos*, narrow; *klados*, branch. Culms slender.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths withering or persistent and investing base of culm, with fibrous dead sheaths. Culms erect or geniculately ascending, 5–75 cm long, 2–5 -noded. Ligule an eciliate membrane, 0.6–4.5(–6) mm long. Leaf-blades filiform or linear, 2–12 cm long, 0.5–4 mm wide. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, interrupted, equilateral or nodding, (2.5–)5–19 cm long. Primary panicle branches appressed, bearing spikelets almost to the base. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 3–4.5(–6) mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 1.7–2.5(–3) mm long, 0.7–0.8 length of upper glume, membranous, 1-keeled, 1(–3) -veined. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume elliptic, 2–3 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma elliptic, lanceolate in profile, 2–3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface glabrous or pubescent. Lemma apex obtuse or acute. Palea 1 length of lemma. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5–1 mm long. Caryopsis with adherent pericarp, ellipsoid. Hilum punctiform.

$2n = 42$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe (*), Africa, Temperate Asia.

Region. **Northern Europe** (*).

Country /Province /State. : GB Aliens (Ryves et al). **West-Central Tropical Africa**, **Northeast Tropical Africa**, **East Tropical Africa**, **South Tropical Africa**, **Southern Africa**. Cameroon, Bioko, Rwanda, DRC. Eritrea, Ethiopia (inc. Eritrea), Somalia, Sudan. Kenya, Tanzania, Uganda. Malawi, Zimbabwe. Kwazulu-Natal, Lesotho. **Arabian Peninsula**. Saudi Arabia, Yemen.

Poa leptocoma Trin. *Mem. Acad. Petersb. Ser.* VI. i. 374. (1831).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: OM: *D. Mertens*, USA: Alaska: Sitka (LE).

IT: *D. Mertens*, USA: Alaska: Sitka (LE; GH, US (photo of GH), W-s.n.).

IT: *D. Mertens*, 1829, (LE-TRIN-2646.01). ca. 35 cm tall, panicles 5.5–7.5 cm long, very few flw., branches smooth, glumes lanceolate (not broadly so as in *P. paucispicula*).

IT: *Mertens s.n.*, 1829, (LE). orig.label: " herb. Trinius sub *Poa leptokoma* m.: Mertens. 1829".

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (575).

Derivation (Clifford & Bostock 2007): Gk. *leptos*, narrow; *kome*, hair of the head. Lemmas with a basal tuft of long hairs.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary or caespitose, clumped loosely. Butt sheaths herbaceous. Culms geniculately ascending or decumbent, 20–100 cm long. Culm-internodes terete, smooth or scaberulous. Leaf-sheaths with 0.25–0.5 of their length closed, smooth or scaberulous, glabrous on surface. Ligule an eciliate membrane, 1.5–4 mm long, glabrous on abaxial surface, entire or erose, truncate or obtuse. Leaf-blades flat or conduplicate, 8–15 cm long, 1–4 mm wide, light green. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, nodding, 7–10 cm long. Primary panicle branches spreading or reflexed, 1–3 -nate. Panicle branches capillary, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 4–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume linear, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume surface asperulous, rough on veins. Lower glume apex acute. Upper glume lanceolate, membranous, 1-keeled, 1–3 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent or obscure. Upper glume surface asperulous, rough on veins. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 3–4 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins with distinct primaries but obscure intermediates. Lemma margins ciliate, hairy below. Lemma apex acute. Palea 0.9 length of lemma. Palea keels smooth or scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.25–1 mm long, eventually exserted or retained within floret. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 42$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, North America.

Country /Province /State. Siberia, Russian Far East, **Middle Asia**. Buryatiya, Irkutsk, Krasnoyarsk, Tuva. Kamchatka, Magadan. **Subarctic America**, **Western Canada**, **Northwest USA**, **Southwestern USA**, **South-central USA**. Aleutian Is, Alaska, Yukon. Alberta, British Columbia. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. Arizona, California, Nevada, Utah. New Mexico.

Poa lettermanii Vasey. *Contrib. U. S. Nat. Herb.* 1 273. (1893).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *Letterman G.W.*, USA: mts of Colorado (LE). HT: *Letterman 7*, USA: Colorado: Grays Peak (US-556753; IT: GH).

Recent Synonyms: *Poa montevansii Biol. Leafl., No*. 29, 2 (1945).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (581).

Derivation (Clifford & Bostock 2007): in honor of George Washington Letterman (1841–1913), United States teacher and botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 20–90 cm long. Lateral branches lacking. Leaf-sheaths open for most of their length, with 0.1 of their length closed. Ligule an eciliate membrane, 2–3 mm long, erose, truncate. Leaf-blades 1 mm wide.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong, 1–3 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume elliptic, 3 mm long, 1–1.2 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.5–3 mm long, membranous, purple, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 14$ (1 ref TROPICOS).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Western Canada**, **Northwest USA**, **Southwestern USA**. Alberta, British Columbia. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. California, Nevada, Utah.

Poa lhasaensis Bor. *Bull. Bot. Surv. Ind*. vii. 132 (1965).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Xizang: Lhasa, 10000 ft,, Sep 1904, *Walton s.n.* (HT: K; IT: K).

Recent Synonyms: *Poa jaunsarensis* Bor, *Kew Bull.* 1948, 143 (1948).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Lhasa, Tibet Autonomous Region, China.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Culms erect or geniculately ascending, slender, 30–40 cm long. Culm-internodes terete, smooth, distally glabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 2 mm long, truncate. Leaf-blade base broadly rounded. Leaf-blades linear, 5–18 cm long, 4 mm wide, glaucous. Leaf-blade surface smooth, glabrous. Leaf-blade margins smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open or contracted, linear, dense, nodding, 15–18 cm long, 0.5–4 cm wide. Primary panicle branches ascending or spreading, 5 -nate. Panicle branches flexuous, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume linear, 2.5 mm long, membranous, 1-keeled, 1 -veined. Lower glume apex acute. Upper glume linear, 3.25–3.75 mm long, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma linear, 4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Palea 2-keeled. Palea keels scabrous.

Flower and Fruit. Anthers 3, 1.5–1.75 mm long. Stigmas plumose.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. China South Central, Tibet. **Indian Subcontinent**. India, Nepal, Pakistan.

Sichuan.

Poa ligularis Nees ex Steud. *Syn. Pl. Gram.* 257. (1854).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *[C. Darwin] G. Henslow no. 552*, early Oct 1832, Argentina: Bahia Blanca coast (K; ILT: CGE, B, BAA-2615 (fragm. ex B), US-88761 (fragm.)). LT designated by D. M. Porter, Bot. J. Linn. Soc. 93: 37 (1986), as Nees hb. at B destroyed. ST: *C. Darwin 549, 550, 551, 552b, 552c, 554, 554b, 555, 556, 556b, 557*, Argentina: Patagonia, Bahia Blanca (CGE, K).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (318), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (111, Fig. 28), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (186, Fig. 120).

Derivation (Clifford & Bostock 2007): L. *ligula*, small tongue; *-aris,* pertaining to. Ligule conspicuous.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Butt sheaths thickened and forming a bulb, pallid or yellow. Basal innovations intravaginal. Culms 10–15 cm long, 3–4 -noded. Culm-internodes antrorsely scabrous. Leaf-sheaths antrorsely scabrous. Ligule an eciliate membrane, 8–18 mm long, 5 mm long on basal shoots, acute. Leaf-blades filiform, conduplicate or convolute, 10–20 cm long, 1–1.5 mm wide, stiff. Leaf-blade surface scabrous, rough abaxially, pubescent, hairy adaxially. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, elliptic, 6–18 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–13 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly. Floret callus hairs 1 length of lemma.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2.5–4 mm long, 0.75–0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 3.5–4.5 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, 4–5 mm long, membranous, much thinner above, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma surface pubescent, hairy below. Lemma margins ciliate, hairy below. Lemma apex acute. Palea keels scabrous, ciliate, adorned below (as to hairs). Palea surface pubescent, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2 mm long. Caryopsis with adherent pericarp, ellipsoid, trigonous, 1.5–2.8 mm long. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female, 3–8 flowered, 4–5 mm long.

Distribution (TDWG). Continent. Europe (*), South America.

Region. **Northern Europe** (*).

Country /Province /State. : GB Aliens (Ryves et al). **Brazil**, **Southern South America**. Argentina Northeast, Argentina South, Chile Central.

La Rioja, Mendoza, Salta, San Juan, San Luis. Buenos Aires, Cordoba, La Pampa, Santa Fe. Chubut, Neuquén, Río Negro, Santa Cruz. Chiloe, Aisen, Magellanes. Biobio.

Poa ligulata Boiss. *Voy. Bot. Espagne,* ii. 659. t. 178 a. (1845).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from Spain. **Basionym or Replaced Name**: *Poa concinna* var. *membranacea* Boiss., *Elench. Pl. Nov.* 89 (1838). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Corral*, Spain: Sierra Nevada: hab. in glareosis frigidis in summa.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *ligula*, small tongue; *-ata,* possessing. Ligule conspicuous.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths persistent and investing base of culm. Basal innovations intravaginal. Culms erect, 12–20 cm long. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 2.5–6 mm long, white, lacerate, acute. Leaf-blades 1.5–5 cm long, 1.2–1.8 mm wide, glaucous. Leaf-blade margins unthickened. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, ovate, 1.8–3 cm long. Primary panicle branches 1–2 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–10 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.5–3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate. Lemma margins ciliolate. Lemma apex acute. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia.

Region. **Southwestern Europe**.

Country /Province /State. : Spain. **Northern Africa**. Algeria, Morocco, Tunisia. **China**. Tibet, Xinjiang.

Poa lilloi Hack. *An. Mus. Nac. Buenos Aires,* xxi. 153 (1911).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Lillo 5619 (hb. T.J.V. Stuckert 17741)*, 29 Feb 1907, Argentina: Tucumán: Dept. Taf? Cumbres Calchaquíes, 4000 m (W; IT: BAA, CORD, GH, LIL, SI, US-88760 (fragm. ex W), US-1867542 (ex NY)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (319).

Derivation (Clifford & Bostock 2007): in honor of Miguel Lillo (1862–1931) Argentine botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 8–20 cm long, 2 -noded. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5–3 mm long, scaberulous on abaxial surface. Leaf-blades filiform, involute, 1–5 cm long, 1–2 mm wide. Leaf-blade surface smooth or scaberulous, rough adaxially, glabrous. Leaf-blade margins scaberulous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 2–4 cm long, 1.3–2 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.3–2.7 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2.8–3 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma surface scaberulous, rough on veins. Lemma apex acute. Palea keels ciliolate, adorned above.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**, **Southern South America**. Bolivia, Peru. Argentina Northwest, Chile North.

Jujuy, Salta, Tucuman. Tarapaca.

Poa linearifolia N.F. Refulio-Rodriguez. *Syst. Bot* 37 (1): 130 (2012).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. **Basionym or Replaced Name**: *Dissanthelium longifolium* Tovar, *Publ. Mus. Hist. Nat. Javier Prado, B,* 33: 9 (1985). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *O. Tovar, S. Rivas, C. Arnaiz, J. Loidi, P. Canto 9884*, 23 Mar 1983, Peru: Huanuco: Prov. Dos de Mayo: valle de Huallanca, cisped de Puna con pajonal, alt. 3750–4070 m (USM; IT: MAF, MO-3099117, MO-3812373, US-302941).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *longus*, long; *folium*, leaf. With long leaf-blades.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 6–10 cm long, 2–3 -noded. Ligule an eciliate membrane. Leaf-blades 3–6 cm long, 1 mm wide.

Inflorescence. Inflorescence a panicle, shorter than basal leaves. Panicle contracted, linear, 2–3 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2.7–2.8 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, reaching apex of florets, thinner than fertile lemma. Lower glume lanceolate, 2.7–2.8 mm long, 1 length of upper glume, membranous, 1-keeled. Lower glume apex acute. Upper glume lanceolate, 2.7–2.8 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 2.7–2.9 mm long, chartaceous, keeled, 3 -veined, 0–3 -veined. Lemma midvein scabrous. Lemma apex acute.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa lindebergii Tsvelev. *Novosti Sist. Vyssh. Rast.,* 11: 27 (1974).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Norway. **Basionym or Replaced Name**: *Poa stricta* Lindeb., *Bot. Not.* 1855: 10 (1856). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: OM: *C.J.Lindeberg*, 2 Feb 1856, Norway: Dovre (LE). 3 IT: *M.N.Blytt & C.J.Lindeberg*, Norway: Dovre (LE). Fries Herbar Normale: Fasc. XV. ST: *C.J. Lindeberg*, 1854, Norway: Dovre, Knudshoe (ST: US-1628009 (ex GH)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): In honor of Harold Lindberg (1871–1963) Finnish botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms geniculately ascending, 10–35 cm long. Culm-internodes terete, smooth, distally glabrous. Leaf-sheaths open for most of their length, with 0.33–0.5 of their length closed, longer than adjacent culm internode, without keel, striately veined, glabrous on surface. Ligule an eciliate membrane, 2 mm long, lacerate. Leaf-blades erect, flat or conduplicate, 2.5–5 cm long, 1–2 mm wide. Leaf-blade surface glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, linear or lanceolate, dense, 5 cm long. Primary panicle branches appressed, 1–2 -nate, bearing 1–4 fertile spikelets on each lower branch. Panicle branches smooth, glabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 3–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, membranous, much thinner on margins, purple, 1-keeled, 3 -veined. Lower glume lateral veins obscure. Lower glume surface asperulous. Lower glume apex acute. Upper glume oblong, membranous, with hyaline margins, purple, 1-keeled, 3 -veined. Upper glume lateral veins obscure. Upper glume surface asperulous. Upper glume apex acute.

Florets. Fertile lemma oblong or ovate, 3–3.5 mm long, membranous, much thinner on margins, mid-green and purple, tipped with last colour, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma margins ciliolate, hairy below. Lemma apex acute. Palea 3–4 mm long. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Vivipary absent, or occurs.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia. Krasnoyarsk.

Poa lindsayi Hook. f. *Handb. N. Zeal. Fl.* 340. (1864).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *L. Lindsay s.n.*, 20 Nov 1861, New Zealand: northern slopes of Saddle Hill, near Dunedin, Otago (K). LT designated by Edgar, New Zealand J. Bot. 24: 474 (1986).

Illustrations: None found.

Images: E.Edgar & H.E.Connor, *Flora of New Zealand* 5, *Gramineae* (2000);.

Derivation (Clifford & Bostock 2007): in honor of William Lauder Lindsay (1829–1880) Scots botanist and physician.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations intravaginal. Culms 5–40 cm long. Lateral branches lacking. Leaf-sheaths scaberulous, glabrous on surface. Ligule an eciliate membrane, 0.2–0.7 mm long, glabrous on abaxial surface, erose, truncate. Leaf-blades curved, conduplicate, 0.5–1.5 cm long, 1–1.5 mm wide, glaucous or grey-green. Leaf-blade surface scaberulous, rough adaxially, glabrous. Leaf-blade margins scaberulous. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, 1.5–6.5 cm long. Panicle axis smooth. Panicle branches capillary, straight or flexuous, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 1.5–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5 mm long, glabrous or sparsely hairy. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1–2 mm long, 1 length of upper glume, membranous, much thinner on margins, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 1–2 mm long, 1 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 1–2 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma surface pubescent, hairy all along or below. Lemma apex obtuse. Palea 1–2 mm long. Palea keels ciliolate. Palea surface pubescent, hairy on back.

Flower and Fruit. Lodicules 2, 0.2–0.4 mm long, membranous. Anthers 3, 0.2–0.5 mm long. Caryopsis with adherent pericarp, 1 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand North I, New Zealand South I.

Poa lipskyi Roshev. *Bull. Jard. Bot. Acad. Sc. URSS,* . 303 (1932).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Kazakhstan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *V. Lipskii 2398*, 20 July 1909, Kazakhstan: Semireshensk distr., Lepsinskii post, along Julsi River (left tributary of Tektek), 2200–3000 m (LE). LT cited by Tzvelev, Zlaki SSSR 451 (1976).

ST: *V. Lipskii*, 16–29 Jun 1903, Kyrgystan: Semirechaja obl., jugam Alexanbij, angust. Ak-Su. (K).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 378 as *P. lipskyi* ssp. *lipskyi*).

Derivation (Clifford & Bostock 2007): in honor of Vladimir Hippolitowitsch Lipsky (1863–1937) Russian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 30–50 cm long. Culm-internodes smooth. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 3–4 mm long. Leaf-blades flat or conduplicate, 3–8 cm long, 2–4 mm wide. Leaf-blade surface scabrous, rough adaxially, glabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 5–14 cm long, 8 cm wide. Primary panicle branches 3–7 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.75 length of upper glume, membranous, 1-keeled. Lower glume apex acute. Upper glume ovate, 4–5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface pubescent, hairy below. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **Middle Asia**, **China**, **Mongolia**. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Qinghai, Tibet, Xinjiang. Mongolia. **Indian Subcontinent**. Pakistan.

Poa litorosa Cheeseman. *Man. N. Zeal. Fl.* 902, 1156 (1906).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. **Basionym or Replaced Name**: *Festuca scoparia* Hook. f., *Fl. Antarct.* 1: 98 (1844). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.D. Hooker s.n.*, Nov 1840, New Zealand: Dea's head on rocks near the sea in large tufts Lord Auckland's Islands (K-H2003/00969–292; IT: CHR-309876 (fragm.)). T: *J.D. Hooker*, Dec 1840, Campbell's Island: on ledges of rock, 1000 ft (K-H2003/00969–291). var B..

Illustrations: None found.

Derivation (Clifford & Bostock 2007): lit(t)us, sea shore; -*osa*, abundant. Common on the sea-shores of some sub Antarctic Islands.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Butt sheaths coriaceous, yellow or grey or light brown, glossy. Basal innovations intravaginal. Culms 100–180 cm long, wiry. Lateral branches lacking. Leaf-sheaths smooth or scaberulous, glabrous on surface. Ligule a ciliolate membrane, 0.3–1 mm long, pubescent on abaxial surface, truncate. Leaf-blades involute, 10–65 cm long, 2 mm wide, coriaceous. Leaf-blade surface smooth, pubescent, hairy adaxially. Leaf-blade apex pungent.

Inflorescence. Inflorescence a panicle, shorter than basal leaves. Peduncle smooth or scaberulous above. Panicle contracted, lanceolate, 6–15 cm long. Primary panicle branches appressed. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 11–14 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1–1.5 mm long, pubescent. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 5.5–7 mm long, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume surface scabrous, rough above. Lower glume apex obtuse. Upper glume lanceolate, 6–7.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume surface scabrous, rough above. Upper glume apex obtuse.

Florets. Fertile lemma elliptic or oblong, 6–7.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface scabrous, pubescent, hairy below, hairy on veins. Lemma apex obtuse. Palea 5.5–6.5 mm long. Palea keels ciliolate. Palea surface scaberulous. Rhachilla extension 2–3 mm long.

Flower and Fruit. Lodicules 2, 0.8–1.5 mm long, membranous, glabrous or ciliate. Anthers 3, 3–4 mm long. Caryopsis with adherent pericarp, 3 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia, Antarctica.

Country /Province /State. **New Zealand**. Antipodes Is, Campbell Is, Auckland Is, Macquarie Is. **Subantarctic islands**. Macquarie Is.

Poa longifolia Trin. *Bull. Sc. Acad. Petersb.* i. 69. (1836).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Caucasus. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *[C. A. Meyer] s. n.*, 15 Sep [1829], [Caucasus]: Rv. Baidara (LE [ex hb. TRIN, microfiche 433-c1]). This is Poa iberica according to Litwinov. LT: *C.A. Meyer*, 14 Aug 1829, Caucasus: In locis graminoisis versus montem Pagun, 3000 m (LE [ex hb. TRIN, microfiche 433-c2]; IT: LE [TRIN microfiche 433-c3, K-42 photo]). LT: indicated in Tzvelev, Zlaki SSSR p. 463 (1976). K photo of LE plant C.A. Meyer no. 90, 14 July 1829–1830.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *longus*, long; *folium*, leaf. With long leaf-blades.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths herbaceous, persistent and investing base of culm. Culms 30–60(–100) cm long. Culm-internodes terete, smooth. Culm-nodes glabrous. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 1–2 mm long, truncate. Leaf-blades involute, 10–20 cm long, (1.5–)2–4.5 mm wide, 5 cm long at summit of culm (and erect). Leaf-blade margins scaberulous. Leaf-blade apex abruptly acute, apiculate.

Inflorescence. Inflorescence a panicle. Panicle contracted, elliptic, 7–15 cm long. Primary panicle branches 2–4 -nate. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, (5–)7–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, subequal in width, shorter than spikelet. Lower glume lanceolate, 3.5 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume oblong, 3 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Palea 0.9 length of lemma. Palea keels scabrous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.5–3.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 42$ (2 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia.
Region. **Eastern Europe**.
Country /Province /State. Krym. **Caucasus**, **Western Asia**, **China**. Iraq. Xinjiang.

Poa longii H.J. Noltie. *Edinburgh J. Bot.*, 57(2): 285 (2000).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Edinburgh Expedition to Sikkim and Darjeeling (ESIK) 286*, 12 Jul 1992, India: Sikkim: Bikkari, Choktsering Chu Valley, 27?0'53N, 88?8'28"E, loose stones and scree at base of cliff in acidic soil 4000 m (E).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (565, Fig. 16).

Derivation (Clifford & Bostock 2007): In honor of David G. Long (1948-) who collected in Sikkim State, India.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 15–31 cm long. Culm-internodes smooth. Leaf-sheaths smooth or scaberulous. Ligule an eciliate membrane, 1–1.8 mm long, obtuse. Leaf-blades 3–6.5 cm long, 1–2 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, loose, 6.5–13 cm long. Primary panicle branches reflexed, distant, 2–4 -nate. Panicle branches capillary, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.6–5.6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.1–2.2 mm long, 0.5–0.66 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface scabrous. Lower glume apex acute. Upper glume oblong, 2.5–3.2 mm long, 0.8–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume surface scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, lanceolate in profile, 2.9–3.8 mm long, 1.4 mm wide, membranous, mid-green and purple, tipped with last colour, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins stopping well short of apex. Lemma surface smooth or punctate, puberulous, hairy at base. Lemma apex acute. Palea 2.3–2.4 mm long. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.7 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.
Country /Province /State. **Indian Subcontinent**. Eastern Himalaya.
Sikkim.

Poa longiramea Hitchcock. *Brittonia,* ii. 112 (1936).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Papua New Guinea. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *L.J. Brass 4393*, May 1933, Papua New Guinea: New Guinea, Central, Albert Edward. 3600 m (L).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *longus*, long; *ramus*, branch. Panicle with long branches.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Butt sheaths purple. Basal innovations intravaginal. Culms erect, slender, 20–42 cm long, 4–6 -noded. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 1.2–2.5 mm long, entire or erose. Leaf-blades conduplicate or involute, 12–18 cm long, 1–2 mm wide. Leaf-blade venation with 12–16 inner ridges. Leaf-blade surface ribbed, glabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 6–12 cm long. Primary panicle branches spreading, 1–2 -nate, 6–9 cm long. Panicle branches flexuous, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.7–1.2 mm long, scabrous.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous or sparsely hairy.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2.5–3 mm long, 1 length of upper glume, membranous, 1-keeled, 3–5 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume lanceolate, 2.5–3 mm long, 0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3–5 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.2–3.5 mm long, membranous, mid-green or purple, tipped with last colour, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma apex acute. Palea 2.8–3.2 mm long. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.4–0.9 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea.

Poa lowanensis N.G. Walsh. *Muelleria*, 7(3): 381 (1991).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: Victoria: Wyperfeld National Park, NE corner of The Hump", 11 Nov 1968, *Beauglehole & Finck 29505* (HT: MEL).

Illustrations: None found.

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From the Lowan, a district in south-eastern Australia recognized on account of its characteristic vegetation.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes absent or short. Culms erect, 45–90 cm long. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 0.5 mm long, pubescent on abaxial surface, truncate. Leaf-blades erect, conduplicate or involute, 20–40 cm long, 1–3 mm wide, stiff, glaucous. Leaf-blade surface scabrous, rough adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, 15–25 cm long. Primary panicle branches appressed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume lanceolate, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 3.5 mm long, membranous, much thinner on margins, light brown or purple, mottled with last colour, keeled, 5 -veined, more than 3-veined. Lemma midvein eciliate or ciliate, hairy at base. Lemma surface pubescent, hairy below. Lemma apex entire or erose, emarginate or truncate or obtuse. Palea 1 length of lemma. Palea surface pubescent, hairy on back, hairy below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. Victoria.

Poa lunata Chase. *Journ. Arn. Arb.* xxiv. 81 (1943).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Indonesia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Indonesia: Irian Jaya: northern slopes of Mt. Wilhelmina, small clumps under rocks of old screes, 3950 m, Sept. 1938, *Brass & Myer-Drees 10067* (HT: A; IT: L, US-1761732).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *luna*, moon; *-ata*, possessing. Glumes and lemmas crescent-shaped.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Basal innovations intravaginal. Culms erect, 25–35 cm long. Leaf-sheaths 3–5 cm long, smooth, glabrous on surface. Ligule an eciliate membrane, 2–5 mm long, acute. Leaf-blades conduplicate or involute, 8–15 cm long, 1–2 mm wide. Leaf-blade midrib conspicuous. Leaf-blade venation with 7–9 secondary veins. Leaf-blade surface scabrous, rough adaxially, glabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Peduncle antrorsely scabrous above. Panicle open, lanceolate, 5–9 cm long, 1–1.5 cm wide. Primary panicle branches appressed or ascending, 1–2 -nate, 3–5.3 cm long, bearing 3–25 fertile spikelets on each lower branch. Panicle axis scabrous. Panicle branches flexuous, angular, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 1–3 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4–7.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.25–4 mm long, 1 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or distinct. Lower glume surface scabrous, rough on veins. Lower glume margins eciliate or ciliolate. Lower glume apex acute. Upper glume lanceolate, 2.25–4 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface scabrous, rough on veins. Upper glume margins eciliate or ciliolate. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 3.5–5 mm long, membranous, keeled, 3–5 -veined, 0–3 -veined or more than 3-veined. Lemma midvein scabrous. Lemma apex acute. Palea lanceolate, 3.5–4.1 mm long. Palea keels scabrous. Rhachilla extension 2–4 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.6–1.4 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea West Papua (Irian Jaya). New Guinea.

Poa macrantha Vasey. *Bull. Torrey Bot. Club,* xv: 11 (1885).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *T. Howell s.n.*, May 1887, USA: Oregon: mouth of the Columbia River (US-55679; ILT: US-914674). LT designated by Soreng, Contr. U.S. Natl. Herb. 48: 547 (2003). ST: *T.J. Howell 72*, 17 Jul 1882, USA: Oregon, Tillamook Bay (US-83050; IST: MO).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (553).

Derivation (Clifford & Bostock 2007): Gk. *makros*, large; *anthos,* flower. Spikelets large.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms erect, 20–40 cm long. Culm-internodes terete, distally glabrous. Leaf-sheaths with 0.25 of their length closed, glabrous on surface.

Ligule an eciliate membrane, 1–1.5 mm long, truncate. Leaf-blades involute, 1–2 mm wide, stiff. Leaf-blade surface pubescent, hairy adaxially. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, elliptic, 4–12 cm long. Primary panicle branches ascending. Panicle branches stiff. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 12 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth, pubescent. Floret callus pubescent.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 8–9 mm long, 0.75–0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume lanceolate, membranous, 1-keeled, 5 -veined. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, oblong in profile, 9–10 mm long, membranous, keeled, 7–11 -veined, more than 3-veined. Lemma midvein pubescent. Lemma margins pubescent. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, 1.3 mm long, membranous. Anthers 3, 3.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets similar to female but less developed.

Vivipary absent, or occurs.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Western Canada**, **Northwest USA**, **Southwestern USA**. British Columbia. Oregon, Washington. California.

Poa macroanthera D.F.Cui. *Acta Bot. Bor.-Occid. Sin.,* 7(2): 97 (1987).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *P. tatewakiana*).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Xinjiang: Tian Shan, Hejingxian [ca. 42?N 86ºE], ad sylva-pratum, 2600 m, 4 July 1983, *N.R. Cui* (HT: XJA-1AC).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 379).

Derivation (Clifford & Bostock 2007): Gk *makros*, large; *antheros*, blooming. Panicle large.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely or moderately or densely. Rhizomes absent. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Basal innovations extravaginal or intravaginal. Culms 40–45 cm long, 2–4 -noded, with 0.5 of their length below uppermost node. Culm-internodes terete, smooth, distally glabrous. Lateral branches lacking. Leaf-sheaths open for most of their length, with 0.4 of their length closed, 10–11 cm long, mostly shorter than adjacent culm internode, smooth, glabrous on surface. Leaf-sheath oral hairs scanty. Ligule an eciliate membrane, 1–3 mm long, glabrous on abaxial surface or scaberulous on abaxial surface, obtuse. Leaf-blades flat or conduplicate, 3–15 cm long, 1–3 mm wide. Leaf-blade surface smooth or scaberulous, rough on both sides, glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, effuse, 8–15 cm long. Primary panicle branches 2–3 -nate, 2–5 cm long, bearing 8 fertile spikelets on each lower branch. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate or elliptic, laterally compressed, 5.6–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 2 mm long, eventually visible between lemmas, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3–4 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein smooth or scaberulous. Lower glume apex acuminate. Upper glume lanceolate, 3.5–5 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein smooth or scaberulous. Upper glume apex acute.

Florets. Fertile florets bisexual or female. Fertile lemma lanceolate, 4–5.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy above. Lemma lateral veins prominent,

stopping well short of apex. Lemma surface scaberulous, rough above, glabrous. Lemma apex acute. Palea keels scabrous, ciliate, adorned in the middle. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.5–3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. Xinjiang.

Poa macrocalyx Trautv. & Mey. *Middend. Reise (Fl. Ochot.* 108) (1856).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Middendorf*, Aug 1844, [Russian Far East]: Isl. Bol'shoj Shantar (LE). orig.label:"O.B.Shantar"; Roshev. (1934) says described from De-Kastri Bay, type LE.

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (528).

Derivation (Clifford & Bostock 2007): Gk. *makros*, large; *kalyx*, cup. Glumes more than half the length of the spikelet.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary or caespitose. Rhizomes elongated. Stolons present. Culms erect, 22–75 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 2.5–5.5 mm long, erose. Leaf-blades flat or conduplicate, 4–12 cm long, 2–3 mm wide. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic or ovate, dense or loose, 4–12 cm long. Primary panicle branches ascending or spreading. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 6–11.2 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 7 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume elliptic, 4–8 mm long, 0.8–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma elliptic, oblong in profile, 5–8 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent. Lemma surface glabrous to pilose. Lemma margins pubescent. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.7–2.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 42$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, North America.

Country /Province /State. Russian Far East, **China**, **Mongolia**, **Eastern Asia**. Kamchatka, Khabarovsk, Kuril Is, Magadan, Sakhalin. Manchuria. Japan Hokkaido. Japan. **Subarctic America**. Aleutian Is, Alaska.

Poa macroclada Rydb. *Bull. Torr. Bot. Club,* 1905: 604. (1905).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online.

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *C.F. Baker 802*, 14 Aug 1901, USA: Colorado, Roger's, Gunnison Watershed, 9000 ft (NY; IT: MO. US-412429).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *makros*, large; *klados*, stem. Panicle branches long and slender.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Culms 50–80 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaf-sheaths keeled, smooth. Ligule an eciliate membrane, 2–3 mm long. Leaf-blades 2–3 mm wide, flaccid. Leaf-blade surface glabrous. Leaf-blade margins scaberulous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 10–20 cm long. Primary panicle branches spreading, 2–3 -nate, 4–8 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes obscured by lemmas. Floret callus glabrous or sparsely hairy.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.5–4 mm long, 0.8–1 length of upper glume, membranous, purple, 1-keeled, 1–3 -veined. Lower glume apex acute. Upper glume lanceolate, 3.5–4 mm long, 1 length of adjacent fertile lemma, membranous, purple, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4–4.5 mm long, membranous, purple, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma lateral veins with distinct primaries but obscure intermediates, stopping well short of apex. Lemma margins ciliolate, hairy below. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Northwest USA**. Colorado.

Poa macusaniensis (E. H. L. Krause) N.F. Refulio-Rodriguez. *Syst. Bot.* 37 (1): 129 (2012).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. **Basionym or Replaced Name**: *Graminastrum macusaniense* E.H.L. Krause, *Beih. Bot. Centralbl.* 32: 348 (1914)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *W.Lechler 1836*, Peru (IT:US-2804471 (fragm.)).

Recent Synonyms: *Dissanthelium macusaniense* (E. H. L. Krause) R. C.Foster & L. B. Smith, *Phytologia,* 12: 249 (1965).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (320), S.A.Renvoize, *Gramineas de Bolivia* (1998) (160, Fig 38).

Illustrations (Journals): *Ruizia* (13:150, Fig 16 h-i (1993)).

Derivation (Clifford & Bostock 2007): L. -*ense*, denoting origin. From Macusani, Dept. of Puno, Peru.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms slender, 3–7 cm long. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.7–1.7 mm long. Leaf-blades ascending, involute, 1–4 cm long, 1–2 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, shorter than basal leaves. Panicle spiciform, oblong, 1–2 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 3.3–4.2 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.3–0.4 mm long.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate or oblong, 1 length of upper glume, membranous, much thinner on margins, 1-keeled, 3 -veined. Lower glume primary vein smooth or scaberulous. Lower glume apex acute. Upper glume oblong

or ovate, 3.3–4.2 mm long, 1.3–1.5 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein smooth or scaberulous. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.5–2.8 mm long, chartaceous, much thinner above, keeled, 3 -veined, 0–3 -veined. Lemma lateral veins close to margins. Lemma surface puberulous. Lemma apex dentate, 3 -fid, with outer lobes shorter, acute. Palea keels ciliolate.

Flower and Fruit. Anthers 3, 0.3 mm long. Ovary glabrous. Endosperm farinose.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Bolivia, Peru.

Salta.

Poa madecassa A.Camus. *Bull. Soc. Bot. France,* cii. 122 (1955).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Madagascar. **Basionym or Replaced Name**: *Poa madagascariensis* A. Camus, *Bull. Mus. Hist. Nat. (Paris)* 441 (1922). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar, Mont Tsiafajavona, *Perrier del la Bathie 13381*.

Illustrations (Books): J.Bosser, *Graminees des Paturage et des Cultures a Madagascar (*1969) (189, Fig 66).

Derivation (Clifford & Bostock 2007): from Madecassa, Madagascar.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Stolons present. Culms erect, 15–60 cm long. Lateral branches lacking. Ligule an eciliate membrane, 2.5–3 mm long. Leaf-blades flat or involute, 4–10 cm long, 1–1.5 mm wide. Leaf-blade surface smooth, glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 4–20 cm long, contracted about primary branches. Primary panicle branches ascending, 1–2 -nate, 2–12 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–3 mm long, 0.8 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scaberulous. Lower glume apex acute. Upper glume lanceolate, 3–4 mm long, 0.66 length of adjacent fertile lemma, membranous, 1-keeled, 3–5 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 4.5–6 mm long, membranous, keeled, 5–7 -veined, more than 3-veined. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Poa magadanica V.B. Kuvaev. *Novosti Sist. Vyssh. Rast.*, 21: 23 (1984).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Russia, Omsukczan: Kuvajev & Lapin N143–5 (LE holo).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely or moderately. Culms erect, 18–25 cm long, with 0.33 of their length below uppermost node. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths open for most of their length, with 0.15–0.2 of their length closed, smooth or scaberulous. Ligule an eciliate membrane, 2–3 mm long. Leaf-blades 1–2 mm wide. Leaf-blade surface scaberulous.

Inflorescence. Inflorescence a panicle. Peduncle scaberulous above. Panicle open or contracted, lanceolate or ovate, 2.5–4.5 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 5–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, membranous, 1-keeled. Lower glume apex acute. Upper glume elliptic or ovate, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 3.5 mm long, membranous, much thinner on margins, mid-green and purple, tipped with last colour, keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma apex obtuse. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, (1.5–)1.8(–2) mm long.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East. Magadan.

Poa magensiana Potztal. *Willdenowia,* ii. 168 (1958).

TYPE from Chile, cultivated. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Hort. Bot. Berol. 1957, as Magens 3350A*, 1957, Cult: Hort. Berol (B; IT; HIP (ex B, as 3350 Ba)). PT: *Sillard, in Herb. O. Magens 3350*, 16 Mar 1956, Chile: Magallanes: Chabunco, ca 35 km von Punta Arenas, Fundo los Robles, Weg nach Norden (B).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Otto Magens (fl.1958–1959) who collected in Chile.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Basal innovations intravaginal. Culms erect or geniculately ascending, 30–50 cm long, 0.7–1.3 mm diam., 3 -noded. Culm-internodes striate. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 1.5–2 mm long. Leaf-blades convolute, 1–3 mm wide. Leaf-blade surface smooth, glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, 2.5–8 cm long. Primary panicle branches spreading, 1–3 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, acuminate, 5 mm long, 3.5 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.6–1.2 mm long, glabrous. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 4 mm long, 0.8 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein ciliolate. Lower glume apex acute. Upper glume ovate, 5 mm long, 1.2–1.5 length of adjacent fertile lemma, membranous, 1-keeled, 5 -veined. Upper glume apex acuminate.

Florets. Fertile lemma ovate, 3.4–4.1 mm long, 2–2.4 mm wide, membranous, much thinner above, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma lateral veins stopping well short of apex. Lemma surface pilose, hairy at base. Lemma margins ciliate, hairy below. Lemma apex acute. Palea 2.5–3 mm long. Rhachilla extension 1.5 mm long. Apical sterile florets 1 in number, rudimentary.

Flower and Fruit. Lodicules 2, cuneate, 0.8 mm long, membranous. Anthers 3, 1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Chile South.

Magellanes.

Poa maia E.Edgar. *New Zealand J. Bot.*, 24(3): 470 (1986).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: New Zealand: saddle between Mount Owen and Lookout Ra., NW Nelson, 3800 ft, silver beech forest, wet ground, Jan 1972, *A.P. Druce s.n.* (CHR-324197).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): the name of one of the Pleiades, a constellation associated with rain. A species of wet forests.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Basal innovations extravaginal. Culms 20–40 cm long. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 0.7–1.5 mm long, scaberulous on abaxial surface, entire, obtuse. Leaf-blades filiform or linear, conduplicate, 1.5–16 cm long, 0.5–1.5 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, ovate, 3–9 cm long. Primary panicle branches spreading, 2 -nate. Panicle axis smooth. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5 mm long, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1–2.5 mm long, 0.5–0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2–3 mm long, 0.75–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume surface smooth or asperulous, rough on veins. Upper glume apex obtuse.

Florets. Fertile lemma oblate, 2.5–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface smooth, glabrous. Lemma apex obtuse. Palea 2–3 mm long. Palea keels scaberulous, adorned above. Palea surface smooth. Rhachilla extension 1 mm long.

Flower and Fruit. Lodicules 2, 0.3–0.5 mm long, membranous. Anthers 3, 0.8–1.2 mm long. Caryopsis with adherent pericarp, 1.5 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand North I, New Zealand South I.

Poa mairei Hack. Fedde, *Repert.* xii. 387 (1913).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Yunnan: pr. Tong-Tchouan, 1910, *R.P. Maire 6992, ser. B* (HT: W).

Recent Synonyms: *Poa ludens* R. R. Stewart, *Brittonia,* 5: 420: (1945).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Figures 380, 381).

Derivation (Clifford & Bostock 2007): In honor of R. P. Maire (fl. 1910–1921) who collected in China.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rootstock evident. Butt sheaths scarious, persistent and investing base of culm, with compacted dead sheaths. Culms 30–60 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths loose, smooth, glabrous on surface. Ligule an eciliate membrane, 0.2–0.8 mm long. Leaf-blades conduplicate, 5–25 cm long, 1.5–2 mm wide. Leaf-blade surface smooth or scabrous, rough adaxially. Leaf-blade margins scabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, elliptic, 5–10 cm long, 4–8 cm wide, with spikelets clustered towards branch tips. Primary panicle branches spreading, 2 -nate. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 5.6–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth, sparsely hairy. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 3.5–4 mm long, 0.8–0.9 length of upper glume, membranous, much thinner on margins, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume surface asperulous. Lower glume apex acute. Upper glume oblong, 4–5 mm long, 0.9 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface asperulous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 4.5–5.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous, ciliate, hairy below. Lemma lateral veins prominent. Lemma surface granulose, pubescent. Lemma margins ciliate. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2–3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. China South Central, Tibet. **Indian Subcontinent**. Assam, Eastern Himalaya, India, Nepal.

Sichuan, Yunnan.

Poa maniototo Petrie. *Trans. N. Z. Inst.* xxii. 443. (1890).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *D. Petrie s.n.*, New Zealand: Maniototo Plain, Upper Clutha, Otago, 1000–3000 ft (AK-1940; ILT (possible): WELT-66145, WELT-76707). LT designated by Edgar, New Zealand J. Bot. 24: 446 (1986).

Illustrations: None found.

Images: E.Edgar & H.E.Connor, *Flora of New Zealand* 5, *Gramineae* (2000);.

Derivation (Clifford & Bostock 2007): from the Maniototo Plain, South Island, New Zealand.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths pallid or yellow, glossy. Basal innovations intravaginal. Culms 5–10 cm long. Culm-internodes smooth. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule a ciliolate membrane, 0.5–1 mm long, pubescent on abaxial surface. Collar with external ligule. Leaf-blades curved, convolute, 0.25–1.5 cm long, 0.3–0.5 mm wide, grey-green. Leaf-blade surface smooth, glabrous. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Peduncle scaberulous above. Panicle spiciform, oblong, 0.5–1.5 cm long. Panicle branches flexuous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2–3.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 1.5–2 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex obtuse. Upper glume ovate, 1.5–2 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma elliptic, 1.5–2 mm long, membranous, much thinner on margins, keeled, 3–5 -veined, 0–3 -veined or more than 3-veined. Lemma lateral veins obscure. Lemma surface pubescent, hairy all along. Lemma apex obtuse. Palea 1 length of lemma. Palea surface pilose. Rhachilla extension 0.5 mm long.

Flower and Fruit. Lodicules 2, 0.2–0.4 mm long, membranous. Anthers 3, 0.2–0.4 mm long. Caryopsis with adherent pericarp, 0.5–1 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand South I.

Poa mannii Munro ex Hillebr. *Fl. Hawaiian* Ils. :526 (1888).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).

TYPE from Hawaii. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *H. Mann & W.T. Brigham 274*, no date, Hawaii: Kauai, Waimea (CU; IT: US-947522).

Illustrations (Books): W.L.Wagner et al., *Manual of the Flowering Plants of Hawai'i*, Vol. 2 (1990) (1580, Pl. 234).

Derivation (Clifford & Bostock 2007): in honor of Gustav Mann (1836–1916) German botanist and plant collector employed as gardener at Royal Botanic Gardens, Kew, England.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms decumbent, 30 cm long, wiry. Culm-internodes solid. Leaf-sheaths tubular for much of their length, glabrous on surface. Leaf-sheath auricles erect, 2–3 mm long. Ligule an eciliate membrane, 1.7–3 mm long, lacerate. Leaf-blades deciduous at the ligule, 5–15 cm long, 2–4 mm wide. Leaf-blade surface scabrous, rough adaxially. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 2–5 cm long. Primary panicle branches ascending. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes glabrous. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3 mm long, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acuminate. Upper glume lanceolate, 3 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma ovate, 3–4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent, hairy below. Lemma lateral veins with distinct primaries but obscure intermediates. Lemma surface pubescent, hairy below, hairy on veins. Lemma apex acute. Palea 1 length of lemma. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Pacific.

Country /Province /State. **North-central Pacific**. Hawaii.

Poa marcida Hitchcock. *Proc. Biol. Soc. Wash.* xli. 158. (1928).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *A.S. Hitchcock 23466*, 14 Jul 1927, USA: Washinton: Olympic Mts., Sol Duc Hot Springs, in moist place in deep timber (US-1299172; IT: US-1610958).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (513).

Derivation (Clifford & Bostock 2007): L. withered. The panicle branches droop at anthesis.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms decumbent, 40–80 cm long, without nodal roots or rooting from lower nodes. Culm-internodes smooth. Lateral branches lacking. Leaf-sheaths tubular for much of their length, with 0.9 of their length closed, smooth. Ligule an eciliate membrane, 0.3–1 mm long, obtuse. Leaf-blades 1–2.5 mm wide, flaccid. Leaf-blade surface scaberulous.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 10–18 cm long. Primary panicle branches appressed or drooping, distant, 1–2 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1–2 mm long, smooth. Floret callus bearded.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2 mm long, 0.66 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume elliptic, 3 mm long, 0.66 length of adjacent fertile lemma, membranous, 1-keeled, 5 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4.5–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Palea 1 length of lemma.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.4–0.6 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Western Canada**, **Northwest USA**. British Columbia. Oregon, Washington.

Poa markgrafii H. Hartmann. *Candollea,* 39(2): 514 (1984).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: India, Ladakh, Panikhar: Hartman 2380.

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 10–15 cm long, with 0.5 of their length below uppermost node. Culm-internodes terete. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths longer than adjacent culm internode. Ligule an eciliate membrane, 1 mm long, truncate. Leaf-blades filiform, 0.5–1 mm wide. Leaf-blade surface glabrous. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, 2–3 cm long, 0.5–0.8 cm wide. Primary panicle branches appressed. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising (1–)3(–4) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or ovate, laterally compressed, 2.5–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes glabrous. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate or ovate, 1.5–2.5 mm long, 0.75 length of upper glume, membranous, much thinner on margins, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 2–3 mm long, 1 length of adjacent fertile lemma, membranous, with scarious margins, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma elliptic, 2–3.5 mm long, membranous, keeled, 5–7 -veined, more than 3-veined. Lemma midvein scaberulous (above), pubescent, hairy below. Lemma lateral veins with distinct primaries but obscure intermediates. Lemma margins woolly, hairy below. Lemma apex acute. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.4–1.9 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indian Subcontinent**. West Himalaya.

Poa marshallii O. Tovar Serpa. *Rev. Cienc. Univ. Nacion. Mayor San Marcos,* 73(1): 103 (1981).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Peru: Junin: Huancayo: San Jose de Acobambilla region, 75?22' S 120?40' W, Cerro Millpa, 15600 ft, steep NE slopes, 30 Jul 1961, *J.R. Lloyd & J.K. Marshall 241* (HT: K).

Illustrations (Journals): *Ruizia* (13:132, Fig13d-f (1993)).

Derivation (Clifford & Bostock 2007): In honor of J.K. Marshall (fl. 1961) who collected in Peru.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 28–33 cm long, 1 -noded. Leaves mostly basal. Ligule an eciliate membrane, 2–3 mm long. Leaf-blades filiform, conduplicate or involute, 15–20 cm long, 1 mm wide, stiff. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear or oblong, 5.5–8 cm long, 0.7–1 cm wide. Primary panicle branches appressed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.2–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.5 mm long, 0.5 length of upper glume, coriaceous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse or acute. Upper glume lanceolate, 3 mm long, 1.1 length of adjacent fertile lemma, coriaceous, 1-keeled, 3 -veined. Upper glume apex obtuse or acute.

Florets. Fertile lemma ovate, 2.4–2.6 mm long, coriaceous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins distinct. Lemma surface smooth or scaberulous. Lemma apex acute.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa masenderana Freyn & Sint. *Bull. Herb. Boiss. Ser.* II. ii. 915. (1902).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Iran. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *P. Sintenis 1486*, 3 Apr 1901, Persia borealis: prov. Asterabad, Bender Ges, in silvis primaevis (BM, US-1127139 (ex W)). [Bandar-e Gaz]. ST: *P. Sintenis 354*, 3 Apr 1901, Iran: Mazarandan: Bei Bender in der Provinz Asterbad, ca. 500 m (BM, US-557340 (Kneucker Gramineae exciccatae XII. Lieferung), WAG). 354 seems to be the same collection as 1486 [rjs].

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating location. From East Masenderan on the south Caspian coast.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes elongated. Butt sheaths herbaceous. Culms decumbent, 25–30(–45) cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 0.5–1.5 mm long. Leaf-blades 10–30 cm long, 2–3(–5) mm wide, flaccid. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade margins scaberulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle, comprising 8–12 fertile spikelets. Panicle open, ovate, effuse, 7–15 cm long, bearing few spikelets. Primary panicle branches ascending or spreading, 1–2 -nate, bearing 1 fertile spikelets on each lower branch. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2–2.5 mm long, 0.8 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2.5–3 mm long, 0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 3–4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface pilose, hairy below. Lemma apex acute. Palea 0.9 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1–1.7 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Caucasus**, **Western Asia**, **China**. Iran, Iraq. Xinjiang.

Poa matthewsii Petrie. *Trans. Proc. N. Z. Inst.* iv. 392. (1902).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *D. Petrie s.n.*, New Zealand: Waipahi, S. Otago, by banks of river (WELT-66983; ILT: CHR-6768, WELT-66990). LT designated by Edgar, New Zealand J. Bot. 24: 470 (1986).

Illustrations: None found.

Images: E.Edgar & H.E.Connor, *Flora of New Zealand* 5, *Gramineae* (2000);.

Derivation (Clifford & Bostock 2007): in honor of Andrew Mathews (? -1841) who collected in Peru.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Stolons present. Basal innovations extravaginal. Culms geniculately ascending, slender, 25–50 cm long. Lateral branches lacking. Leaf-sheaths antrorsely scabrous (on margins), glabrous on surface, outer margin hairy. Ligule an eciliate membrane, 0.7–1.5 mm long, scaberulous on abaxial surface, entire, obtuse. Leaf-blades 10–17 cm long, 1–2 mm wide. Leaf-blade surface puberulous, hairy adaxially. Leaf-blade margins ciliate, hairy at base. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle open, ovate, 10–25 cm long. Primary panicle branches spreading. Panicle axis scaberulous. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.5–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–1 mm long, smooth, glabrous or sparsely hairy. Floret callus glabrous or sparsely hairy.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.8–1.5 mm long, 0.5–0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume lanceolate, 1.5–2 mm long, 0.66–0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex obtuse.

Florets. Fertile lemma lanceolate, 2–3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface scaberulous, rough above or on veins. Lemma apex obtuse. Palea 1.5–2 mm long. Palea keels scabrous. Palea surface pubescent, hairy on back.

Flower and Fruit. Lodicules 2, 0.2–0.4 mm long, membranous. Anthers 3, 0.3–0.5 mm long. Caryopsis with adherent pericarp, 1 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand North I, New Zealand South I.

Poa matris-occidentalis Peterson & Soreng. *Sida* 22:906 (2006).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Mexico. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Mexico, Durango, Cerro Gordo: Peterson 19145 & Alvarado (US holo, CHDIR, MEXU).

Illustrations (Journals): *Sida* (22 (2): 907, Fig.1 and 908, Fig.2 (2006)), *Phytokeys* (15: 46 & 47, Figs10, 11 (2012)).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes elongated. Basal innovations extravaginal or intravaginal. Culms erect, 45–80 cm long, 2–4 -noded. Culm-internodes terete (weakly), smooth, distally glabrous. Lateral branches lacking. Leaf-sheaths tubular for much of their length, with 0.66–0.8 of their length closed, 3–14 cm long, scaberulous, glabrous on surface or puberulous. Leaf-sheath oral hairs lacking or ciliate. Ligule an eciliate membrane, 3.5–6 mm long, obtuse or acute. Leaf-blades 12–22 cm long, 2–6 mm wide. Leaf-blade surface scaberulous, rough abaxially. Leaf-blade margins scaberulous. Leaf-blade apex hooded.

Inflorescence. Inflorescence a panicle, comprising 24–85 fertile spikelets. Panicle open, pyramidal, nodding, 10–26 cm long. Primary panicle branches (1–)2(–3) -nate, 5.5–10 cm long, bearing 3–15 fertile spikelets on each lower branch. Panicle axis with lower internodes 2.5–5.5 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4–8 mm long, 1.8–2.7 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1–2 mm long, obscured by lemmas, smooth. Floret callus woolly. Floret callus hairs 0.33–0.5 length of lemma.

Glumes. Glumes persistent, similar, with lower narrower than upper, shorter than spikelet. Lower glume lanceolate or ovate, 3–5 mm long, 0.8–0.9 length of upper glume, membranous, much thinner on margins, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins obscure. Lower glume surface asperulous, rough on veins. Lower glume apex acute or acuminate. Upper glume ovate or obovate, 3.7–5.6 mm long, 0.8–0.9 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface asperulous, rough on veins. Upper glume apex acute or acuminate.

Florets. Fertile lemma ovate, 4.6–6.3 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma lateral veins distinct. Lemma surface asperulous to scabrous. Lemma margins eciliate or pubescent, hairy below. Lemma apex obtuse or acute. Palea 4.4–6 mm long, 3 -veined. Palea keels approximate. Palea surface asperulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2–2.2 mm long, yellow. Ovary glabrous. Caryopsis with adherent pericarp, fusiform, 2.6–2.9 mm long, light brown. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Mexico**. Northeast Mexico.

Durango.

Poa matsumurae Hack. *Bull. Herb. Boiss*. vii. 709. (1899).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from Japan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J. Matsumura 61*, Japan: Shinano, Togakushi Prov. (W-14218; IT: TI-M04–02–38, US-3413580 (ex W)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Jinzt Matsumura (1856–1928) Japanese botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Stolons present. Culms erect, 35–75 cm long, 1–1.25 mm diam., 2–3 -noded. Culm-internodes terete. Leaves mostly basal. Leaf-sheaths open for most of their length, without keel, smooth, glabrous on surface or pubescent. Ligule an eciliate membrane, 1–2 mm long, white, truncate or obtuse. Leaf-blades 12–25 cm long, 1.2–3.5 mm wide. Leaf-blade surface glabrous to pubescent, hairy adaxially. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic or ovate, 6–15 cm long, 3–5 cm wide. Primary panicle branches 3–5 -nate, 1.7–6 cm long. Panicle branches capillary. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or ovate, laterally compressed, 4.5–6.2 mm long, 2.5–3 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly. Floret callus hairs 0.6 length of lemma.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–3 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2.8–3.5 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma elliptic, 3.2–4 mm long, membranous, much thinner on margins, keeled, 3–5 -veined, 0–3 -veined or more than 3-veined. Lemma midvein pubescent, hairy below. Lemma lateral veins with distinct primaries but obscure intermediates. Lemma surface pubescent, hairy below, hairy on veins. Lemma apex acute. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.7–2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

2*n* = 28, or 70.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**, **Eastern Asia**. Japan Honshu. Japan, Korea.

Poa megalantha (L. Parodi) Herter. *Rev. Sudamer. Bot.* ix. 64 (1953).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Uruguay. **Basionym or Replaced Name**: *Poa stuckertii* var. *megalantha* Parodi, *Revista Argent. Agron.* 3: 150, t. 6 (1936). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Uruguay: hab. campo: Dec 1920, *M.J. Schroeder [hb. Oste. 16310]* (T: B).

Illustrations (Books): B.Rosengurtt, *Gramineas UruguayasI* (1970) (133, Fig. 49).

Derivation (Clifford & Bostock 2007): Gk. *megas*, large; *anthos*, flower. Spikelets large.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations flabellate. Culms 60–100 cm long. Culm-nodes glabrous. Leaves distichous. Ligule an eciliate membrane, 1–2 mm long, truncate or obtuse. Leaf-blades conduplicate, 25–55 cm long, 5–8 mm wide. Leaf-blade surface smooth. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, dense, 5–15 cm long, 2.5–3.5 cm wide, contracted about primary branches. Primary panicle branches bearing spikelets almost to the base. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 6–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acuminate. Upper glume lanceolate, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma lanceolate, 4.5–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface pubescent, hairy between veins. Lemma margins ciliate, hairy below. Lemma apex acute. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Uruguay.

Poa meionectes Vickery. *Contrib. New S. Wales Nation. Herb.,* 4(5): 250 (1972).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. **Basionym or Replaced Name**: *Poa exilis* Vickery, *Contr. New South Wales Natl. Herb.* 4: 212 (1970). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: New South Wales: Tantawanglo Mt.: on hill w of 6-mile Cr.: 7 Jan 1959, *J. Vickery* (HT: NSW 50163).

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (153, Fig 106), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (429, Fig 84), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (352), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (323, Fig 43), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): Gk *meionektes*, one who has less. At first regarded as depauperate specimens of another species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths herbaceous. Basal innovations intravaginal. Culms 10–60 cm long, 2 -noded. Culm-internodes terete, smooth or scaberulous. Lateral branches lacking. Leaf-sheaths tight, smooth or scaberulous, glabrous on surface. Ligule an eciliate membrane, 0.5 mm long, truncate. Leaf-blades flexuous, filiform, involute, 5–15 cm long, 0.3 mm wide. Leaf-blade surface scaberulous, rough on both sides, glabrous.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, elliptic, 1–10 cm long. Primary panicle branches spreading, 1–4 -nate. Panicle branches capillary, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 1.5–2 mm long, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scaberulous. Lower glume apex acute. Upper glume oblong, 1.5–2 mm long, 0.6–0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex acute.

Florets. Fertile lemma lanceolate, oblong in profile, 2–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein eciliate or ciliolate, hairy at base. Lemma margins eciliate or ciliolate, hairy at base. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scaberulous. Palea surface scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.25 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. South Australia, New South Wales, A.C.T., Victoria.

Southern. Coast, Tablelands.

Poa membranigluma D.F. Cui. *Acta Bot. Boreal.-Occid. Sin.* 7(2): 89, f. 4 (1987).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Xinjiang: Heiying Shan, Baicheng Xian et Wensu Xian, (ca. 42ºN 81ºE) 2000–2700 m,, 15 July 1982, *c.i. 04–003* (HT: XJA-1AC).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *membrana*, membrane; *gluma*, husk. Glumes white and membranous.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 16–30 cm long, with 0.33 of their length below uppermost node. Leaf-sheaths smooth. Ligule an eciliate membrane, 0.5 mm long. Leaf-blades aciculate, involute, 0.7 mm wide. Leaf-blade surface smooth.

Inflorescence. Inflorescence a panicle. Panicle open or contracted, linear, 4–5 cm long, bearing few spikelets. Primary panicle branches appressed, 1–2 -nate. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes glabrous. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2.5–3 mm long, 0.75–0.9 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 3–3.5 mm long, 0.66 length of adjacent fertile lemma, membranous, without keels, 1 -veined. Upper glume lateral veins absent.

Florets. Fertile lemma lanceolate, 4.5–5.5 mm long, chartaceous, of similar consistency on margins, without keel, 5 -veined, more than 3-veined. Lemma surface glabrous. Lemma apex muticous. Palea 2 -veined. Palea keels ciliolate, adorned above, with 0.75 of their length adorned. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1 mm long.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. Xinjiang.

Poa menachensis Schweinf. *Bull. Herb. Boiss*. ii. *App.* II, 43. (1894).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.
Illustrations: None found.
Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Menbcha, Arabia.
Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths papery. Culms 25–55 cm long. Culm-internodes terete. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 1.5 mm long, obtuse. Leaf-blades flat or involute, 1–2 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, dense, 8–14 cm long. Primary panicle branches ascending. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or oblong, laterally compressed, 4.5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.2–2.6 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume lanceolate, 2.7–3.1 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma elliptic or oblong, 3.4–3.8 mm long, herbaceous, glandular on veins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma lateral veins stopping well short of apex. Lemma surface punctate, pubescent, hairy on back or on veins. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.6 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.
Country /Province /State. **Arabian Peninsula**. Yemen.

Poa mendocina E.G.Nicora & F.A.Roig. *Hickenia,* 2(58): 273 (1998).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Argentina: Dept. San Rafael: Dist. El Sosneado: cerro Volcán Overo, 3100 m, 10 Feb 1955, *R.A. Ruiz Leal 16894* (HT: MERL; IT: BAA, SI).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (320).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 10–15 cm long. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1–1.5(–3) mm long. Leaf-blades 3–6 cm long, 2–3 mm wide. Leaf-blade surface glabrous. Leaf-blade apex hooded.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Panicle contracted, linear, 3.5–4 cm long, 0.6–0.8 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–6.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.5–4 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 4.3–4.8 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4.5 mm long, 2 mm wide, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate. Lemma margins ciliolate. Lemma apex acute. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5–1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Chile Central.

Mendoza. Santiago.

Poa minimiflora Stapf. *Hook. Ic. Pl. t.* 2608. (1899).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Papua New Guinea. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *A. Giulianetti*, 1896, Papua New Guinea: New Guinea, Central, Scratchley, 3,719 m (L).

Illustrations (Journals): *Hooker's Icones Plantarum* (t.2608 (1899)).

Derivation (Clifford & Bostock 2007): L. *minimus*, least; *flos*, flower. Spikelets with only one or two florets.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Basal innovations extravaginal or intravaginal. Culms erect, 15–30 cm long. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 1.5–4.5 mm long, acute or acuminate. Leaf-blades filiform, involute, 4–8 cm long, 0.6 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle open, lanceolate, 3–5.5 cm long, 0.5–1.4 cm wide. Primary panicle branches appressed or ascending, 1–3 -nate, 1–2.6 cm long, bearing 2–8 fertile spikelets on each lower branch. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2.25–2.75 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.2–0.35 mm long, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.35–2.2 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume surface asperulous. Lower glume apex acute. Upper glume lanceolate, 1.75–2.5 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface asperulous. Upper glume apex acute.

Florets. Fertile lemma elliptic, 2–2.4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface scaberulous. Lemma apex acute. Palea keels scaberulous. Rhachilla extension 0.4–0.65 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5–1.2 mm long, yellow or purple. Caryopsis with adherent pericarp, ellipsoid, 1.4–1.5 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea.

Poa minor Gaud. *Alpina,* iii. 44. (1808).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, T.G.Tutin et al, *Flora Europaea* 5 (1980).

Illustrations (Books): G.Hegi, *Flora von Mitteleuropa* 1 (1909).

Derivation (Clifford & Bostock 2007): L. smaller, lesser. Plants small in comparison with related species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Basal innovations extravaginal. Culms erect, 5–30 cm long. Lateral branches lacking. Leaves cauline. Leaf-sheaths obsolete on upper internodes. Ligule an eciliate membrane, 2–2.5 mm long, acute. Leaf-blades 1–1.5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 2.5–3 cm long. Panicle branches terete, smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma margins ciliate, hairy below. Lemma apex acute. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

n = 14 (1 ref TROPICOS). 2n = 28 (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe.

Region. **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**.

Country /Province /State. : Austria, Germany, Switzerland. : France, Spain. : Italy, Romania, Yugoslavia.

Poa moabitica Bor. *Notes Roy. Bot. Gard. Edinburgh,* 31 (3): 396 (1972).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Palestine. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *W.A. Hayne (Plants of the Holy Land) [comm. Rev. H.E. Fox, Oct 1873]*, Plants of the Holy Land (K-H2003/00969–162). [presumably from the Moab Plateau; Bor].

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Moab, Palestine.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Butt sheaths withering. Culms erect, 60–110 cm long, 3–6 mm diam. Culm-internodes smooth. Culm-nodes glabrous. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 1 mm long, pubescent on abaxial surface, truncate. Leaf-blades 10–35 cm long, 5–9 mm wide. Leaf-blade surface smooth. Leaf-blade margins scabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 20–35 cm long, 2–5 cm wide. Primary panicle branches 4–5 -nate, whorled at most nodes, 0.5–10 cm long. Panicle axis with lower internodes 10 cm long, smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.25–3 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 1.75–2 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma lateral veins with distinct primaries but obscure intermediates. Lemma surface scaberulous, rough on veins. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Western Asia**. Palestine, Israel & Jordan.

Poa molineri Balb. *Elenco* 85 (1801).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from Italy, cultivated. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Cult. Italy: prope Tenda --- in hortum Taurinensem adlata ab eximio Igantio Molineri,.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): In honor of "Igantio Molineri" of Italy.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths persistent and investing base of culm. Basal innovations intravaginal. Culms erect, 12–18 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1–2 mm long, 0.5–1 mm long on basal shoots, entire or lacerate. Leaf-blades conduplicate, 2–6 cm long, 1–2.5 mm wide, glaucous. Leaf-blade margins unthickened or cartilaginous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, elliptic or ovate, 1–2 cm long. Primary panicle branches 2 -nate. Panicle branches stiff. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 2–2.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface pubescent. Lemma margins ciliate. Lemma apex acute. Palea keels scabrous, ciliate, adorned below (as to hairs). Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

$2n$ = 14 (1 ref TROPICOS), or 28 (2 refs TROPICOS).

Distribution (TDWG). Continent. Europe.

Region. **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**.

Country /Province /State. : Austria, Czechoslovakia, Switzerland. : France, Spain. : Albania, Bulgaria, Greece, Italy, Romania, Yugoslavia.

Poa mollis Vickery. *Contrib. N. S. Wales Nat. Herb.* iv. 241 (1970).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: Tasmania: Rocky cliffs at Cataract Gorge, S. Esk Rv., Launceston: 27 Oct 1943, *W.M. Curtis 82* (HT: K; IT: HO).

Illustrations: None found.

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. soft. Softly hairy usually of leaf-blades.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Butt sheaths herbaceous, purple. Culms 25–80 cm long, 1–3 -noded. Culm-internodes terete, smooth, distally pubescent. Culm-nodes pubescent. Lateral branches lacking. Leaf-sheaths smooth, pubescent. Ligule a ciliolate membrane, 0.5–0.75 mm long, pubescent on abaxial surface. Leaf-blades conduplicate or involute, 12–20 cm long, 1–3 mm wide, glaucous. Leaf-blade surface pubescent. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, elliptic, 8–15 cm long. Primary panicle branches 3–6 -nate. Panicle branches capillary, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or obscure. Lower glume surface asperulous, rough above. Lower glume apex acute or acuminate. Upper glume oblong, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface asperulous, rough above. Upper glume apex acute or acuminate.

Florets. Fertile lemma oblong, lanceolate in profile, 2.75–3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate. Lemma margins ciliolate. Lemma apex obtuse or acute. Palea 0.9 length of lemma. Palea keels scabrous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. Tasmania.

Poa montevidensis Arech. *An. Mus. Montevideo*, i. 479 (1897).

TYPE from Uruguay. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Arechaveleta 5101*, Nov, Uruguay: Montevideo, en parajes humedos (MVM; IT: LP [fragm. & photo]). LT, Parodi (1936).

Illustrations (Books): A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (124, Fig. 32), B.Rosengurtt, *Gramineas UruguayasI* (1970) (18, Fig. 1 & 138, Fig. 51 as *Agrostis*).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Montevideo, Uruguay.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms 50–80 cm long, 3–4 -noded. Culm-nodes glabrous. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 5–6 mm long, 1 mm long on basal shoots, erose, truncate. Leaf-blades 35–50 cm long, 3–7 mm wide. Leaf-blade surface glabrous. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, 15–25 cm long, 3–3.5 cm wide. Primary panicle branches naked below or bearing spikelets almost to the base. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 7–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3–4 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume lanceolate, 3–4 mm long, 0.8–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, 4–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma margins ciliolate, hairy below. Lemma apex acute. Palea 2 -veined. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.8 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female. Male spikelet lemma 4 mm long.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northeast.

Buenos Aires, Entre Rios.

Poa morrisii Vickery. *Contrib. N. S. Wales Nat. Herb.* iv. 239 (1970).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: Victoria: Sandringham: 1934, *P. Morris* (HT: : MEL; IT: K).

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (154, Fig 107), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (323, Fig 43), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): in honor of Patrick Francis Morris (1896–1974) Australian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes absent or elongated. Butt sheaths herbaceous, pallid. Basal innovations extravaginal. Culms 50–90 cm long, 2–3 -noded. Culm-internodes terete, smooth, distally pubescent. Culm-nodes pubescent. Lateral branches lacking. Leaf-sheaths smooth, pubescent. Ligule a ciliolate membrane, 1–1.5 mm long, pubescent on abaxial surface, truncate. Leaf-blades flat or involute, 15–30 cm long, 1–3.5 mm wide. Leaf-blade surface pubescent or pilose, hairy on both sides.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, elliptic, 9–25 cm long. Primary panicle branches 1–3 -nate. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth, glabrous or sparsely hairy. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume surface pubescent. Lower glume apex acute. Upper glume oblong, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface pubescent. Upper glume apex acute.

Florets. Fertile lemma lanceolate, oblong in profile, 2.2–4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface pubescent. Lemma margins ciliate. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous, eciliate or ciliolate, adorned below (ciliolate). Palea surface pubescent. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.8 mm long, yellow or purple. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. South Australia, Victoria.

Southern.

Poa mucuchachensis Luces. *Bol. Soc. Venez. Cienc. Nat.* xv. 3 (1953).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Venezuela. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Venezuela: Edo. Mérida: fu?colecciando en los alrededores de Laguna Negra en el Páramo de Mucuchies, 25 Nov 1943, *Luces [de Febres] 277* (HT: VEN [MAC]).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Paramo de Mucuchmes, Venezuela.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Stolons absent or present. Culms geniculately ascending, 40–45 cm long. Culm-internodes distally glabrous. Lateral branches lacking. Leaf-sheaths glabrous on

surface. Ligule an eciliate membrane, 3 mm long, acuminate. Leaf-blades flexuous, flat or conduplicate, 3–15 cm long, 1–2 mm wide. Leaf-blade surface scaberulous, glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 6–11 cm long, with spikelets clustered towards branch tips. Primary panicle branches 2–4 -nate, whorled at most nodes. Panicle branches flexuous. Spikelets solitary. Fertile spikelets sessile or pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume surface asperulous. Lower glume apex acuminate. Upper glume ovate, 3.8 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface asperulous. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface scabrous. Lemma apex acute. Palea keels scabrous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Northern South America**. Venezuela.

Poa muhavurensis C.E.Hubb. *Bull. Jard. Bot. Brux.* xxv. 244 . (1955).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Uganda.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Mount Muhavura in the Virunga Mountains on the border of Uganda and Rwanda.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 10–40 cm long. Leaves mostly basal. Ligule an eciliate membrane, 1–3.5 mm long. Leaf-blades erect, conduplicate, 3–10 cm long, 2–4 mm wide. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 4–10 cm long, with spikelets clustered towards branch tips. Primary panicle branches spreading or reflexed. Panicle branches stiff. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 4–5.5(–6.5) mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–3.5(–4) mm long, 0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume apex obtuse. Upper glume elliptic, 3–4 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma ovate, lanceolate in profile, 3–3.5(–4.5) mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex obtuse. Palea 1 length of lemma. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5–1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **West-Central Tropical Africa**, **Northeast Tropical Africa**, **East Tropical Africa**. Rwanda, DRC. Ethiopia (inc. Eritrea). Kenya, Tanzania, Uganda.

Poa mulalensis H. B. & K., uncertain application. *Nov. Gen. et Sp.* i. 162. (1815).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Ecuador. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Humboldt & Bonpland s.n.*, May-Jun, Ecuador: Cotopaxi (P?).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Mt. Mulalo, Ecuador.

Classification. Subfamily Pooideae. Tribe: Poeae.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Ecuador.

Poa mulleri Swallen. *Journ. Wash. Acad. Sc.* . 211 (1940).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Mexico. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *C.H. Mueller 2251*, 21 Jul 1935, Mexico: Nuevo León: Galeana Mun. (US-1645320; IT: GH, US-1646008).

Illustrations (Journals): *Phytokeys* (15: 52, Fig.13 (2012)).

Derivation (Clifford & Bostock 2007): in honor of C.H. Muller (fl. 1939) who collected in Venezuela and Mexico.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Culms geniculately ascending, 25–40 cm long. Culm-internodes elliptical in section. Leaves mostly basal. Leaf-sheaths keeled, glabrous on surface. Ligule an eciliate membrane, 0.5 mm long, truncate. Leaf-blades flat or involute, 3–6 cm long, 1.2 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, dense, 5–8 cm long. Primary panicle branches reflexed, 1–2 -nate, 2–3 cm long. Panicle branches flexuous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 3 mm long, 0.8–0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume ovate, 3.5 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 5 -veined. Upper glume apex acuminate.

Florets. Fertile lemma ovate, 3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent. Lemma margins pubescent, hairy at base. Lemma apex acute. Palea 0.9 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Mexico**. Northeast Mexico.

Neuvo Leon.

Poa multinodis Chase. *Journ. Arn. Arb.* xxiv. 81 (1943).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Indonesia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Indonesia: Irian Jaya: Lake Habbema, 3225-m Camp, wet forest glade, Aug. 1938, *Brass 9584* (HT: A; IT: L, US-1761692).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *multus*, many; *nodus,* knot. Culms many-noded.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Basal innovations intravaginal. Culms geniculately ascending, 20–40 cm long, 2 -noded. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long, truncate. Leaf-blades conduplicate or involute or convolute, 2.5–9 cm long, 1–

1.6 mm wide, stiff. Leaf-blade surface ribbed, glabrous. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Peduncle scaberulous above. Panicle open, ovate, 6–7 cm long. Primary panicle branches 2–3 -nate, simple or sparsely divided, 0.5–2.6 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2–3 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.4 mm long, smooth.

Glumes. Glumes persistent, similar, shorter than spikelet, gaping. Lower glume elliptic or ovate, 0.8–1.2 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 1.1–1.8 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex obtuse.

Florets. Fertile lemma elliptic, 2–2.4 mm long, membranous, purple, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous. Lemma apex acute. Palea 1.2–2.2 mm long. Palea keels scabrous, adorned above.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.4 mm long. Caryopsis with adherent pericarp, ovoid, 1.2–1.5 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea West Papua (Irian Jaya). New Guinea.

Poa munozensis Hackel apud Stuckert. *An. Mus. Nac. Buenos Aires.* xxi. 155 (1911).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Lillo 7444 (T.J.V. Stuckert 18833)*, 27 Jan 1908, Argentina: Tucuman, Tafi Dept., Cerro Munoz, pajonales in monte, 3900 m (W; IST: BAA, CORD, LIL, US-88756 (fragm. ex W, plant on left)). LT: *Lillo 7955 (Stuckart herb. 18851)*, 25 Jan 1908, Argentina: Tucuman, Dpto. Tafi, Cerro Muñoz, 3900m, Cienegas in monte (CORD; ILT: LIL, US-88756 (plant on right, fragm. ex W), W). LT designated by Negritto & Anton, Kurtziana 28(1): 114 (2000).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Cerro Muqoz, Department of Tafi, Argentina.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths yellow. Basal innovations intravaginal. Culms 20–40 cm long, 1 -noded, with 0.25 of their length below uppermost node. Culm-internodes terete. Leaf-sheaths antrorsely scabrous. Ligule an eciliate membrane, 4–8 mm long, obtuse or acute. Leaf-blades filiform, conduplicate, 20–30 cm long, 0.7 mm wide, stiff, glaucous. Leaf-blade surface scabrous, rough abaxially, puberulous, hairy adaxially. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Peduncle scaberulous above. Panicle open, ovate, 8–13 cm long, 4–7 cm wide. Primary panicle branches drooping, 2 -nate, 5–6 cm long. Panicle axis scabrous. Panicle branches capillary, flexuous, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or ovate, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3–3.5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 3–3.5 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 4–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous, ciliolate, hairy below. Lemma surface scaberulous. Lemma apex acute. Palea keels scabrous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.
Country /Province /State. **Southern South America**. Argentina Northwest.

Poa muricata J.F. Veldkamp. *Blumea,* 38(2): 441 (1994).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Papua New Guinea. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *ANU 15496*, 15 Aug 1972, Papua New Guinea: New Guinea, Chimbu, Wilhelm Mountain 4,176 m (L).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. rough. Glumes bear short hard points.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations extravaginal or intravaginal. Culms erect, 7–23 cm long. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 2.3–3.5 mm long, 0.5–2 mm long on basal shoots, glabrous on abaxial surface or scaberulous on abaxial surface, acute. Leaf-blades erect, straight or curved, aciculate, 2.7–8 cm long, 0.6–1.3 mm wide. Leaf-blade surface scaberulous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 2.5–4.5 cm long, 0.4–1.1 cm wide. Primary panicle branches appressed, 1–3 -nate, 0.9–2 cm long, bearing 5–16 fertile spikelets on each lower branch. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising (1–)2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2.85–3.25 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.3–0.5 mm long, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume lanceolate, 2.25–2.75 mm long, 1 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume surface scabrous. Lower glume apex acute. Upper glume ovate, 2.25–3 mm long, 1.1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume lateral veins obscure. Upper glume surface scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.4–2.8 mm long, membranous, keeled, 3 -veined, 0–3 -veined. Lemma midvein scabrous. Lemma lateral veins obscure. Lemma surface smooth or asperulous. Lemma apex acute. Palea keels scabrous. Rhachilla extension 0.5–0.8 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.6–1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.
Country /Province /State. **Papuasia**. New Guinea.

Poa myriantha Hack. *Anal. Mus. Buenos Aires, Ser.* III. vi. 517 (1906).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *M. Lillo 3656 (Stuckert hb. 14915)*, 15 Apr 1904, Argentina: Tucumán: Taf?Dept., prope La Ciénaga, in silvis de "Aliso", 2600 m (W; IT: BAA, CORD, LIL, US-88755).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (321), S.A.Renvoize, *Gramineas de Bolivia* (1998) (137, Fig. 34).

Derivation (Clifford & Bostock 2007): Gk. *myrios*, countless; *anthos*, flower. Inflorescence many spikelets.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Culms erect, 160 cm long, 20 -noded. Culm-internodes terete, smooth. Leaves cauline. Leaf-sheaths keeled, antrorsely scabrous. Ligule an eciliate membrane, 1 mm long, truncate. Leaf-blades 20–35 cm long, 4–8 mm wide, flaccid. Leaf-blade surface scabrous, rough on both sides. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 25–35 cm long, 15–20 cm wide. Primary panicle branches 7–9 -nate, 15–30 cm long. Panicle axis 6 noded, scabrous. Panicle branches capillary, tangled, smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate or orbicular, laterally compressed, compressed strongly, 4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5 mm long, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume lanceolate, 3 mm long, 0.66–0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume surface asperulous, rough on veins. Upper glume apex acuminate.

Florets. Fertile lemma lanceolate, 3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous, ciliate, hairy below. Lemma lateral veins prominent. Lemma surface scabrous, rough below. Lemma apex acuminate. Palea 0.75 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.8 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**, **Southern South America**. Bolivia. Argentina Northwest.

Jujuy, Tucuman.

Poa nahuelhuapiensis E.G.Nicora. *Hickenia,* 1(18): 106 (1977).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *O. Boelcke & J.H. Hunziker 3458*, 1 Nov 1949, Argentina: Neuquen, Dpto. Los lagos, Peninsula Quetrihue, hab. entre rocos (BAA).

Illustrations (Books): M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (195, Fig 127).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Lake Nahuel Huapm, Argentina.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms slender, 15–30 cm long. Leaf-sheaths antrorsely scabrous. Ligule an eciliate membrane, 4–5 mm long, 1–2.5 mm long on basal shoots, acute. Leaf-blades elliptic, convolute, 15–17 cm long, 1.5 mm wide. Leaf-blade surface scabrous, rough abaxially or on both sides. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, elliptic, 4–5 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5.5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 4.5–5.5 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume surface scabrous. Lower glume apex acute. Upper glume ovate, 4.5–5.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface scabrous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, 4.5–6 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma surface scabrous. Lemma margins ciliolate, hairy below. Lemma apex truncate or obtuse. Palea 4–4.8 mm long. Palea keels ciliolate. Palea surface scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2–2.5 mm long. Staminodes present, 0.2 mm long. Caryopsis with adherent pericarp, trigonous. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female, 4–5 flowered, 6.5–7.5 mm long.

Distribution (TDWG). Continent. South America.
Country /Province /State. **Southern South America**. Argentina South.
Neuquén.

Poa nankoensis Ohwi. *Acta Phytotax. & Geobot*. ii. 165. (1933).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Taiwan: Mt. Nankotaisan in Taihokushu, 18 July 1933, *J. Ohwi 3984* (HT: KYO, IT: US).

Illustrations (Books): C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (334), C-C Hsu,*Taiwan Grasses* (1975), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 397).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Nankotaisan, a mountain in Taiwan.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms slender, 15–25 cm long, 0.5–1 mm diam. Culm-internodes terete. Lateral branches lacking. Ligule an eciliate membrane, 1.5–3 mm long, acute. Leaf-blades 5–8 cm long, 2–2.5 mm wide. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 5 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets obovate, laterally compressed, 6 mm long, 4 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.5–4 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume oblong, 5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 5 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins ciliate, hairy below. Lemma apex acute. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.
Country /Province /State. **China**, **Eastern Asia**. Taiwan.

Poa napensis Beetle. *Leafl. West. Bot.* iv. 289 (1946).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *A.A. Beetle 4256*, 7 May 1946, USA: California: Napa Co.: damp banks of overflow stream, associated with *Puccinellia simplex* and *Agrostis microphylla*, 2 mi N of Calistoga at Myrtledale Hot Springs (DAV; IT: CAS, US-1886553, US-2461593).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (597).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Napa County, California, USA.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 20–60 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths open for most of their length. Ligule an eciliate membrane, 1 mm long. Leaf-blades filiform, involute, 20–30 cm long, 1.5–2.5 mm wide. Leaf-blade surface scabrous.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, 3–8 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 6–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3 mm long, 0.85 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume elliptic, 3.5 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface scaberulous or scabrous. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

n = 21 (1 ref TROPICOS).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Southwestern USA**. California.

Poa nascopieana Polunin, appl incert. *Bull. Nat. Mus. Canada,* No. 92, *Biol. Ser. No.* 24:65 (1940).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Canada. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *N. Polunin 549*, 3–5 Sep 1934, Canada: Baffin Island: Pangnirtung (BM; IT: CAN). Fruit replaced by sclerotia, 1 floret w/ a distinct tuft of hairs (web), ligules.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. Named for R.M.S. Nascopia which sailed regularly in the Arctic waters.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 8 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1 mm long, obtuse. Leaf-blades involute, 1 mm wide. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle, bracteate at branch bases (probably monstrous). Panicle open, ovate, dense, 1–2 cm long. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 3.5–5 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume elliptic, 3.5–5 mm long, 0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma lanceolate or ovate, oblong in profile, 4–6 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins distinct. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Subarctic America**. Nunavut.

Poa nemoraliformis Roshev. *Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS,* 11: 29 (1949).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Bor 14143*, (K-(143 ex Dehra Dun)). K-143 with letter from Roshevits (1947) indicating he would describe the

new species in the near future. ST: *Bor 16589*, 31 Jul 1941, India orientalis, Lahul, Biling Lumpa, 12000 ft (K-(-144)). ST: *Bor 12488*, 4 Jul 1938, India orientalis, In clivibus siccis Lahul. Sisso, 10100 ft (K-(-145)).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 415).

Derivation (Clifford & Bostock 2007): L. *forma*, appearance. Resembling *Poa nemoralis*.

Classification. Subfamily Pooideae. Tribe: Poeae.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **Middle Asia**, **China**. Tadzhikistan. Tibet, Xinjiang. **Indian Subcontinent**. India, West Himalaya.

Poa nemoralis L. *Sp. Pl.* 69. (1753).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from Sweden. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Scheuzer. Agrostogr. Helv. Prodr. t. 2 (1708)*, LT designated by Soreng in Cafferty et al., Taxon 49(2): 255 (2000).

ET: *Hylander s.n.*, 14 Jun 1933, Sweden: Uppland, Danmark Parish, Linnés Hammarby (BM). ET designated by Soreng & Edmonson in Cafferty et al., Taxon 49(2): 255 (2000).

OM: (LINN; US (fragm. ex LINN)). Poa nemoralis L. [fide rjs 2007].

OM: (LINN; US (fragm. ex LINN)). Poa palustris [fide rjs 2007].

Recent Synonyms: *Poa major* D.F.Cui, *Acta Bot. Bor.-Occid. Sin.*, 7(2): 83 (1987).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (322), C.E.Hubbard, *Grasses* (1968) (176), T. Cope & A. Gray, Grasses of the British Isles (46), G.Hegi, *Flora von Mitteleuropa* 1 (1909), N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 3), T.Koyama, *Grasses of Japan and its neighbouring regions* (1987) (191, Fig 67 as *Agostis alba*), K.M.Matthew, *Flora Palni Hills* (1996) (859, Pl 859), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (577), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (476, Fig. 102 as *Agrostis alba*), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina*), Pt II, Gramineas (1969) (125, Fig 40 as *Agrostis alba*), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (156, Fig 95), B.Rosengurtt, *Gramineas UruguayasI* (1970) (18, Fig. 1 as *Agrostis alba*), A.S.Hitchcock, *Manual of the Grasses of the West Indies* (1936) (as *Agrostis alba*), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Figs. 405/406 as *P. nemoralis* var. *nemoralis*).

Derivation (Clifford & Bostock 2007): L. *nemus*, wood, *-alis*, pertaining to. Woodland species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths herbaceous. Culms erect or geniculately ascending, 15–90 cm long, 3–5 -noded. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths keeled, smooth. Ligule an eciliate membrane, 0.1–0.5 mm long, truncate. Leaf-blades 5–12 cm long, 1–3 mm wide, flaccid. Leaf-blade surface smooth or scaberulous, glabrous. Leaf-blade apex abruptly acute or acute.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate or oblong or ovate, effuse, 3–20 cm long. Primary panicle branches spreading. Panicle branches flexuous, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.5–6 mm long.

Fertile Spikelets. Spikelets comprising 1–5 fertile florets, with diminished florets at the apex. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 3–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes obscured by lemmas, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–3 mm long, 0.8–1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume lanceolate or oblong or ovate, 2.5–3.5 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 2.6–3.6 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma lateral veins stopping well short of apex. Lemma margins ciliate, hairy below. Lemma apex acute. Palea 1 length of lemma. Palea keels smooth or scaberulous, eciliate or ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.3–2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

n = 7 (1 ref TROPICOS), or 21 (1 ref TROPICOS), or 28 (1 ref TROPICOS). 2n = 14, or 28 (5 refs TROPICOS), or 42 (all in TROPICOS as *Agrostis alba*).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Tropical Asia, Australasia, North America, South America.

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Denmark, Finland, Foroyar, Great Britain, Iceland, Ireland, Northern Ireland, Norway, Sweden. : Austria, Liechstenstein, Belgium, Luxembourg, Czechoslovakia, Germany, Hungary, Netherlands, Poland, Switzerland. : Corsica, Channel Islands, France, Monaco, Portugal, Sardinia, Andorra, Gibralter, Spain. : Albania, Bulgaria, Greece, Italy, San Marino, Vatican, Romania, Malta, Sicily, Turkey Europe, Yugoslavia. Belarus, Estonia, Kalingrad, Latvia, Lithuania, Baltic States, Krym, Central European Russia, East European Russia, North European Russia, South European Russia, Northwest European Russia, Moldova, Ukraine. **Northern Africa**. Morocco, Tunisia. Siberia, Russian Far East, **Middle Asia**, **Caucasus**, **Western Asia**, **China**, **Mongolia**, **Eastern Asia**, **Russia**. Altay, Buryatiya, Chita, Irkutsk, Krasnoyarsk, Tuva. Amur, Kamchatka, Khabarovsk, Kuril Is, Magadan, Primorye, Sakhalin. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Afghanistan, Iran. China South Central, Inner Mongolia, Manchuria, China North-Central, China Southeast, Tibet, Xinjiang. Mongolia. Japan Hokkaido, or Honshu, or Shikoku, or Kyushu. Japan, Korea. **Indian Subcontinent**. Eastern Himalaya, India, Nepal, Pakistan, West Himalaya. **New Zealand** (*). New Zealand North I, New Zealand South I. **Subarctic America**, **Western Canada**, **Eastern Canada**, **Northwest USA**, **North-central USA**, **Northeast USA**, **Southwestern USA**, **South-central USA**, **Southeastern USA**, **Mexico**. Alaska, Yukon, Northwest Territories, Nunavut, Greenland. Alberta, British Columbia, Manitoba, Saskatchewan. Labrador, New Brunswick, Newfoundland, Nova Scotia, Ontario, Prince Edward I, Quebec. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. Illinois, North Dakota, South Dakota, Wisconsin. Connecticut, Indiana, Maine, Massachusetts, Michigan, Ohio, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, West Virginia. Arizona, California, Nevada, Utah. New Mexico. Northeast Mexico. **Caribbean**, **Western South America**, **Southern South America**. Haiti, Jamaica. Colombia. Argentina South, Chile Central, Chile South.

Gansu, Hebei, Shaanxi, Shanxi. Guizhou, Sichuan, Yunnan. Uttah Pradesh. Himachal Pradesh, Jammu Kashmir. Santa Catarina. Chubut, Santa Cruz, Tierra del Fuego. Santiago. Aisen, Magellanes. Coahuila.

Poa neosachalinensis N.S. Probatova. *Sosud. Rast. Sovet. Dal'nego Vostoka*, 1: 274 (1985).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Russia, Sachalin, Sinegorsk: Probatova 5454 (LE holo).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary. Rhizomes elongated. Culms geniculately ascending, 30–90 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths scaberulous. Ligule an eciliate membrane, 1.5–4 mm long. Leaf-blades flat or conduplicate, 2–5 mm wide. Leaf-blade surface scaberulous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, loose, nodding, 6–15 cm long. Primary panicle branches bearing 3–9 fertile spikelets on each lower branch. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the

upper sterile. Spikelets oblong or ovate, laterally compressed, 6–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes scaberulous. Floret callus pilose.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume apex acute. Upper glume elliptic or ovate, 2.5–4 mm long, 0.66–0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate or oblong, oblong in profile, (3.5–)4–5(–6) mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma surface scaberulous, rough between veins. Lemma margins ciliolate, hairy below. Lemma apex acute. Palea 1 length of lemma, 2 -veined. Palea surface puberulous, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.5–2.5 mm long.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East. Sakhalin.

Poa nepalensis (Wall. ex Griseb.) Duthie. *List Grasses N.-W. India*, 40 (1883).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Strachey & Winterbottom [13]*, Kumaon, Binsar (K(-161)(a)). LT designated by Bor, J. Bombay Natural Hist. Soc. 50: 820 (1952), without specifying the herbarium. T. Cope narrowed this to Strachey & Winterbottom 13 (K) in Fl. of Pakistan 143: 398 (1982). [Plant (a) is P. nepalensis, (b) is P. setulosa; RJS]. ST: *T. Thompson*, North-western India.

Recent Synonyms: *Poa mariesii* Rendle, *Journ. Linn. Soc.* 6:. 425. (1904).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (569, Fig. 18), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 389 as *P. nepalensis* var. *nepalensis* & Fig. 390 as *Poa nepalensis* var. *nipponica*).

Derivation (Clifford & Bostock 2007): L. *-ense*, denoting origin. From Nepal.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Butt sheaths herbaceous. Culms erect or geniculately ascending, 20–50 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 0.5–1.5 mm long, truncate. Leaf-blades 3.5–15 cm long, 1.5–4 mm wide, flaccid. Leaf-blade surface scaberulous, rough on both sides. Leaf-blade margins scabrous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, effuse, 7.5–14 cm long. Primary panicle branches spreading, 2 -nate. Panicle branches capillary, smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 3.5–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1.5–2.3 mm long, 0.75–0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2–2.5 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 2.5–3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins ciliate. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous, ciliolate, adorned all along. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.6–0.75 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**, **Eastern Asia**. China South Central, Manchuria, China North-Central, Qinghai, China Southeast, Tibet. Japan, Korea. **Indian Subcontinent**, **Indo-China**. Eastern Himalaya, India, Nepal, Pakistan, West Himalaya. Myanmar.

Gansu, Hebei, Shaanxi, Shanxi. Henan, Jiangsu, Zhejiang. Hubei, Sichuan, Yunnan. Bhutan.

Poa nephelophila Bor. *Kew Bull.* 1948, 140 (1948).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from Myanmar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Myanmar: Myitkhina, Chemli Pass, 10000 ft, *Sukoe 9974* (HT: K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *nephele*, cloud; *phileo*, love. Growing on high mountain tops.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Butt sheaths herbaceous, persistent and investing base of culm, with compacted dead sheaths. Culms erect or geniculately ascending, 20–45 cm long, 1.5–3 mm diam. Culm-internodes terete, smooth. Culm-nodes glabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths loose, smooth, glabrous on surface. Ligule an eciliate membrane, 1–1.5 mm long, erose. Leaf-blades 8–16 cm long, 2–5 mm wide, flaccid. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade margins cartilaginous, scabrous, glabrous or ciliate, hairy at base. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, pyramidal, 6–12 cm long. Primary panicle branches 4 -nate, whorled at most nodes, 1–3.5 cm long. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–6.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.75–1 mm long, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 2–2.5 mm long, 0.8 length of upper glume, membranous, much thinner on margins, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 2.5–3 mm long, 0.7–0.8 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acuminate.

Florets. Fertile lemma oblong, oblong in profile, 3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous, ciliate, hairy below. Lemma margins ciliate. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels ciliolate, adorned all along. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.6–0.75 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. Tibet. **Indo-China**. Myanmar.

Poa nervosa (Hook.) Vasey. *Illustr. N. Am. Grass*. ii. t. 81 (1893).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Canada. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Scouler s.n.*, 1824–1825, Canada: British Columbia: Vancouver Island, Nootka Sound (K; IT: GH, NY-5748, US-s.n. (fragm.& photo ex GH), US-s.n. (fragm. ex K)).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (547).

Derivation (Clifford & Bostock 2007): L. *nervus*, nerve; *-osa,* abundance. With conspicuous nerves in the glumes or lemmas.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes elongated. Butt sheaths herbaceous. Culms erect, 20–85 cm long. Culm-internodes terete. Leaf-sheaths tubular for much of their length, with 0.5–0.9 of their length closed, without keel or keeled, striately veined, puberulous. Ligule an eciliate membrane, 1–3 mm long, scaberulous on abaxial surface, truncate or obtuse or acute. Leaf-

blades flat or conduplicate, 5–10 cm long, 1.5–3 mm wide, 1–6 cm long at summit of culm, light green. Leaf-blade surface smooth or scaberulous, rough adaxially, glabrous. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, nodding, 5–13 cm long. Primary panicle branches ascending or spreading, 2–4 -nate, bearing 3–8 fertile spikelets on each lower branch. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–11 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes scaberulous. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 0.9 length of upper glume, membranous, 1-keeled. Lower glume primary vein scaberulous. Lower glume apex acute. Upper glume lanceolate, 0.66 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma oblong, oblong in profile, 4–6 mm long, membranous, mid-green or dark brown (bronze), tipped with last colour, keeled, 5 -veined, more than 3-veined. Lemma surface scaberulous or papillose. Lemma apex acute. Palea 0.9 length of lemma. Palea keels scaberulous. Palea surface scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

$2n = 56$ (1 ref TROPICOS).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Western Canada**, **Northwest USA**, **Southwestern USA**, **South-central USA**. British Columbia. Idaho, Oregon, Washington. California, Utah.

Poa nipponica Koidz. *Bot. Mag., Tokyo*, i. 256. (1917).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from Japan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: Japan: Yezo (TI-M04–03–7). Whole plant, good for LT. Distributed as "P. annua, pratensis, var. anceps Gaud.". ST: Japan: Hitachi (TI-M04–03–8). Large plant. ST: 13 May 1887, Japan: insl. Hatsijo-shima (TI-M04–03–9). OK. As "P. pratensis var.". ST: *T. Goya*, Japan: Prov. Suwo (TI-M04–03–10). Poa acroleuca [fide rjs 2004]. ST: *T. Goya*, Japan: Prov Suwo (TI-M04–03–11). P. nipponica [fide rjs 2004].

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to; Nippon, according to many nationals the Latin spelling most closely corresponding to the local pronunciation of the name of their country. From Japan.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose, clumped moderately. Culms erect or geniculately ascending, 30–50 cm long, 1.5–2.2 mm diam., compressible, 4–5 -noded. Culm-internodes terete, 2–8 cm long. Leaves mostly basal. Leaf-sheaths tubular for much of their length, with 0.75 of their length closed, smooth, glabrous on surface. Ligule an eciliate membrane, 1–1.5 mm long, truncate. Leaf-blades 3.5–14 cm long, 2–7 mm wide. Leaf-blade surface glabrous. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic or ovate, loose, nodding, 7–15 cm long, 2.5–7 cm wide. Primary panicle branches ascending or spreading, 2–3 -nate, 3–7 cm long. Panicle axis 5–8 noded, with lower internodes 1–3 cm long, scabrous. Panicle branches capillary, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 1–2 mm long, scaberulous.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4–6 mm long, 2–2.5 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–0.7 mm long, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.5–2.2 mm long, 0.66 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower

glume apex acute. Upper glume oblong, 2.2–3 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 2–3 mm long, membranous, much thinner above, light green, keeled, 3 -veined, 0–3 -veined. Lemma surface pubescent, hairy below, hairy on veins. Lemma margins pubescent, hairy below. Lemma apex acute. Palea keels ciliate. Palea apex dentate, 2 -fid. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.8 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 42$ (2 refs TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**, **Eastern Asia**. Japan Hokkaido, or Honshu, or Shikoku, or Kyushu. Japan, Korea.

Poa nitidespiculata Bor. *Kew Bull.* 1948, 139 (1948).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Sikkim: Valley running into Teesta from West, half a mile above Tangu, 13500–14000 ft, 13 July 1903, *F.E. Younghusband s.n.* (HT: K; IT: K) Tibet Frontier Commission.

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (571, Fig. 19).

Derivation (Clifford & Bostock 2007): L. *niteo*, shine; *spiculus*, small spike; *-ata*, possessing. Spikelets glossy.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Stolons present. Butt sheaths herbaceous, persistent and investing base of culm, with compacted dead sheaths. Culms erect, 15–30 cm long, 2–3 -noded, rooting from lower nodes. Culm-internodes terete, glandular, smooth. Culm-nodes glabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths tight, smooth, glabrous on surface or pubescent. Ligule an eciliate membrane, 4 mm long. Leaf-blades filiform, convolute, 6–12 cm long, 2.5 mm wide. Leaf-blade surface scabrous, rough on both sides. Leaf-blade margins scabrous, ciliate, hairy at base. Leaf-blade apex hardened.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, pyramidal, 8–16 cm long, 4–8 cm wide. Primary panicle branches spreading, 2 -nate. Panicle branches capillary, flexuous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 3–4 mm long.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or oblong, laterally compressed, 7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth, pubescent. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 4.5–4.75 mm long, 0.9 length of upper glume, membranous, much thinner on margins, glandular, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume oblong, 5 mm long, 0.7–0.8 length of adjacent fertile lemma, membranous, with hyaline margins, glandular, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 6–6.5 mm long, membranous, much thinner on margins, glaucous, shiny, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous, ciliate, hairy below. Lemma surface pubescent, hairy below. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous. Palea surface pubescent, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. Tibet. **Indian Subcontinent**. Eastern Himalaya, India, Nepal.
Sikkim.

Poa nivicola Ridley. *Trans. Linn. Soc., Bot.* ix. 251 (1916).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *nix*, snow; *-cola*, dweller. Alpine species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations extravaginal. Culms 18–40 cm long, 2–3 -noded. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 2.75–9.25 mm long, acute. Leaf-blades erect, conduplicate or involute, 3–15 cm long, 1–2 mm wide. Leaf-blade venation with 9 secondary veins. Leaf-blade surface scabrous, rough adaxially, glabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Peduncle scaberulous above. Panicle open, ovate, 5–12 cm long, 1.5–7 cm wide. Primary panicle branches spreading, 2 -nate, 2–4 cm long. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or ovate, laterally compressed, 4.5–7.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–0.9 mm long, smooth. Floret callus woolly. Floret callus hairs 1–2 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 3.2–3.8 mm long, 0.6–1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume surface scabrous. Lower glume margins ciliolate. Lower glume apex acute, muticous or mucronate. Upper glume lanceolate, 3.25–6.75 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface scabrous, rough on veins. Upper glume margins ciliolate. Upper glume apex acute.

Florets. Fertile lemma elliptic or ovate, 3.5–6.5 mm long, membranous, keeled, 3–7 -veined, 0–3 -veined or more than 3-veined. Lemma midvein ciliate, hairy above. Lemma lateral veins meeting above. Lemma surface granulose. Lemma apex dentate, 3 -fid, acute, mucronate. Palea 4–4.5 mm long. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.1–1.7 mm long. Caryopsis with adherent pericarp, ellipsoid, 3–5 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea West Papua (Irian Jaya). New Guinea.

Poa novae-zelandiae Hack. *Trans. Proc. N. Z. Inst.* v. 381. (1903).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *T.F. Cheeseman s.n. [1339 to Hackel]*, New Zealand: Arthurs Pass, Canterbury Alps, alt. 3000 ft (W-7886; ILT: AK1769.1(a),(c), AK-1769.3(c),(d), US-2044132 (ex hb. Cheesman)). LT designated by Edgar, New Zealand J. Bot. 24: 435 (1986). ST: *Cheesman 1338*, ST: *Cheesman 1341*, New Zealand: South Island, Hooker Glacier, Canterbury Alps, 3500 ft (US-2044131 (ex hb Cheesman)). ST: *Cheesman 1340*, Jan 1886?, New Zealand: South Island, Mt. Arthur Plateu, Nelson, 4000 t (US-2044133 (ex hb. Cheesman)).

Illustrations: None found.

Images: E.Edgar & H.E.Connor, *Flora of New Zealand* 5, *Gramineae* (2000);.

Derivation (Clifford & Bostock 2007): from New Zealand.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths herbaceous. Basal innovations intravaginal, flabellate. Culms erect, 7–45 cm long, 3 -noded, with 0.5 of their length below uppermost node. Culm-internodes terete, smooth. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 3 mm long, acuminate. Leaf-blades 5–25 cm long, 2–6 mm wide. Leaf-blade surface glabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open or contracted, oblong or ovate, dense, 2.5–10 cm long. Primary panicle branches 2 -nate. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or oblong, laterally compressed, 6–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume lanceolate, 3–4 mm long, 0.7–0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acuminate.

Florets. Fertile lemma lanceolate, oblong in profile, 4–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex acuminate. Palea 0.66 length of lemma. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand North I, New Zealand South I, Stewart Is.

Poa novarae Reichardt. *Verh. Zool.-Bot. Ges. Wien* 21: 31 (1871).

TYPE from St Paul. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IST: *Jelinek*, St. Paul, Ozebnien [ca. 38.5oS x 77oE] (NY-38799, MO, US-3278457, US-1126484 (ex W)).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Rhizomes short. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Culms erect, 30–45 cm long. Culm-internodes terete, distally glabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths 7–13 cm long, longer than adjacent culm internode, glabrous on surface. Ligule an eciliate membrane, 1 mm long, erose. Leaf-blades convolute, 17–23 cm long, 4–6 mm wide, stiff, glaucous. Leaf-blade surface smooth, glabrous. Leaf-blade apex acuminate, hardened.

Inflorescence. Inflorescence a panicle, aerial or shorter than basal leaves. Panicle contracted, oblong, 10–13 cm long, 5–8 cm wide. Primary panicle branches appressed, 2–3 -nate, 3–5 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes pubescent.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2 mm long, 1 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume surface pilose, hairy at base and on veins. Lower glume apex acute. Upper glume lanceolate, 2 mm long, 0.66 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume surface pilose, hairy below and on veins. Upper glume apex acute.

Florets. Fertile lemma ovate, 3 mm long, membranous, light green, keeled, 5 -veined, more than 3-veined. Lemma surface pilose, hairy below, hairy on veins. Lemma apex acute. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp, ovoid. Hilum punctiform.

Distribution (TDWG). Continent. Antarctica.

Country /Province /State. **Subantarctic islands**. Amsterdam-St Paul Is.

Poa nubensis Giussani, M.G. Fernandez & Morrone. *Bot. J. Linn. Soc.* 157((2)): 243–245, f. 3a-j (2008).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Argentina: Salta Dpto. Los Andes, Ruta 51, de San Antonio de Los Cobres a Viaducto La Polvorilla,

4170m, 24?2'S, 66?4'W, 18 Feb 2002, *A.M. Cialdella, N.B. Deginani & L.M. Giussani 429* (HT: SI; IT: CTES).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (322).

Illustrations (Journals): *Bot. J. Linn. Soc.* (157: 244, Fig.3 (2008)).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes short. Basal innovations extravaginal. Culms erect, 12–26 cm long, 2–3 -noded. Leaf-sheaths tubular for much of their length, with 0.66 of their length closed, 3.2–8.6 cm long, keeled. Ligule an eciliate membrane, 1.5–4.2 mm long, acuminate. Leaf-blades conduplicate or involute, 5.7–13.3 cm long, 1–1.5 mm wide. Leaf-blade apex obtuse, hooded. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, elliptic, dense, 3.5–7 cm long, 0.15 cm wide. Primary panicle branches appressed. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–6 mm long, 2.5–4.5 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–4 mm long, 0.8–1 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or obscure. Lower glume apex acuminate. Upper glume lanceolate, 3–4 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma lanceolate, 3–4 mm long, 0.8–1 mm wide, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma surface smooth. Lemma apex acute. Palea 0.9 length of lemma. Palea keels scaberulous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, lanceolate, 0.5–0.8 mm long, membranous. Anthers 3, 1.8–2.2 mm long. Ovary glabrous. Caryopsis with adherent pericarp, ellipsoid, 2 mm long. Embryo 0.25 length of caryopsis. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northwest.

Salta.

Poa nubigena Keng ex L.Liu. *Fl. Reipubl. Popularis Sin.* 9(2): 400 . (2002).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Sichuan: Hi-ma-la, Tsa-wa-rung, ad montem alpinum, circ. 3700 m, 7 Aug. 1935, *C.W. Wang 65626* (HT: NAS; IT: NAS, PE).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 384).

Derivation (Clifford & Bostock 2007): L. *nubes*, cloud; *gigno*, bear. Growing on high mountains.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Rhizomes absent. Basal innovations intravaginal. Culms 30–65 cm long, 1 mm diam., 2–3 -noded, with 2–3 of their length below uppermost node. Culm-internodes smooth. Lateral branches lacking. Leaf-sheaths loose, open for most of their length, with 0.4–0.6 of their length closed, 4.5–12 cm long, keeled, smooth or scaberulous, glabrous on surface. Leaf-sheath oral hairs scanty or lacking. Ligule an eciliate membrane, 2–4.1 mm long, 0.5 mm long on basal shoots, glabrous on abaxial surface, obtuse or acute. Leaf-blades flat or conduplicate, 3–11 cm long, 1–2 mm wide. Leaf-blade surface scabrous, rough adaxially. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, effuse, 5.5–14 cm long, 3–8 cm wide. Primary panicle branches spreading, 2 -nate, 3–7.5 cm long, bearing 3–11 fertile spikelets on each lower branch. Panicle axis with lower internodes 2–3.5 cm long. Panicle branches flexuous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 3.5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1.2 mm long, scaberulous. Floret callus woolly.

Glumes. Glumes persistent, similar, with lower narrower than upper, shorter than spikelet. Lower glume oblong or ovate, 2.3–3.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein smooth to scabrous. Lower glume lateral veins absent or obscure. Lower glume apex acuminate. Upper glume oblong or ovate, 2.7–4.5 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume lateral veins obscure. Upper glume surface papillose. Upper glume apex acute.

Florets. Fertile florets bisexual or female. Fertile lemma lanceolate, 3.5–5.2 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy above. Lemma surface scaberulous or papillose. Lemma apex acute. Palea keels scabrous. Palea surface scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China South Central, Tibet.

Sichuan, Yunnan.

Poa obvallata Steud. *Syn. Pl. Gram.* 258. (1854).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Chili: Cordilleras, *Gay*.

Recent Synonyms: *Poa phalaroides* Nees ex Steud., *Syn. Pl. Gram.* 258. (1854). *Poa stachyodes* R.Phil., *Anal. Univ. Chil.* 94: 168 (1896).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (323).

Derivation (Clifford & Bostock 2007): L. *obvallo*, surround with a wall. Basal spikelets sterile forming a sheath around the fertile spikelet.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Butt sheaths dark brown, persistent and investing base of culm. Culms erect, 13–60 cm long. Culm-internodes antrorsely scabrous. Leaf-sheaths longer than adjacent culm internode, smooth or antrorsely scabrous. Ligule an eciliate membrane, 5–10 mm long, acute. Leaf-blades curved, conduplicate, 2.5–10 cm long, 3.5–5 mm wide, indurate, stiff. Leaf-blade surface scabrous, rough adaxially or on both sides. Leaf-blade apex pungent. Dioecious.

Inflorescence. Inflorescence a panicle, exserted or embraced at base by subtending leaf. Panicle contracted, oblong or ovate, 4–8 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 7.5–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pilose. Floret callus hairs 3–6 mm long, 0.5 length of lemma.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 5.5–7 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume ovate, 6–8.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3–5 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma elliptic, 6–8 mm long, membranous, keeled, 5–7 -veined, more than 3-veined. Lemma midvein eciliate or ciliolate, hairy below. Lemma margins ciliolate, hairy below. Lemma hairs 0.5 mm long. Lemma apex acute. Palea keels scabrous, ciliate, adorned below (as to hairs). Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.5–4.3 mm long. Staminodes present, 0.2–0.3 mm long. Stigmas 2–3. Caryopsis with adherent pericarp, trigonous, 3–3.5 mm long. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female, 2–6 flowered, 5–9 mm long.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South, Chile Central, Chile South.

Mendoza. Chubut, Neuquén, Río Negro. Rest of Chile- Biobio, La Auracania, Maule, O'Higgins, Santado, Valpariso. Valparaiso, Santiago, O'Higgins, Maule, Biobio, La Araucania. Los Lagos, Magellanes.

Poa occidentalis (Vasey) Vasey. *Contrib. U. S. Nat. Herb.* i. 274. (1893).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *G.R. Vasey s.n.*, 1881, USA: New Mexico: Las Vegas (US-79610).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (537).

Illustrations (Journals): *Phytokeys* (15:20, Fig.4 (2012)).

Derivation (Clifford & Bostock 2007): L. *occident,* west; *-ale*, pertaining to. From the western states of the United States.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Butt sheaths herbaceous, red. Culms geniculately ascending or decumbent, robust, 20–110 cm long. Culm-internodes terete, scaberulous. Leaves cauline. Leaf-sheaths with 0.25–0.5 of their length closed, longer than adjacent culm internode, keeled, retrorsely scabrous. Ligule an eciliate membrane, 3–12 mm long, scaberulous on abaxial surface, acute or acuminate. Leaf-blades 4–18 cm long, 1.2–5.5(–10) mm wide, glaucous. Leaf-blade surface scabrous, glabrous. Leaf-blade apex hooded.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 12–40 cm long, with spikelets clustered towards branch tips. Primary panicle branches spreading or reflexed, 3–5 -nate, 5–23 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes obscured by lemmas, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 1–3 -veined. Upper glume lateral veins absent or obscure. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 2.6–4.2 mm long, membranous, much thinner above, much thinner on margins, mid-green or purple, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma surface glabrous or puberulous. Lemma margins ciliate, hairy below. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels smooth or scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.3–1 mm long, eventually exserted or retained within floret. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 14$ (2 refs TROPICOS).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Northwest USA**, **South-central USA**. Colorado. New Mexico, Texas.

Poa oligeria Steud. *Syn. Pl. Gram.* 426. (1854).

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *W. Lechler 1192*, Dec, Chile: prope Sandy Point (IT: LE, US-81727 (ex W), US-946978 (fragm. ex LE), , W-243018 (1192 Dec, P. Change to - -57730 (Dec prope Sandy Point in freto Magellanis, P. pratensis)).

Illustrations (Books): M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (165, Fig 104).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Culms 30–60 cm long. Lateral branches lacking. Leaves

mostly basal. Leaf-sheaths without keel, glabrous on surface or puberulous. Ligule an eciliate membrane, 2–3.5 mm long, glabrous on abaxial surface or scaberulous on abaxial surface, truncate. Leaf-blades flat or conduplicate, 7–15 cm long, 2–4 mm wide, firm.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, 8–10 cm long. Primary panicle branches 2–4 -nate, whorled at most nodes, 2–5 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5.5–6.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3–4 mm long, 0.9 length of upper glume, membranous, much thinner on margins, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume ovate, 3.5–4.5 mm long, 0.75 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 4.5–5.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma margins ciliolate, hairy below. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South.

Chubut, Tierra del Fuego. Chiloe, Aisen, Magellanes.

Poa orba N.G.Walsh. Muelleria22: 15 [2005 publ. 27 Jan 2006] (2006).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Victoria, Lake Omeo, Benambra: *Black* (MEL holo).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. Victoria.

Poa orientalis Tzvelev, nom. illeg. *Novosti Sist. Vyssh. Rast.* 41: 24 (2009).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Czeljabinsk, Saka District, Mt. Satka Bakal: Sokolova (LE holo).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 30–80 cm long, with 0.5 of their length below uppermost node. Culm-internodes smooth. Leaves mostly basal. Leaf-sheaths smooth. Ligule an eciliate membrane, (0.4–)0.5–1(–1.2) mm long. Leaf-blades flat or convolute, 1–1.35 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, loose or effuse. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3(–4) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 2.5–3.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes glabrous to pubescent. Floret callus bearded.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–3.5 mm long, membranous, 1-keeled. Lower glume apex acute. Upper glume lanceolate, 2–3.5 mm long, membranous, 1-keeled. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.5–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent, hairy on veins. Lemma apex acute. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3.

Distribution (TDWG). Continent. Europe.
Region. **Eastern Europe**.

Poa orizabensis Hitchcock. *Contrib. US. Nat. Herb.* xvii. 374 (1913).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Mexico. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *A.S. Hitchcock 6254*, 17 Aug 1910, Mexico: Puebla (US-691227).

Illustrations (Journals): *Phytokeys* (15: 52, Fig.13 (2012)).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Orizaba Valley, Mexico.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 40–60 cm long, 1 -noded. Leaf-sheaths scaberulous. Ligule an eciliate membrane, 2 mm long. Leaf-blades conduplicate, 5–15 cm long, 2–4 mm wide, 1.5–2 cm long at summit of culm. Leaf-blade surface scabrous, rough adaxially. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 16 cm long. Primary panicle branches spreading or drooping, 1–2 -nate. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2.5 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma oblong, 3 mm long, membranous, purple, keeled, 5–7 -veined, more than 3-veined. Lemma midvein pectinately ciliate. Lemma surface asperulous. Lemma apex acute.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America, South America.

Country /Province /State. **Mexico**. Central Mexico, Northeast Mexico, Gulf (Mexico), Southeast Mexico. **Mesoamerica**. Guatemala.

Mexico State, Puebla. Neuvo Leon. Veracruz. Chiapas.

Poa orthoclada N.G.Walsh. Muelleria22: 13 (-15; fig. 2)[2005 publ. 27 Jan 2006] (2006).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Victoria, Alpine Nat. Park, Neilsons Crag: *Walsh* 5272 (MEL holo, CANB, NSW).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations intravaginal. Culms geniculately ascending, 30–60 cm long. Culm-internodes terete, smooth or scaberulous, distally glabrous. Lateral branches lacking. Leaves basal and cauline. Leaf-sheaths open for most of their length, with 0.25 of their length closed, smooth, glabrous on surface. Ligule a ciliolate membrane, 0.3–1 mm long, pubescent on abaxial surface, truncate. Leaf-blades erect, involute, 6–15 cm long (-40), 1.2 mm wide, glaucous, without exudate or pruinose. Leaf-blade margins scaberulous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 6–15 cm long, 3–8 cm wide. Spikelets solitary. Fertile spikelets pedicelled.

Fertile Spikelets. Spikelets comprising 3–7 fertile florets, with diminished florets at the apex. Spikelets ovate, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous or sparsely hairy.

Glumes. Glumes persistent, similar, shorter than spikelet, dull or shiny. Lower glume oblong, 1.8–2.4 mm long, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume oblong. Upper glume primary vein scaberulous. Upper glume apex entire, acute.

Florets. Fertile lemma oblong, 1.6–3 mm long, membranous, keeled, 5 -veined. Lemma midvein without distinctive roughness or scaberulous, eciliate or ciliolate, hairy below. Lemma surface glabrous or puberulous, hairy below, hairy on veins. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.4–1.8 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. New South Wales, Victoria.

Poa orthophylla Pilger. *Engl. Jahrb.* xxv. 715 (1898).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Colombia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *A. Stübel 438*, no date, Colombia (B; IT: US-2947090).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *orthos*, straight; *phyllon*, leaf. Leaf-blades erect, stiff.

Classification. Subfamily Pooideae. Tribe: Poeae.

Distribution (TDWG). Continent. North America, South America.

Country /Province /State. **Northwest USA**. Colorado. **Western South America**. Colombia.

Poa oscariana Negritto & Anton. *Syst. Bot*.31(1): 84 (83, 88; fig. 2) (2006).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Peru, Cusco, Altura de Teleban: Cano 3802 (USM holo).

Illustrations (Journals): *Systematic Botany* (31:86, Fig.2 (2006)).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms erect or geniculately ascending, 60 cm long, 2(–4) -noded. Culm-internodes 6–14 cm long. Lateral branches lacking. Leaves cauline. Leaf-sheaths open for most of their length, 15–20 cm long, glabrous on surface. Ligule an eciliate membrane, 6–9 mm long, acute. Leaf-blades flexuous, conduplicate, 15–30 cm long, 2–4 mm wide. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Peduncle 15–18 cm long. Panicle open, elliptic or ovate, 15–18 cm long, 3 cm wide, with spikelets clustered towards branch tips. Primary panicle branches ascending, 2–4 -nate, 8 cm long, bearing 13–15 fertile spikelets on each lower branch. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 4.5–5 mm long, 4 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5 mm long, glabrous. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 0.5–3.7 mm long, 0.8–0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 4–4.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins obscure. Upper glume apex acute.

Florets. Fertile florets alike but female above. Fertile lemma oblong, 4–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins with distinct primaries but obscure intermediates. Lemma apex cuspidate. Palea 3.5 mm long. Palea keels scaberulous.

Flower and Fruit. Anthers 3, 1.8–2 mm long.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa ovata Tovar. *Mem. Mus. Hist. Nat.' Javier Prado', Lima, No.* 15, 17 (1965).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *C. Vargas 3187*, 29 Jan 1943, Peru: Cuzco: Quispicanchi Prov., paso de Hualla-hualla, 4700 m (US-1865932).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *ovum,* egg; *-ata*, possessing. Inflorescences, spikelets, or leaf-blades in outline the shape of an egg in longitudinal section.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Culms erect, 1.5–3.5 cm long, 2 -noded. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long, truncate. Leaf-blades involute or convolute, 1–2.5 cm long, 1–2 mm wide. Leaf-blade surface puberulous, hairy adaxially. Leaf-blade margins scaberulous. Leaf-blade apex obtuse or abruptly acute.

Inflorescence. Inflorescence a panicle, shorter than basal leaves. Panicle spiciform, ovate, 1–2 cm long, 0.5–0.7 cm wide. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scaberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.8–4.2 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–2.9 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume ovate, 2.6–3 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.5–3.8 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface puberulous, hairy below. Lemma apex acute.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Bolivia.

Poa paczoskii Tzvelev. *Novosti Sist. Vyssh. Rast.* 41: 36–37 (2009).

TYPE from Ukraine. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Herb. Fl. Chersonensis, dstr. Cherson, pag. Tajginka, in ripa altiore fl. Tjaginka, 6 Jun 1910, *I Paczoski s.n.*, HT: LE.

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 25–40 cm long, with 0.5 of their length below uppermost node. Culm-internodes antrorsely scabrous. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1–2.5 mm long. Leaf-blades 0.7–2.5 mm wide. Leaf-blade surface scabrous.

Inflorescence. Inflorescence a panicle. Peduncle antrorsely scabrous above. Panicle contracted, ovate, 6–10 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 3.3–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–3.2 mm long, membranous, 1-keeled. Lower glume apex acute. Upper glume lanceolate, 2.5–3.2 mm long, membranous, 1-keeled. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–3.6 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface pilose, hairy on veins. Lemma apex acute. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3.

Distribution (TDWG). Continent. Europe.

Region. **Eastern Europe**.

Poa pagophila Bor. *Kew Bull.* 1949, 239 (1949).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Sikkim: Yeumtang, 4600 m, 6 Sept. 1849, *Hooker f. s.n.* (HT: K; IT: GOET).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (567, Fig. 17 & 573, Fig. 20).

Derivation (Clifford & Bostock 2007): Gk. *pagos*, ice, rock; *phileo*, love. Growing at high altitudes in the Himalayas.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Butt sheaths herbaceous, persistent and investing base of culm, with compacted dead sheaths. Culms erect, slender, 13–40 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 1.5–3.5 mm long, obtuse. Leaf-blades flat or conduplicate, 3–16 cm long, 1.5–2.5 mm wide. Leaf-blade surface scabrous, rough on both sides. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 6–15 cm long. Primary panicle branches spreading or reflexed, 2 -nate. Panicle branches capillary, smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or ovate, laterally compressed, 4.5–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 2.5–3 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 3–3.5 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 3.5–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface scaberulous, pubescent, hairy below. Lemma margins ciliate. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels spinulose. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2–3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. China South Central, Qinghai, Tibet. **Indian Subcontinent**. Eastern Himalaya, India, Nepal, Pakistan, Sri Lanka.

Sichuan, Yunnan. Bhutan, Sikkim. Uttah Pradesh. Himachal Pradesh, Jammu Kashmir.

Poa palmeri Soreng & P. M. Peterson. *PhytoKeys* 15: 59–63, f. 15 (2012).

TYPE from Mexico. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Nuevo Leon.

Illustrations (Journals): *Phytokeys* (15:28, 61 Figs.6, 15 (2012)).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely or moderately or densely. Cataphylls evident. Rhizomes absent or short. Butt sheaths papery, glabrous. Basal innovations extravaginal or intravaginal. Culms erect or geniculately ascending, slender, (26–)50–70 cm long, 3–4 -noded. Culm-internodes terete. Lateral branches lacking. Leaf-sheaths tubular for much of their length, with 0.3–0.7 of their length closed, (5–)17–18 cm long, smooth or scaberulous, glabrous on surface or pilose, with reflexed hairs. Ligule an eciliate membrane or a ciliolate membrane, 0.8–3 mm long, hyaline or scarious, scaberulous on abaxial surface, entire or erose or lacerate, truncate or obtuse. Leaf-blades flat or involute, 2–30 cm long, (1.5–)2–3 mm wide, 2.5–10.8 cm long at summit of culm. Leaf-blade margins scabrous. Leaf-blade apex abruptly acute, hooded. Bisexual (mostly, but some spikelets male or female).

Inflorescence. Inflorescence a panicle, comprising (18–)40–100 fertile spikelets. Panicle open, pyramidal, 6.5–20 cm long. Primary panicle branches spreading or reflexed, (1–)2–4(–5) -nate, 4–10 cm

long, bearing 3–34 fertile spikelets on each lower branch. Panicle branches flexuous, terete or angular, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.5–1 length of fertile spikelet, scabrous.

Fertile Spikelets. Spikelets comprising (2–)3–6(–9) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 3–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes terete, 1 mm long, smooth or scaberulous. Floret callus woolly. Floret callus hairs 1–2 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.6–3.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2.2–4.9 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 2.6–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins obscure or distinct. Lemma surface smooth or scaberulous, rough on veins. Lemma margins ciliate, hairy below. Lemma apex acute. Palea keels approximate, 0.3–0.4 mm apart, eciliate or puberulous. Palea surface scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, lanceolate, 0.5 mm long, with a small lateral lobe. Anthers 3, 1.6–2.8 mm long. Caryopsis with adherent pericarp, ellipsoid, 1.6–2.8 mm long, rugose. Hilum punctiform. Disseminule comprising a caryopsis and palea.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Mexico**. Northeast Mexico.

Neuvo Leon.

Poa paludigena Fernald & Wieg. *Rhodora,* xx. 126. (1918).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Butter, F.P. Metcalf & K.M. Wiegand 7572*, 24 Jun 1917, USA: New York: Wayne Co., Westbury Bog (GH; IT: CAS (DS), US-1062747, US- (fragm. ex DS & photo)).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (575).

Derivation (Clifford & Bostock 2007): L. *palus*, swamp; *gigno*, bring forth. Growing in swampy places.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary or caespitose, clumped loosely. Culms geniculately ascending, 15–70 cm long. Culm-internodes terete. Leaf-sheaths scaberulous, glabrous on surface. Ligule an eciliate membrane, 0.3–1.5 mm long, truncate. Leaf-blades erect, 0.3–2 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, loose, 5–10 cm long. Primary panicle branches 2 -nate. Panicle branches capillary. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume linear, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, membranous, 1-keeled, 1–3 -veined. Upper glume lateral veins absent or obscure. Upper glume apex acute.

Florets. Fertile lemma oblong, 2.5–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins with distinct primaries but obscure intermediates. Lemma margins ciliate, hairy below. Lemma apex acute. Palea 0.9 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **North-central USA**, **Northeast USA**. Illinois, Wisconsin. Indiana, Michigan, New York, Pennsylvania.

Poa palustris L. *Syst. Nat. (ed. 10)* 2: 874 (1759).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from India, Kashmir. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST?: *R.R. Stewart 23152*, Kashmir: Fras Nag, 3000 m (K).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (324), C.E.Hubbard, *Grasses* (1968) (182), T. Cope & A. Gray, Grasses of the British Isles (48), G.Hegi, *Flora von Mitteleuropa* 1 (1909), K.F.Best, et al, *Prairie Grasses* (1971) (193), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (575), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (152, Fig 93).

Derivation (Clifford & Bostock 2007): L. swampy place. Growing in swampy places.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths herbaceous. Culms erect or geniculately ascending or decumbent, 30–150 cm long, 3–4 -noded. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths keeled, smooth. Ligule an eciliate membrane, 2–5 mm long, obtuse or acute. Leaf-blades 5–20 cm long, 2–4 mm wide, flaccid. Leaf-blade surface scaberulous, glabrous. Leaf-blade margins scaberulous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, oblong or ovate, effuse, equilateral or nodding, 10–30 cm long, 5–15 cm wide. Primary panicle branches spreading, 3–6 -nate. Panicle branches flexuous, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 1–5 mm long.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes definite, obscured by lemmas, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–3 mm long, 0.8–1 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume apex acuminate. Upper glume elliptic or ovate, 2.5–3 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acuminate.

Florets. Fertile lemma ovate, oblong in profile, 2.5–3 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma lateral veins stopping well short of apex. Lemma margins ciliolate, hairy below. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.3–3.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 28$ (7 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia, Tropical Asia, Australasia, North America, South America.

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Denmark, Finland, Great Britain, Ireland, Norway, Sweden. : Austria, Belgium, Czechoslovakia, Germany, Hungary, Netherlands, Poland, Switzerland. : Bulgaria, Greece, Italy, Crete, Yugoslavia. Belarus, Estonia, Latvia, Lithuania, Baltic States, Krym, Central European Russia, East European Russia, North European Russia, South European Russia, Northwest European Russia, Ukraine. Siberia, Russian Far East, **Middle Asia**, **Caucasus**, **China**, **Mongolia**, **Eastern Asia**, **Russia**. Buryatiya, Chita, Irkutsk, Krasnoyarsk, Tuva. Amur, Kamchatka, Khabarovsk, Kuril Is, Magadan, Primorye, Sakhalin.

Kazakhstan, Kirgizistan, Tadzhikistan. Inner Mongolia, Manchuria, China North-Central, China Southeast, Xinjiang. Mongolia. Japan Hokkaido, or Honshu. Japan, Korea. **Indian Subcontinent**. India, Pakistan, West Himalaya. **New Zealand**. New Zealand North I, New Zealand South I. **Subarctic America**, **Western Canada**, **Eastern Canada**, **Northwest USA**, **North-central USA**, **Northeast USA**, **Southwestern USA**, **South-central USA**. Aleutian Is, Alaska, Yukon, Northwest Territories, Greenland. Alberta, British Columbia, Manitoba, Saskatchewan. Labrador, New Brunswick, Newfoundland, Nova Scotia, Ontario, Prince Edward I, Quebec. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. Illinois, Iowa, Minnesota, Missouri, North Dakota, Nebraska, South Dakota, Wisconsin. Connecticut, Indiana, Maine, Massachusetts, Michigan, Ohio, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, West Virginia. Arizona, California, Nevada, Utah. New Mexico. **Southern South America**. Argentina South, Chile Central, Chile South.

Hebei. Anhui, Henan. Jammu Kashmir. Río Negro. Valparaiso, Santiago. Magellanes.

Poa pannonica Kern. *Oestr. Bot. Zeitschr.* xiv. 84. (1864).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from Hungary. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: Hungary: Bontos Ko prope Belenyas in valle fluvii Koros, ---.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. -*icus*, belonging to. From Pannonia, Hungary.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations extravaginal. Culms erect, 25–45 cm long. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 2–3 mm long, entire or lacerate, obtuse. Leaf-blades 1.5–2.5 mm wide.

Inflorescence. Inflorescence a panicle. Peduncle antrorsely scabrous above. Panicle open, elliptic or ovate, 3–6 cm long. Primary panicle branches 2–4 -nate. Panicle branches stiff, terete, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes scaberulous. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins ciliate. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Europe.

Region. **Middle Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Czechoslovakia. : Romania, Yugoslavia. Northwest European Russia, Ukraine.

Poa paposana Phil. *Fl. Atac.* 55 (1860).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Philippi*, Chile: Paposo [coastal, 25?03' S 70?30' W] (SGO-PHIL-394 (now W-s.n. staminate); IT: B, BAA-2640 (fragm. ex B), US-88750 (fragm. ex SGO-PHIL-394 & photo)). staminate, lemmas glabrous.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. -*ana*, indicating location. From Paposa, Chile.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 30 cm long. Leaf-sheaths antrorsely scabrous. Ligule an eciliate membrane. Leaf-blades 2–5 mm wide. Dioecious.

Inflorescence. Inflorescence a panicle. Peduncle antrorsely scabrous above, glabrous. Panicle contracted, oblong, 5–8 cm long. Primary panicle branches bearing spikelets almost to the base. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets orbicular, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas, glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, membranous, 1-keeled. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume lanceolate, membranous, 1-keeled. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, 3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma apex obtuse.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Chile North.

Antofagasta, Atacama.

Poa papuana Stapf. *Hook. Ic. Pl. t.* 2607. (1899).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from New Guinea. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: New Guinea: Mount Scratchley, 12200 ft, *Giulianetti s.n.* (HT: K).

Illustrations (Journals): *Hooker's Icones Plantarum* (t.2607 (1899)).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating location. From Papua, now Papua New Guinea.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Basal innovations intravaginal. Culms erect, 7–28 cm long, 2–5 -noded. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 1–2.6 mm long, erose, obtuse or acute. Leaf-blades erect, involute, 1.3–7 cm long, 0.25–0.5 mm wide, mid-green or dark green. Leaf-blade venation with 5–7 secondary veins. Leaf-blade surface grooved on either side of midline, scabrous, rough adaxially, glabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Peduncle 3–18 cm long, antrorsely scabrous above. Panicle open, oblong, dense, 0.5–3.5 cm long, 0.2–1.2 cm wide. Primary panicle branches appressed or ascending, 1–2 -nate, 0.3–1.3 cm long, bearing 1–12 fertile spikelets on each lower branch. Panicle branches stiff, terete, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 1.4–2.1 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2.1–3.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1.2–2 mm long, 1 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or distinct. Lower glume margins ciliolate. Lower glume apex acute. Upper glume ovate, 1.3–2 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume margins ciliolate. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 1.9–2.5 mm long, membranous, keeled, 3–5 -veined, 0–3 -veined or more than 3-veined. Lemma midvein scabrous. Lemma lateral veins obscure. Lemma apex acute. Palea lanceolate, 2.6–2.8 mm long. Palea keels smooth or scaberulous. Rhachilla extension 0.2–0.9 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.75–1 mm long, pallid or purple. Caryopsis with adherent pericarp, ellipsoid, 1.4–1.6 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Malesia**, **Papuasia**. Borneo, Sulawesi. New Guinea.

Poa paramoensis S. Laegaard. *Novon,* 8(1): 28 (1998).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Ecuador. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *S. Laegaard 52843*, 2 Sept 1984, Ecuador: Azuay: Páramo de las Cajas W of Cuenca, 79?'W 02?7'S, 4000–4150 m, loosely tufted, at pond in mosses (QCA!; IT: AAU!, MO-5100303!, QCNE!, S!, US-3352667!).

Illustrations (Journals): *Novon* (8: 28 Fig.2 (1998)).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Param de las Cajas, Ecuador.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Basal innovations intravaginal. Culms erect, slender, 15–40 cm long, 0.5 mm diam. Culm-internodes terete, distally glabrous. Leaves mostly basal. Leaf-sheaths longer than adjacent culm internode, glabrous on surface. Ligule an eciliate membrane, 3–4 mm long, scaberulous on abaxial surface, acute. Leaf-blades conduplicate, 3–6 cm long, 2 mm wide. Leaf-blade surface scaberulous, rough adaxially, glabrous. Leaf-blade apex abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 6–8 cm long, with spikelets clumped along branches. Primary panicle branches 2–3 in number, drooping, distant, 1 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, clavate, 0.5–2 mm long, scaberulous.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 5–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet or reaching apex of florets. Lower glume lanceolate, 4.5–5.5 mm long, 1 length of upper glume, membranous, much thinner on margins, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 4.5–5.5 mm long, 1–1.2 length of adjacent fertile lemma, membranous, with scarious margins, 1-keeled, 3 -veined. Upper glume lateral veins obscure. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 4.5 mm long, membranous, much thinner on margins, keeled, 3 -veined, 0–3 -veined. Lemma midvein scabrous. Lemma surface asperulous, rough on veins. Lemma apex acute. Palea 3–5 mm long, 0.75 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.8 mm long. Caryopsis with adherent pericarp, lanceolate, 2 mm long. Embryo 0.2 length of caryopsis. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Ecuador.

Poa pardoana Pilger. *Engl. Jahrb.* vii. 379 (1906).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *A. Weberbauer 3975*, May 1904, Peru: Cajamarca: in jugo Coymolache supra Hualgayoc, in graminosis altis densis, ubi cactaceae et frutices desunt (S; ILT: BAA-2641, US-2947089, USM (fragm.)). LT designated by Anton & Negritto, Willdenowia 27: 237 (1997).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Josi Pardo y Sastron (1822–1909) Spanish botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 15–35 cm long, 2–3 -noded. Lateral branches lacking. Leaf-sheaths keeled, glabrous on surface. Ligule an eciliate membrane, 4–4.5 mm long, acute. Leaf-blades filiform, conduplicate or involute, 7–17 cm long, 0.5–1 mm wide, coriaceous, stiff. Leaf-blade surface smooth. Leaf-blade margins scaberulous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 8–15 cm long. Panicle branches capillary, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile.

Spikelets oblong, laterally compressed, 3.2–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.8–3.4 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume ovate, 3–3.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–3.4 mm long, coriaceous, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous. Lemma apex acute. Palea keels scaberulous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.3–1.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa parva J.F. Veldkamp. *Blumea,* 38(2): 444 (1994).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Indonesia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.M. Mangen 1002*, 9 Aug 1984, Indonesia: New Guinea, Irian Jaya, Trikora, Gunung, 3,780 m8 (L).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. small. Of dwarf stature.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Basal innovations extravaginal or intravaginal. Culms erect, 2.5–4 cm long. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 0.5–0.75 mm long, glabrous on abaxial surface, acute. Leaf-blades erect, straight or curved, filiform, involute, 1.4–1.8 cm long, 0.4–0.75 mm wide, stiff. Leaf-blade surface smooth, glabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle, comprising 4–5 fertile spikelets. Panicle contracted, linear, 1–1.5 cm long, 0.1–0.2 cm wide, bearing few spikelets. Primary panicle branches appressed, 1 -nate, 0.45–0.7 cm long, bearing 1 fertile spikelets on each lower branch. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2.5–3 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1.25–1.6 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 1.75–2.1 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 2.4–2.65 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma apex acute. Palea 0.9–1 length of lemma. Palea keels smooth.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.75 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea West Papua (Irian Jaya). New Guinea.

Poa parviceps Hack. *Ann. Conserv. & Jard. Bot. Geneve,* xvii. 298 (1914).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Lillo 11474 (T.J.V. Stuckert herb. 22531)*, 17 Feb 1912, Argentina: Prov. Tucumán: prope Lara, in pratis vallium, 3200m (W-39277; IT: BAA, SI, US-88749 (ex W)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (324).

Derivation (Clifford & Bostock 2007): L. *parvus*, small; *caput*, head. Burrs small.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Basal innovations intravaginal. Culms erect, 20–30 cm long, 2 -noded, with 0.2 of their length below uppermost node. Culm-internodes distally glabrous. Lateral branches lacking. Leaf-sheaths loose, longer than adjacent culm internode. Ligule an eciliate membrane, 2–3 mm long, acuminate. Leaf-blades erect, 3–6 cm long, 1.5–4 mm wide, stiff. Leaf-blade surface smooth, glabrous. Leaf-blade margins scabrous. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear or oblong, interrupted, 4–8 cm long, 0.6–1.2 cm wide. Primary panicle branches appressed, 2 -nate, 1–3 cm long. Panicle axis smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 2.5 mm long, 1.2 mm wide, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume lanceolate, 2 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acuminate.

Florets. Fertile lemma ovate, 1.5–2 mm long, membranous, light green or purple, keeled, (3–)5 -veined, more than 3-veined. Lemma midvein without distinctive roughness or scaberulous. Lemma apex acute. Palea 1 length of lemma. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northwest, Chile North.

Catamarca, Jujuy, La Rioja, Salta, Tucuman. Antofagasta.

Poa parvifolia N.F. Refulio-Rodriguez. *Syst. Bot.* 37 (1): 130 (2012).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. **Basionym or Replaced Name**: *Dissanthelium brevifolium* Swallen & Tovar, *Phytologia,* 11: 375 (1965). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.F. MacBride & W. Featherstone 933*, 25 May 1922, Peru: Junin (US-1161062).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. brevis, short; folium, leaf. Leaf-blades shorter than those of some other species in the genus or relative to the length of the culm.

Classification. Subfamily Pooideae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 2–4 cm long. Leaf-sheaths smooth. Ligule an eciliate membrane, 0.6–2 mm long, truncate. Leaf-blades spreading, conduplicate, 0.6–1.5 cm long, 0.5–1 mm wide, coriaceous, stiff. Leaf-blade surface scabrous, rough adaxially. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle, shorter than basal leaves. Panicle contracted, oblong, 0.8–1.5 cm long, 0.6–0.8 cm wide. Primary panicle branches appressed or ascending. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 3–3.4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.4–0.5 mm long.

Glumes. Glumes persistent, similar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 3–3.4 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume ovate, 3–3.4 mm long, 1.4 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.2–2.5 mm long, chartaceous, keeled, 3 -veined, 0–3 -veined. Lemma surface scabrous. Lemma apex truncate. Palea keels smooth or scaberulous.

Flower and Fruit. Anthers 3, 0.6–0.8 mm long. Ovary glabrous. Endosperm farinose.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa patagonica R. Phil. *Anal. Univ. Chil.* xciv. 168. (1896).

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Henricus Ibar [Enrique Ibar]*, 11 Dec 1877, Chile: Ultima Esperanza, Lago Pinto (SGO-PHIL-423; IT: BAA (fragm.), US-88748 (fragm. ex SGO-PHIL-423 & photo)).

Illustrations (Books): M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (195, Fig 128).

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Patagonia.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms 12–75 cm long. Culm-internodes smooth or scaberulous. Ligule an eciliate membrane, 6–17 mm long, 5 mm long on basal shoots, acute. Leaf-blades filiform, convolute, 5–20 cm long, 1–2 mm wide. Leaf-blade surface pilose. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong, interrupted, 5–15 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–9 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 7–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous or sparsely hairy.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 5–6 mm long, 0.8–0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or distinct. Lower glume apex acute. Upper glume ovate, 5.5–7.5 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, 5–7 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface glabrous or pubescent, hairy below. Lemma margins ciliate. Lemma apex acute. Palea keels scabrous, ciliate, adorned below (as to hairs). Palea surface glabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.7–2.5 mm long. Caryopsis with adherent pericarp, trigonous, 2.5–3 mm long. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female, 5–8 flowered, 6–7.5 mm long.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South.

Chubut, Río Negro, Santa Cruz, Tierra del Fuego.

Poa pattersonii Vasey. *Contrib. U. S. Nat. Herb.* i. 275. (1893).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *H.N. Patterson 154*, 19 Aug 1885, USA: Colorado: mountains about the head waters of Clear Creek, 11–14000 ft, top of Mt. McClellan near Grays Peak (US; IT: GH, LE (2 sheets), NY, US-91464).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Harry Norton Patterson (1853–1919) United States botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 5–20 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths open for most of their length, with 0.1 of their length closed, smooth or scaberulous. Ligule an eciliate membrane, 0.5–2.5 mm long, glabrous on abaxial surface or pubescent on abaxial surface, erose, obtuse or acute. Leaf-blades 5–10 cm long, 1–1.5 mm wide. Leaf-blade surface scabrous.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, 2–5 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 3.2–3.7 mm long, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume ovate, 3.5–4.2 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.5–4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent. Lemma surface glabrous to pubescent. Lemma margins pubescent. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.7–1.7 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Subarctic America**, **Western Canada**, **Northwest USA**, **Southwestern USA**. Alaska, Yukon. British Columbia. Colorado, Oregon, Washington. California.

Poa pauciflora Roem. & Schult. *Syst.* ii. 549 (1817).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Ecuador. **Basionym or Replaced Name**: *Poa depauperata* Kunth, *Prodr.* 1: 162 (1815 [1816]). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Humboldt & Bonpland s.n.*, Apr-May, Ecuador: Pichincha: 2430–2860 m (P; IT: BAA-2528 (2 sheets, fragm. ex P-Bonpland) US-89675 (fragm. ex B)). [US-865589c (fragm. ex P-HBK), mounted with type of Avena deyeuxioides, has "Poa depauperata?" in Kunth script].

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *paucus*, few; *flos*, flower. Florets few per spikelet.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 15–35 cm long, 2–3 -noded. Lateral branches lacking. Leaf-sheaths keeled, glabrous on surface. Ligule an eciliate membrane, 4–4.5 mm long, acute. Leaf-blades filiform, conduplicate or involute, 7–17 cm long, 0.5–1 mm wide, indurate, stiff. Leaf-blade surface smooth. Leaf-blade margins scaberulous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 8–15 cm long. Panicle branches capillary, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.2–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.8–3.4 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume ovate, 3–3.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–3.4 mm long, coriaceous, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous. Lemma apex acute. Palea keels scaberulous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.3–1.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Colombia, Ecuador.

Poa paucispicula Scribn. & Merrill. *Contrib. U. S. Nat. Herb.* xiii. 69 (1910).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA, Alaska. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *F.V. Coville & T.H. Kearney 970*, 20 Jun 1899, USA: Alaska, Yakutat Bay, Hidden Glacier (US-376352; IT: LE, US-7488672 (possible)).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (539).

Derivation (Clifford & Bostock 2007): L. *paucus*, few; *spicula*, spikelet. Inflorescence of few spikelets.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms erect or geniculately ascending, 20–30 cm long. Lateral branches lacking. Leaf-sheaths longer than adjacent culm internode. Ligule an eciliate membrane, 2 mm long, truncate. Leaf-blades flat, 4–6 cm long, 3–4 mm wide, flaccid, light green. Leaf-blade surface smooth, glabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 5–9 cm long. Primary panicle branches 2–5 cm long, bearing 2–3 fertile spikelets on each lower branch. Panicle branches flexuous, glabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes definite. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume lanceolate, 4 mm long, 0.8–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 4–5 mm long, membranous, purple, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent, hairy at base. Lemma lateral veins stopping well short of apex. Lemma surface glabrous. Lemma margins pubescent, hairy at base. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 28$ (1 ref TROPICOS), or 42 (1 ref TROPICOS).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Subarctic America**, **Western Canada**, **Northwest USA**. Aleutian Is, Alaska, Yukon, Northwest Territories. Alberta, British Columbia. Idaho, Washington, Wyoming.

Poa pearsonii Reeder. *Journ. Wash. Acad. Sci.* xli. 295 (1951).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *O.P. Pearson & A. Pearson 91*, 22 Nov 1946, Peru: Puno (YU; IT: US-1962954). blades and sheaths very scabrous.

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (325).

Derivation (Clifford & Bostock 2007): in honor of Henry Harold Walsh Pearson (1870–1916) English-born South African botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms geniculately ascending, 18–40 cm long, 2–3 -noded. Lateral branches lacking. Leaf-sheaths smooth or scaberulous, glabrous on surface. Ligule an eciliate membrane, 10–20 mm long, acuminate. Leaf-blades involute, 8–20 cm long, 2–4 mm wide, stiff. Leaf-blade surface scabrous, rough abaxially, pubescent, densely hairy, hairy adaxially. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle open, elliptic, 6–12 cm long. Primary panicle branches ascending. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper

sterile. Spikelets oblong, laterally compressed, 4.5–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 3–3.8 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 3.5–4.2 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4.2–4.8 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface scabrous. Lemma apex acute. Palea keels scabrous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**, **Southern South America**. Bolivia, Peru. Chile North.

Tarapaca.

Poa pedersenii E.G.Nicora. *Candollea,* 50(2): 544 (1995).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Paraguay. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Paraguay: Caaguazu: Ihu, rough grassland and ope shrub, 19 Sep 1988, *T.M. Pedersen 15049* (HT: SI; IT: Herb. Pedersen).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Troels Mundel Pedersen (1916-) Danish-born Argentinian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 25–35 cm long. Leaf-sheaths longer than adjacent culm internode, glabrous on surface. Ligule an eciliate membrane, 1.5–2 mm long, 0.3–0.5 mm long on basal shoots, truncate. Leaf-blades 5–20 cm long, 1.2–1.5 mm wide, stiff. Leaf-blade surface glabrous. Leaf-blade margins with tufts of hair. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 5.5–7 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5.5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.5–4.5 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume surface scabrous, rough on veins. Lower glume apex acuminate. Upper glume lanceolate, 4.2–5 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume margins scabrous. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma lanceolate, 4.5–5.5 mm long, 1.6 mm wide, membranous, keeled, 5 -veined, more than 3-veined. Lemma margins ciliate, hairy below. Lemma apex acuminate. Palea 3.5–4.5 mm long. Palea keels scabrous, ciliate, adorned below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.6–2 mm long. Staminodes present, 0.3–2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female, 4 flowered, with rudimentary apical florets, lanceolate, 4.8–6.5 mm long. Male spikelet glumes 2, lanceolate, 2.4–5.2 mm long. Male spikelet lemma 3.8–4 mm long, 5 -veined.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Paraguay.

Poa pentapolitana H. Scholz. *Willdenowia,* 6(2): 292 (1971).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Libya. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: PT: *P.H. Davis 50250*, Libya: East of Shabat (E, K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating location. From Pentapolis, a region of Cyrenaica, Tripoli.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect or geniculately ascending, 8–15 cm long. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 1–1.5 mm long, acuminate. Leaf-blades flat or conduplicate, 3–5 cm long, 1.5–3 mm wide. Leaf-blade surface glabrous. Leaf-blade margins smooth. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, dense, 2–3 cm long. Primary panicle branches spreading, 2–3 -nate, 0.5–1.5 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2–2.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 1.6–1.8 mm long, 0.9 length of upper glume, membranous, much thinner on margins, purple, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume lanceolate, 1.7–2 mm long, 1.1 length of adjacent fertile lemma, membranous, with hyaline margins, purple, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, 1.6–1.8 mm long, membranous, purple, streaked with last colour or tipped with last colour, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous. Lemma apex obtuse or acute. Palea 1 length of lemma. Palea keels scaberulous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Northern Africa**. Libya.

Poa perconcinna J.R. Edmondson. *Bot. J. Linn. Soc*., 76(4): 330, (1978).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980).

Basionym or Replaced Name: *Poa concinna* Gaudin, *Agrost. Helv.* 196 (1811). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Hab. in arenosis Valesiae inferioris, praecipue Seduni.,.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *per*, very. The prefix has been employed to conserve a well established name which would otherwise be a later homonym to a relatively unknown species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Butt sheaths thickened and forming a bulb. Culms erect, 5–10 cm long. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.8–1.2 mm long. Leaf-blades 1–6 cm long, 0.5–1.5 mm wide. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic or ovate, dense, 2–5 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 6–10 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.5–3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

n = 7 (1 ref TROPICOS). 2n = 14 (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe.

Region. **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**.

Country /Province /State. : Switzerland. : France, Sardinia. : Bulgaria, Greece, Italy, Yugoslavia.

Poa perennis Keng ex P.C. Keng. *Acta Bot. Yunnanica,* 4(3): 276 (1982).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Yunnan: Lijiang Snow Range, nivale Jugan ad declivitatum orient. montem alpinum, 1923–1924, *J.F. Rock 10685* (HT: N-11493; IT: US-1214296).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 383).

Derivation (Clifford & Bostock 2007): L. persisting for several years. Perennials.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms erect or geniculately ascending, 20–60 cm long, 0.5–1.5 mm diam., 2–3 -noded. Culm-internodes terete, striate or ridged, smooth. Lateral branches lacking. Leaf-sheaths open for most of their length, with 0.25–0.5 of their length closed, 4–10 cm long, smooth or scaberulous, glabrous on surface or pilose, with reflexed hairs. Leaf-sheath oral hairs scanty or lacking. Ligule an eciliate membrane, 0.5–2 mm long, erose. Leaf-blades flat or conduplicate, 5–10 cm long, 1–2 mm wide. Leaf-blade surface smooth or scabrous, glabrous, hairless throughout or except near base. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 6–13 cm long, 2–7 cm wide. Primary panicle branches 2–3 -nate, 2–8 cm long, bearing 3–10 fertile spikelets on each lower branch. Panicle axis with lower internodes 1.4–3.5 cm long. Panicle branches flexuous, terete or angular, scabrous, rough distally. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 4–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1.2 mm long, smooth or scaberulous. Floret callus glabrous or sparsely hairy.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–2.5 mm long, 0.8 length of upper glume, membranous, purple, 1-keeled, 3 -veined. Lower glume primary vein smooth. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume lanceolate, 4.7–5.5 mm long, 0.75 length of adjacent fertile lemma, membranous, purple, 1-keeled, 3 -veined. Upper glume primary vein scabrous, eciliate or ciliolate. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 3.3–4.8 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma lateral veins obscure. Lemma surface scabrous. Lemma margins scaberulous, eciliate or ciliolate, hairy above. Lemma apex acute or acuminate. Palea keels scabrous. Palea surface smooth or scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2.3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China South Central, Tibet.

Yunnan.

Poa perligulata Pilger. *Notizbl. Bot. Gart. Berlin,* xi. 779 (1933).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Bolivia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Troll 3014*, Dec 1926, Bolivia: Santa Cruz: Cordillera de Azanaque, Quellmoore 4500 m (BAA-2652; ILT: US-88747 (fragm. ex B)). LT: Negritto & Anton, Kurtziana 28(1): 122 (2000). Note: locality also as Lago Pinto.

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (325), S.A.Renvoize, *Gramineas de Bolivia* (1998) (137, Fig 34).

Derivation (Clifford & Bostock 2007): L. *per,* very; *ligulus*, tongue; *-atus*, possessing. Ligule prominent.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending, 3.5–7 cm long. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1–3.5 mm long, truncate. Leaf-blades conduplicate, 1–3 cm long, 1–2 mm wide. Leaf-blade surface smooth or scaberulous, rough adaxially. Leaf-blade margins scaberulous. Leaf-blade apex abruptly acute or acute.

Inflorescence. Inflorescence a panicle. Panicle spiciform, ovate, 2–2.5 cm long, 0.5–0.7 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, smooth or scaberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–2.8 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume apex obtuse. Upper glume ovate, 2.7–3 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 3.7–4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface smooth or scaberulous, rough above. Lemma apex obtuse.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**, **Southern South America**. Bolivia, Peru. Argentina Northwest, Chile North.

Catamarca, Jujuy, Salta, Tucuman. Tarapaca.

Poa perrieri A.Camus. *Bull. Mus. Hist. Nat. Paris,* xxviii.440. (1922).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar: Massif d'Andringitra, *Perrier de la Bathie 14586*.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Joseph Marie Henri Alfred Perrier de la Bbthie (1872–1958) French botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms geniculately ascending, 30–40 cm long. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1 mm long. Leaf-blades conduplicate, 5–6 cm long, 1 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade margins scaberulous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, effuse, 10–13 cm long, contracted about primary branches. Primary panicle branches 2–3 -nate. Panicle branches flexuous, smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.5–5 mm long.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth, glabrous or sparsely hairy.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.2 mm long, 0.5 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume lanceolate, 4 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 5 -veined. Upper glume surface asperulous, rough above. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Palea 3 mm long. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp, oblong, 2.5 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Poa petrophila Vickery. *Contrib. N. S. Wales Nat. Herb.* iv. 238 (1970).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: New South Wales: Barney's Cr, part Headwaters of Happy Jacks Rv., ca. 16 mi S of Kiandra: on rocky outcrop of slate on steep hillside: 21 Jan 1958, *J. Vickery* (HT: NSW 44267).

Illustrations (Books): S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (352), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): Gk. *petros*, rock; *phileo*, love. Growing amongst rocks.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths herbaceous, purple. Basal innovations intravaginal. Culms 20–70 cm long, 1–2 -noded. Culm-internodes terete, scaberulous, distally glabrous or pubescent. Culm-nodes glabrous or pubescent. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths smooth, pubescent. Ligule a ciliolate membrane, 2–3 mm long, pubescent on abaxial surface, truncate. Leaf-blades filiform, involute, 5–25 cm long, 0.5–0.7 mm wide, stiff. Leaf-blade surface pubescent.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, elliptic, 5–13 cm long. Primary panicle branches 1–4 -nate, sparsely divided. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume surface scabrous. Lower glume apex acute. Upper glume oblong, 0.75–0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface scabrous. Upper glume apex acute.

Florets. Fertile lemma lanceolate, oblong in profile, 3–4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface scabrous, rough above, pubescent. Lemma margins ciliate, hairy at base. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous. Palea surface pubescent. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. New South Wales, Victoria.

Tablelands.

Poa petrosa Swallen. *Contrib. U. S. Nat. Herb.* xxix. 255 (1948).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Venezuela. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.A. Steyermark 55737*, 24 Mar 1944, Venezuela: Mérida (US-1912270).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *petra*, rock; *-osa*, full of. Growing in rocky places.

Classification. Subfamily Pooideae. Tribe: Poeae.
Distribution (TDWG). Continent. South America.
Country /Province /State. **Northern South America**. Venezuela.

Poa pfisteri Soreng. Bot. Res. Inst. Texas 2 (2): 850 (2008).

Illustrations (Journals): *J. Bot. Res. Inst. Texas* (2 (2): 851, Fig.1 (2008)).
Classification. Subfamily Pooideae. Tribe: Poeae.
Distribution (TDWG). Continent. South America.
Country /Province /State. **Southern South America**. Chile Central.
Biobio.

Poa phillipsiana Vickery. *Contrib. N. S. Wales Nat. Herb.* iv. 220 (1970).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: New South Wales: Ridge above Happy Jacks township, besdie creek, ca. 11 mi s of Kiandra: 20 Jan 1958, *J. Vickery* (HT: NSW 44381).

Illustrations (Books): S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (353).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): *-ana*, indicating connection. In honor of Mary Elizabeth Philipps (1917–1976) Australian botanist. The epithet is therefore misspelt.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths herbaceous, purple. Basal innovations intravaginal. Culms 40–80 cm long, 1–2 -noded. Culm-internodes terete, smooth or scaberulous. Culm-nodes glabrous. Lateral branches lacking. Leaf-sheaths antrorsely scabrous, glabrous on surface. Ligule a ciliolate membrane, 0.5–0.75 mm long, scaberulous on abaxial surface, truncate. Leaf-blades erect, aciculate, involute, 7–25 cm long, 0.5–0.75 mm wide, stiff, glaucous. Leaf-blade surface scabrous, glabrous.

Inflorescence. Inflorescence a panicle. Peduncle antrorsely scabrous above. Panicle open, elliptic, 6–20 cm long. Primary panicle branches spreading, 2–5 -nate, 5–10 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or obscure. Lower glume surface smooth or asperulous, rough above. Lower glume apex acute. Upper glume oblong, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface smooth or asperulous, pubescent. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 2.5–3.25 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma surface pubescent, hairy below. Lemma margins ciliate, hairy below. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous, ciliolate, adorned below (ciliolate). Palea surface pubescent, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2 mm long, yellow or purple. Caryopsis with adherent pericarp, ellipsoid. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.
Country /Province /State. **Australia**. New South Wales, A.C.T., Victoria.
Tablelands.

Poa physoclina N.G. Walsh. *Muelleria* 26(2): 17, 20, f. 1–3 (2008).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: Victoria, Lake Bolac township, opposite Lake Paracemalac, E side of Lake Bolac - Ararat Rd., 1.3 km N ofr Glenelg Hwy, *N.G. Walsh 6781* (HT: MEL; IT: CANB, K, NSW).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths glabrous. Basal innovations intravaginal. Culms erect or prostrate (blown flat by wind), slender, 15–40 cm long. Culm-internodes terete or elliptical in section, distally pubescent. Leaves mostly basal. Leaf-sheaths glabrous on surface or puberulous. Ligule an eciliate membrane, 0.3 mm long, pubescent on abaxial surface, truncate. Leaf-blades filiform, conduplicate, 10–20(–25) cm long, 0.2–0.4 mm wide, dark green. Leaf-blade surface smooth or scaberulous, rough adaxially, puberulous, densely hairy, hairy abaxially. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, effuse, 5–12 cm long, 5–10 cm wide. Primary panicle branches spreading. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2(–4) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.5–5(–6.5) mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly. Floret callus hairs 1–1.5 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 2.2–3.1 mm long, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scaberulous. Lower glume surface asperulous. Lower glume apex acute. Upper glume oblong, 2.5–3.5 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume surface asperulous. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–4.1 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous (above), pubescent, hairy below. Lemma apex acute. Palea 0.9 length of lemma. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.5–2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. Victoria.

Poa pilata Chase. *Journ. Arn. Arb.* xxiv. 83 (1943).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Indonesia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Indonesia: Irian Jaya: northern slopes Mt. Wilhelmina, alpine grassland, on boggy ground, 4100 m, Sept. 1938, *Brass & Myer-Drees 10153* (HT: A; IT: L, US-1761741) and 9554, 9580, 9942, 10205.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *pilus*, a hair; *-ata*, possessing. Leaf-blades hair-like.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations intravaginal. Culms 3–6 cm long, 2 -noded. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long, acute. Leaf-blades conduplicate or involute, 13–20 cm long, 1–2 mm wide. Leaf-blade venation with 5–7 inner ridges. Leaf-blade surface ribbed, scabrous, rough adaxially, glabrous. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 12–15 cm long, bearing few spikelets. Primary panicle branches appressed, 1–2 -nate, 0.4–0.8 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1–2 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2–3.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–0.6 mm long, smooth.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1.5–2.5 mm long, 0.9 length of upper glume, membranous, 1-keeled, 3–5 -veined. Lower glume primary vein scabrous. Lower

glume apex acute, mucronate. Upper glume lanceolate, 1.6–2.7 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3–5 -veined. Upper glume primary vein scabrous. Upper glume apex acute, mucronate.

Florets. Fertile lemma ovate, 2–3.3 mm long, membranous, keeled, 3–5 -veined, 0–3 -veined or more than 3-veined. Lemma midvein scabrous. Lemma apex acute. Palea 2–2.5 mm long. Palea keels ciliolate. Rhachilla extension 1–1.5 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.9 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea.

Poa pilcomayensis Hack. *Fedde, Repert. Nov. Sp.* vi. 346 (1909).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Paraguay. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *T. Rojas 279*, 1906, Paraguay: ad ripas fluminis Pilcomayo in regione cursus inferiores, staminate plant (W; IST: US-88742 (fragm. ex W), US-946954). ST: *T. Rojas 279a*, Jul, Paraguay: ad ripas fluminis Pilcomayo in regione cursus inferiores, pistillate plant (W; IST: US-946953).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (326), E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (89, Fig. 27), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (114, Fig. 29), B.Rosengurtt, *Gramineas UruguayasI* (1970) (133, Fig. 49).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Pilcomayo River, Gran Chaco, Paraguay.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths thickened and forming a bulb. Culms 10–80 cm long, 2 -noded. Culm-nodes glabrous. Ligule an eciliate membrane. Leaf-blades flat or conduplicate, 25–55 cm long, 1.5–4 mm wide, flaccid. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate or oblong, dense, 5–20 cm long, 1.5–4 cm wide. Primary panicle branches bearing spikelets almost to the base. Panicle branches scabrous, rough distally. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4.5–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume lanceolate, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma linear, 2.5–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex acuminate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Brazil**, **Southern South America**. Argentina Northeast, Paraguay, Uruguay.

Buenos Aires, Chaco, Entre Rios, Santa Fe.

Poa pilgeri Negritto & Anton. *Syst. Bot*.31(1): 88 (83–84; fig. 3) (2006).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Peru, Junin, Huancayo: Blair 424 (K holo).

Illustrations (Journals): *Systematic Botany* (31:87, Fig.3 (2006)).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 7–15 cm long, 1 -noded. Culm-internodes 4–6.8 cm long, smooth. Lateral branches lacking. Leaf-sheaths open for most of their length, 2–3.5 cm long, glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long, glabrous on abaxial surface or scaberulous on abaxial surface, erose. Leaf-blades filiform, convolute, 2–3 cm long, 1 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, oblong or ovate, 3–4.5 cm long, 3–4.2 cm wide, with spikelets clustered towards branch tips. Primary panicle branches spreading, 2 -nate, 1–2 cm long, bearing 3–4 fertile spikelets on each lower branch. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2.8–4.5 mm long, 1–2 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–1 mm long, glabrous. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1.5–2.2 mm long, 0.75–0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2–2.5 mm long, 0.75–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume lateral veins prominent. Upper glume apex acute.

Florets. Fertile florets alike but female above. Fertile lemma oblong, 1.8–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent, hairy below. Lemma apex acute. Palea 2.5–3 mm long. Palea keels ciliolate, adorned below.

Flower and Fruit. Anthers 3.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa piperi Hitchcock. *Abranu, Ill. Fl. Pacific States,* i. 201 (1923).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: USA: Oregon: Mountains 8 mi SW of Waldo, on dry Mountain side under yellow pine, 14 Jun 1904, *C. V. Piper 6496* (HT: US).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (557).

Derivation (Clifford & Bostock 2007): in honor of Charles Vancouver Piper (1867–1926) United States agrostologist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Northwest USA**, **Southwestern USA**. Oregon. California.

Poa pirinica Stoyanoff & Achtaroff. *Bull. Inst. Roy. Hist. Nat. Sophia,* xii 181. (1939).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from Bulgaria. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: Aug, Bulgaria: Cresit in glaris maarmoreis mt. Pirin, declivibus septentrionalis cacuminis El-Tepe, loci dicti Golemi Kazan et Malki Kazan ad cca. 2300–2900 m.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Mt. Pirin, Bulgaria.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Basal innovations extravaginal. Culms erect, 5–30 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths

mostly shorter than adjacent culm internode, glabrous on surface. Ligule an eciliate membrane, 0.4–0.6 mm long, truncate. Leaf-blades filiform, 0.2–0.4 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open or contracted, linear or elliptic, 3–5.5 cm long. Panicle branches flexuous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins ciliate, hairy below. Lemma apex acute. Palea keels ciliate, adorned all along. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 14$ (2 refs TROPICOS).

Distribution (TDWG). Continent. Europe.

Region. **Southeastern Europe**.

Country /Province /State. : Bulgaria, Greece.

Poa pitardiana H. Scholz. *Willdenowia,* 13(1): 129 (1983).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Charles-Joseph Marie Pitard (1873–1927) French botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 10–30 cm long, 2–4 -noded. Culm-internodes terete. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 0.3–3 mm long, acute. Leaf-blades flat or conduplicate, 1–10 cm long, 1–1.5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, oblong or ovate, dense, 2–6 cm long, 1–2.5 cm wide. Primary panicle branches ascending. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes obscured by lemmas, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2–3 mm long, 1 length of upper glume, membranous, much thinner on margins, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume apex acuminate, mucronate. Upper glume ovate, 2–3 mm long, 0.8–0.9 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acuminate, mucronate.

Florets. Fertile lemma ovate, oblong in profile, 2.5 mm long, membranous, much thinner above, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins stopping well short of apex. Lemma margins ciliate, hairy below. Lemma apex acute. Palea 1 length of lemma. Palea keels ciliate, adorned below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Macaronesia**. Canary Is.

Poa planifolia Kuntze. *Rev. Gen.* iii. II. 366. (1898).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina, Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Otto Kunze s.n.*, Jan 1892, Paso Cruz 34? border between Argentina at 2800 m and Chile at 2600 m (NY; IT: B, BAA-2662 (fragm. ex B), US-81726 (shoot ex W), W-9661 (Argentina 2800 m)). broad short stiff leaves and short contracted panicle.

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (327).

Derivation (Clifford & Bostock 2007): L. *planus*, flat; *folium*, leaf. Leaf-blades flat.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Butt sheaths papery. Culms erect, 12–18 cm long, 2–3 mm diam. Lateral branches lacking. Ligule an eciliate membrane, truncate. Leaf-blades 2–3.5 cm long, 2–3.5 mm wide, coriaceous.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear or oblong, 3–4 cm long, 1 cm wide. Primary panicle branches 1–2 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4 mm long, 2 mm wide, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 4 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Chile Central.

Mendoza. Santiago.

Poa platyantha Komarov. *Not. Syst. Herb. Hort. Petrop.* v. 148 (1924).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Kamchatka. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *V.Komarov s.n.*, 30 Jul 1908, Kamchatka: vic. seleniya Nachiki: birch grove in valley of Rv. Poperechnaya (LE). orig.label:"Bassein Bol'shoj Reki: rajon seleniya Nachiki: bereznyaki u verkhnej granitsy lesa po doline r.Poperechnoj".

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *platys*, flat; *anthos*, flower. Spikelets wider, relative to length, than those of related species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes short. Butt sheaths persistent and investing base of culm. Culms 20–100 cm long. Culm-internodes smooth. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 3–4 mm long. Leaf-blades 10–20 cm long, 2–4 mm wide. Leaf-blade surface scaberulous, rough adaxially, glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, oblong or pyramidal, 11–13 cm long. Primary panicle branches 1–5 cm long. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.9 length of upper glume, membranous, 1-keeled. Lower glume apex acute. Upper glume ovate, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma lateral veins obscure. Lemma surface puberulous, hairy below. Lemma margins ciliate. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Vegetative proliferation occurs.

$2n = 42$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East, **China**. Kamchatka, Kuril Is, Magadan. Manchuria.

Poa plicata Hack. *Oesterr. Bot. Zeitschr.* 1902, 378. (1902).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *G.H.E. Hieronumus & G. Niederlein 396*, 26–28 Jan 1879, Argentina: La Rioja: Sierra Famatina ad Cueva de Pérez (W; IT: B, BAA-2663 (fragm. ex B), CORD, US-88741 (fragm.)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (328).

Derivation (Clifford & Bostock 2007): L. *plico*, fold. Leaf-blade with a single longitudinal fold.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Cataphylls inconspicuous. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Basal innovations extravaginal. Culms erect, 10–20 cm long, with 0.5 of their length below uppermost node. Culm-internodes terete, antrorsely scabrous. Leaf-sheaths longer than adjacent culm internode, keeled, scaberulous. Ligule an eciliate membrane, 3–5 mm long, obtuse. Leaf-blades conduplicate, 15–25 cm long, 6–10 mm wide. Leaf-blade surface scabrous, rough on both sides. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, dense, 5–7 cm long, with spikelets clustered towards branch tips. Primary panicle branches 2 -nate, 2–4 cm long. Panicle axis scabrous. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 6–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–1 mm long, scaberulous. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 6 mm long, 0.9–1.5 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface asperulous, rough below. Upper glume apex acute.

Florets. Fertile lemma oblong, 4–6.5 mm long, membranous, light green, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma surface scabrous, rough below. Lemma apex acute. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northeast.

Catamarca, La Rioja, Salta, Tucuman.

Poa poecila Phil. *Anal. Univ. Chil.* 573. (1873).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: 1864–1865, Chile: Magallanes (SGO-PHIL-433; IT: B, BAA-534 (fragm. ex B), SGO-37353, US-88740 (fragm. ex SGO-PHIL-433 & photo), US- (photo ex SGO-37353)).

Illustrations (Books): M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (189, Fig 124).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths thickened and forming a bulb, dark brown, persistent and investing base of culm. Culms 5–15 cm long, 1 -noded. Ligule an eciliate membrane, 1.5 mm long, acute. Leaf-blades straight or curved, filiform, convolute, 2–7 cm long, 0.5–1 mm wide. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong or ovate, 1–6.5 cm long, 1–1.5 cm wide. Primary panicle branches 1–3.5 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5.5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly. Floret callus hairs 0.2 length of lemma.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 3.5–5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 4–5.5 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, 4.5–6 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma margins ciliate, hairy below. Lemma apex acute. Palea keels scabrous, ciliate, adorned below (as to hairs). Palea surface glabrous or puberulous, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.2–2.3 mm long. Staminodes present, 0.2–0.3 mm long. Caryopsis with adherent pericarp, trigonous, 2 mm long. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female, 2–5 flowered.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South.

Tierra del Fuego. Tarapaca, Antofagasta, Atacama, Coquimbo, Rest of Chile- Biobio, La Auracania, Maule, O'Higgins, Santado, Valpariso, Chiloe, Aisen, Magellanes.

Poa pogonantha (Franch.) L. Parodi. *Rev. Argent. Agron.* xx. 180 (1953).

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Savatier 1844*, 24 Jan 1879, Chile: Prov. Magallanes: Port Eden (P; IT: BAA (fragm. ex P), US-91894 (fragm. ex P & photo)). photo and fragm. at US prove plant to be viviparous.

Illustrations (Books): M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (200, Fig 132).

Derivation (Clifford & Bostock 2007): Gk. *pogon*, beard; *anthos*, flower. Spikelets densely hirsute.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms 30–45 cm long, 2 -noded. Leaf-sheaths mostly shorter than adjacent culm internode, smooth or scaberulous. Ligule an eciliate membrane, 2–5 mm long, entire or lacerate, acute. Leaf-blades filiform, conduplicate or convolute, 6–20 cm long, 2–2.5 mm wide. Leaf-blade surface scabrous, rough adaxially or on both sides. Dioecious.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle open, oblong, 3–6 cm long. Panicle axis scabrous. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 6–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pilose. Floret callus hairs 0.5 length of lemma.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 4.5–6.5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume surface asperulous. Lower glume apex acuminate. Upper glume lanceolate, 4.5–7 mm long, 0.75–0.85 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface asperulous. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma lanceolate, 6–8 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma margins eciliate or ciliolate, hairy below. Lemma apex acuminate, muticous or mucronate. Palea keels scabrous, eciliate or pubescent, adorned below (as to hairs). Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–3 mm long. Staminodes present, 0.1–0.3 mm long. Caryopsis with adherent pericarp, trigonous, 2–2.5 mm long. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female, 6–7.5 mm long.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South.

Chubut, Río Negro, Tierra del Fuego. Chiloe, Aisen, Magellanes.

Poa poiformis (Labill.) Druce. *Rep. Bot. Exch. Cl. Brit. Isles,* 1916, 640 (1917).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. **Basionym or Replaced Name**: *Arundo poiformis* Labill., *Nov. Holl. Pl.* 1: 27 (1804). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: *Labillardiere* (FI holo, K).

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (155, Fig 108 as var. *poiformis*), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (429, Fig 84 as var. *poiformis*), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (353), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (323, Fig 43 as var. *poriformis*), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *forma*, appearance. Resembling *Poa* in some respect.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths herbaceous, pallid. Basal innovations intravaginal. Culms erect, 20–90 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaf-sheaths tight, smooth, glabrous on surface. Ligule a ciliolate membrane, 0.25–1.25 mm long, pubescent on abaxial surface, truncate. Leaf-blades aciculate, convolute, 20–50 cm long, 1–2 mm wide, stiff. Leaf-blade surface scabrous, rough adaxially, glabrous.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle contracted, linear, 8–30 cm long, 1–6 cm wide. Primary panicle branches 2–7 -nate, bearing spikelets almost to the base. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.5–7 mm long, scabrous.

Fertile Spikelets. Spikelets comprising 2–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 6–10 mm long, 5–7 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 3–5 mm long, 0.9 length of upper glume, membranous, 1-keeled, (1–)3 -veined. Lower glume primary vein scabrous. Lower glume apex acute or acuminate. Upper glume oblong, 3–5 mm long, 0.66–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute or acuminate.

Florets. Fertile lemma oblong, lanceolate in profile, 3–6 mm long, membranous, much thinner above, much thinner on margins, keeled, 5(–7) -veined, more than 3-veined. Lemma midvein scaberulous, ciliate, hairy below. Lemma surface smooth or scaberulous. Lemma margins ciliate, hairy at base. Lemma apex truncate or obtuse or acute. Palea 0.9 length of lemma. Palea keels scabrous, adorned below. Palea surface smooth or scabrous, glabrous or pubescent, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.7–3 mm long, yellow. Caryopsis with adherent pericarp, oblong, 1.8 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Europe (*), Australasia.

Region. **Northern Europe** (*).

Country /Province /State. : GB Aliens (Ryves et al). **Australia**. Western Australia, South Australia, New South Wales, Victoria, Tasmania, Lord Howe-Norfolk Is.

South-West. Southern. Coast.

Poa polycolea Stapf. *Hook.f. Fl. Brit. Ind.* vii. 342. (1896).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from West Himalaya, Nepal. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *Strachey & Winterbottom 11 (as P. serotina)*, (K; IST: BM). LT: *J.D. Hooker & Thomson, Herb. Ind. Or. Hf. & T. 15*, West Himalaya: Valley north of Chamba, 3–3500 m (K; ILT; BM). LT designated by Bor B.N.H.S.J. 50: 835 (1952), without indication of herb..

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (573, Fig. 20), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Figs. 369 & 371 & 372).

Derivation (Clifford & Bostock 2007): Gk. *polys*, several; *koleos*, sheath. Lower leaf-sheaths very lax.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Stolons present. Butt sheaths scarious, withering or persistent and investing base of culm, with compacted dead sheaths. Culms erect or geniculately ascending, 15–40 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 1.5–3 mm long, truncate. Leaf-blades filiform or linear, 3.5–8 cm long, 1–2.5 mm wide. Leaf-blade surface scaberulous, rough abaxially. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, effuse, equilateral or nodding, 5–10 cm long. Primary panicle branches spreading, 2–5 -nate. Panicle branches capillary, flexuous, smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or cuneate, laterally compressed, 4–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas, smooth. Floret callus glabrous or pubescent.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume linear, 2.5–3(–3.7) mm long, 0.8 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic to ovate, 3–3.5(–5) mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, elliptic in profile or oblong in profile, 3.5–5.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein eciliate or ciliolate. Lemma surface glabrous or pubescent. Lemma margins eciliate or ciliolate. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous, adorned in the middle. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2–2.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **Western Asia**, **China**. Afghanistan, Iran. China South Central, Qinghai, Tibet, Xinjiang. **Indian Subcontinent**. Eastern Himalaya, India, Nepal, Pakistan, West Himalaya.

Sichuan, Yunnan. Uttah Pradesh. Himachal Pradesh, Jammu Kashmir.

Poa polyneuron Bor. *Kew Bull.* 1952, 223 (1952).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Sikkim: Natu La, grass in wet places, 4000 m. 23 June 1945, *Bor & Kiratram 20685* (HT: K) and 20575 (Xizang).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (569, Fig. 18).

Derivation (Clifford & Bostock 2007): Gk. *polys*, several; *neuron*, nerve. The glumes and lemmas are many-nerved.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Culms geniculately ascending, 15–30 cm long. Culm-nodes glabrous. Leaf-sheaths striately veined, smooth, glabrous on surface. Ligule an eciliate membrane, 2 mm long, acute. Leaf-blades 2–5 cm long, 2–5 mm wide. Leaf-blade surface glabrous. Leaf-blade margins scaberulous. Leaf-blade apex abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle open or contracted, linear or elliptic, 8–15 cm long. Primary panicle branches 2 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 5.5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 4.5–5 mm long, 0.9–1 length of upper glume, membranous, much thinner on margins, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume lanceolate, 5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3–5 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma elliptic, 5 mm long, membranous, much thinner above, much thinner on margins, keeled, 5–7 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins with distinct primaries but obscure intermediates. Lemma surface pubescent, hairy below. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous, adorned above. Palea surface pilose, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **Western Asia**, **China**. Afghanistan. Tibet. **Indian Subcontinent**. Eastern Himalaya, Pakistan.

Sikkim.

Poa poophagorum Bor. *Kew Bull.* 1948, 143 (1948).

Accepted by: N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Rohmoo Lepcha 374*, 1912, Sikkim: Temu La, 16000 ft (K; IT: E). US-1271888, cult from type, coll by Reed, date 31 May 1915.

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (571, Fig. 19).

Derivation (Clifford & Bostock 2007): Gk *poa*, grass; *phagos*, a glutton. Grass of the gluttons, that is from the Yak pastures of the Himalayas.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths herbaceous. Culms erect, 10–20 cm long. Culm-internodes terete, smooth. Culm-nodes glabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths loose, smooth or scaberulous, glabrous on surface. Ligule an eciliate membrane, 2.5–3.5 mm long, acute. Leaf-blades 3 cm long, 1.5 mm wide. Leaf-blade surface scabrous, rough on both sides. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, linear, dense, 3–5 cm long, 1.5 cm wide. Primary panicle branches 2 -nate, 0.5–1.5 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or cuneate, laterally compressed, 3 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes scaberulous. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–3 mm long, 0.8–1 length of upper glume, membranous, purple, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume surface scabrous, rough above. Lower glume apex acute. Upper glume elliptic, 3 mm long, 0.9 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface scabrous, rough above. Upper glume apex acute.

Florets. Fertile florets divergent. Fertile lemma oblong, oblong in profile, 2.75–3.25 mm long, membranous, much thinner above, glandular on surface, keeled, 5 -veined, more than 3-veined. Lemma

midvein scabrous. Lemma lateral veins with distinct primaries but obscure intermediates. Lemma surface scabrous, rough above. Lemma apex acute. Palea 0.9 length of lemma. Palea keels scabrous. Palea surface pitted. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. China South Central, Qinghai, Tibet, Xinjiang. **Indian Subcontinent**. Eastern Himalaya.

Bhutan, Sikkim.

Poa porphyroclados Nees. *Lehm. Pl. Preiss.* ii. 105 (1846).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: "In Australia occidentali: Ad flumen Cygnorum, *Hb. Preiss 1820 (Drummond)* (LT: LE) Type said to be in herb. Lindl. by Nees; LT: *Hb. Preiss 1820*, Australia: Western Australia: Nova Hollandia (LE).

Recent Synonyms: *Poa serpentum* Nees, *Lehm. Pl. Preiss.* 2: 106 (1846).

Illustrations: None found.

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): Gk. *porphyra*, purple; *klados*, branch. Culms reddish-brown.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Cataphylls evident. Butt sheaths herbaceous, pallid. Basal innovations extravaginal. Culms 45–90 cm long, 1–2 -noded. Culm-internodes terete, smooth. Culm-nodes glabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths scaberulous, glabrous on surface. Ligule an eciliate membrane, 0.5 mm long, scaberulous on abaxial surface. Leaf-blades filiform, involute, 13–40 cm long, 0.3–0.4 mm wide. Leaf-blade surface smooth, glabrous.

Inflorescence. Inflorescence a panicle. Peduncle scaberulous above. Panicle open, ovate, effuse, 10–22 cm long. Primary panicle branches spreading, 4 -nate. Panicle branches capillary, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scaberulous. Lower glume apex acute. Upper glume oblong, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 3.2–3.75 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins eciliate or ciliate, hairy at base. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scaberulous, adorned above. Palea surface smooth or scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.2 mm long, yellow or purple. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. Western Australia.

South-West.

Poa porsildii Graerevoll. *K. Norske Vidensk. Selsk. Forh.* xxix. No. 16, 72 (1957).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Canada. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *A. E. Porsild & Breitung 11188*, 31 Aug 1944, Canada: Yukon Terr.: MacMillan Pass, alpine treeless country, 4000–5000 ft (CAN).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (565).

Derivation (Clifford & Bostock 2007): in honor of Alf Erling Porsild (1901–1977) Danish-born Canadian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Subarctic America**. Alaska, Yukon, Northwest Territories.

Poa pratensis L. *Sp. Pl.* 67. (1753).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983), T.Koyama, *Grasses of Japan and its neighboring regions* (1987), W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: CT: *N.N. Tzvelev [Cvelev] N-257*, 26 Jun 1997, Russia: Rossia, Prov. Sanct-Petersburg, 5 km australi-occi (BM; IT: B, C, CAN, CONC, H, K, KW, L, LE, LIV, MA, MO, MW, NSW, P, PE, PR, S, SI, TNS, US-3456252, W). CT: prop. 1391 Taxon 48(1): 157–159 (1998), recommended Taxon 49 (4): 802 (2000).

Recent Synonyms: *Poa subcaerulea* Sm., *Engl. Bot. t.* 1004 (1802).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (329), C.E.Hubbard, *Grasses* (1968) (190), T. Cope & A. Gray, Grasses of the British Isles (50a as subsp. *pratensis*, 50b as subsp. *angustifolia,* 50c as subsp. *irrigata*), G.Hegi, *Flora von Mitteleuropa* 1 (1909), H.J.Noltie, *The Grasses of Bhutan* (2000) (567, Fig. 17 & 571, Fig. 19), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (157, Fig 109), C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952) (105, Pl 30), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (422, Fig 83), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (353), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (214, Fig 42), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), K.F.Best, et al, *Prairie Grasses* (1971) (195), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (524 & 525 as subspecies *alpigena, agassizensis, angustifolia, colpodea, irrigata & pratensis*), F.W.Gould, *The Grasses of Texas* (1975) (119, Fig. 58), A.S.Hitchcock, *Manual of the Grasses of the West Indies* (1936) (31, Fig. 11), S.A.Renvoize, *Gramineas de Bolivia* (1998) (135, Fig 33), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina*), Pt II, Gramineas (1969) (84, Fig 24), W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (489, Fig 183), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (165, Fig 102), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (as subspecies *pruinosa, pratensis, stenachyra, satintonii* in Figs. 373, 374, 375, 376 respectively), H.M. Longhi-Wagner, *Flora Ilustrada do Rio Grande do Sul, Gramineae, Poeae* (1987).

Illustrations (Journals): *Phytokeys* (15: 66, 67; Figs 17, 18 (2012)).

Derivation (Clifford & Bostock 2007): L. *pratum*, a meadow; *-ense*, place of origin. Meadow species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Culms erect or geniculately ascending, 10–90 cm long, 2–4 -noded. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths keeled, smooth. Ligule an eciliate membrane, 1–3 mm long, truncate. Leaf-blades 5–30 cm long, 2–4 mm wide. Leaf-blade surface smooth or scaberulous, glabrous or pubescent (rarely), sparsely hairy. Leaf-blade margins scaberulous. Leaf-blade apex abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle open or contracted, oblong or pyramidal or ovate, dense or loose, 2–20 cm long, 1–12 cm wide. Primary panicle branches ascending or spreading, 3–5 -nate. Panicle branches flexuous, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.2–2 mm long.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 4–6 mm long, breaking up at maturity,

disarticulating below each fertile floret. Rhachilla internodes obscured by lemmas, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2–3.5 mm long, 0.8 length of upper glume, membranous, 1-keeled, 1(–3) -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume elliptic or ovate, 2.5–4 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 3–4 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous, ciliate, hairy below. Lemma lateral veins distinct, stopping well short of apex. Lemma surface granulose. Lemma margins ciliate, hairy below. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

n = 7 (1 ref TROPICOS), or 14 (1 ref TROPICOS), or 21 (1 ref TROPICOS), or 28 (1 ref TROPICOS). $2n$ = 28 (1 ref TROPICOS), or 42 (2 refs TROPICOS), or 46 (1 ref TROPICOS), or 56 (2 refs TROPICOS), or 70.

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Tropical Asia, Australasia (*), Pacific, North America, South America, Antarctica.

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Denmark, Finland, Foroyar, Great Britain, Iceland, Ireland, Northern Ireland, Norway, Svarlbad, Sweden. : Austria, Liechstenstein, Belgium, Luxembourg, Czechoslovakia, Germany, Hungary, Netherlands, Poland, Switzerland. : Corsica, Channel Islands, France, Monaco, Portugal, Sardinia, Andorra, Gibralter, Spain. : Albania, Bulgaria, Greece, Italy, San Marino, Vatican, Crete, Romania, Malta, Sicily, Turkey Europe, Yugoslavia. Belarus, Estonia, Kalingrad, Latvia, Lithuania, Baltic States, Krym, Central European Russia, East European Russia, North European Russia, South European Russia, Northwest European Russia, Moldova, Ukraine. **Northern Africa**, **Macaronesia**, **Southern Africa** (*), **Middle Atlantic Ocean**. Algeria, Libya, Morocco. Azores, Canary Is, Madeira. Gauteng. St Helena. Siberia, Russian Far East, **Middle Asia**, **Caucasus**, **Western Asia**, **Arabian Peninsula**, **China**, **Mongolia**, **Eastern Asia**, **Russia**. Altay, Buryatiya, Chita, Irkutsk, Krasnoyarsk, Tuva. Amur, Kamchatka, Khabarovsk, Kuril Is, Magadan, Primorye, Sakhalin. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Afghanistan, Iran, Iraq. China South Central, Inner Mongolia, Manchuria, China North-Central, Qinghai, China Southeast, Tibet, Xinjiang. Mongolia. Japan Hokkaido, or Honshu, or Shikoku, or Kyushu. Japan, Korea, Taiwan. **Indian Subcontinent**, **Indo-China**, **Malesia**, **Papuasia**. Eastern Himalaya, India, Nepal, Pakistan, Sri Lanka, West Himalaya. Myanmar. Java, Philippines. New Guinea. **Australia** (*), **New Zealand** (*). Western Australia (*), South Australia (*), New South Wales (*), A.C.T. (*), Victoria (*), Tasmania (*), Lord Howe-Norfolk Is (*). Chatham Is, New Zealand North I, New Zealand South I, Stewart Is, Campbell Is, Auckland Is. **North-central Pacific**. Hawaii (*). **Subarctic America**, **Western Canada**, **Eastern Canada**, **Northwest USA**, **North-central USA**, **Northeast USA**, **Southwestern USA**, **South-central USA**, **Southeastern USA**, **Mexico**. Aleutian Is, Alaska, Yukon, Northwest Territories, Nunavut, Greenland. Alberta, British Columbia, Manitoba, Saskatchewan. Labrador, New Brunswick, Newfoundland, Nova Scotia, Ontario, Prince Edward I, Quebec. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. Illinois, Iowa, Kansas, Minnesota, Missouri, North Dakota, Nebraska, Oklahoma, South Dakota, Wisconsin. Connecticut, Indiana, Maine, Massachusetts, Michigan, Ohio, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, West Virginia. Arizona, California, Nevada, Utah. New Mexico, Texas. Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, District of Columbia. Central Mexico, Northeast Mexico, Gulf (Mexico). **Mesoamerica**, **Caribbean**, **Western South America**, **Brazil**, **Southern South America**. Costa Rica. Bermuda, Haiti, Jamaica. Bolivia, Colombia, Ecuador, Peru. Brazil South. Argentina Northeast, Argentina South, Argentina Northwest, Chile North, Chile Central, Chile South, Juan Fernandez Is, Uruguay. **Subantarctic islands**. Crozet Is, Falkland Is (Malvinas), Heard-McDonald Is, Kerguelen, South Georgia, Tristan de Cunha.

Gansu, Hebei, Shaanxi, Shandong, Shanxi. Anhui, Henan, Jiangsu, Jiangxi. Guizhou, Hubei, Sichuan, Yunnan. Darjeeling, Bhutan, Sikkim. South-West. Southern. Coast, Tablelands, Western Slopes, Western

Plains. Rio Grande do Sul. Jujuy, La Rioja, Mendoza. Buenos Aires, Distrito Federal, Entre Rios, La Pampa. Chubut, Neuquén, Río Negro, Santa Cruz, Tierra del Fuego. Atacama. Coquimbo, Valparaiso, Santiago, Maule, Biobio, La Araucania. Los Lagos, Magellanes. Distrito Federal, Mexico State. Chihuahua, Hidalgo, Neuvo Leon. Veracruz.

Poa prichardii Rendle. *Journ. Bot.* 1904, 324. (1904).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *H. Prichard s.n.*, 1900–1, Argentina: Santa Cruz, Dpto. Lago Argentino, Mt. Buenos Aires (BM; IT: BAA (fragm.), US-88739 (fragm. ex BM & photo)).

Illustrations (Books): M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (195, Fig 126), E.Hafliger & E.Schultz, Grass Weeds, CIBA-GEIGY (2:121(1980)).

Derivation (Clifford & Bostock 2007): In honor of Hesketh Vernon Hesketh Prichard (1876–1922) who collected in Argentina.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms erect, 30–45 cm long. Culm-internodes antrorsely scabrous. Leaf-sheaths mostly shorter than adjacent culm internode, smooth or scaberulous. Ligule an eciliate membrane, 6–8 mm long, scaberulous on abaxial surface, acute. Leaf-blades flat or convolute, 2–15 cm long, 1–2 mm wide. Leaf-blade surface scabrous, rough adaxially or on both sides. Dioecious.

Inflorescence. Inflorescence a panicle. Peduncle antrorsely scabrous above. Panicle contracted, linear, interrupted, 4–11 cm long, bearing few spikelets. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 7–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous or sparsely hairy.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 5–5.5 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume ovate, 5.5–6 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, 5.5–6 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein eciliate or ciliolate. Lemma lateral veins stopping well short of apex. Lemma margins eciliate or ciliolate. Lemma apex acute. Palea keels scabrous, ciliolate, adorned below (as to hairs). Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 3–3.5 mm long. Staminodes present, 0.2–0.3 mm long. Caryopsis with adherent pericarp, trigonous, 3.5 mm long. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female, 5–6 flowered, 7.5–8 mm long.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South, Chile South.

Chubut, Santa Cruz.

Poa primae Tsvelev. *Novosti Sist. Vyssh. Rast.*, 11: 36 (1974).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Chechnya. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: (LE). HT: *V. M. Prima s. n.*, 10 Aug 1971, [Caucasus]: Chechnya: Pass Vaglbasakh: elev. 3200 m (LE). Orig. label: Chechnya, verkh. r. Kerigo, pereval Vaglbasakh, na shcheb.-kam. mestakh, 3200 m..

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of V.M. Prima (fl. 1971) who collected along the upper reaches of Shon-Den river, Caucasus, former Soviet Union.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Rhizomes absent or short. Culms 15–35 cm long, 2 -noded, with 0.33 of their length below uppermost node. Culm-internodes smooth.

Lateral branches lacking. Leaf-sheaths open for most of their length, with 0.2–0.25 of their length closed, smooth, glabrous on surface. Ligule an eciliate membrane, 1.7–2.5 mm long, 0.2–0.5 mm long on basal shoots. Leaf-blades filiform, conduplicate, 0.5 mm wide. Leaf-blade surface puberulous, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, 5–10 cm long. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2(–3) fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes pubescent. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, membranous, 1-keeled. Lower glume apex acute. Upper glume ovate, membranous, 1-keeled. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.5–4.3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Palea keels scaberulous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.6–2.3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 42$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Caucasus**. North Caucasus.

Poa pringlei Scribn. *Bull. Torrey Bot. Club,* x. 31. (1883).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Pringle s.n.*, 1 Sep 1882, USA: California: Mts. about the headwaters of the Sacramento River [probably Trinity or Shasta Co.), 8000 ft (US-556759; ILT: DS-136690, GH, LE, MICH, MO, MSC-4370, NY-431307, NY-431308, US-824800, US-748845 in part). LT designated by Soreng, Syst. Bot. 16: 516 (1991).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (567).

Derivation (Clifford & Bostock 2007): in honor of Cyrus Guernsey Pringle (1838–1911) United States botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 10–20 cm long. Lateral branches lacking. Culm-sheaths present, chartaceous. Leaves mostly basal. Leaf-sheaths open for most of their length. Ligule an eciliate membrane, 0.5–1 mm long, erose, truncate. Leaf-blades involute, 2–5 cm long, 1–2 mm wide. Leaf-blade surface smooth, puberulous (above).

Inflorescence. Inflorescence a panicle. Panicle contracted, linear or oblong, 1–5 cm long, bearing few spikelets. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 4–5(–7) mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume ovate, 4–5(–7) mm long, 1–1.2 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 5–6(–8) mm long, membranous, pallid, keeled, 5 -veined, more than 3-veined. Lemma surface smooth or scaberulous. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Northwest USA**, **Southwestern USA**. Oregon, Washington. California.

Poa pseudamoena Bor. *Kew Bull.* 1953, 276 (1953).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from Xizang (Tibet). **Basionym or Replaced Name**: *Poa amoena* Bor, *Kew Bull.* 1948: 140 (1948). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Strachey 26/2*, Aug 1848, Tibet Occ., Regio Alp. [Kumaon region, the precise loc. something like Kuedo] (K-188).

Recent Synonyms: *Puccinellia platyglumis* L. Liou, *Fl. Xizangica*, 5: 128 (1987).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 2–4 cm long. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 0.5 mm long, acute. Leaf-blades 2–4 cm long, 1–1.5 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle, shorter than basal leaves. Panicle contracted, linear, 1–2.5 cm long, 0.4–0.6 cm wide. Primary panicle branches appressed, 1–2 -nate. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic or oblong, 4–4.75 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 4.5–5 mm long, 1.2–1.3 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma elliptic or oblong, 3.5–4 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Palea surface scabrous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.6–0.75 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. Qinghai, Tibet, Xinjiang. **Indian Subcontinent**. India.
Uttah Pradesh.

Poa pseudoabbreviata Roshev. *Not. Syst. Herb. Hort. Petrop.* iii. 91 (1922).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia, Siberia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *I. Shulga s.n.*, 26 Aug 1905, Yakutia: Kolymskij okrug: slopes of Mt.Bolshoj Baranov Kamen' (LE). orig.label:"Yakutskaya obl.: Kolymskij okr.: Sl;abo zabolochennye sklony Bolshogo Baranova Kamnya". LT: *V. Komarov s.n.*, 30–31 Aug 1902, U.S.S.R.: Siberia: Irkutsk: Distr. Tunkinsk: montius Sajanensis, trajectus Gargansk (LE; ILT: LE). LT designated by Tzvelev, x (1976).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (581).

Derivation (Clifford & Bostock 2007): Gk. *pseudos*, false. Resembling *Poa abbreviata*.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 5–8 cm long. Culm-internodes terete, distally glabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths open for most of their length, with 0–0.25 of their length closed. Ligule an eciliate membrane, 1.5–2 mm long, lacerate. Leaf-blades conduplicate, 2–3 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, effuse, 2–5 cm long, bearing few spikelets. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper

sterile. Spikelets ovate, laterally compressed, 4 mm long, 3 mm wide, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 3 mm long, 1 length of upper glume, membranous, purple, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 3 mm long, 1 length of adjacent fertile lemma, membranous, purple, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.5–3.2 mm long, membranous, purple, keeled, 3 -veined, 0–3 -veined. Lemma midvein ciliolate. Lemma lateral veins obscure. Lemma surface puberulous, hairy below, hairy on veins. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.4–0.6 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 14$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, North America.

Country /Province /State. Siberia, Russian Far East. Buryatiya, Chita, Irkutsk, Tuva. Kamchatka. **Subarctic America**, **Western Canada**. Aleutian Is, Alaska, Yukon. British Columbia.

Poa pseudoaequigluma Tovar. *Bol. Soc. Peru. Bot.* 7:8 (1974).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *O. Tovar & Franklin 6631*, 4 Apr 1970, Peru: Dpto. Ayacucho: Lucanas Prov.: Valle de Cupitay, en Pampa Galeras, Reserva Nacional de Vicuñas, entre Nazca y Puquio, puna, 4000 m (USM-185258; IT: CORD, MO-3812380, US-2942178, US-3029235).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk *pseudos*, false. Resembling *Poa aequigluma.*.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 4–7 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane. Leaf-blades conduplicate or convolute, 1–2.5 cm long, 1 mm wide. Leaf-blade surface glabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 1–2 cm long, 0.3–0.4 cm wide. Primary panicle branches appressed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2.5 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 3–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface scaberulous, rough above. Lemma apex obtuse or acute.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa pseudoattenuata Probatova. *Novosti Sist. Vyssh. Rast*. 8: 32, 54 (1971).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: PT: *N.Probatova 1055*, 5 Aug 1966, Isl.Sakhalin: Makarovskij Dist.: v.Zaozernoe: to N from village on slope of sopka (Mt.) (LE). orig.label:"Sakhalin: Makarovskij rajon: pos.Zaozernoe (k N ot poselka krutoj sklon sopki)". PT: *N.S.Probatova 1200*, 21 Jul 1968, Isl.Sakhalin: vic. v.Zaozernoe: rv.Lazovaya :side of road. (LE). orig.label:"Skhalin: okr. pos.Zaozernoe: obochina dorogi u r.Lazovoj". HT: *N.Probatova 1253 [Herb. Fl. SSSR 5456]*, 21 Jul 1968, [Far East]: Ins. Sakhalin: vill.Zaozernoe: upper part of slope sopka (mt.) (LE;

IT: K(-123), US-2859800). orig.label:"O-v Sakhalin: okr. pos. Zaozernoe: verkhnyaya tret' sklona sopki (SE ehkspoz.): kamenistye ustupy". IT: (MW-exicat Herb. FI.USSR n 5436).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk *pseudos*, false. Resembling *Poa attenuata.*.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 20–35 cm long. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.2–0.8 mm long. Leaf-blades 1–1.5 mm wide. Leaf-blade surface scabrous, rough on both sides.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 3–8 cm long. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth or scaberulous. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–3 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume ovate, 2–3 mm long, 0.8–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.5–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma margins ciliolate, hairy below. Lemma apex acute. Palea keels scaberulous. Palea surface glabrous or puberulous, hairy on back.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.2–1.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia, Russian Far East. Buryatiya, Chita, Irkutsk, Tuva. Kamchatka, Sakhalin.

Poa pseudobulbosa Bor. *Notes Roy. Bot. Gard. Edinburgh,* 31 (3): 395 (1972).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Turkey. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Turkey, C4, Antalya, NW side of Ak Dag (S of Geyik Dag), by the little lake, 2200–2300 m, shady rocks, *Davis 14342a* (HT: E; IT: K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *pseudo*, false. Resembling *Poa bulbosa*.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths scarious, persistent and investing base of culm, with compacted dead sheaths. Culms erect, 20–45 cm long. Culm-internodes smooth. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 0.5–0.75 mm long. Leaf-blades conduplicate or convolute, 1–2.5 cm long, 1–1.5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, linear, 4–7 cm long, 1 cm wide, bearing few spikelets. Primary panicle branches ascending, bearing 1–2 fertile spikelets on each lower branch. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4.5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–3.5 mm long, 0.75 length of upper glume, membranous, much thinner on margins, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 3–4 mm long, 0.75 length of adjacent fertile lemma, membranous, much thinner above, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex acute.

Florets. Fertile lemma ovate, 4.5–5 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma apex acute, muticous or mucronate. Palea keels scabrous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Western Asia**. Turkey.

Poa pseudoschimperiana Chiov. *Ann. Ist. Bot. Roma*, viii. 376 . (1908).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Eritrea. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Pappi 2805, 2890,5925, 1238, 1327, 1626, 818, 1543, 1950*, Africa: Eritrea (FT; IST: EA (of some)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *pseudos*, false. Resembling *Poa schimperiana*.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm, with compacted dead sheaths or fibrous dead sheaths. Culms 20–45 cm long. Culm-internodes terete. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 1–4 mm long, obtuse. Leaf-blades 2–3 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, linear or elliptic, dense or loose, 10–15 cm long. Primary panicle branches appressed or ascending. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or oblong, laterally compressed, 3.2–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous or sparsely hairy.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic or oblong, 2–2.8 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic or oblong, 2.5–3.5 mm long, 0.75–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex emarginate or obtuse.

Florets. Fertile lemma elliptic or oblong, 2.3–5 mm long, herbaceous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma lateral veins stopping well short of apex. Lemma surface asperulous, glabrous or puberulous. Lemma margins ciliolate, hairy below. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.3–2.2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Africa, Temperate Asia.

Country /Province /State. **Northeast Tropical Africa**. Eritrea. **Arabian Peninsula**. Saudi Arabia, Yemen.

Poa pseudotibetica H.J. Noltie. *Edinburgh J. Bot.,* 57(2): 279 (2000).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Sikkim: Chholhamoo, marshy meadows, 17820 ft, 6 Aug. 1972, *Pradham, Norbu & Naku 206* (HT: E).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (555, Fig. 15).

Derivation (Clifford & Bostock 2007): Gk *pseudos*, false. Resembling *Poa tibetica.*.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Culms 20–45 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaf-sheaths smooth. Ligule an eciliate membrane, 1.5–5.5 mm long, erose, acute. Leaf-blades 4–16 cm long, 4–5 mm wide, indurate, stiff. Leaf-blade surface ribbed, grooved adaxially and abaxially, scabrous, rough adaxially. Leaf-blade apex acute, muticous.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear, 5–9 cm long. Primary panicle branches appressed, 3–4 -nate, 1–4 cm long. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 6.6–8.2 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate or elliptic, 4–4.6 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume lateral veins absent or distinct. Lower glume margins ciliolate. Lower glume apex acuminate. Upper glume lanceolate or elliptic, 4.8–6 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume surface puberulous, hairy at base. Upper glume margins ciliolate. Upper glume apex acuminate.

Florets. Fertile lemma ovate, lanceolate in profile or oblong in profile, 5.3–5.7 mm long, 2–2.4 mm wide, membranous, mid-green and purple, tipped with last colour, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma lateral veins obscure. Lemma surface scabrous, rough above. Lemma margins villous, hairy below. Lemma hairs 1–2 mm long. Lemma apex acuminate. Palea 4.1–4.9 mm long, 0.8 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.2–3.1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indian Subcontinent**. Eastern Himalaya.

Sikkim.

Poa pubinervis (Vickery) S.W.L. Jacobs. *Telopea* 12(2): 277 (2008).

TYPE from Australia. **Basionym or Replaced Name**: *Festuca pubinervis* Vickery, *Contrib. N. S. Wales Nat. Herb.* 1: 7 (1939). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT ?: *J.Drummond 70.150. 377.393.*, Australia: Cygnorum rv. (LE, 2 sheets). = *Austrofestuca triticoides* (Trin.) m. (E.Alexeev, 1985).

Recent Synonyms: *Austrofestuca pubinervis* (Vickery) B.K. Simon, *Austrobaileya* 2(3): 241 (1986).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *pubes*, signs of puberty; *nervis*, nerve. The glumes and lemmas are hairy, especially on the nerves.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Culms erect, 40–60 cm long, 3–4 -noded. Culm-nodes glabrous. Leaf-sheaths loose. Ligule an eciliate membrane, 1–8 mm long, obtuse. Leaf-blades conduplicate, 25–50 cm long, 2–3 mm wide, coriaceous, stiff. Leaf-blade surface ribbed, pubescent, hairy adaxially. Leaf-blade apex acuminate, pungent.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Panicle contracted, linear, 8–15 cm long. Primary panicle branches appressed. Panicle axis scaberulous. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 12–16 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 2–3 mm long, villous. Floret callus pilose.

Glumes. Glumes persistent, similar, shorter than spikelet, similar to fertile lemma in texture. Lower glume lanceolate, 12–15 mm long, 0.9 length of upper glume, coriaceous, 1-keeled, 5–7 -veined. Lower glume primary vein scabrous. Lower glume surface asperulous. Lower glume margins ciliolate. Lower glume apex acute. Upper glume lanceolate, 12–15 mm long, 1 length of adjacent fertile lemma, coriaceous, 1-keeled, 5–7 -veined. Upper glume primary vein scabrous. Upper glume surface asperulous. Upper glume margins ciliolate. Upper glume apex acute.

Florets. Fertile lemma elliptic, 12–15 mm long, coriaceous, keeled, 7–9 -veined. Lemma midvein scabrous. Lemma surface villous, hairy on veins. Lemma apex entire or dentate, 3 -fid, obtuse. Palea 1 length of lemma. Palea keels villous. Palea surface villous, hairy on back or on flanks. Palea apex obtuse. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 4.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp, oblanceolate, sulcate on hilar side, truncate. Hilum elliptic.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. New South Wales.

Poa pulviniformis (Veldkamp) J.F. Veldkamp. *Blumea,* 38(2): 446: (1994).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Papua New Guinea. **Basionym or Replaced Name**: *Poa papuana* subsp. *pulviniformis* Veldkamp, *Alpine Fl. New Guinea* 2: 1150 (1979). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *LAE 54225*, 23 Jun 1972, Papua New Guinea: New Guinea, Milne Bay, Suckling, 3,100 m (L).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *pulvinus*, cushion; *formis,* appearance. In habit cushion-shaped.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, cushion forming. Basal innovations intravaginal. Culms erect, 2–6 cm long. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 0.25–0.75 mm long, 0.25–0.75 mm long on basal shoots, glabrous on abaxial surface, acute. Leaf-blades erect, filiform, involute, 4–14 cm long, 0.3 mm wide, stiff. Leaf-blade surface smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 0.5–1.3 cm long, 0.2–0.5 cm wide. Primary panicle branches ascending, 1–2 -nate, 0.35–0.4 cm long, bearing 1 fertile spikelets on each lower branch. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 1.75–2.15 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.9–1.6 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface smooth. Lower glume apex acute. Upper glume ovate, 0.95–1.75 mm long, 0.66–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume surface smooth. Upper glume apex acute.

Florets. Fertile lemma ovate, 1.4–1.9 mm long, membranous, keeled, 3 -veined, 0–3 -veined. Lemma midvein scaberulous. Lemma lateral veins obscure. Lemma surface smooth. Lemma apex acute. Palea keels smooth. Rhachilla extension 0.3–0.6 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.75–0.85 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea.

Poa pumila Host. *Fl. Austr.* i. 146. (1827).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: In Carniolia in agri labacensis montibus, *Hladnik*.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. dwarf, low growing. Habit typically depauperate.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths persistent and investing base of culm. Basal innovations intravaginal. Culms erect, 6–18 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1–2 mm long, translucent, acute. Leaf-blades flat or conduplicate, 2–5 cm long, 0.5–1.5 mm wide. Leaf-blade margins unthickened. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate or pyramidal, 2.5–5 cm long. Primary panicle branches 2–3 in number. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 0.75–0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate. Lemma margins ciliolate. Lemma apex acute. Palea keels scabrous, eciliate or ciliolate, adorned below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.4–1.8 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 14$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Middle Europe**, **Southeastern Europe**.

Country /Province /State. : Austria. : Albania, Greece, Romania, Yugoslavia. **China**. Xinjiang.

Poa pumilio Hochst. *Flora,* viii. 321. (1855).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Ethiopia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *Schimper 208*, 1850, Ethiopia, Semien, Mt. Bachit (STR).

Illustrations (Books): S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (21, Fig 10).

Illustrations (Journals): *Kew Bulletin* (44: 136, Fig.3 (1989)).

Derivation (Clifford & Bostock 2007): L. a dwarf. Plants small compared with those of related species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, cushion forming. Culms 3 cm long. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5 mm long, truncate. Leaf-blades conduplicate, 3 cm long, 0.3 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade margins scaberulous. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle, shorter than basal leaves. Panicle contracted, linear or oblong, 1–1.5 cm long, bearing few spikelets. Primary panicle branches indistinct the panicle almost racemose. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 1–2 mm long, scaberulous.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 3 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2.8 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume surface asperulous. Lower glume apex obtuse. Upper glume ovate, 2.8 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume surface asperulous. Upper glume apex obtuse.

Florets. Fertile lemma elliptic, 2.8 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Northeast Tropical Africa**. Ethiopia (inc. Eritrea).

Poa pungionifolia Speg. *Anal. Mus. Buenos Aires* 7: 199 (1902).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Argentina, Rio Chico: Ameghino ; Argentina, Rio Sehuen: Ameghino sn (LPT syn).

Illustrations (Books): M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (3: 172, Fig 112).

Classification. Subfamily Pooideae. Tribe: Poeae.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South.

Poa pusilla Bergg. *Minneskr. Fisiog. Sallks. Lund,* 31. n. 8. (1877).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *S. Berggren s.n.*, Feb 1874, New Zealand: in alpibus ad flum. Bealey (LD; ILT: WELT-66082 (probable)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. very small. Plants of small stature.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Basal innovations extravaginal. Culms slender, 5–35 cm long. Lateral branches lacking. Leaf-sheaths keeled, glabrous on surface. Ligule a ciliolate membrane, 0.2–0.5 mm long, pubescent on abaxial surface, truncate. Leaf-blades involute, 5–15 cm long, 0.5–1 mm wide, flaccid, light green. Leaf-blade surface pubescent, sparsely hairy, hairy adaxially. Leaf-blade apex obtuse or abruptly acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, 1.5–8.5 cm long. Primary panicle branches spreading, bearing 1–4 fertile spikelets on each lower branch. Panicle branches capillary, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–7.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.6–0.8 mm long, sparsely hairy. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate or elliptic, 2–4 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scaberulous. Lower glume surface smooth or asperulous, rough on veins. Lower glume apex acute. Upper glume lanceolate or elliptic, 2–4 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume surface smooth or asperulous, rough on veins. Upper glume apex acute.

Florets. Fertile lemma oblong or ovate, 2–4 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein without distinctive roughness or scaberulous, ciliate, hairy below. Lemma surface smooth or scaberulous, rough between veins, pilose, hairy below, hairy on veins. Lemma apex obtuse. Palea 2–3.5 mm long. Palea keels ciliolate. Palea surface puberulous, hairy on back.

Flower and Fruit. Lodicules 2, 0.5 mm long, membranous. Anthers 3, 1–2 mm long. Caryopsis with adherent pericarp, 1 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand North I, New Zealand South I, Stewart Is.

Poa pygmaea J. Buch. *Indig. Grasses N. Zeal.* t. 50. (1880).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *D. Petrie s.n. [1356 to Hackel]*, New Zealand: Mount Pisa, 4000–6000 ft (WELT-59606; IT: AK-1902(1),(2),(3), WELT-15854, WELT-66744, WELT-66745, WELT-66747, WELT-66748).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. dwarf. Culms shorter than those of many other species in the genus.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, cushion forming. Butt sheaths glossy. Basal innovations intravaginal. Culms prostrate, 1.5–2.5 cm long, rooting from lower nodes. Lateral branches ample. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long, pubescent on abaxial surface, entire, acute. Leaf-blades involute, 0.3–0.7 cm long, 1–2 mm wide, stiff, dark green. Leaf-blade surface ribbed, puberulous. Leaf-blade apex obtuse or abruptly acute.

Inflorescence. Inflorescence a panicle or comprising only a few spikelets, comprising 1–3 fertile spikelets. Peduncle smooth. Panicle contracted, linear, 0.5–1 cm long, bearing few spikelets. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4.5–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5 mm long, pubescent. Floret callus sparsely hairy or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2.5–3.5 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex obtuse. Upper glume ovate, 2.5–3.5 mm long, 0.75–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 3–3.5 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma surface pubescent, hairy below. Lemma apex obtuse. Palea 2.5–3 mm long. Palea keels ciliolate. Palea surface puberulous, hairy on back. Rhachilla extension 2 mm long.

Flower and Fruit. Lodicules 2, 0.4–0.6 mm long, membranous. Anthers 3, 1.2–1.6 mm long. Caryopsis with adherent pericarp, 1.5–2 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand South I.

Poa qinghaiensis Soreng & G. Zhu. *Fl. China* 22:280 (2006).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China, Qinghai, Dulan Xian, Ngola Shan: Soreng, Perterson & Sun Hang 5461 (US holo, KUN, PE).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 377).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes absent or short. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Basal innovations extravaginal and intravaginal. Culms erect, (5–)15–55 cm long, 1–3 -noded, with 0.25–0.5 of their length below uppermost node. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths open for most of their length, with 0.5 of their length closed, 2–15 cm long, smooth or scaberulous, glabrous on surface. Ligule an eciliate membrane, 2–4 mm long. Leaf-blades flat or conduplicate, 2–10 cm long, 2–3(–5) mm wide. Leaf-blade surface scabrous, rough abaxially or on both sides, glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 2–10 cm long, 1.5–6 cm wide. Primary panicle branches spreading or reflexed, 2 -nate, 1–6 cm long, bearing 2–6 fertile spikelets on each lower branch. Panicle axis with lower internodes 0.4–2.1 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 7–10 mm long, with hairs extending 5–10 mm beyond apex, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–1 mm long, smooth, glabrous. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.5–6 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins obscure. Lower glume apex acute. Upper glume lanceolate, 4–7

mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein smooth or scaberulous. Upper glume apex acute.

Florets. Fertile florets bisexual or female. Fertile lemma ovate, 4–7.5 mm long, membranous, keeled, 5(–9) -veined, more than 3-veined. Lemma midvein scabrous. Lemma lateral veins distinct. Lemma surface scabrous, glabrous or puberulous, hairy below. Lemma apex acute. Palea keels scabrous. Palea surface scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 2–3 mm long.

Vegetative proliferation absent, or occurs.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China North-Central, Qinghai, Tibet, Xinjiang.

Gansu.

Poa quadrata J.F. Veldkamp. *Blumea,* 38(2): 446 (1994).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Papua New Guinea. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *LAE 68028*, 25 May 1975, Papua New Guinea: New Guinea, West Sepik, Scorpion, 3,400 m (A,BRI, CANB, L).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *quadro*, make square. Panicle branches arranged at right angles.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations extravaginal or intravaginal. Culms erect, 48–63 cm long. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 2.75–3.25 mm long, 1–2 mm long on basal shoots, scaberulous on abaxial surface, acute. Leaf-blades erect, involute, 5.2–14 cm long, 0.5–1 mm wide, stiff. Leaf-blade surface smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 3.5–7 cm long, 4–5.5 cm wide. Primary panicle branches ascending or spreading, 2 -nate, 2.4–3.2 cm long, bearing 4–6 fertile spikelets on each lower branch. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4.5–5.25 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.6–0.8 mm long, scaberulous. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.25–2.5 mm long, 0.75–0.85 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface asperulous, rough generally. Lower glume apex acuminate. Upper glume ovate, 2.8–2.9 mm long, 0.66–0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume surface asperulous, rough generally. Upper glume apex acuminate.

Florets. Fertile lemma ovate, 3.8–4.25 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface scaberulous, rough generally. Lemma apex acuminate, mucronate. Principal lemma awn 0.25–0.6 mm long overall. Palea keels scaberulous. Palea surface scaberulous. Rhachilla extension 1.25–2.25 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea.

Poa radula Franch. & Sav. *Enum. Pl. Jap.* ii. 602. (1879).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Hab. in insula Yeso ad sinum Vulcanorum, *Savatier*.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. scraper. Rough to the touch. Leaf-blades or other parts asperous.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary. Rhizomes short. Culms erect, 40–120 cm long, 1–2.2 mm diam., 2–4 -noded. Culm-internodes elliptical in section, retrorsely scabrous. Leaf-sheaths tubular for much of their length, with 0.5 of their length closed, keeled, retrorsely scabrous. Ligule an eciliate membrane, 1–3 mm long, obtuse. Leaf-blades 20–30 cm long, 5–9 mm wide. Leaf-blade surface scabrous, rough adaxially. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Peduncle retrorsely scabrous above. Panicle open, ovate, 20–30 cm long, 5–8 cm wide. Primary panicle branches 4–7 -nate, 3–10 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or ovate, laterally compressed, 4–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–3 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume lanceolate, 2.8–3.5 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma lanceolate or ovate, 3.5–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent, hairy below. Lemma surface pubescent, hairy below, hairy on veins. Lemma apex obtuse. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 42$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East, **China**, **Eastern Asia**. Kamchatka, Kuril Is, Sakhalin. Manchuria. Japan Hokkaido, or Honshu. Japan.

Poa raduliformis Probatova. *Novosti Sist. Vyssh. Rast.* 8: 25, 48 (1971).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: PT: *) 26*, 12 Jun 1911, [Far East]: Amur railway: between stations Erofej Pavlovich & Magdagachi (LE). orig.label:" Amurskaya zh. dor. mezhdu Erofej Pavlovich i Magdagachi". PT: *Petrunin s.n.*, 25 Jun 1939, Russia [Far East]; Jettulakasky region, valley of the Madyol'doi River, the floodland terrace, cut forest, near the road (LE). orig.label:"Dzhelulakskij rajon Chitinskoj obl.: Bassejn r.Amura, dolina r. M.Ol'dot: pojmennaja terrasay, vyrublennyj les u dorogi". HT: *V.Docturowsky 165*, 4 Jun 1909, [Far East]: Amurskaya Dist.: Basin of Rv.Tyrma: Rv.Talaya: slopes of mts. (LE). orig.label:"Amurskaya obl.: Bassejn r.Tymy: r.Talaya: gornye sklony".

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *radula*, scraper; *forma*, appearance. Leaf-blades rough to the touch.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Culms erect, 35–90 cm long. Lateral branches lacking. Leaf-sheaths keeled, antrorsely scabrous, glabrous on surface. Ligule an eciliate membrane, 2–3.5 mm long, truncate. Leaf-blades flat or conduplicate, 3–5 mm wide. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, 8–19 cm long. Primary panicle branches 3–5 -nate. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–3 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2.5–3.5 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume margins scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate. Lemma lateral veins distinct. Lemma margins ciliolate. Lemma apex acute. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.8–1.8 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia, Russian Far East, **China**, **Mongolia**, **Eastern Asia**, **Russia**. Amur, Primorye. China North-Central. Mongolia. Japan.

Shanxi.

Poa ragonesei E.G.Nicora. *Hickenia*, 2(33): 145 (1995).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Argentina: Salta: Dpto. Anta: Sierra de Anta, Oct 1934, *A. Ragonese 272* (HT: BAA; IT: BA-13059, SI).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (330).

Derivation (Clifford & Bostock 2007): In honor of Arturo E. Ragonese (fl. 1934–1946) who collected in Argentina.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms 32–60 cm long, 1–2 -noded. Leaf-sheaths 18–22 cm long, smooth or scaberulous. Ligule an eciliate membrane, 1–2 mm long, truncate. Leaf-blades flat or conduplicate, 20–30 cm long, 7–10 mm wide. Leaf-blade surface scabrous, rough abaxially. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, exserted or embraced at base by subtending leaf. Panicle open, ovate, loose, 10–17 cm long, 5 cm wide. Primary panicle branches spreading, 4–6 -nate, 5–9 cm long, bearing spikelets almost to the base. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.5–4.3 mm long, 2 mm wide, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1–1.4 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface glabrous. Lower glume apex acute. Upper glume lanceolate, 1.3–2.1 mm long, 0.5–0.6 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume lateral veins obscure. Upper glume surface glabrous. Upper glume apex acute.

Florets. Fertile lemma oblong, 2.8–3.3 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins ciliate, hairy below. Lemma apex obtuse or acute. Palea 2–2.4 mm long. Palea keels scaberulous, adorned above, with 0.5 of their length adorned. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.3–1.8 mm long. Caryopsis with adherent pericarp, 1.6 mm long. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northeast.

Salta, Tucuman.

Poa rajbhandarii H.J. Noltie. *Edinburgh J. Bot.*, 57(2): 288 (2000).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Sikkim: Phedang to Tsoka, S of Dzongri, 27?26'N, 88?10'E, 3500 m, 26 July 1992, *Edinburgh Expedition to Sikkim and Darjeeling (ESIK) 748* (HT: E).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (565, Fig. 16).

Derivation (Clifford & Bostock 2007): In honor of Keshab R. Rajbhandari (fl. 1988–2002) Nepalese botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual or perennial, short-lived, caespitose. Stolons absent or present. Culms 16–45 cm long. Culm-internodes smooth. Leaf-sheaths smooth. Ligule an eciliate membrane, 0.4–2.3 mm long, glabrous on abaxial surface or pubescent on abaxial surface, truncate. Leaf-blades 4–12 cm long, 0.9–2.5 mm wide. Leaf-blade surface smooth or scaberulous, rough adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, loose, 8–18 cm long. Primary panicle branches ascending, distant, 1–4 -nate, 3–7 cm long. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3(–4) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 3.7–5.2 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.5–2.2 mm long, 0.66–0.75 length of upper glume, membranous, much thinner on margins, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume oblong, 2.2–2.3 mm long, 0.75 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, lanceolate in profile, 2.8–4.2 mm long, 1.6 mm wide, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins stopping well short of apex. Lemma surface smooth or punctate, glabrous. Lemma margins ciliolate, hairy at base. Lemma apex acute. Palea 2.1–2.8 mm long. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.6–0.9 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. China South Central, Tibet. **Indian Subcontinent**. Eastern Himalaya, India, Nepal.

Yunnan. Darjeeling, Bhutan, Sikkim.

Poa ramifera Soreng & P.M.Peterson. *J.Bot.Res.Instit. Texas* 4(2): 587–594 (2010).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Departamento Ancash: Provincia Corongo, S side of pass between Bambas (Prov. Corongo) and Miraflores (Prov. Pallasca), 8 km above Pilipampa and 17 km by road NW of Bambas (8⁻34'15.5"S, 78⁻02'33.1"W), slopes with *Baccharis*, *Salvia*, and yellow-flowered Asteraceae shrubs, 2788 m, 20 Mar 2008, *P.M. Peterson & R.J. Soreng 21804* (holotype: US!; isotypes: B!, BAA!, COL!, CONC!, CORD!, CPUN!, K!, L!, LE!, LPB!, MA!, MO!, MOL!, NY!, PE!, QCA!, SI!, US!, US!, USM!).

Illustrations (Journals): *J. Bot. Res. Inst. Texas* (588 & 589, Figs 1 & 2 (2010)).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rootstock evident. Basal innovations extravaginal. Culms erect or geniculately ascending, 80–100 cm long, 1–1.5 mm diam., 7–10 -noded. Culm-nodes glabrous. Lateral branches ample. Leaves cauline. Leaf-sheaths tubular for much of their length, with 0.5–1 of their length closed, scaberulous. Ligule an eciliate membrane, 2–4 mm long, lacerate. Leaf-blades flat or conduplicate, 2–15 cm long, 1–2 mm wide. Leaf-blade midrib keeled beneath. Leaf-blade venation with 6–7 secondary veins. Leaf-blade surface scaberulous, rough on both sides.

Inflorescence. Inflorescence a panicle, comprising 20–60 fertile spikelets. Panicle open, elliptic, 4–10 cm long. Primary panicle branches 1–2(–3) -nate, 2.5–5.5 cm long, bearing 3–10 fertile spikelets on each lower branch. Panicle branches capillary, flexuous, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising (2–)3–4(–5) fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the

upper sterile. Spikelets ovate, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.6–1.1 mm long, scaberulous. Floret callus glabrous.

Glumes. Glumes persistent, similar, with lower narrower than upper, shorter than spikelet. Lower glume lanceolate, 2.2–2.4 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface smooth or asperulous. Lower glume apex acute. Upper glume lanceolate, 2.9–3.2 mm long, 0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein smooth or scaberulous. Upper glume apex acute.

Florets. Fertile florets alike but female above. Fertile lemma ovate, 3.3–3.8 mm long, 0.7–1.1 mm wide, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous. Lemma lateral veins with distinct primaries but obscure intermediates. Lemma surface asperulous, rough between veins. Lemma margins without distinctive roughness or scaberulous. Lemma apex acute. Palea 1 length of lemma. Palea keels scaberulous. Palea surface scaberulous.

Flower and Fruit. Lodicules 2, lanceolate, 0.2–0.6 mm long, membranous, glabrous, with a small lateral lobe, obtuse. Anthers 3, 2–2.8 mm long. Stigmas plumose. Ovary glabrous. Caryopsis with adherent pericarp, lanceolate, 1.7–2 mm long. Hilum elliptic. Disseminule comprising a caryopsis and palea.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa ramosissima Hook. f. *Fl. Antarct.* 101. (1845).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from Lord Auckland's Islands. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.D. Hooker s.n.*, Nov 1840, Lord Aucklands Islands, hangs down from the cliffs and rocks near the sea, coomon, very stoloniferous (K-H2003/00969–298; IT: US-1126480 (1 flw. culm ex W), W). [typical var.: US specimen "var. a"].

OM: *J.D. Hooker 1) s.n., 2) 1625*, Dec 1840, Campell's Island: 1) on sloping ground from the top of the hills to the sea (1000 ft) on the other side of Campbell's Island; 2) 700 ft on teh Windward side of the islad. (K-H2003/00969–299; US-1126479 (1 flw. culm ex W), W). [var. Beta: US OM "var. B", which Edgar (1986) indicates as a syn. of the species].

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *ramus*, branch; -*osa*, abundance; -*issima*, most. Culms much branched.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, mat forming. Basal innovations intravaginal. Culms prostrate, 10–30 cm long. Lateral branches ample. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 2.5–4 mm long, glabrous on abaxial surface, lacerate. Leaf-blades 9–15 cm long, 1–2 mm wide, flaccid. Leaf-blade surface ribbed, grooved adaxially, scaberulous, glabrous. Leaf-blade margins smooth. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle, shorter than basal leaves. Peduncle smooth. Panicle contracted, oblong, 4–5 cm long. Primary panicle branches appressed. Panicle axis smooth. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4.5–7.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–1 mm long, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–4 mm long, 0.8–1 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume apex acute or acuminate. Upper glume lanceolate, 3–4.5 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute or acuminate.

Florets. Fertile florets alike but female above. Fertile lemma elliptic, 3.8–5 mm long, membranous, keeled, 5(–7) -veined, more than 3-veined. Lemma midvein pubescent, hairy at base. Lemma surface pubescent, hairy at base, hairy on veins. Lemma apex acute or acuminate. Palea 2.5–4.5 mm long. Palea keels scabrous.

Flower and Fruit. Lodicules 2, 0.3–1 mm long, membranous, glabrous or ciliate. Anthers 3, 1.5–2.5 mm long. Caryopsis with adherent pericarp, 1 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.
Country /Province /State. **New Zealand**. Campbell Is, Auckland Is.

Poa rauhii N.F. Refulio-Rodriguez. *Syst. Bot.* 37 (1): 130 (2012).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. **Basionym or Replaced Name**: *Dissanthelium rauhii* Swallen & Tovar, *Phytologia,* 11: 376 (1965). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *W. Rauh & G. Hirsch P-1418*, 29 May 1957, Peru: Salcantay (US-2180752).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Ambrosius Rauh (1784–1830) German botanist and mineralogist.

Classification. Subfamily Pooideae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 6–9 cm long. Leaf-sheaths smooth. Ligule an eciliate membrane, 4–5 mm long. Leaf-blades ascending, conduplicate, 1.5–3.5 cm long, 1–2 mm wide, coriaceous. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong, 3–4 cm long, 0.8–1.5 cm wide. Primary panicle branches appressed or ascending. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2.5–2.6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.3 mm long.

Glumes. Glumes persistent, similar, reaching apex of florets, thinner than fertile lemma, shiny. Lower glume ovate, 2.5–2.6 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume ovate, 2.5–2.6 mm long, 1–1.2 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.1–2.2 mm long, chartaceous, keeled, 3 -veined, 0–3 -veined. Lemma surface pubescent. Lemma apex acute. Palea keels ciliolate.

Flower and Fruit. Anthers 3, 0.6–0.8 mm long. Ovary glabrous. Endosperm farinose.

Distribution (TDWG). Continent. South America.
Country /Province /State. **Western South America**. Peru.

Poa reflexa Vasey & Scribn. ex Vasey. *Contrib. U. S. Nat. Herb.* i. 276. (1893).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Letterman s.n.*, 1885, USA: Kelso Mt. near Torrey Peak (US-28544900).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (539).

Derivation (Clifford & Bostock 2007): L. bent sharply backwards. Panicle branches reflexed.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, short-lived, caespitose, clumped loosely. Butt sheaths herbaceous. Culms decumbent, 10–60 cm long. Culm-internodes terete. Leaves cauline. Leaf-sheaths with 0.33–0.66 of their length closed, keeled, smooth. Ligule an eciliate membrane, 1.5–3.5 mm long, glabrous on abaxial surface, entire or erose or lacerate, truncate or obtuse. Leaf-blades flat or conduplicate, 2–10 cm long, 1.5–4 mm wide, light green. Leaf-blade midrib keeled beneath. Leaf-blade surface glabrous. Leaf-blade apex hooded.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, nodding, 4–15 cm long, with spikelets clustered towards branch tips. Primary panicle branches spreading or reflexed, 1–3 -nate. Panicle branches capillary, smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes obscured by lemmas, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, membranous, 1-keeled, 1–3 -veined. Upper glume primary vein smooth or scaberulous. Upper glume lateral veins absent or obscure. Upper glume apex acute.

Florets. Fertile lemma lanceolate, lanceolate in profile, 3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy all along. Lemma surface glabrous or puberulous. Lemma margins ciliate. Lemma apex acute. Palea 0.9 length of lemma. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.25–1 mm long, eventually exserted or retained within floret. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 28$ (1 ref TROPICOS).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Northwest USA**, **Southwestern USA**, **South-central USA**. Colorado, Idaho, Montana, Oregon, Wyoming. Arizona, Nevada, Utah. New Mexico, Texas.

Poa rehmannii (Asch. & Graeb.) Richt. *Pl. Europ.* i. 83 (1890).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Rumania. **Basionym or Replaced Name**: *Poa anceps* Rehmann, *Akad. Umiejetnosci Krakow. Sprawozdanie* 7(1872): 5 (1873)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Rumania: Auf Sandsteinfelsen in der Bukowina in Thale Kolbu,.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Anton Rehmann (1840–1917) Polish botanist and geographer who collected in South Africa.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped moderately. Basal innovations extravaginal. Culms erect, 30–40 cm long. Culm-internodes elliptical in section, smooth. Lateral branches lacking. Leaf-sheaths keeled, glabrous on surface. Ligule an eciliate membrane, 0.3–0.5 mm long, truncate. Leaf-blades 4–5 mm wide, glaucous. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, equilateral or nodding, 10–12 cm long. Primary panicle branches 3–5 -nate. Panicle branches terete, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 0.75–0.85 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins ciliate, hairy below. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Europe.

Region. **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Romania. Northwest European Russia, Ukraine.

Poa reitzii Swallen. *Sellowia,* No. 7, 9 (1956).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *R. Reitz 2373*, 16 Dec 1948, Brazil: Santa Catarina (US-2011894).

Illustrations (Books): L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (258, Fig. 55), H.M. Longhi-Wagner, *Flora Ilustrada do Rio Grande do Sul, Gramineae, Poeae* (1987).

Derivation (Clifford & Bostock 2007): in honor of Raulino Reitz (1919-) Brazilian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms robust, 70–130 cm long. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long. Leaf-blades 25–55 cm long, 5–9 mm wide. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 10–22 cm long. Primary panicle branches bearing spikelets almost to the base. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3–3.5 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume lanceolate, 3.5–4 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma ovate, 4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent. Lemma margins pubescent, hairy below. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Brazil**. Brazil South.

Catarina, Rio Grande do Sul. Rio Grande do Sul, Santa Catarina.

Poa remota Forselles. *Act. Inst. Linn. Upsal.* i. t. 1 (1807).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Finland. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Finland: in sylvis uliginosis Nylandiae,.

Illustrations (Books): G.Hegi, *Flora von Mitteleuropa* 1 (1909) (as *Glyceria remota*).

Derivation (Clifford & Bostock 2007): L. distant. Spikelets widely separated.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Stolons absent or present. Culms 30–40 cm long. Culm-internodes elliptical in section. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths antrorsely scabrous, glabrous on surface. Ligule an eciliate membrane, 2–3 mm long, truncate or obtuse. Leaf-blades 3–4 mm wide. Leaf-blade surface glabrous. Leaf-blade apex abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Peduncle scaberulous above. Panicle open, ovate, 16 cm long. Primary panicle branches drooping, 2 -nate, bearing 1 fertile spikelets on each lower branch. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile.

Spikelets oblong, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus sparsely hairy.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3 mm long, 0.9–1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume surface asperulous, rough on veins. Lower glume apex acute. Upper glume elliptic, 3 mm long, 0.75–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface asperulous, rough on veins. Upper glume apex acute.

Florets. Fertile lemma oblong, 3–4 mm long, membranous, much thinner above, keeled, 5 -veined, more than 3-veined. Lemma surface scaberulous, rough on veins. Lemma apex obtuse. Palea keels scabrous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.6 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

n = 7 (1 ref TROPICOS). 2n = 14 (2 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Northern Europe**, **Middle Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Denmark, Finland, Norway, Sweden. : Austria, Czechoslovakia, Germany, Hungary, Poland, Switzerland. : Romania. Belarus, Estonia, Latvia, Lithuania, Baltic States, Central European Russia, East European Russia, North European Russia, South European Russia, Northwest European Russia, Ukraine. Siberia, **Middle Asia**, **Caucasus**, **China**, **Russia**. Altay, Buryatiya, Chita, Irkutsk, Tuva. Kazakhstan, Kirgizistan. Xinjiang.

Poa resinulosa Nees ex Steud. *Syn. Pl. Gram.* 259. (1854).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J. Gillies s.n.*, no date, Argentina: Mendoza (B; IT: BAA-335 (fragm. ex K), BAA-536 (fragm. ex B), GH, US-88736 (fragm. ex B), US-88736 (fragm. ex K), US-1763041 ("Poa no. 2")).

Illustrations (Books): A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (109, Fig. 27), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (189, Fig. 125), B.Rosengurtt, *Gramineas UruguayasI* (1970).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths thickened and forming a bulb. Basal innovations intravaginal. Culms erect, 15–30 cm long, 1 -noded. Culm-internodes antrorsely scabrous. Leaf-sheaths smooth. Ligule an eciliate membrane, 1.5–4 mm long, obtuse or acute. Leaf-blades straight or curved, filiform, conduplicate or convolute, 10–25 cm long, 0.5–1 mm wide. Leaf-blade surface smooth or scabrous. Leaf-blade apex pungent. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong, 5–10 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4.5–7.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly. Floret callus hairs 0.5 length of lemma.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 3–4 mm long, 1 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or distinct. Lower glume apex acute. Upper glume ovate, 3.5–4.5 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, 3.5–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma surface scabrous, rough above, glabrous or pubescent, hairy below. Lemma margins ciliate, hairy below. Lemma apex acute. Palea keels scabrous, ciliate, adorned below (as to hairs). Palea surface glabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.7–3 mm long. Caryopsis with adherent pericarp, fusiform, trigonous, 1.5–2.5 mm long. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female, 5–7 flowered, 4–4.5 mm long.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northeast, Argentina South, Uruguay.

Mendoza, San Luis, Tucuman. Buenos Aires, Cordoba, La Pampa, Santa Fe. Chubut, Neuquén, Río Negro.

Poa rhadina Bor. *Kew Bull.* 1948, 138 (1948).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from Tehri-Garwahal. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J. F. Duthie 265*, 7 Aug 1883, Tehri-Garwahal, Jaulea bah, Srikanta, 12–13000 ft (BM).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *rhadinos*, delicate; Habit tufted, leaf-blades filiform.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Butt sheaths herbaceous. Culms erect or geniculately ascending, slender, 8–16 cm long, 2 -noded. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths longer than adjacent culm internode, smooth, glabrous on surface. Ligule an eciliate membrane, 2–3 mm long. Leaf-blades ascending, conduplicate or convolute, 3–5.5 cm long, 1 mm wide, glaucous. Leaf-blade surface scabrous, rough on both sides. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, elliptic or oblong, 3–6.5 cm long, 1.5–3 cm wide, bearing few spikelets. Primary panicle branches spreading, 2 -nate. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3(–4) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 3–3.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 2.5–2.75 mm long, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume oblong, 2.75–3 mm long, 1.2 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 2.25–2.5 mm long, membranous, much thinner above, glandular on surface, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins obscure. Lemma margins ciliate. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5–0.6 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. Tibet. **Indian Subcontinent**. India.

Uttah Pradesh.

Poa rhizomata Hitchcock. *Jepson, Fl. Calif.* i. 155 (1912).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *G.D. Butler 1205*, 21 Apr 1910, USA: California: Siskiyou Co. (US-1815751).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (549).

Derivation (Clifford & Bostock 2007): Gk. *rhizoma*, a root. Rhizomes well developed.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Culms 40–60 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths scaberulous, glabrous on surface. Ligule an eciliate membrane. Collar pubescent. Leaf-blades flexuous, involute, 10–20 cm long, 0.5–1 mm wide. Leaf-blade surface puberulous, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 5–8 cm long. Primary panicle branches 2 -nate, 2–3 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 6–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3–5 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume ovate, 3–5 mm long, 0.75–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent, hairy below. Lemma lateral veins distinct. Lemma surface scaberulous, rough on veins. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Northwest USA**, **Southwestern USA**. Oregon, Washington. California.

Poa rigidifolia Steud. *Syn. Pl. Gram.* 260. (1854).

TYPE from Falkland Islands. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *W. Lechler s.n.*, Sept 1850, Falkland Islands: [Isl. Soledad], Port William (P-STEUD; IT: BAA (fragm. ex P-STEUD), US-88734 (fragm. ex P)). "an *Festuca arundo*?" on label.

Illustrations (Books): M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (189, Fig. 123).

Derivation (Clifford & Bostock 2007): L. *rigidus*, stiff; *folium*, leaf. Leaf-blades rigid.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths herbaceous. Culms geniculately ascending, 2–60 cm long, without nodal roots or rooting from lower nodes. Ligule an eciliate membrane, 3–6 mm long, scaberulous on abaxial surface, acute. Leaf-blades filiform, conduplicate, 1.5–2.5 mm wide. Leaf-blade surface scabrous, rough adaxially. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, dense, 5–10 cm long. Primary panicle branches ascending, 2–3 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 6–9.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly. Floret callus hairs 0.25 length of lemma.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 5–7 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume margins ciliolate. Lower glume apex acute. Upper glume ovate, 5.5–7.5 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume margins ciliolate. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, 5.5–7 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma margins ciliate, hairy below. Lemma apex acute. Palea keels scabrous, ciliate, adorned below (as to hairs). Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2–2.5 mm long. Caryopsis with adherent pericarp, trigonous, 2.5 mm long. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female, 5–7 flowered, 6.5–10 mm long.

Distribution (TDWG). Continent. South America, Antarctica.

Country /Province /State. **Southern South America**. Argentina South. **Subantarctic islands**. Falkland Is (Malvinas).

Tierra del Fuego. Chiloe, Aisen, Magellanes.

Poa rigidula J.F. Veldkamp. *Blumea,* 38(2): 447 (1994).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Indonesia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J. Raynal 17391*, 29 Apr 1973, Indonesia: New Guinea, Irian Jaya, Carstensz Mountains (L).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *rigidus*, stiff; *-ula*, diminutive. Plant with stiffly erect inflorescence branches or leaf-blades.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Basal innovations extravaginal or intravaginal. Culms erect or geniculately ascending, 12–50 cm long. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 3.5–7 mm long, 1.25–4 mm long on basal shoots, glabrous on abaxial surface, acute. Leaf-blades erect, flat or conduplicate, 2–12 cm long, 0.5–2 mm wide, stiff. Leaf-blade surface smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open or contracted, lanceolate or ovate, 3.5–8.5 cm long, 2–4.7 cm wide. Primary panicle branches ascending or spreading or reflexed, 2–3 -nate, 1.5–3.3 cm long, bearing 5–16 fertile spikelets on each lower branch. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.1–3.75 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1–1.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface smooth. Lower glume apex acute. Upper glume ovate, 1.4–2 mm long, 0.5–0.66 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume surface smooth. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.6–3.5 mm long, membranous, keeled, 3 -veined, 0–3 -veined. Lemma midvein scaberulous. Lemma apex acute. Palea keels scaberulous. Palea apex dentate, 2 -fid. Rhachilla extension 1–1.75 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.6–1.6 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea West Papua (Irian Jaya). New Guinea.

Poa rivas-martinezii O. Tovar. *Publ. Mus. Hist. Nat. Javier Prado, B,* 33: 3 (1985).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *O. Tovar, S. Rivas, C. Arnaiz, J. Loidi & P. Canto 9782*, 20 Mar 1982, Peru: Ancash: de Pachacoto a La Unión, valle de Huallanca, parte alta puna alta, 4750 m (USM-185255; IT: MAF, MO-3099118, MO-3812383, US-3029237).

Illustrations (Journals): *Ruizia* (13:132, Fig13a-c (1993)).

Derivation (Clifford & Bostock 2007): in honor of Salvador Rivas-Martmnez (1935-) Spanish botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 5–8 cm long, 0–1 -noded. Lateral branches lacking. Leaf-sheaths 1.5–4.5 cm long, glabrous on surface. Ligule an eciliate membrane, 1–2 mm long, pubescent on abaxial surface. Leaf-blades conduplicate, 1.5–3 cm long, 1–2 mm wide. Leaf-blade surface scaberulous. Leaf-blade apex hooded.

Inflorescence. Inflorescence a panicle. Panicle spiciform, ovate, 2.5–3 cm long, 1–1.3 cm wide. Primary panicle branches appressed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2(–3) fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–3.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.8–3 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2.8–3 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.8–3 mm long, membranous, mid-green or yellow, tipped with last colour, keeled, 5 -veined, more than 3-veined. Lemma lateral veins prominent. Lemma apex acute.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa rodwayi Vickery. *Contrib. N. S. Wales Nat. Herb*. iv. 235 (1970).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: Tasmania: Domain (Hobart): 19 Nov 1929, *L. Rodway* (HT: HO H1175).

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (157, Fig 110), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (323, Fig. 43).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): in honor of Leonard Rodway (1853–1936) Australian dentist and amateur botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths herbaceous, pallid. Basal innovations intravaginal. Culms slender, 25–60 cm long, 1–2 -noded. Culm-internodes terete, smooth, distally pubescent. Lateral branches lacking. Leaf-sheaths smooth, pubescent. Ligule a ciliolate membrane, 1 mm long, scaberulous on abaxial surface or pubescent on abaxial surface, truncate or obtuse. Leaf-blades filiform, involute, 8–30 cm long, 0.3–0.75 mm wide. Leaf-blade surface pubescent. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, elliptic, 5–15 cm long. Primary panicle branches 2–5 -nate. Panicle branches capillary, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or obscure. Lower glume surface smooth or asperulous, rough above. Lower glume apex acute. Upper glume oblong, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface smooth or asperulous, rough above. Upper glume apex acute.

Florets. Fertile lemma lanceolate, oblong in profile, 2.5–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma surface pubescent. Lemma margins ciliate, hairy below. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous, ciliolate, adorned below (ciliolate). Palea surface pubescent. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. South Australia, Victoria, Tasmania.

Southern.

Poa roemeri Bor. *K. H. Rechinger, Fl. Iran., Lief.* 70, 39 (1970).

TYPE from Afghanistan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Afghanistan (NE): Wakhan: In valle Mandaras, "feinsandige Stellen zwischen Moränenblöcken", 4300 m, July 1964, *Roemer 222* (HT: W; IT: M?).

Illustrations (Books): N.L.Bor, *Gramineae* in K.H.Rechinger, *Flora Iranica*. No. 70/30 (1970) (Tab. 13).

Derivation (Clifford & Bostock 2007): in honor of Hans L. Roemer (fl. 1983) Canadian ecologist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 5–10 cm long. Culm-internodes smooth, distally glabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 2.5–3 mm long. Leaf-blades conduplicate, 1–2.5 cm long, 1–1.5 mm wide. Leaf-blade surface scaberulous, glabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 1–2.5 cm long, 0.5–0.8 cm wide. Primary panicle branches ascending, 0.6–1 cm long, bearing 2–3 fertile spikelets on each lower branch. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes obscured by lemmas, smooth. Floret callus glabrous or sparsely hairy.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.75 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume elliptic, 3.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 3.5 mm long, membranous, much thinner above, purple, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma lateral veins obscure. Lemma surface pubescent, hairy on veins or between veins. Lemma apex acute. Palea keels scabrous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.25 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Western Asia**, **China**. Afghanistan.

Poa rohmooana H.J. Noltie. *Edinburgh J. Bot.*, 57(2): 281 (2000).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Sikkim: Chugya, 15000 ft, 12 Nov. 1912, *Rohmoo Lepcha 284* (HT: E).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (555, Fig. 15).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Rohmoo (fl. 1910) a Lepcha plant collector probably born in Sikkim State, India.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms erect, slender, 2–3 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths antrorsely scabrous. Ligule an eciliate membrane, 0.5 mm long, obtuse. Leaf-blades 1–1.7 cm long, 1–1.4 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Peduncle antrorsely scabrous above. Panicle open, pyramidal, 1–3 cm long. Primary panicle branches reflexed, 2 -nate, 0.9–1.3 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 2.3 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.6 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume oblong or ovate, 1.6 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma ovate, elliptic in profile, 1.5 mm long, 1 mm wide, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins obscure. Lemma surface smooth, glabrous. Lemma margins scabrous. Lemma apex obtuse. Palea 1.4 mm long, 0.9 length of lemma. Palea keels scabrous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indian Subcontinent**. Eastern Himalaya.

Sikkim.

Poa rupicola Nash ex Rydb. *Mem. N. York Bot. Gard*. i. 49. (1900).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ILT: *J. Wolfe 341*, 1873, USA: Colorado (US-556811 [right-hand plant]). ILT designated by Soreng, Contr. U.S. Natl. Herb. 48: 563 (2003).

LT: *Wolf 341*, 1873, USA: Colorado: South Park (NY-5750 (middle plant of 3)). LT designated by Hitchcock as *Wolf 341*. LT specifically restricted to NY-5750 middle plant of 3 by Soreng, Contr. U.S. Natl. Herb. 48: 563 (2003).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *rupes*, rock; *-cola*, dweller. Growing on rocky slopes.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 10–20 cm long. Lateral branches lacking. Leaf-sheaths open for most of their length, with 0.1 of their length closed. Ligule an eciliate membrane, 0.5–1.5 mm long, pubescent on abaxial surface, truncate or obtuse. Leaf-blades conduplicate, 1–2 cm long, 1–1.5 mm wide, stiff.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate or oblong, dense, 2–5 cm long. Primary panicle branches appressed or ascending. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–3 mm long, 0.8 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume elliptic, 2.5–3.5 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–3.5 mm long, membranous, purple, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent. Lemma surface glabrous to pubescent, hairy below. Lemma margins pubescent. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 28$ (1 ref TROPICOS).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Northwest USA**, **Southwestern USA**, **South-central USA**. Montana, Oregon, Washington. California. New Mexico.

Poa ruprechtii Peyr. *Linnaea,* : 6 (1859).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Mexico. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: [type not at IB, fide K. Pagitz, 2006].

Illustrations (Journals): *Phytokeys* (15: 52, Fig.13 (2012)).

Derivation (Clifford & Bostock 2007): in honor of Franz Josef Iwanowitsch Ruprecht (1814–1870) German-born Russian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes absent. Culms 40–60 cm long. Ligule an eciliate membrane, 2 mm long, erose. Leaf-blades 5–15 cm long, 1–2 mm wide. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, oblong or ovate, 10–18 cm long. Panicle branches capillary. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 6–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1–1.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 1.5–2 mm long, 0.5–0.66 length of adjacent fertile lemma, membranous, 1-keeled. Upper glume apex acute.

Florets. Fertile lemma oblong, 3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent, hairy below. Lemma margins pubescent, hairy at base. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Mexico**. Central Mexico, Northeast Mexico, Southwest Mexico.

Distrito Federal, Mexico State. Neuvo Leon. Oaxaca.

Poa ruwenzoriensis Robyns & Tournay. *Fl. Spermatopkyt. Parc Nat. Albert,* iii. 186 (1955).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Africa, Uganda. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Africa: Uganda: Mubuka Valle, 3900–3960 m, up to the glacier, *Dogget & Dawe 567* (HT: K).

Illustrations (Books): R.M.Polhill, F.T.E.A., *Gramineae* (1(1970):46, Fig17).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Mt Ruwenzori.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths papery. Culms erect, 10–35 cm long. Ligule an eciliate membrane, 2.5–10 mm long. Leaf-blades 4–15 cm long, 2–8 mm wide, stiff. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong, interrupted, 2.5–12 cm long. Primary panicle branches ascending, bearing spikelets almost to the base. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–6.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 3–5 mm long, 0.75–1 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume apex acute. Upper glume elliptic, 4–5 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma elliptic, lanceolate in profile, 4.5–5 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma apex acute. Palea 1 length of lemma. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.3–1.7 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **West-Central Tropical Africa**, **East Tropical Africa**. DRC. Uganda.

Poa sachalinensis (Koidz.) Honda. *Bot. Mag., Tokyo,* xli. 641 (1927).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

Basionym or Replaced Name: *Poa macrocalyx* var. *sachalinensis* Koidz., *Bot. Mag. (Tokyo)* 31: 255 (1917). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *S. Komatsu 3*, Sachalin (sin. loco. particular) (TI-M04–02–24; IT: TI-M04–02–25, TI-M04–02–26). [cited by Honda, Bot. Mag. Tokyo 41: 641 (1927)] LT cited by Probatova (1985) Vasc. Pl. Russ. Far East 1: 275.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Sakhalin Island, Siberia.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary. Rhizomes short. Stolons present. Culms erect, 30–80 cm long, 1–1.5 mm diam., 2–3 -noded. Culm-internodes terete. Leaf-sheaths smooth. Ligule an eciliate membrane, 1–2.5 mm long, truncate or obtuse. Leaf-blades 20–30 cm long, 2–5 mm wide. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, 7–20 cm long, 3.5–5 cm wide. Primary panicle branches 3–5 -nate, bearing 3–7 fertile spikelets on each lower branch. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–4 mm long, 0.66–0.9 length of upper glume, membranous, much thinner on margins, 1-keeled, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume lanceolate, 3.7–4.5 mm long, 0.9–1 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume lateral veins obscure, all falling short of apex. Upper glume apex acute.

Florets. Fertile lemma oblong, 4–4.5 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma apex obtuse or acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East, **China**, **Eastern Asia**. Sakhalin. Manchuria. Japan Hokkaido, or Honshu. Japan.

Poa saksonovii Tzvelev. *Novosti Sist. Vyssh. Rast.* 41: 38–39 (2009).

TYPE from Ukraine. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Zhiguli, mons Sheludjak, in rupibus, 3 Jul 1941, *M. Zolotovski 2156*, HT: LE.

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 50–80 cm long, with 0.33 of their length below uppermost node. Culm-internodes antrorsely scabrous. Leaves mostly basal. Leaf-sheaths scaberulous or antrorsely scabrous. Ligule an eciliate membrane, 1–2.5 mm long. Leaf-blades flat or convolute, 1–2.8 mm wide. Leaf-blade surface scabrous, rough on both sides.

Inflorescence. Inflorescence a panicle. Panicle open or contracted, ovate, 8–15 cm long. Primary panicle branches 3–5 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 4–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes pubescent. Floret callus pilose.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–3.5 mm long, membranous, 1-keeled. Lower glume apex acute. Upper glume lanceolate, 2.5–3.5 mm long, membranous, 1-keeled. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–3.8 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface pilose, hairy below. Lemma apex acute. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3.

Distribution (TDWG). Continent. Europe.

Region. **Eastern Europe**.

Poa sallacustris N.G. Walsh. *Muelleria,* 7(3): 379 (1991).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: Victoria: Lake Corangamite, SW of Causeway and Lake Martin, 11.5 km SW of Cressy, 27 km NNW of Colac P.O., 12 Sep 1977, *Beauglehole & Hirth 56460* (HT: MEL; IT: BRI, NSW).

Illustrations: None found.

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *sal,* salt; *lacus*, lake; *-estris*, indicating place of growth. Growing along shore lines of salt lakes.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms erect or geniculately ascending, 15–30 cm long. Culm-internodes terete or elliptical in section. Leaf-sheaths tubular for much of their length. Ligule an eciliate membrane, 1–2 mm long, obtuse or acute. Leaf-blades conduplicate, 6–12 cm long, 1–2 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade apex abruptly acute, hooded or simple.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 5–10 cm long, 3–7 cm wide. Primary panicle branches spreading. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous or sparsely hairy.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein smooth or scaberulous. Lower glume apex acute. Upper glume lanceolate, 3 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein smooth or scaberulous. Upper glume apex acute.

Florets. Fertile lemma elliptic, 3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein eciliate or ciliate, hairy below. Lemma margins eciliate or ciliate, hairy at base. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous, adorned above. Palea surface glabrous or pubescent, hairy on back, hairy below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. Victoria.

Poa saltuensis Fernald & Wieg. *Rhodora,* xx. 122. (1918).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Canada. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Fernald & Collins 357*, (GH).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (511 & as subsp. *languida* & subsp. *saltuensis*).

Derivation (Clifford & Bostock 2007): L. *saltus*, forest pasture or woodland; *-ensis*, denoting origin. Growing in woodland.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Culms weak, 30–60(–100) cm long. Culm-internodes smooth. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 1 mm long. Leaf-blades 6–15 cm long, 2–4 mm wide, flaccid. Leaf-blade surface smooth.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, nodding, 5–10 cm long, with spikelets clustered towards branch tips. Primary panicle branches ascending, 2–3 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 3–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.66–0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 0.75–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 2.5–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Eastern Canada**, **North-central USA**, **Northeast USA**, **Southeastern USA**. Labrador, New Brunswick, Newfoundland, Nova Scotia, Ontario, Prince Edward I, Quebec. Minnesota, Nebraska. Connecticut, Indiana, Maine, Massachusetts, Michigan, Ohio, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, West Virginia. Tennessee.

Poa sandvicensis (Reich.) Hitchcock. *Mem. Bishop Mus., Honolulu*, viii. 121 (1922).

Accepted by: W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).

TYPE from Hawaiian Islands. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Hawaiian Isls: Kauai: um Halemanu an offenen, humusreichen Stellen der Thaler nr. 2124, 2143", syntypes.

Illustrations (Books): W.L.Wagner et al., *Manual of the Flowering Plants of Hawai'i*, Vol. 2 (1990) (1580, Pl. 234).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From the Sandwich, now Hawaiian Islands.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary. Culms erect or geniculately ascending, 30–100 cm long. Culm-internodes elliptical in section. Leaf-sheaths tubular for much of their length, with 1 of their length closed, keeled, smooth or retrorsely scabrous. Ligule an eciliate membrane, 0.5–1 mm long. Leaf-blades 10–20 cm long, 3–6 mm wide, coriaceous. Leaf-blade surface smooth or scaberulous, rough adaxially. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 3–15 cm long, with spikelets clustered towards branch tips. Primary panicle branches 3–10 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas, pubescent. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume ovate, 3 mm long, 0.7–0.8 length of

adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent. Upper glume apex acuminate.

Florets. Fertile lemma elliptic, oblong in profile, 4–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous. Lemma apex acuminate. Palea 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Pacific.

Country /Province /State. **North-central Pacific**. Hawaii.

Poa scaberula Hook. f. *Fl. Antarct.* 378. (1847).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Chile. **Basionym or Replaced Name**: *Poa anfamensis* M.A. Negritto & A.M. Anton, *Darwiniana* 35: 159 (1998). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *King s.n.*, Chile: Stright of Magalhaens, Port Famine (K; IT: BAA (fragm.), GH).

Recent Synonyms: *Poa anfamensis* Negritto & Anton, *Darwinia* 35: 159 (1998).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (331), S.A.Renvoize, *Gramineas de Bolivia* (1998) (135, Fig 33), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (148, Fig 91).

Illustrations (Journals): *Darwiniana* (35: 160, Fig.1 (1992) as *P. anfamensis*), *Ruizia* (13:132, Fig13g-i (1993)), *Phytokeys* (15: 52, Fig.13 (2012)).

Derivation (Clifford & Bostock 2007): L. *scaber,* rough; *-ula*, diminutive. Somewhat scabrous, usually referring to the lemma.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 20–80 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths striately veined, antrorsely scabrous, glabrous on surface. Ligule an eciliate membrane, 1–3.5 mm long, scaberulous on abaxial surface, truncate or obtuse. Leaf-blades 4–15 cm long, 1–4 mm wide. Leaf-blade surface scabrous, rough on both sides.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong, interrupted, 5–12 cm long. Primary panicle branches appressed, 1–3 cm long. Panicle axis scabrous. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.5–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5 mm long. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume surface asperulous, rough above. Lower glume apex acute. Upper glume ovate, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface asperulous, rough above. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.5–3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma margins ciliate, hairy below. Lemma apex acute. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America, South America.

Country /Province /State. **Mexico**. Central Mexico, Gulf (Mexico). **Mesoamerica**, **Western South America**, **Southern South America**. Guatemala. Bolivia, Colombia, Ecuador, Peru. Argentina South, Argentina Northwest, Chile South.

Catamarca, Jujuy, La Rioja, Mendoza, San Juan, Tucuman. Cordoba. Chubut, Neuquén, Río Negro, Santa Cruz, Tierra del Fuego. Tarapaca, Antofagasta, Atacama, Coquimbo, Chiloe, Aisen, Magellanes. Los Lagos, Aisen, Magellanes. Mexico State. Veracruz.

Poa scabrivaginata Tovar. *Mem. Mus. Hist. Nat. ' Javier Prado', Lima, No.* 15, 48 (1965).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.F. MacBride 4354*, 10–24 Jun 1923, Peru: Huánuco (US-125635; IT: K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *scaber,* rough; *vagina*, sheath; *-ata*, possessing. Leaf-sheath scabrid.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending, 35–65 cm long, 3–4 -noded. Lateral branches lacking. Leaf-sheaths antrorsely scabrous, glabrous on surface. Ligule an eciliate membrane, 3–4 mm long, erose, truncate. Leaf-blades 8–12 cm long, 2–3.5 mm wide. Leaf-blade surface scaberulous, rough on both sides. Leaf-blade margins scabrous. Leaf-blade apex abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 8–12 cm long. Panicle branches capillary, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.6–4 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 4–4.3 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4.2–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Palea keels scaberulous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.6–2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa schimperiana Hochst. ex A. Rich. *Tent. Fl. Abyss.* ii. 423. (1850).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Ethiopia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Eritrea: Scimezana: altiplano di Gheleba, 2400m, 21 Sep 1902, *Pappi 845* (HT: FT).

Illustrations (Books): G.V.Pope et al., *Flora Zambesiaca* 10, S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (21, Fig 10).

Illustrations (Journals): *Kew Bulletin* (44: 136, Fig.3 (1989)).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Georg Heinrich Wilhelm Schimper (1804–78) German plant collector in Near East and north-eastern Africa.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending or decumbent, 17–100 cm long, 2–4 -noded. Ligule an eciliate membrane, 1–4 mm long. Leaf-blades ascending, flat or conduplicate, 5–20 cm long, 2–4 mm wide. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, effuse, equilateral or nodding, 7–35 cm long. Primary panicle branches ascending or spreading or reflexed, 1–2 -nate. Panicle branches capillary, flexuous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 2.5–7.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.7–4 mm long, 0.75–1 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume apex obtuse or acute.

Upper glume lanceolate, 2–4.5 mm long, 0.8–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex obtuse or acute.

Florets. Fertile lemma ovate, lanceolate in profile, 2.5–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface glabrous or pubescent. Lemma apex acute. Palea 1 length of lemma. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.3–0.8 mm long. Caryopsis with adherent pericarp, 2 mm long. Hilum punctiform.

$2n = 42$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe (*), Africa, Temperate Asia.

Region. **Northern Europe** (*).

Country /Province /State. : GB Aliens (Ryves et al). **West Tropical Africa**, **West-Central Tropical Africa**, **Northeast Tropical Africa**, **East Tropical Africa**, **South Tropical Africa**. Nigeria. Cameroon, Rwanda, DRC. Ethiopia (inc. Eritrea), Sudan. Kenya, Tanzania, Uganda. Malawi. **Arabian Peninsula**. Saudi Arabia, Yemen.

Poa schistacea E.Edgar & H.E.Connor. *New Zealand J. Bot.,* 37(1): 63 (1999).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: New Zealand: Two-mile V., Hecot Mountains, 5300 ft, rocks at foot of cliff, Mar 1985, female, *A.P. Druce s.n.* (CHR-395536A; IT: CHR-395536B).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-acea*, indicating resemblance. Growing on soils derived from schists.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Basal innovations extravaginal. Culms 10–30(–60) cm long. Leaf-sheaths open for most of their length, keeled, smooth, glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long, pubescent on abaxial surface, truncate. Leaf-blades straight to curved, involute, 4.5–28 cm long, 0.5–1 mm wide, grey-green. Leaf-blade surface puberulous, hairy adaxially. Dioecious.

Inflorescence. Inflorescence a panicle. Peduncle distinct, 4.5–25 cm long, scaberulous above. Panicle open, 2–8 cm long. Primary panicle branches ascending. Panicle branches smooth to scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–7 fertile florets. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4.5–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate to elliptic, 2.5–4 mm long, 1 -veined. Lower glume surface glabrous. Lower glume apex acute to acuminate. Upper glume elliptic to ovate, 3–5.5 mm long, 3 -veined. Upper glume surface glabrous. Upper glume apex obtuse to acute.

Florets. Fertile lemma elliptic or ovate, 4–5 mm long, keeled, 5 -veined, more than 3-veined. Lemma surface glabrous. Lemma apex acute. Palea 3–3.5 mm long. Palea keels smooth or scaberulous, adorned above, with 0.5–0.75 of their length adorned.

Flower and Fruit. Lodicules 2, 0.3–0.6 mm long, membranous. Anthers of male floret 2–3 mm long. Caryopsis 1.5–2.5 mm long. Embryo 0.25 length of caryopsis.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand South I.

Poa schizantha L. Parodi. *Not. Mus. La Plata, Bot.,* v. 325 (1940).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *L.R. Parodi 13672*, 8 Nov 1940, Argentina: Buenos Aires (LP; IT: US-1815792).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (331).

Derivation (Clifford & Bostock 2007): Gk. *schizo*, split; *anthos*, flower. The male and female flowers occur on different plants.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Basal innovations intravaginal. Culms erect, 50–100 cm long, 2–3 -noded. Lateral branches lacking. Leaf-sheaths longer than adjacent culm internode, striately veined, retrorsely scabrous. Ligule an eciliate membrane, 3–8 mm long. Leaf-blades flexuous, convolute, 15–20 cm long, 1.5–2.5 mm wide. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, interrupted, nodding, 20–40 cm long, 0.7–1.7 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scaberulous.

Fertile Spikelets. Spikelets comprising 6–10 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 10–12 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 6–6.5 mm long, 0.8 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume lanceolate, 7–7.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, 7–8 mm long, membranous, keeled, 7–9 -veined, more than 3-veined. Lemma apex dentate, 2 -fid, incised 0.2 of lemma length, acute. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.5–3 mm long. Caryopsis with adherent pericarp, ellipsoid, trigonous, 2 mm long. Hilum punctiform.

Male inflorescence similar to female. Male spikelets similar to female but less developed, 8–11 flowered. Male spikelet glumes 2, 4–4.5 mm long. Male spikelet lemma 5–7 -veined.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northeast.

Buenos Aires.

Poa scitula Bor. *Arbok Univ. Berg., Mat.-Nat., No.* 18, 39 (1964).

TYPE from Afghanistan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Afghanistan: Bamian prov.: west side of Shibar pass, streamside, 20 May 1962, *I. Hedge & P. Wendelbo 3301* (HT: BG; IT: K (ex BG)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. pretty. The spikelets are colored thereby making the inflorescence attractive.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths thickened and forming a bulb. Culms 5–10 cm long. Culm-internodes smooth, distally glabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane. Leaf-blades 1.5 cm long, 1 mm wide. Leaf-blade surface glabrous. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle, exserted or embraced at base by subtending leaf. Panicle open, ovate, effuse, 4 cm long, 2 cm wide. Primary panicle branches 2 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic or ovate, 2 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic or ovate, 2.5 mm long, 1–1.2 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma elliptic or oblong, 2–2.25 mm long, membranous, purple, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Palea keels scabrous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Western Asia**. Afghanistan.

Poa secunda J. & C. Presl. *Rel. Haenk.* i. 271. (1830).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *T. Haenke s.n.*, 1790, Chile (PR; IT: B, BAA-2691 (fragm. ex B), GH (fragm.), LE, LE-TRIN-2625.01 a, MO-209304, US-88729 (fragm. ex PR)).

Recent Synonyms: *Poa ampla* Merril, *Rhodora* 4: 145. (1902). *Poa gracillima* Vasy, *Contrib. U. S. Nat. Herb.* i. 272. (1893).

Poa juncifolia Scribn., *U.S. Dept. Agric. Bull. Agrost.* 11: 52. (1898).

Poa nevadensis Vasey, *Bull. Torrey Bot. Club* 10: 66. (1883).

Poa sandbergii Vasey, *Contrib, U. S. Nat. Herb.*1: 276 (1893).

Poa scabrella (Thurb.) Benth. ex Vasey, *Grass. U. St.* 42. (1883).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (318 & 319), K.F.Best, et al, *Prairie Grasses* (1971) (197 & 185 as *P. canbyi*), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (587 as subspecies *secunda & juncifolia*), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (161, Fig 99).

Illustrations (Journals): *Phytokeys* (15: 85, Fig. 20 (2012)).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths herbaceous. Culms erect or geniculately ascending, 15–120 cm long, wiry. Culm-internodes terete. Leaves mostly basal. Leaf-sheaths with 0–0.25 of their length closed, smooth or scaberulous. Ligule an eciliate membrane, 1.5–5 mm long, glabrous on abaxial surface or scaberulous on abaxial surface, entire or lacerate, acute or acuminate. Leaf-blades 1–5 cm long, 1–3 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 2–27 cm long. Primary panicle branches 3–4 -nate. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 3.5–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas, smooth or scaberulous, glabrous or sparsely hairy. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 0.9 length of upper glume, membranous, much thinner on margins, 1-keeled, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume surface asperulous, rough above. Lower glume apex acute. Upper glume lanceolate, membranous, with hyaline margins, 1-keeled, 1–3 -veined. Upper glume lateral veins absent or obscure. Upper glume surface asperulous, rough above. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 4–5 mm long, membranous, keeled, lightly keeled, 5 -veined, more than 3-veined. Lemma lateral veins with distinct primaries but obscure intermediates. Lemma surface asperulous, glabrous or puberulous, hairy at base. Lemma apex obtuse or acute. Palea 0.9 length of lemma. Palea keels scaberulous. Palea surface pubescent, hairy below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1–3.8 mm long, yellow or purple. Caryopsis with adherent pericarp. Hilum punctiform.

n = 21 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia, North America, South America.

Country /Province /State. **Western Asia**, **China** (*). Iran. **Indian Subcontinent**. India, Pakistan. **Subarctic America**, **Western Canada**, **Northwest USA**, **North-central USA**, **Southwestern USA**,

South-central USA, **Mexico**. Yukon, Northwest Territories. Alberta, British Columbia, Manitoba, Saskatchewan. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. North Dakota, Nebraska. Arizona, California, Nevada, Utah. New Mexico, Texas. Northwest Mexico. **Southern South America**. Argentina South, Chile Central, Chile South.

Chubut, Neuquén, Río Negro, Santa Cruz, Tierra del Fuego. Valparaiso, Santiago, O'Higgins. Magellanes. Baja California.

Poa seleri Pilger. *Verh. Bot. Ver. Brand.* li. 195 (1910).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Guatemala. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *E. Seler 2360*, 25 Sep 1896, Guatemala: Quezaltenango und Solol? Bergwold in Tottonicapam und Los Encuentros (B; IT: B, BAA-2693 (fragm. ex B), GH, US-1389285).

Illustrations (Journals): *Phytokeys* (15: 52, Fig.13 (2012)).

Derivation (Clifford & Bostock 2007): in honor of Caecilie Seler (1855-) and Georg Eduard Seler (1849–1922) who collected in Central and South America.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms decumbent, 45–95 cm long. Leaf-sheaths antrorsely scabrous. Ligule an eciliate membrane, 2–3 mm long. Leaf-blades 10–20 cm long, 2–3 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, nodding, 7–19 cm long, 5 cm wide. Primary panicle branches 2–5 -nate. Spikelets spreading, solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 3.2–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate or ovate, 1.1–1.4 mm long, 0.6–0.7 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic or oblong, 1.8–2 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.2–2.7 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein without distinctive roughness or scaberulous. Lemma apex acute. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America, South America.

Country /Province /State. **Mexico**. Central Mexico, Northeast Mexico, Gulf (Mexico), Southeast Mexico. **Mesoamerica**. Guatemala.

Mexico State, Morelos, Puebla. Hidalgo. Veracruz. Chiapas.

Poa sellowii Nees. *Agrost. Bras.* 491. (1829).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *F. Sellow Hb. Cham.*, Brazil: Bras. merid. (LE, US-946955 (ex B ex hb. Manila), US-1126647 (fragm. ex W), US-88727 (fragm. ex B [Sellow, Brasil])). HT: *Sellow [ex Herb. Reg. Berolinense]*, Brazil (B; IT: BAA-2694 (fragm. ex B), BAA-2696 (fragm. ex B), BAA-2697 (fragm. ex B), LE, US-1126647 (fragm. ex W-213024), US-88727 (fragm. ex B, fragm. ex hb. Haun), W-213024). [large form of P. scaberula?, rjs 05]. OM: *Sellow 1146*, Uruguay: Hab ad Montevideo [loc. in question by Parodi] (HT: B). Possible type. Possible type.. OM: *Sellow*, Monte Video (US-88727 (fragm. ex P-Haun, sent by Otto)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Friedrich Sellow (1789–1831) German botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms erect, 30–50 cm long. Ligule an eciliate membrane, 0.5 mm long, truncate. Leaf-blades 6–30 cm long, 2–3 mm wide. Leaf-blade apex abruptly acute. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, dense, 6–10 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma elliptic, 3–4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Brazil**, **Southern South America**. Brazil South. Uruguay.

Paraná, Rio Grande do Sul, Santa Catarina.

Poa senex E.Edgar. *New Zealand J. Bot.*, 24(3): 477 (1986).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: New Zealand: Old Man Range, Otago, water-course, 5200 ft, 13 Feb 1963, *V.D. Zotov s.n.* (HT: CHR-133878; IT: CHR-133877, CHR-133879, CHR-133880, CHR-133881).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. old man. From the Old Man Range, New Zealand.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Stolons present. Basal innovations extravaginal. Culms 5–12 cm long. Lateral branches lacking. Leaf-sheaths keeled, glabrous on surface. Ligule an eciliate membrane, 0.5–1.5 mm long, glabrous on abaxial surface, entire, acute. Leaf-blades flat or conduplicate, 1–3.5 cm long, 1–2 mm wide, coriaceous. Leaf-blade surface smooth, glabrous. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open or contracted, lanceolate or ovate, 1–3 cm long. Panicle axis scabrous, with scattered hairs. Panicle branches with scattered hairs. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2–3 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5 mm long. Floret callus sparsely hairy.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.5–2 mm long, 0.75 length of upper glume, membranous, much thinner on margins, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 2–2.5 mm long, 1 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 2–2.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous, ciliate, hairy below. Lemma surface puberulous, hairy at base, hairy on veins. Lemma apex obtuse. Palea 1.5–1.8 mm long. Palea keels scaberulous. Palea surface glabrous.

Flower and Fruit. Lodicules 2, 0.1 mm long, membranous. Anthers 3, 0.3–0.4 mm long. Caryopsis with adherent pericarp, 1 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.
Country /Province /State. **New Zealand**. New Zealand South I.

Poa serpaiana N.F. Refulio-Rodriguez. *Bot. Syst.* 37 (1): 129 (2012).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. **Basionym or Replaced Name**: *Phalaridium peruvianum* Nees & Meyen, *Gramineae* 29 (1841)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *Meyeb 161*, Apr, Peru: Lake Titicaca (B, US (fragm. ex B)).

Recent Synonyms: *Dissanthelium peruvianum* (Nees & Meyen) Pilger, *Bot. Jahrb.* 37:378 (1906).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (333), S.A.Renvoize, *Gramineas de Bolivia* (1998) (160, Fig 38).

Illustrations (Journals): *Ruizia* (13:150, Fig 16j-k (1993)).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating location. From Peru.

Classification. Subfamily Pooideae.

Habit, Vegetative Morphology. Annual. Culms geniculately ascending, 2.5–13 cm long. Ligule an eciliate membrane, 1–4 mm long. Leaf-blades flat, 1–4 cm long, 1.5–3 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle, shorter than basal leaves. Panicle spiciform, oblong, 1–3.5 cm long, 0.4–0.8 cm wide. Primary panicle branches appressed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2.8–3.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.3–0.4 mm long.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, chartaceous, 1-keeled, 3 -veined. Lower glume primary vein smooth or scaberulous. Lower glume apex acute. Upper glume ovate, 2.8–3.5 mm long, 1.3–1.4 length of adjacent fertile lemma, chartaceous, 1-keeled, 3 -veined. Upper glume primary vein smooth or scaberulous. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.2–2.5 mm long, chartaceous, keeled, 3 -veined, 0–3 -veined. Lemma lateral veins close to margins. Lemma surface smooth, glabrous. Lemma apex obtuse.

Flower and Fruit. Anthers 3, 0.3 mm long. Ovary glabrous. Endosperm farinose.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**, **Southern South America**. Bolivia, Peru. Argentina Northwest, Chile North.

Jujuy. Tarapaca.

Poa serpentum Nees. *Lehm. Pl. Preiss.* ii. 106 (1846).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: In solo humoso ad flumen Serpentine, Wellington: Dec 1839, *Hb. Preiss 1855* (LT: LE) LT Vickery, 1970.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): from the Serpentine River, Western Australia.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths herbaceous. Basal innovations extravaginal. Culms 50–100 cm long, 3 -noded. Culm-internodes terete, smooth or scaberulous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths tight, smooth or scaberulous or antrorsely scabrous, glabrous on surface. Ligule a ciliolate membrane, 0.5 mm long, pubescent on abaxial surface, truncate. Leaf-blades involute, 20–50 cm long, 1–2 mm wide. Leaf-blade surface ribbed, scabrous, rough adaxially, glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle open, ovate, effuse, 15–25 cm long. Primary panicle branches 3–7 -nate, sparsely divided, 5–13 cm long. Panicle branches capillary, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.5–1 mm long, scabrous.

Fertile Spikelets. Spikelets comprising 2–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.75 mm long, smooth or scaberulous. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scaberulous. Lower glume apex acute. Upper glume oblong, 0.75–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 2.75–4 mm long, membranous, keeled, 5(–7) -veined, more than 3-veined. Lemma midvein scaberulous. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scaberulous, adorned above. Palea surface smooth or scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.75 mm long. Caryopsis with adherent pericarp, oblong, 2 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. Western Australia.

Poa setulosa Bor. *Kew Bull.* 1948, 142 (1948).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: India: Lower Kunawar: 15 Aug. 1847, *T. Thomson* (HT: K-146).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *seta*, bristle; *-ula,* diminutive; *-osa*, abundance.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths herbaceous. Culms erect, 16–33 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 2–3 mm long, lacerate. Leaf-blades flat or conduplicate, 7–11 cm long, 1.5–2 mm wide. Leaf-blade surface scabrous, rough on both sides. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, equilateral or nodding, 9–12 cm long. Primary panicle branches ascending, 1–2 -nate. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 4–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–4 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acuminate. Upper glume lanceolate, 2.5–4 mm long, 0.75–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma ovate, oblong in profile, 2.7–3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins ciliate. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.6–0.75 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. Tibet. **Indian Subcontinent**. Pakistan.

Uttah Pradesh.

Poa sharpii Swallen. *Contrib. U. S. Nat. Herb.* xxix. 400 (1950).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Mexico. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *A.J. Sharp 44688*, 6 Sep 1944, Mexico: Veracruz, moist shaded soil near El Puerto (above Acultzingo), 7700 ft (US-1939432).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Aaron John Sharp (1904-) United States botanist who collected in Mexico.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Culms geniculately ascending, 45 cm long. Culm-internodes elliptical in section, scaberulous. Leaf-sheaths keeled, glabrous on surface. Ligule an eciliate membrane, 0.5 mm long. Leaf-blades 5–8 cm long, 2 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 11 cm long. Primary panicle branches distant, 1–2 -nate. Panicle branches flexuous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.7 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2.3 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.8 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent. Lemma margins pubescent. Lemma apex obtuse. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Mexico**. Central Mexico, Northeast Mexico, Gulf (Mexico), Southeast Mexico.

Distrito Federal, Mexico State. San Luis Potosi. Veracruz. Chiapas.

Poa shuka (Speg.) L. Parodi. *Rev. Argent. Agron.* xx. 180 (1953).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *C. Spegazzini s.n.*, Argentina: Ushuaia, Isl. de los Estados, Port Vancouver, Blossom Bay (LPS-14322; ILT: LP). LT designated (as holotype) by Giussani, Ann. Missouri Bot. Gard. 87: 220 (2000). ST: *C. Spegazzini*, Argentina: Isla de los Estados, Pto. San Juan.

Illustrations (Books): M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (183, Fig 117).

Derivation (Clifford & Bostock 2007): vernacular name for several grasses in Argentina.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations intravaginal. Culms erect or geniculately ascending, slender, 15–40 cm long. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 5–10 mm long, scaberulous on abaxial surface, acute. Leaf-blades filiform or linear, flat or conduplicate, 10–25 cm long, 2.5–3 mm wide. Leaf-blade surface glabrous. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate or oblong, continuous or interrupted, 4–9 cm long. Primary panicle branches appressed. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 10–12 mm long, breaking up at maturity,

disarticulating below each fertile floret. Rhachilla internodes zig-zag, 1–1.5 mm long, eventually visible between lemmas. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 6.5–8 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 7–9 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma elliptic, 7–8 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma surface smooth or scabrous. Lemma apex acuminate. Palea 4.5–6 mm long. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South.

Tierra del Fuego. Chiloe, Aisen, Magellanes.

Poa shumushuensis Ohwi. *Acta Phytotax. & Geobot.* iv. 62. (1935).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Kuril Islands. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J. Ohwi & R. Yoshii 5658*, 28 Jul 1934, Kuril Isls.: Ins. Shumushu (KYO s.n.; IT: LE).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis,* denoting origin. From Sumushu, one of the Kurile Islands.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes short. Culms 8–15 cm long. Lateral branches lacking. Leaf-sheaths 1.5–3 cm long, glabrous on surface. Ligule an eciliate membrane, truncate. Leaf-blades 1–3 cm long, 1–1.5 mm wide, flaccid. Leaf-blade apex abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, effuse, 2–4 cm long. Primary panicle branches spreading or reflexed, 1–2 -nate, bearing 1–2 fertile spikelets on each lower branch. Panicle branches flexuous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets obovate, laterally compressed, 3–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–2.5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume ovate, 2–2.5 mm long, 0.8–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 3–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma margins ciliolate, hairy below. Lemma apex obtuse. Palea keels scaberulous, adorned above.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 28$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East, **China**. Kamchatka, Kuril Is. Manchuria.

Poa sibirica Roshevitz. *Bull. Jard. Bot. Petersb.* xii. 121 (1912).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: LT cited by Tzvelev, Zlaki SSSR 462 (1976). OM: *A. Vydrin*, 9 Jun 1904, Russia: Siberia: prov. Tomsk, distr. Minussinsk inter pag. Tissul et Tanbar in pratis sylvaticis (K-48).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 368 as *P. sibirica* ssp. *sibirica*).

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Siberia.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Culms erect, 50–120 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths scaberulous, glabrous on surface. Ligule an eciliate membrane, 1 mm long, obtuse. Leaf-blades 3.5–6 mm wide. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, oblong or pyramidal, 6–18 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1–2 mm long, 0.33–0.66 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 3 mm long, 0.75–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, 3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.3–1.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 14$ (2 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Eastern Europe**.

Country /Province /State. Central European Russia, East European Russia, North European Russia, South European Russia. Siberia, Russian Far East, **Middle Asia**, **China**, **Mongolia**, **Eastern Asia**, **Russia**. Altay, Buryatiya, Chita, Irkutsk, Krasnoyarsk, Tuva. Amur, Kamchatka, Khabarovsk, Magadan, Primorye, Sakhalin. Kazakhstan, Kirgizistan. China South Central, Inner Mongolia, Manchuria, China North-Central, Xinjiang. Mongolia. Korea.

Hebei, Shanxi. Sichuan, Yunnan.

Poa sichotensis Probatova. *Novosti Sist. Vyssh. Rast.* 10: 68 (1973).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Russia: Siberia: vic. Vladivostok, on road to Bay Patrokl., in bushes, 23 June 1967, *N. Probatova 1237* (HT: LE; ST?: MO).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Sichote-Alinj Mountains, Siberia.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms erect, 60–110 cm long, 3–5 -noded, with 0.66 of their length below uppermost node. Culm-internodes smooth or scaberulous. Lateral branches lacking. Leaf-sheaths open for most of their length, with 0.1–0.2 of their length closed,

antrorsely scabrous, glabrous on surface. Ligule an eciliate membrane, 0.3–1.3 mm long. Leaf-blades flat or convolute, 3–6 mm wide. Leaf-blade surface scabrous, rough on both sides.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 15–20 cm long. Primary panicle branches 2–3 -nate, bearing 6–16 fertile spikelets on each lower branch. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes pubescent. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.8–6 mm long, 1 length of upper glume, membranous, 1-keeled. Lower glume apex acuminate. Upper glume ovate, 2.8–6 mm long, 1.1 length of adjacent fertile lemma, membranous, 1-keeled. Upper glume apex acuminate.

Florets. Fertile lemma ovate, 2.5–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate. Lemma margins ciliolate. Lemma apex acute. Palea keels scabrous. Palea surface glabrous or puberulous, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.2–2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 42$ (1 ref TROPICOS), or 56 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East, **China**. Primorye. Manchuria.

Poa sieberiana Spreng. *Syst.* iv. *Cur.Post.* 35 (1827).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, D.Sharp, D. & B.K.Simon, *AusGrass* (2002), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: "Nov. Holl. (P. asutralis Nees in Sieber agrost. n. 77)", *Sieber 77*; IT: (IT: BM, GOET-2401, K, MEL, MO).

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (158, Fig 111 as var. *seiberiana*), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (429, Fig 84 as var. *seiberiana* and *var. hirtella*), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (354), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (323, Fig 43 as var. *sieberiana* ans var. *hirtella*), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Franz Wilhelm Sieber (1789–1844) Bohemian botanist and traveller.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Rootstock evident. Butt sheaths herbaceous, pallid. Basal innovations intravaginal. Culms 15–80 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaf-sheaths smooth or scaberulous, glabrous on surface. Ligule a ciliolate membrane, 0.1–1 mm long, scaberulous on abaxial surface, truncate. Leaf-blades straight or curved or flexuous, filiform, involute, 5–60 cm long, 0.2–0.7 mm wide, glaucous or grey-green. Leaf-blade surface scabrous, rough on both sides, glabrous or hirsute. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, pyramidal, 3–20 cm long. Primary panicle branches 1–5 -nate, sparsely divided. Panicle branches flexible or capillary, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 2–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or obscure. Lower glume surface smooth or asperulous. Lower glume apex acute. Upper glume ovate, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface smooth or asperulous. Upper glume apex acute.

Florets. Fertile lemma ovate, lanceolate in profile or oblong in profile, 1.8–3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein eciliate or ciliate. Lemma surface pubescent, hairy below. Lemma margins eciliate or ciliate. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous, eciliate or ciliolate, adorned below (ciliolate). Palea surface pubescent. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1–2 mm long, yellow or purple. Caryopsis with adherent pericarp, oblong, 1.5 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Europe (*), Australasia.

Region. **Northern Europe** (*).

Country /Province /State. : GB Aliens (Ryves et al). **Australia**, **New Zealand** (*). South Australia, Queensland, New South Wales, A.C.T., Victoria, Tasmania. New Zealand South I.

Southern. South East. Coast, Tablelands, Western Slopes, Western Plains.

Poa sierrae J.T.Howell. *Wasmann J. Biol.,* 37(1–2): 18 (1980).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.T. Howell & G.H. True 42204 (pistillate)*, 9 May 1967, USA: California: Plumas Co., Feather River Canyon, 3.5 mi SW of Belden, 2000 ft (CAS; IT: US-2999808). PT: *J.T. Howell & G.H. True 42204 (staminate)*, 9 May 1967, USA: California: Plumas Co., Feather River Canyon, 3.5 mi SW of Belden, 2000 ft (US-2979547,).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (550).

Derivation (Clifford & Bostock 2007): from Sierra Nevada mountains, California, USA.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely or moderately. Rootstock not evident. Cataphylls evident. Rhizomes elongated. Stolons present. Butt sheaths purple. Basal innovations extravaginal. Culms erect, slender, curved, 20–50 cm long. Culm-internodes similar in length, terete (sometimes elliptical), concolorous, ridged, smooth, distally glabrous. Culm-nodes flush with internodes, green, without exudate, glabrous. Lateral branches lacking. Leaves mostly basal, 3–4 per branch. Leaf-sheaths tight, tubular for much of their length, with 0.95 of their length closed, 0.4–3.5 cm long, scaberulous, glabrous on surface. Ligule an eciliate membrane, 3–6 mm long, membranous, translucent, scaberulous on abaxial surface, bilobed or trilobed, acute or acuminate. Collar glabrous. Leaf-blades flexuous, tapering towards tip and sheath, involute, 3–15 cm long, 1–3 mm wide, glaucous. Leaf-blade midrib evident. Leaf-blade venation distinct. Leaf-blade surface smooth or scaberulous, rough adaxially, glabrous. Leaf-blade margins scaberulous. Leaf-blade apex hooded, antrorsely scabrous. Dioecious (sometimes incomplete).

Inflorescence. Inflorescence a panicle, comprising 5–8 fertile spikelets. Panicle open, elliptic, loose, 6–11 cm long, 0.5–3 cm wide, bearing few spikelets. Primary panicle branches 5–8 in number, ascending, 1–3 -nate, indistinct the panicle almost racemose, 0.4–1 cm long, bearing 1 fertile spikelets on each lower branch. Panicle axis differing little from branches, with lower internodes 1.5–3 cm long, scabrous. Panicle branches bearing approximate spikelets, scabrous. Spikelets ascending, solitary. Fertile spikelets pedicelled. Male spikelets pedicelled, 1 in a cluster. Pedicels present, 0.5–0.6 length of fertile spikelet.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, (5–)6–7(–8.5) mm long, 3–4 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes scaberulous. Floret callus sparsely hairy.

Glumes. Glumes persistent, similar, with lower narrower than upper, shorter than spikelet. Lower glume lanceolate, symmetrical, not clasping, 2.5–3 mm long, 0.75–0.9 length of upper glume, membranous, light green or mid-green, 1-keeled, 1 -veined. Lower glume primary vein extending to apex, scaberulous. Lower glume surface smooth, glabrous, inner surface glabrous. Lower glume margins flat. Lower glume apex entire, acute. Upper glume ovate, 3–4 mm long, 0.75–1 length of adjacent fertile lemma, membranous, mid-green, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume surface smooth, glabrous, inner surface glabrous. Upper glume margins smooth. Upper glume apex entire, acute.

Florets. Fertile florets appressed to rhachilla, overlapping 0.6–0.8 their length, free at tip, decreasing in size upwards, female. Fertile lemma ovate, symmetrical, laterally compressed, lanceolate in profile, 4–5 mm long, membranous, mid-green, concolorous, keeled, 5 -veined, more than 3-veined. Lemma midvein simple, pubescent, hairy below. Lemma lateral veins distinct. Lemma surface scaberulous, rough on veins, puberulous to hirsute, hairy at base, hairy on back or on veins. Lemma apex acute. Palea 4–4.5 mm long, 0.95 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2–2.5 mm long. Caryopsis with adherent pericarp, ovoid, 2 mm long (0.6 mm thick), light brown or dark brown, striate, acute (subacute). Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Southwestern USA**. California.

Poa sikkimensis (Stapf) Bor. *Kew Bull.* 1952, 130 (1952).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from Nepal. **Basionym or Replaced Name**: *Poa annua* var. *sikkimensis* Stapf, *Fl. Brit. India* 7(22): 346 (1897 [1896])

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *J.D. Hooker & c.*, Eastern Himalaya, 11–15000 ft

ST: *Cummins*, W. Bhutan

LT: *J.D. Hooker*, Nepal: Wallanchoon [Walungchung], 10–12000 ft (K). LT (called type) designated by N.L. Bor, Kew Bull 1952: 130 (1952).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (567, Fig. 17 & 569, Fig. 18), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 391, 392).

Derivation (Clifford & Bostock 2007): L. *-ense*, denoting origin. From Sikkim.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual or perennial, short-lived. Butt sheaths herbaceous, withering or persistent and investing base of culm, with compacted dead sheaths. Culms erect or geniculately ascending, 10–45 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 2.5–6 mm long, entire. Leaf-blades tapering towards sheath, flat or conduplicate, 3–10 cm long, 2–5 mm wide, flaccid. Leaf-blade surface smooth or scabrous. Leaf-blade margins smooth or scabrous. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Panicle open, oblong or pyramidal, 6–15 cm long. Primary panicle branches ascending or spreading or reflexed, 2 -nate. Panicle branches capillary, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate or elliptic, 1.5–2.5 mm long, 0.66 length of upper glume, membranous, 1-keeled, (1–)3 -veined. Lower glume apex acute. Upper glume elliptic or obovate, 2.5–3 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex erose, acute.

Florets. Fertile lemma ovate, elliptic in profile, 2.7–3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins eciliate or ciliate. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous, ciliate, adorned below (ciliate). Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5–0.8 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

n = 21 (2 refs TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. China South Central, China North-Central, Qinghai, Tibet. **Indian Subcontinent**. Eastern Himalaya, Nepal, Pakistan, West Himalaya.

Gansu. Sichuan, Yunnan. Darjeeling, Bhutan, Sikkim.

Poa silvicola Guss. *Enum. Pl. Inarim.* 371, pl. 18 (1854).

TYPE from Italy. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Italy: In sylvaticis apricis ubique vulgatissima; nec non prope Neapolim, et Stabias,.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *silva*, wood; *-cola*, dweller. Woodland species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary or caespitose, clumped loosely. Rhizomes elongated, knotty. Culms erect or geniculately ascending, 30–60 cm long. Culm-internodes terete, smooth, distally glabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths keeled, striately veined, smooth or retrorsely scabrous. Ligule an eciliate membrane, 4–6 mm long, acute. Leaf-blades 10–20 cm long, 2–6 mm wide, flaccid, mid-green or grey-green. Leaf-blade surface scabrous. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, effuse, nodding, 10–20 cm long, 3–6 cm wide. Primary panicle branches 5 -nate, whorled at most nodes. Panicle branches capillary, flexuous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 3–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet, gaping. Lower glume lanceolate, 2.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 3 mm long, 0.66–0.75 length of adjacent fertile lemma, membranous, with scarious margins, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 2–5 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma lateral veins stopping well short of apex. Lemma margins ciliolate, hairy below. Lemma apex acute. Palea 1 length of lemma. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Western Asia**. Iran, Iraq.

Poa simensis Hochst. ex A. Rich. *Tent. Fl. Abyss*. ii. 422. (1850).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Ethiopia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Ant. Petit s.n.*, Ethiopia: crescit in montosis regni Choae (P; IST: US-843548 (ex hb. J. Gay)).

ST: *Schimper pl. Abyss., sect. II, 993 [443]*, [23 Jun 1838], Ethiopia: in monte Bouahit, provinciae Semiene (P; IST: K, MO, WAG).

Illustrations (Books): S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (21, Fig 10).

Illustrations (Journals): *Kew Bulletin* (44: 136, Fig.3 (1989)).

Derivation (Clifford & Bostock 2007): L. *-ensis,* denoting origin. From Siemen Province, Ethiopia.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Culms slender, 15–50 cm long, wiry. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule a ciliolate membrane. Leaf-blades filiform or linear, 5–20 cm long, 0.5–1 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 6–15 cm long. Primary panicle branches ascending. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4.5–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–3.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute or acuminate. Upper glume elliptic, 2.5–4 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute or acuminate.

Florets. Fertile lemma oblong, 3–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma surface glabrous or puberulous, hairy below. Lemma margins ciliate, hairy below. Lemma apex acute.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.6–2.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Northeast Tropical Africa**. Ethiopia (inc. Eritrea).

Poa sinaica Steud. *Syn. Pl. Gram.* 256. (1854).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Egypt. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Egypt: Sinai peninsula: arid situations, 1600–2000 m, 19 May 1835, *Schimper 326* (HT: K; IT: BM, K, LE).

Illustrations (Books): N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 319), N.L.Bor, *Gramineae* in K.H.Rechinger, *Flora Iranica*. No. 70/30 (1970) (Tab. 11), N.L.Bor, *Gramineae* in *Flora of Iraq* (1968) (119, Pl. 40), T.A.Cope, *Flora of Pakistan* 143: *Poaceae* (1982) (402, Fig. 43).

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From the Sinai.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths thickened and forming a bulb. Culms erect or geniculately ascending, 10–65 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 2–4 mm long, acute. Leaf-blades conduplicate, 3–12 cm long, 1.5–2.5 mm wide. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade margins scabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic or oblong, dense, (3–)6–13 cm long. Primary panicle branches 2–4 -nate. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or oblong, laterally compressed, 6–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 3–4 mm long, 0.8–0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume elliptic, 3.5–4.5 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 3.5–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins ciliate. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

n = 7 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa, Temperate Asia, Tropical Asia.

Country /Province /State. **Northern Africa**. Egypt, Libya. **Middle Asia**, **Caucasus**, **Western Asia**, **Arabian Peninsula**, **China**. Tadzhikistan. Transcaucasus. Afghanistan, Iran, Iraq, Lebanon-Syria, Palestine, Israel & Jordan, Turkey. Kuwait, Saudi Arabia. Qinghai, Xinjiang. **Indian Subcontinent**. Pakistan, West Himalaya.

Poa siphonoglossa Hack. *Fedde, Repert.* xi. 24 (1912).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).

TYPE from Hawaii. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *A. Faurie & U. Faurie 1305*, Mar 1910, Hawaii: Kauai I.: Kauai Co., Kauai prope Weimea, 1000 m (US-950392; ILT: US-A0091141). LT designated by Hitchcock, Mem. Bernice Bish. Mus. 8: 119 (1922).

ST: *U. Faurie 1306*, Mar 1910, USA: Hawaii: Kauai, prope Holokele (KYO s.n., US).

Illustrations (Books): W.L.Wagner et al., *Manual of the Flowering Plants of Hawai'i*, Vol. 2 (1990) (1580, Pl. 234).

Derivation (Clifford & Bostock 2007): Gk. *siphon*, a hollow body; *glossa*, tongue. The culms are leafy with the upper sheaths overlapping. Later the lower internodes elongate greatly and the lower blades fall away.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms rambling, 100–400 cm long (long). Culm-internodes solid, 30–65 cm long. Culm-sheaths present, persistent. Leaf-sheaths tubular for much of their length, glabrous on surface. Ligule an eciliate membrane, 2–3 mm long, erose. Leaf-blades deciduous at the ligule, 5–10 cm long, 2–3 mm wide. Leaf-blade surface scabrous, rough adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 2–5 cm long. Primary panicle branches ascending. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 4–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes pubescent. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acuminate. Upper glume lanceolate, 4 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma lanceolate, 4–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma lateral veins distinct. Lemma surface glabrous or puberulous, hairy below. Lemma margins scabrous. Lemma apex acute. Palea 1 length of lemma. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Pacific.

Country /Province /State. **North-central Pacific**. Hawaii.

Poa skvortzovii Probatova. *Novosti Sist. Vyssh. Rast.,* 10: 72, (1973).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Manchuria. **Basionym or Replaced Name**: *Poa pseudonemoralis* Skvortsov, *Zap. Kharbin. o-va estestovoisp. i etnogr. (Bot.)* 12: 28 (1954). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *B. Skvortzov*, 3 Jul 1948, Manshuria, mt. Takuokui, in silvis montanis.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Alexei Konstantinovich Skvortsov (1920-) Russian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely or moderately. Culms 50–120 cm long, with 0.33–0.5 of their length below uppermost node. Culm-internodes terete, antrorsely scabrous. Lateral branches lacking. Leaf-sheaths open for most of their length, antrorsely scabrous. Ligule an eciliate membrane, 0.2–1.2 mm long. Leaf-blades 5–20 cm long, 1–3.5 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, oblong or ovate, loose, 10–23 cm long. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes obscured by lemmas, pubescent. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.8–1 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume apex acuminate. Upper glume elliptic or ovate, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma ovate, 3.5–4.5 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma lateral veins stopping well short of apex. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East, **China**. Amur, Khabarovsk, Primorye.

Poa smirnowii Roshev. *Bull. Jard. Bot. Princ. URSS,* xxviii. 381 (1929).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Russia: Siberia: Irkut basin, Tunkinskie bald mountain peaks, sandy deposits at source of Tunka, above 2000 m, 11 Aug. 1926, *V. Smirnov s.n.* (HT: LE; IT: LE).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Valentin Ivanovich Smirnow (1879–1942) Russian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes elongated. Culms erect, 25–40 cm long. Culm-internodes smooth. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 3 mm long, obtuse. Leaf-blades 2–4 mm wide. Leaf-blade surface smooth, glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 5–8 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.9 length of upper glume, membranous, much thinner on margins, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 1 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.5–4.5 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface puberulous, hairy below. Lemma margins ciliate. Lemma apex acute.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 42$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia, **China**, **Mongolia**, **Russia**. Altay, Buryatiya, Chita, Irkutsk, Tuva. Xinjiang.

Poa soderstromii Negritto & Anton. *Syst. Bot*.31(1): 84 (83; fig. 1) (2006).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Colombia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Colombia, Cundinamarca, Paramo de Chisaca: Soderstrom 1310 (K holo, US, W).

Illustrations (Journals): *Systematic Botany* (31:85, Fig.1 (2006)).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 10–18 cm long, 1–2 -noded. Culm-internodes smooth. Lateral branches lacking. Leaf-sheaths open for most of their length, with 0.33–0.5 of

their length closed, 7.5–8.5 cm long, glabrous on surface. Ligule an eciliate membrane, 2–4 mm long, erose, acute. Leaf-blades conduplicate, 4.2–5 cm long, 2 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, shorter than basal leaves, embraced at base by subtending leaf. Peduncle 2–4.5 cm long. Panicle contracted, elliptic, 4.5–6 cm long, 1–2 cm wide, bearing few spikelets, with spikelets clustered towards branch tips. Primary panicle branches 2 -nate, 0.9–2 cm long, bearing 5–6 fertile spikelets on each lower branch. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.5 mm long, scabrous.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2.8–3.2 mm long, 1–2 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.4–0.5 mm long, glabrous. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 2.8–3 mm long, 1 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or distinct. Lower glume apex acute. Upper glume oblong, 2.8–3.2 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3(–5) -veined. Upper glume primary vein scabrous. Upper glume lateral veins prominent. Upper glume apex acute.

Florets. Fertile florets alike but female above. Fertile lemma oblong, 3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous. Lemma lateral veins prominent. Lemma surface smooth or granulose. Lemma apex acute. Palea 1.5–1.8 mm long. Palea keels winged, scaberulous, adorned above, with 0.66 of their length adorned.

Flower and Fruit. Anthers 3, 1–1.2 mm long.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Colombia.

Poa spania E.Edgar & B.P.J.Molloy. *New Zealand J. Bot.*, 37(2): 43 (1999).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *B.P.J. Molloy s.n.*, 14 Nov 1996, New Zealand: North Otago, Waitaki Valley, Awahokomo Creek, true left, 14 Nov 1996 (CHR-511252).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk *spanos*, scarce. Known only from Waitaki Valley, New Zealand.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, short-lived, caespitose. Basal innovations extravaginal. Culms 10–22 cm long, wiry. Culm-internodes distally glabrous. Lateral branches lacking. Leaf-sheaths ribbed, smooth, glabrous on surface. Ligule a ciliolate membrane, 1–1.5 mm long, scaberulous on abaxial surface, lacerate. Leaf-blades conduplicate, 3–6 cm long, 1 mm wide, grey-green. Leaf-blade surface puberulous, hairy adaxially. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle. Panicle open, 2–6 cm long. Primary panicle branches bearing 1–2 fertile spikelets on each lower branch. Panicle axis smooth, glabrous. Panicle branches capillary, smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2.2–3 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5 mm long, glabrous or sparsely hairy. Floret callus sparsely hairy.

Glumes. Glumes persistent, similar, with lower narrower than upper, shorter than spikelet. Lower glume lanceolate, 2–2.5 mm long, 1 length of upper glume, membranous, much thinner on margins, 1-keeled, 1–3 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent or distinct. Lower glume apex acute or acuminate. Upper glume ovate, 2–2.5 mm long, 1 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 2–2.4 mm long, membranous, much thinner above, keeled, 5 -veined, more than 3-veined. Lemma surface puberulous. Lemma apex obtuse. Palea 2 mm long. Palea keels puberulous, adorned below, with 0.75 of their length adorned. Palea surface puberulous, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, 0.4 mm long, membranous. Anthers 3, 0.7–1.1 mm long. Caryopsis with adherent pericarp, 1.5 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand South I.

Poa speluncarum J.R. Edmondson. *Fl. Turkey & E. Aegean Is.*, 9: 623, 473 (1985).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Turkey. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Turkey, Ermenek to Oyuklu Dag: Davis 16180 (K holo, E).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *spelunca*, cave. Of caves, growing in moist shady caverns.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Butt sheaths herbaceous. Culms erect or geniculately ascending or decumbent, 10–25 cm long. Culm-internodes elliptical in section, smooth. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 3 mm long, acuminate. Leaf-blades 0.5–1.5 mm wide, flaccid.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, loose, 3–7 cm long. Primary panicle branches ascending, (2–)3–5 -nate, whorled at most nodes, bearing 1–2 fertile spikelets on each lower branch. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2.5–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2 mm long, 0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 2.3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Palea 0.9 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.2–1.3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Western Asia**. Turkey.

Poa sphondylodes Trin. ex Bunge. *Mem. Sav. Etr. Petersb.* 2: 145 (1835).

Accepted by: S-L Chen et al, *Flora of China 22* (Poaceae) (2006), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Bunge*, China: Hebei: Panshan (LE-TRIN-2698.02). ST: *Bunge*, China: [Hebei] prope Ssi-jui Ssy: in montosis (LE-TRIN-2698.03; IST: LE-TRIN-2698.01 (& fig.)).

Illustrations (Books): T.Koyama, *Grasses of Japan and its neighbouring regions* (1987) (103, Fig 29), C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (336), C-C Hsu,*Taiwan Grasses* (1975) (as var. *kelungensis*), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (as varieties *sphondylodes, subtrivialis, erikssonii* in Figures 411, 412, 413 respectively).

Derivation (Clifford & Bostock 2007): Gk *sphondylos*, vertebra; *-odes*, resembling. The spikelets resemble vertebrae.

Classification. Subfamily Pooideae. Tribe: Poeae.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East, **China**, **Eastern Asia**. China South Central, Inner Mongolia, Manchuria, China North-Central, China Southeast. Japan Hokkaido, or Honshu, or Shikoku, or Kyushu. Japan, Korea, Taiwan.

Hebei, Shaanxi, Shandong, Shanxi. Anhui, Henan, Jiangsu, Zhejiang. Sichuan.

Poa spiciformis (Steud.) Hauman & Parodi. *Physis,* ix. 344 (1929).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *W. Lechler 1068b*, Oct, Chile: Magallanes, prope Sandy Point in freso (P; IT: K, MB, P, US-2695870 (ex P-hb. Cosson), US-76310 (fragm. ex P [dupl. in Steudel script], fragm. ex K [also in Steudel script])).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (334).

Derivation (Clifford & Bostock 2007): L. *spica*, thorn; *forma*, appearance. Inflorescence a condensed spike-like panicle.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths thickened and forming a bulb, dark brown, persistent and investing base of culm. Culms 5–15 cm long, 1 -noded. Ligule an eciliate membrane, 1.5 mm long, acute. Leaf-blades straight or curved, filiform, convolute, 2–7 cm long, 0.5–1 mm wide. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong or ovate, 1–6.5 cm long, 1–1.5 cm wide. Primary panicle branches 1–3.5 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5.5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly. Floret callus hairs 0.2 length of lemma.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 3.5–5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 4–5.5 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, 4.5–6 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma margins ciliate, hairy below. Lemma apex acute. Palea keels scabrous, ciliate, adorned below (as to hairs). Palea surface glabrous or puberulous, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.2–2.3 mm long. Staminodes present, 0.2–0.3 mm long. Caryopsis with adherent pericarp, trigonous, 2 mm long. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female, 2–5 flowered.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Chile South.

Chubut, Santa Cruz, Tierra del Fuego. Magellanes.

Poa spicigera Tovar. *Mem. Mus. Hist. Nat. ' Javier Prado', Lima, No.* 15, 20 (1965).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *C. Vargas 11194*, 24 Mar 1956, Peru: Cuzco: Espinar Prov., Hda. C'uyo, estepa Gram., 4200–4500 m (US-2207305). pistillate, with vestigial anthers (US).

Illustrations (Books): S.A.Renvoize, *Gramineas de Bolivia* (1998) (137, Fig 34).

Derivation (Clifford & Bostock 2007): L. *spica*, thorn; *gero*, carry. Inflorescence a spicate panicle.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Culms erect, 10–16 cm long, 2 -noded. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 2.5–3.5 mm long, erose, truncate. Leaf-blades 3–5 cm long, 1–2.5 mm wide. Leaf-blade surface glabrous. Leaf-blade margins smooth.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear or oblong, 3.5–5.5 cm long, 0.7–0.8 cm wide. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, puberulous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–4.3 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.7–2.8 mm long, 0.9–1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2.8–3.1 mm long, 0.66 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4.2–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface smooth or asperulous, rough above. Lemma apex acute.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Bolivia, Peru.

Poa stapfiana Bor. *Kew Bull.* 1949, 239 (1949).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from Kashmir. **Basionym or Replaced Name**: *Poa tremula* Stapf, *Fl. Brit. India* 7(22): 344 (1897) [1896]. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Munro in hb. Jacquemont 277 no. 1285 (as P. altaica)*, in Basre et Paber vallibus (K(-156); IST: US-1063513 [1285, ex Manilla ex P]). [these are *P. hirtiglumis*, fide rjs 2005]. ST: *Herb. Ind. Or. Hf. & T. (in part) (as P. nepalensis & nemoralis)*, ST: *Wallich Cat. 3798 (in part)*, 1821, Nepal: (BM-57). [see also P. pseudopratensis]. ST: *Jacquemont & c.*, Kashmir: 8–15000 ft (US-1063511 (probable, as no. 1239 ex P ex Manila, but with no other data than Indes orient label provides)). ST: *Duthie*, Garwhal ST: *Thomson*, China: Xizang: Ladak ST: *Schlagintweit*, China: Xizang: Ladak ST: *Duthie Grass. N.W. Ind. 41*, NW India (US-947517 (Duthie 13516, 8 Aug 1893, could be material of this)). LT: *C.B. Clarke 31061*, 4 Sept. 1876, Kashmir: Palgam, 13,000 ft (K-158). LT designated by Rajbhandari, Univ. Mu. Univ. Tokyo Bull. 34: 239 (1991), cited as Holotype [this is not cited for the species by Stapf, but for var. micranthera; RJS 2003].

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (571, Fig. 19).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Otto Stapf (1857–1933) Austrian-born English botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Stolons present. Butt sheaths herbaceous. Culms decumbent, 20–60 cm long, rooting from lower nodes. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 2.5–5 mm long, obtuse. Leaf-blades flat or conduplicate, 5–14 cm long, 1–4 mm wide, firm or flaccid. Leaf-blade surface smooth or scabrous, rough adaxially. Leaf-blade margins scabrous. Leaf-blade apex abruptly acute or acute.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, effuse, 15–25 cm long, with spikelets clustered towards branch tips. Primary panicle branches spreading, 2 -nate. Panicle branches capillary, flexuous, smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or oblong, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate or elliptic, 2.8–3.8 mm long, 0.8–1 length of upper glume, membranous, 1-keeled, 1(–3) -veined. Lower glume lateral veins

absent or obscure. Lower glume apex acute. Upper glume oblong, 3–4.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 3–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface pubescent, hairy between veins. Lemma margins ciliate. Lemma apex acute. Palea 0.9 length of lemma. Palea keels scabrous, ciliate, adorned below (ciliate). Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.8–1.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **Western Asia**, **China**. Iran. Tibet. **Indian Subcontinent**. Eastern Himalaya, India, Nepal, Pakistan, West Himalaya.

Sikkim. Himachal Pradesh.

Poa stebbinsii R.J. Soreng. *Syst. Bot.,* 16(3): 513 (1991).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.T. Howell 25020*, 26 Jul 1948, USA: California: Tulare Co., Bubbs Creek Canyon, Sierra Nevada, 3139 m (US-2079027).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (567).

Illustrations (Journals): *Systematic Botany* (16: 514, Fig.3; 515. Fig.4 (1991)).

Derivation (Clifford & Bostock 2007): in honor of George Ledyard Stebbins (1906-) United States botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations extravaginal. Culms erect, slender, straight, (6–)10–30(–40) cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths open for most of their length, with 0.2–0.4 of their length closed. Ligule an eciliate membrane, (2.5–)3–6 mm long, hyaline or membranous, translucent, glabrous on abaxial surface, lacerate, obtuse or acute or acuminate. Collar glabrous. Leaf-blades conduplicate or involute, (5–)6–15 cm long. Leaf-blade venation distinct, comprising 7–9 vascular bundles. Leaf-blade surface smooth or scaberulous or scabrous, rough adaxially, glabrous or puberulous.

Inflorescence. Inflorescence a panicle. Peduncle 3–20(–29) cm long. Panicle open or contracted, lanceolate to ovate, loose, straight, (2.4–)3–6.5(–7.2) cm long, bearing few spikelets. Panicle branches terete or angular, scaberulous, rough throughout. Spikelets ascending, solitary. Fertile spikelets pedicelled. Pedicels present, 2–5 mm long.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5.3 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long, smooth or scaberulous. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma or similar to fertile lemma in texture, shiny. Lower glume lanceolate, 2.5–4 mm long, 0.85–0.95 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume elliptic, 2.7–4.7 mm long, 0.72–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface scabrous, rough on veins. Upper glume apex acute.

Florets. Fertile florets bisexual (sometimes female). Fertile lemma ovate, dorsally convex along back, ovate in profile, 3.7–4.4–5(–5.5) mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein without distinctive roughness or scaberulous, eciliate or ciliolate. Lemma lateral veins evenly spaced. Lemma surface smooth to scaberulous, glabrous. Lemma apex acute. Palea keels scabrous (finely), puberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers basifixed, 2–4.5 mm long, dehiscent by a longitudinal slit (?), purple. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Southwestern USA**. California.

Poa stellaris J.F. Veldkamp. *Blumea,* 38(2): 448 (1994).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from PNG. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.F. Veldkamp 6221*, 01 Apr 1975, Papua New Guinea: New Guinea, West Sepik, Star, 2,960 m (L).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *stella*, star; *-aris*, pertaining to. From the Star Mountains, Papua New Guinea.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations intravaginal. Culms erect, 17–40 cm long. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 0.3–0.65 mm long, 0.3–0.65 mm long on basal shoots, glabrous on abaxial surface, truncate. Leaf-blades erect, involute, 4–8 cm long, 0.5–1 mm wide, stiff. Leaf-blade surface scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 5.5–8 cm long, 1–1.5 cm wide. Primary panicle branches appressed, 2 -nate, 3–4 cm long, bearing 7–10 fertile spikelets on each lower branch. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising (2–)3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.75 mm long, scaberulous. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.1–2.5 mm long, 0.8–0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume lateral veins obscure. Lower glume surface asperulous, rough on veins. Lower glume apex acute. Upper glume ovate, 2.5–2.75 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume surface asperulous, rough on veins. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.25–3.6 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins prominent. Lemma surface scaberulous, rough on veins. Lemma apex acute. Palea 1 length of lemma. Palea keels scaberulous, adorned all along. Rhachilla extension 2.25–2.5 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.45–0.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea.

Poa stenantha Trin. *Mem. Acad. Sc. Petersb. Ser.* VI. i. 376. (1831).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Alaska & Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Eschscholtz Spec. Trin in litt. s. n. 29*, USA: Unalaschka (LE). ST var. vivipara: *D. Peters*, 1831, [Russia]: Kamtschatka (LE-TRIN 2699.08; IST: US- (ex hb. TRIN)). all P. arctica s.lat., viviparous and normal flw. specimens; TRIN 2699.07 is Unalashka, Kastalsky 1829 = P. arctica (viviparous) also; only TRIN 2699.06 is P. stenantha (viviparous) Sitka D. Mertens 1829. ST: *56*, [USA: Alaska] Unal. (LE-TRIN-2699.05). "Poa caespitosa". ST: *Postels*, 1829, [Russia]: Ins. Karaginsky (LE-TRIN-2699.04 a). 2699.04 a=P. arctica s.l. P. malacantha form (RJS), P. malacantha Kom. (Tzvelev); b=Poa wheeleri Vasey, mis. Lindly 1829 from Columbia no. 43 (RJS). ST: *D. Mertens*, [USA: Alaska]: Sitka (LE-TRIN 2699.03). "var. pluriflora" [in sched.]; a tall long branched broader leaved form RJS 94. ST: *D. Mertens*, 1829, [USA: Alaska]: Sitka (LE-TRIN-2699.02a & b). "var. angustifolia" [in sched.]; a=2700.01 a, 2700.04 etc.b=2700.01 c. ST: *Eschscholtz ded. 22*, [USA: Alaska] Unalaschka (LE-TRIN-2699.01). this plant is the same as 2700.01 b; this specimen was not part of the Trinius herb. but was added in May 94 by Tzvelev and Soreng. ST var. vivipara: *Chamisso*, [USA: Alaska] Unalaska: "etiam spiculis aliquot viviparis ... (LE-TRIN-2700.05). ST: *D. Mertens*, [USA: Alaska]: Sitka (LE-TRIN-2700.04). ST: *D. Mertens*, 1829, [USA: Alaska]: Sitka (LE-TRIN-2700.03 b). b) is probably the shorter plant, a good match for 2700.02, 2700.01 a, 2700.04. ST: *D. Kyber*, 1827, [USA: Alaska]: Sitka (LE-TRIN-2700.03 a). a) is probably the taller more open panicled plant. ST: [USA: Alaska]: Ins. Sitka (LE-TRIN-2700.02). Hortus Botanicus Imperilis

Petropolitanus (not stamped as Trinius Herbarium). ST: *27*, [USA: Alaska] Unalascka: in rupius fissuris (LE-TRIN-2700.01 b). scabrous branches, slender rachilla, v. sparse callus pub.. ST: *29*, [USA: Alaska] Unalaska: in rupibus (LE-TRIN-2700.01 a). smooth branches, stout rachilla, callus pub. around. IST: *Coll. Ukn. s.n.*, no date, USA: Alaska (US-556779b). ST: *Coll. Ukn. s.n.*, no date, USA: Alaska (US-556779a)

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Recent Synonyms: *Poa chorizantha E.Desv.* in C. Gay, *Fl. Chil.* 6: 407 (1853).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (335), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (595 as var. *stenantha* & var. *vivipara*), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (*Fl. Pat*. 3: 161, Fig. 98 (1978)).

Derivation (Clifford & Bostock 2007): Gk. *stenos*, narrow; *anthos*, flower. Spikelets narrow.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 25–60 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths open for most of their length, with 0.25 of their length closed, smooth. Ligule an eciliate membrane, 1.5–3.5 mm long, pubescent on abaxial surface, lacerate, acute. Leaf-blades flat or involute, 1–2 mm wide, flaccid.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, nodding, 7–15 cm long. Primary panicle branches spreading or drooping, 2–3 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3–4 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume elliptic, 4–5.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4–6 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface puberulous, hairy between veins. Lemma margins ciliate. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.2–2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America, South America.

Country /Province /State. **Subarctic America**, **Western Canada**, **Northwest USA**. Aleutian Is, Alaska, Yukon. Alberta, British Columbia. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. **Southern South America**. Argentina South, Chile Central, Chile South.

Neuquén, Río Negro, Santa Cruz, Tierra del Fuego. Rest of Chile- Biobio, La Auracania, Maule, O'Higgins, Santado, Valpariso. Santiago, Maule, Biobio, La Araucania. Los Lagos.

Poa sterilis Bieb. *Cauc.Fl. Taur.* i. 62 (1808).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Turkey. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: in Tauriae collibus apricis sterilibus; 1300–4700 m, (HT: LE (ex Tauria); IT: BM, LE [4]) "Tauria" not further identified; possibly Turkey [Taurus Mts.].

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. sterile. The spikelets fall soon after attaining maturity.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Butt sheaths herbaceous. Culms erect, 25–40 cm long, with 0.5 of their length below uppermost node. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 1.5–3 mm long, truncate. Leaf-blades flat or convolute, 3–15 cm long, 1–2 mm wide, flaccid. Leaf-blade surface smooth or scabrous. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 7–15 cm long, bearing few spikelets. Primary panicle branches ascending, 2–3 -nate. Panicle branches flexuous, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising (2–)3–4(–5) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate or elliptic, 3–4 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume lanceolate or elliptic, 3–4 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 2.5–4(–5) mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins ciliate. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Europe, Temperate Asia, Tropical Asia.

Region. **Northern Europe** (*), **Eastern Europe**.

Country /Province /State. : GB Aliens (Ryves et al). Krym, East European Russia, Northwest European Russia, Ukraine. **Caucasus**, **Western Asia**, **China**. Afghanistan, Iran, Iraq. China South Central, Xinjiang. **Indian Subcontinent**. Pakistan, West Himalaya.

Sichuan. Jammu Kashmir.

Poa stewartiana Bor. *Kew Bull.* 1951, 185 (1951).

Accepted by: N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: India: Jaunsar Distr., Mandali, in forest, 2000 m, 5 May 1897, *J.F. Duthie 19777* (HT: K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Ralph Randles Stewart (1890–1993), United States missionary and botanist at Rawalpindi, Pakistan.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Butt sheaths herbaceous. Culms erect or geniculately ascending, slender, 30–70 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 1–3 mm long, obtuse. Leaf-blades 7–15 cm long, 1.5–4 mm wide, flaccid. Leaf-blade margins scaberulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, effuse, nodding, 12–20 cm long. Primary panicle branches appressed or spreading or reflexed, 2 -nate. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or cuneate, laterally compressed, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume linear, 2.5–3 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 2.5–4 mm long, 1–1.1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, elliptic in profile or oblong in profile, 2.5–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins eciliate or ciliate. Lemma apex acute. Palea 0.9 length of lemma. Palea keels scabrous, ciliate, adorned below (ciliate). Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5–1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

n = 40 (2 refs TROPICOS).

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indian Subcontinent**. Pakistan.

Punjab, Uttah Pradesh. Jammu Kashmir.

Poa stiriaca Fritsch & Hayek. *Fritsch, Exkursionsfl. ed.* 3, 666 (1922).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from Austria. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Austria: Styria,.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *stiria*, icicle. Growing on high mountains.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Stolons present. Basal innovations extravaginal. Culms erect, 50–80 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1–2 mm long, obtuse. Leaf-blades filiform, conduplicate, 30–40 cm long, 0.2–0.3 mm wide. Leaf-blade surface puberulous, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic or ovate, 4–18 cm long. Panicle branches channelled, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 2–3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate. Lemma margins ciliolate. Lemma apex acute. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

$2n$ = 14 (1 ref TROPICOS), or 56 (4 refs TROPICOS).

Distribution (TDWG). Continent. Europe.

Region. **Middle Europe**, **Southeastern Europe**.

Country /Province /State. : Austria, Czechoslovakia, Poland. : Romania, Yugoslavia.

Poa strictiramea Hitchcock. *Contrib. US. Nat. Herb.* xvii. 375 (1913).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Mexico. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Pringle 1437*, 2 Sep 1887, Mexico: Chihuahua: Cusihuiriachic, cool ledges of La Bufa Mt. (US-820909; IT: GH, MSC, NY).

Recent Synonyms: *Poa involuta* Hitchcock, *Proc. Biol. Soc. Wash.* 41: 159. (1928).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (541).

Illustrations (Journals): *Phytokeys* (15:28, 85; Figs .6, 20 (2012)).

Derivation (Clifford & Bostock 2007): L. *strictus*, erect; *ramus*, branch. Inflorescence branches erect.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 30–40 cm long, 3 -noded. Leaf-sheaths antrorsely scabrous. Ligule an eciliate membrane, 2 mm long. Leaf-blades flat or conduplicate, 15–20 cm long, 1–2 mm wide. Leaf-blade surface scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 10 cm long, with spikelets clustered towards branch tips. Primary panicle branches ascending, 2 -nate, 5–6 cm long. Panicle branches stiff. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 3.5 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, 4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface scaberulous, rough generally. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

n = 14 (1 ref TROPICOS).

Distribution (TDWG). Continent. North America.

Country /Province /State. **South-central USA**, **Mexico**. Texas. Northeast Mexico, Southwest Mexico. Coahuila, Chihuahua, Durango, Neuvo Leon, Zacatecas. Jalisco.

Poa stuckertii (Hack.) Parodi. *Physis,* xi. 137 (1932).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. **Basionym or Replaced Name**: *Poa lanigera* var. *stuckertii* Hack., *Anales Mus. Nac. Buenos Aires* 21: 152 (1911). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *T.J.V. Stuckert 21060*, no date, Argentina: (W(fragm., US-88722)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (335).

Derivation (Clifford & Bostock 2007): in honor of Teodoro Juan Vicente Stuckert (1852–1932) Swiss-born Argentinian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending, 60–100 cm long. Culm-nodes glabrous. Ligule an eciliate membrane, 1–2 mm long, truncate or obtuse. Leaf-blades 15–30 cm long, 5–7 mm wide. Leaf-blade surface smooth. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, dense, 5–15 cm long, 2.5–3.5 cm wide. Primary panicle branches bearing spikelets almost to the base. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4.5–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume lanceolate, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma lanceolate, 4–5.5 mm long, 1 mm wide, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins distinct. Lemma apex acuminate. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northeast, Argentina Northwest. San Luis. Cordoba.

Poa suavis J.F. Veldkamp. *Blumea,* 38(2): 448 (1994).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from PNG. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *R.D. Hoogland; R. Schodde 7400*, 10 Aug 1960, Papua New Guinea: New Guinea, Western Highlands, Lagaip, 2,591 m (L).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *suavis*, agreeable. Habit graceful.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations extravaginal or intravaginal. Culms erect, 9–30 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheath oral hairs pubescent. Ligule an eciliate membrane, 0.5 mm long, 0.5 mm long on basal shoots, scaberulous on abaxial surface, acute. Leaf-blades erect, filiform, involute, 4.5–7 cm long, 0.5–0.6 mm wide, stiff. Leaf-blade surface smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 1.7–3.4 cm long, 0.8–1.5 cm wide. Primary panicle branches ascending, 1–3 -nate, 0.7–1.3 cm long, bearing 2–9 fertile spikelets on each lower branch. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2.5–3.25 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.4–0.5 mm long, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.1–1.5 mm long, 0.8–0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume ovate, 1.35–1.6 mm long, 0.7–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex acute.

Florets. Fertile lemma ovate, 1.4–2.25 mm long, membranous, keeled, 3–5 -veined, 0–3 -veined or more than 3-veined. Lemma midvein scaberulous. Lemma lateral veins obscure. Lemma apex acute. Palea keels scaberulous. Rhachilla extension 1–1.5 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.4 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea.

Poa subfastigiata Trin. ex Ledeb. *Fl. Alt.* i. 96 (1829).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *comm. am. Fischer*, Russia: ad Udam montosum Altaicorum (LE-TRIN-2703.05). [other specimens, 01--04, are collected by Turcz., in Transbaical region, or lack label data].

Recent Synonyms: *Arctopoa subfastigiata* (Trin.) Probatova, *Novosti Sist. Vyssh. Rast.*, 11: 52 (1974).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 361).

Derivation (Clifford & Bostock 2007): L. *sub*, approaching; *fastigio*, sharpen to a point. Panicle branches held erect and produced in twos or threes from the same node.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms 35–120 cm long. Culm-internodes elliptical in section, smooth. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1.5 mm long. Leaf-blades flat or conduplicate, 2–5 mm wide, stiff. Leaf-blade surface scabrous, rough adaxially, glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 15–25 cm long, 10–25 cm wide. Primary panicle branches 2–5 -nate, 5–10 cm long. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–8 mm long, 2–4 mm wide, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.75 length of upper glume, membranous, 1-keeled. Lower glume apex acute. Upper glume ovate, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4–5.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins prominent. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia, Russian Far East, **China**, **Mongolia**, **Russia**. Altay, Buryatiya, Chita, Irkutsk, Krasnoyarsk, Tuva. Amur, Primorye. Inner Mongolia, Manchuria, China North-Central, Qinghai. Mongolia.

Gansu.

Poa sublanata Reverd. *Animadvers. Syst. Herb. Univ. Tomsk.* 1934, Nos. 2–3, p. 1. (1934).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: (LE). Possible type.. ST: *T. Voblokova & A. Protopopova s.n.*, 1920, Lower part of Rv. Enisej: vic. Dudinka: Isl. Kabatsky (LE). Orig. label: Nizov'ya Eniseya: okr.Dudinki: Kobatskij ostrov.. LT: *V. Reverdatto*, 31 Jul 1914, Russia: Enisei, 69?5' N, Leontievskii Island, sands (TK). LT noted in Tzvelev, Zlakii SSSR p. 458 (1976).

Illustrations (Books): N.N.Tsvelev, *Grasses of the Soviet Union* (1983) (633 (421), Pl.8), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (528).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms 50–70 cm long. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 5 mm long, lacerate, acuminate. Leaf-blades flat or conduplicate, 20–30 cm long, 3–3.5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 12–17 cm long, 7–8 cm wide. Primary panicle branches 3–6 -nate, 1–8 cm long, bearing 1–3 fertile spikelets on each lower branch. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 6–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume ovate, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins prominent. Lemma surface puberulous. Lemma margins ciliate, hairy below. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, North America.

Country /Province /State. Siberia, Russian Far East. Kamchatka. **Subarctic America**. Alaska.

Poa sublimis E.Edgar. *New Zealand J. Bot.*, 24(3): 465 (1986).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *V.D. Zotov s.n.*, 21 Feb 1943, New Zealand: Arthurs Pass National Park, Mount Blimit, 6000 ft (CHR-25232).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *sublimo*, raise up. Culms tall.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, cushion forming or caespitose. Basal innovations extravaginal. Culms 5–15 cm long. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 0.5 mm long, glabrous on abaxial surface, entire, obtuse. Leaf-blades conduplicate, 1–5 cm long, 1–1.5 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, ovate, 1–4.5 cm long. Panicle branches capillary, smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, smooth.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5 mm long, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.5–2.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 1.8–3.2 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 2–3.5 mm long, membranous, keeled, 5–7 -veined, more than 3-veined. Lemma surface smooth, glabrous. Lemma apex obtuse. Palea 1.5–2.5 mm long. Palea keels scabrous. Palea surface smooth.

Flower and Fruit. Lodicules 2, 0.3–0.6 mm long, membranous. Anthers 3, 0.3 mm long. Caryopsis with adherent pericarp, 1 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand South I.

Poa subspicata (Presl) Kunth. *Enum. Pl.* i. 326. (1830).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Peru. **Basionym or Replaced Name**: *Brizopyrum subspicatum* J. Presl, *Reliq. Haenk.* 1(4–5): 281 (1830). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Haenke s.n. [172 at W]*, Jan 1831, Peru: Mont Quanve (PR; IT: US-865536A (fragm. ex PR), W-s.n.).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *sub*, approaching; *spica*, spike; *-ata*, possessing. Inflorescence a spike-like panicle.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 8–24 cm long, 3–4 -noded. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1–2 mm long, erose. Leaf-blades conduplicate, 3–8 cm long, 2–3 mm wide. Leaf-blade surface glabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear, 3–7 cm long, 0.5–0.8 cm wide. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute.

Upper glume ovate, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4–4.3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma surface pubescent, hairy below, hairy on veins. Lemma apex acute. Palea keels ciliolate.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.8–1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Northern South America**, **Western South America**. Venezuela. Bolivia, Colombia, Ecuador, Peru.

Poa subvestita (Hack.) E.Edgar. *New Zealand J. Bot.,* 24(3): 436: (1986).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. **Basionym or Replaced Name**: *Poa novae-zelandiae* var. *subvestita* Hack., *Trans. & Proc. New Zealand Inst.* 35: 382 (1903). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *L. Cockayne s.n. [1346 to Hackel]*, 1898, New Zealand: Arthurs Pass, Canterbury Alps, pistillate plant (W-9510; ILT (probable): WELT-66701, WELT-66709 (both dated 1898)). LT designated by Edgar, New Zealand J. Bot. 24: 436 (1986).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *sub*, approaching*; vestita*, clothing. Lemmas softly hairy at the base.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations extravaginal. Culms robust, 20–40 cm long. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 1–2.5 mm long, entire or erose, acute. Leaf-blades 5–20 cm long, 2–4 mm wide, coriaceous. Leaf-blade surface scaberulous, rough adaxially, glabrous. Leaf-blade margins cartilaginous, smooth. Leaf-blade apex obtuse or abruptly acute. Dioecious.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, nodding, 6–10 cm long. Panicle branches smooth or with occasional prickles. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 8–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long, glabrous or sparsely hairy. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3–4.5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein smooth. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 3–5.5 mm long, 0.66–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein smooth. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma lanceolate, 4.5–6 mm long, membranous, much thinner on margins, keeled, 3 -veined, 0–3 -veined. Lemma surface smooth, pubescent, hairy below, hairy on veins. Lemma apex obtuse or acute. Palea 3.5–4 mm long. Palea keels ciliolate, adorned above.

Flower and Fruit. Lodicules 2, 0.5–1 mm long, membranous. Anthers 3, 2–3 mm long. Staminodes present, 0.3–0.7 mm long. Caryopsis with adherent pericarp, 0.5–0.8 mm long. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand South I.

Poa sudicola E.Edgar. *New Zealand J. Bot.*, 24(3): 437 (1986).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *A.P. Druce s.n.*, Feb 1982, New Zealand: Pike Peak, Allen Range, NW Nelson, 4900 ft, limestone scree, pistillate plant (CHR-369894A).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *sudis*, crag; *-cola*, dweller. Inhabitating steep mountain slopes.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Basal innovations extravaginal. Culms 10–25 cm long. Lateral branches lacking. Leaf-sheaths keeled, smooth or scaberulous, glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long, truncate. Leaf-blades involute, 5–9 cm long, 1 mm wide. Leaf-blade surface smooth, glabrous or pubescent, sparsely hairy, hairy adaxially. Leaf-blade apex attenuate, hardened. Dioecious.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, 2–4.5 cm long. Primary panicle branches appressed. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, smooth.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 3.5–4 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein smooth. Lower glume lateral veins absent or distinct. Lower glume apex acute. Upper glume ovate, 4–4.5 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3–5 -veined. Upper glume primary vein smooth. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma elliptic, 4.5–5 mm long, membranous, keeled, 5–7 -veined, more than 3-veined. Lemma midvein scaberulous, ciliolate, hairy below. Lemma surface pubescent, hairy at base, hairy on veins. Lemma apex acute. Palea 3–4 mm long. Palea keels ciliolate. Palea surface smooth.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.9–3.3 mm long. Staminodes present, 0.6–1 mm long. Caryopsis with adherent pericarp, 1–2 mm long. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand South I.

Poa sugawarae Ohwi. *Acta Phytotax. & Geobot.* iv. 63. (1935).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *S. Sugawara 26*, 1 Jul 1934, Saghalien: (KYO s.n.). Possible type..

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Shigezo Sugawara (fl. 1937) Japanese botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths pallid, persistent and investing base of culm. Basal innovations intravaginal. Culms 15–30 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaf-sheaths 1–3 cm long, glabrous on surface. Ligule an eciliate membrane, 0.5 mm long, erose, truncate. Leaf-blades 2–5 cm long, 2–3 mm wide, 1 cm long at summit of culm, glaucous. Leaf-blade surface glabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, nodding, 2 cm long. Primary panicle branches 1–2 -nate, 0.5–1 cm long, bearing 1–2 fertile spikelets on each lower branch. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets obovate, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–3 mm long, 0.75 length of upper glume, membranous, much thinner on margins, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume ovate, 3.5–4 mm long, 0.75 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume lateral veins obscure. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 4–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins obscure. Lemma margins ciliate, hairy below. Lemma apex erose, obtuse. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2–2.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East. Sakhalin.

Poa suksdorfii (Beal) Piper. *Contrib. US Nat. Herb.* 11:135 (1906).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from USA. **Basionym or Replaced Name**: *Atropis suksdorfii* Beal, *Grass. N. Amer.* 2: 574 (1896). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Suksdorf 1116*, 3 Sep 1891, USA: Washington: Mt. Paddo [Mt. Adams], gravelly places near glaciers, 7000–8000 ft (US-556755; IT: GH, MICH, MO-3050424, MSC, OSC, UC, US-824830, WSU).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (587).

Derivation (Clifford & Bostock 2007): in honor of Wilhelm Nikolaus Suksdorf (1850–1932), German-born United States botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 10–15 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths tubular for much of their length, with 0.5 of their length closed. Ligule an eciliate membrane, 2–3 mm long, pubescent on abaxial surface, entire or lacerate, acute. Leaf-blades conduplicate, 2–5 cm long, 1–2 mm wide, stiff. Leaf-blade surface smooth or scaberulous, rough abaxially, glabrous or puberulous, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear, 2–5 cm long, 0.5–1 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1–1.5 mm long, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 4–4.5 mm long, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume elliptic, 4.5–5 mm long, 1–1.1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface smooth to scabrous, glabrous. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1–1.3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Western Canada**, **Northwest USA**, **Southwestern USA**. British Columbia. Oregon, Washington. California.

Poa sunbisinii Soreng & G. Zhu. *Fl. China* 22:294 (2006).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China, Yunnan, Bijiang: Soreng, Perterson & Sun Hang 5222 (US holo, KUN, PE).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 399).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual or perennial, short-lived, caespitose. Culms erect or geniculately ascending, 25–80 cm long, 1–3.5 mm diam., 2–4 -noded, with 0.5 of their length below uppermost node. Culm-internodes smooth or scaberulous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths open for most of their length, with 0.5 of their length closed, 6–15 cm long, smooth, glabrous on surface. Ligule an eciliate membrane, 1–2(–5) mm long, scaberulous on abaxial surface, obtuse. Collar glabrous. Leaf-blades flat or conduplicate, 8–30 cm long, 1.5–5 mm wide. Leaf-blade venation prominent, with 4–10 secondary veins. Leaf-blade surface scabrous, rough abaxially or on both sides, glabrous. Leaf-blade margins smooth or scaberulous. Leaf-blade apex abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 8–25 cm long. Primary panicle branches ascending or spreading, 2 -nate, 8–11 cm long, bearing 5–13 fertile spikelets on each lower branch. Panicle axis with lower internodes 4 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 7–10 mm long, with hairs extending 4–7 mm beyond apex, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long, scaberulous. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.3–4.6 mm long, 0.9 length of upper glume, membranous, purple, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins obscure. Lower glume apex acute. Upper glume lanceolate, 3.8–5 mm long, 0.9 length of adjacent fertile lemma, membranous, purple, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.7–5.2 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma surface scabrous. Lemma apex acute. Palea surface scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.7–1.6 mm long.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China South Central.

Yunnan.

Poa superata Hackel apud Stuckert. *An. Mus. Nac. Buenos Aires,* xxi. 159 (1911).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *T.J.V. Stuckert Herb. ARG. 17738 ex Lillo 5604*, 29 Jan 1907, Argentina: Tucumán: Dept. Taf? Cumbres Calchaquíes, 4200 m (W; IT: BAA, CORD, LIL, US-88721 (fragm. ex W)). pistillate (W).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (336).

Derivation (Clifford & Bostock 2007): L. *supero*, overtop. Inflorescence projecting conspicuously at anthesis.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Culms erect, 18–25 cm long, 3 -noded, with 0.33 of their length below uppermost node. Culm-internodes distally glabrous. Lateral branches lacking. Leaf-sheaths longer than adjacent culm internode. Ligule an eciliate membrane, 3 mm long, erose, truncate. Leaf-blades 10–12 cm long, 1–2 mm wide, flaccid. Leaf-blade surface glabrous. Leaf-blade margins scabrous. Leaf-blade apex acuminate. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle open, oblong or ovate, 10 cm long, with spikelets clustered towards branch tips. Primary panicle branches 3–4 -nate. Panicle axis smooth. Panicle branches flexuous, smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 3.5 mm long, 0.66 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma lanceolate, 4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent, hairy below. Lemma apex obtuse. Palea 1 length of lemma. Palea keels puberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northwest, Chile North.

Jujuy, La Rioja, Salta, Tucuman. Tarapaca.

Poa superbiens (Steud.) Hauman & Parodi. *Physis,* ix. 344 (1929).

TYPE from Chile. **Basionym or Replaced Name**: *Aira superbiens* Steud., *Syn. Pl. Glumac.* 1: 424 (1854). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *W. Lechler hb. 1194*, Dec, Chile: Magallanes, Sandy Point, in arenosis pr. (P; IT: BAA (fragm.), MB, US-2695872 (ex P-hb. Cosson), US-76311 (ex W), US-88720 (fragm. ex K)). viviparous.

Illustrations (Books): M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (183, Fig 119).

Derivation (Clifford & Bostock 2007): L. *superbio*, be splendid. At maturity the inflorescence is amethyst colored.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm. Culms geniculately ascending, robust, 30–60 cm long, 2–3 -noded. Leaf-sheaths loose, striately veined, glabrous on surface. Ligule an eciliate membrane, 5–10 mm long, scaberulous on abaxial surface, acute. Leaf-blades flat or convolute, 12–25 cm long, 3–5 mm wide, stiff. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade apex pungent. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, 7–15 cm long, 1.5–2.5 cm wide. Panicle axis scabrous. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 8–12 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous or pubescent. Floret callus hairs 0–1 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 6.5–8 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume ovate, 6.5–8 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, 6.5–9.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma surface scaberulous, rough above, glabrous or puberulous. Lemma margins ciliate, hairy below. Lemma apex acute. Palea 4.5–6.5 mm long. Palea keels ciliate, adorned below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, 1 mm long, membranous. Anthers 3. Staminodes present, 0.2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Chile South.

Chubut, Santa Cruz. Chiloe, Aisen, Magellanes. Magellanes.

Poa supina Schrad. *Fl. Germ.* i. 289 (1806).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Austria. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: In alpibus Austriae, Styriae,Carinthiae, Carniolae, Tirolis: Sieber (LE). T: *Sieber*, In alpibus Austriae, Styriae, Carinthiae, Carniole, Tyrolis (LE). sp.no. b. Steyeam: sp. no. c. ex Helvetia. T: *Mielichofer Herb. Schrader*, [Austria]: ex summis alpib. Salisburg. (LE). T: *ab ipso acc. Goett. 1836*, (LE). T: in monte Pasterze admales glacialis altissimi montis Glohner (LE). b equals *Poa pallens* Hallier f. ex Gaudin : Tyroler Alpen: Hoppe.

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (52 1).

Derivation (Clifford & Bostock 2007): L. prostrate. Strongly rhizomatous.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths herbaceous. Culms decumbent, 6–25 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 1–1.5 mm long, obtuse. Leaf-blades flat or conduplicate, 1–7 cm long, 2–3 mm wide, flaccid. Leaf-blade margins scabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 2–3 cm long, with spikelets clustered towards branch tips. Primary panicle branches spreading, 1–2 -nate. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 3.5–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 1.5–1.7 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 2–2.5 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, elliptic in profile or oblong in profile, 2.5–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins ciliate. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous, ciliolate, adorned all along. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, (1.2–)1.6–2(–2.5) mm long. Caryopsis with adherent pericarp. Hilum punctiform.

n = 7 (1 ref TROPICOS), or 14 (3 refs TROPICOS). 2n = 14 (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia, Tropical Asia, North America.

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Denmark, Finland, Norway, Sweden. : Austria, Czechoslovakia, Germany, Hungary, Poland, Switzerland. : Corsica, France, Spain. : Italy, Romania, Yugoslavia. Baltic States, Central European Russia, North European Russia, Northwest European Russia, Ukraine. Siberia, **Middle Asia**, **Western Asia**, **China**, **Mongolia**. Altay, Buryatiya, Chita, Irkutsk, Krasnoyarsk, Tuva. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan. Afghanistan, Iran. China South Central, Tibet, Xinjiang. Mongolia. **Indian Subcontinent**. Nepal, Pakistan, West Himalaya. **Northeast USA**. New York.

Sichuan, Yunnan. Himachal Pradesh, Jammu Kashmir.

Poa swallenii N.F. Refulio-Rodriguez. *Syst. Bot.* 37 (1): 130 (2012).

TYPE from Peru. **Basionym or Replaced Name**: *Dissanthelium expansum* Swallen & Tovar, *Phytologia,* 11: 374 (1965). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Peru:, *Cook & Gilbert 1305* (HT: US).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *pando*, expand. Inflorescence an open panicle.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending, 6–10 cm long. Leaves mostly basal. Leaf-sheaths scaberulous. Ligule an eciliate membrane, 1–3 mm long. Leaf-blades ascending, flat or conduplicate, 1–4 cm long, 1–2 mm wide. Leaf-blade surface smooth. Leaf-blade margins scabrous. Leaf-blade apex obtuse or abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong, 2–3.3 cm long, 1.5–2 cm wide. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 3.5–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.3 mm long.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 3.5–4 mm long, 1 length of upper glume, membranous, purple, 1-keeled, 3 -veined. Lower glume primary vein smooth or scaberulous. Lower glume apex acute. Upper glume lanceolate, 3.5–4 mm long, 1.3–1.5 length of adjacent fertile lemma, membranous, purple, 1-keeled, 3 -veined. Upper glume primary vein smooth or scaberulous. Upper glume apex acute.

Florets. Fertile lemma oblong, 2.4–3 mm long, chartaceous, keeled, 3 -veined, 0–3 -veined. Lemma surface scaberulous. Lemma apex truncate. Palea keels ciliolate, adorned above.

Flower and Fruit. Anthers 3, 0.9–1 mm long. Ovary glabrous. Endosperm farinose.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa sylvestris A.Gray. *Man. Bot. N. U. St.* ed. I. 596. (1848).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *C. W. Short*, 1842, USA: Meadows of Ohio (GH; IT: US-556808 (fragm. ex GH holotype & photo)). as "*P. shortii*", LT designated by A.S. Hitchc., Man. Grasss 936 (1935), without citation of herbarium, GH has the specimen. ST: *Short 8*, 1835, USA: Kentucky, cliffs (GH). ST: *Sullivant*, USA: Michigan (GH).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (511).

Derivation (Clifford & Bostock 2007): L. *silva*, wood; *-estris*, place of growth. Plants of woodlands.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths herbaceous. Culms 30–60(–90) cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths smooth, glabrous on surface or pubescent. Ligule an eciliate membrane, 2–3 mm long. Leaf-blades 2–5 mm wide, flaccid.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, ovate, 10–18 cm long. Primary panicle branches spreading, 3–7 -nate, 3.5–6 cm long. Panicle branches flexuous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, membranous, 1-keeled. Lower glume apex acute. Upper glume oblong, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 2.5–3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent. Lemma surface smooth or scaberulous, glabrous or pubescent. Lemma margins pubescent. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **North-central USA**, **Northeast USA**, **South-central USA**, **Southeastern USA**. Illinois, Iowa, Kansas, Minnesota, Missouri, Nebraska, Oklahoma, South Dakota, Wisconsin. Indiana, Ohio, New Jersey, New York, Pennsylvania, West Virginia. Texas. Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, District of Columbia.

Poa szechuensis Rendle. *Journ. Bot.* xlvi. 173 (1904).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. **Basionym or Replaced Name**: *Poa gracillima* Rendle, *J. Linn. Soc., Bot.* 36(254): 424–425 (1904). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Sichuan: Emei Shan, *Faber 1185* (HT: K).

Recent Synonyms: *Poa tibeticola* Bor, *Kew Bull.* 1948, 139 (1948). *Poa debilior* Hitchcock, *Proc. Biol. Soc. Wash.* 53: 93. (1930).

Poa rossbergiana Hao, *Engl. Jahrb.* 68: 581 (1938).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (as *P. szechuensis* var. *debilior* & *P. szechuensis* var. *rossbergiana* in Fig. 400 & Figs. 401/402 respectively).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Szechuan, China.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 10 cm long. Culm-internodes elliptical in section. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long, obtuse. Leaf-blades 1.5 mm wide, flaccid. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Panicle open, elliptic, 4 cm long. Primary panicle branches ascending, 1 -nate, 1 cm long, bearing 1–5 fertile spikelets on each lower branch. Panicle axis 5 noded. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scaberulous.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1 mm long, 0.66 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 1.7 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex acute.

Florets. Fertile lemma ovate, 2 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous. Lemma apex obtuse. Palea keels scaberulous, adorned above.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. China South Central, China North-Central, Qinghai, Tibet. **Indian Subcontinent**. Eastern Himalaya, Nepal.

Gansu, Hebei, Shaanxi, Shanxi. Sichuan, Yunnan.

Poa tacanae Swallen. *Contrib. U. S. Nat. Herb.* xxix. 399 (1950).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Guatemala. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.A. Steyermark 36083*, 19 Feb 1940, Guatemala: San Marcos (F-1059917; IT: US-2236477 (fragm.)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): from Mt Tacana, Guatemala.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms erect, 30 cm long. Leaf-sheaths longer than adjacent culm internode, smooth, glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long, truncate. Leaf-blades 10–15 cm long, 1–2 mm wide. Leaf-blade surface scabrous, rough abaxially. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 9 cm long. Panicle branches flexuous, smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.8–2 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume lanceolate, 2.5 mm long, 0.66 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma ovate, 4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface scabrous, rough above or on veins. Lemma apex acute.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America, South America.

Country /Province /State. **Mexico**. Southeast Mexico. **Mesoamerica**. Guatemala.

Chiapas.

Poa taiwanicola Ohwi. *Acta Phytotax. & Geobot., Kyoto,* vii. 131. (1938).

TYPE from Taiwan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J. Ohw 4115*, 19–20 Jul 1933, Taiwan (KYO s.n.).

Illustrations (Books): C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (338), C-C Hsu,*Taiwan Grasses* (1975).

Derivation (Clifford & Bostock 2007): L. *-cola*, dweller. Growing in Taiwan.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms erect, 20–30 cm long. Culm-internodes terete. Lateral branches lacking. Leaf-sheaths 5–7 cm long, longer than adjacent culm internode, smooth, glabrous on surface. Ligule an eciliate membrane. Leaf-blades 2–3 mm wide, stiff. Leaf-blade surface smooth. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear or lanceolate, 10–15 cm long, 1–2 cm wide. Primary panicle branches appressed, 2–4 -nate, with lower 0.33–0.5 length of panicle, bearing 1–10 fertile spikelets on each lower branch. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.5–4 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume oblong, 3.5–4 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma lanceolate, oblong in profile, 3.5–4 mm long, membranous, much thinner on margins, light brown or purple, suffused with last colour, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent, hairy below. Lemma lateral veins with distinct primaries but obscure intermediates. Lemma surface punctate. Lemma margins pubescent, hairy below. Lemma apex acute. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**, **Eastern Asia**. Taiwan.

Poa takasagomontana Ohwi. *Fedde, Repert.* vi. 41 (1934).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from Taiwan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: PT: *Ohwi 4219*, 21 Jul 1933, Taiwan: M. Nankotaisan in Taihokushu (KYO s.n.).

Illustrations (Books): C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (340), C-C Hsu,*Taiwan Grasses* (1975), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 395).

Derivation (Clifford & Bostock 2007): L. mons, mountain; *-ana*, indicating location. From Takasago, Honshu Island, Japan.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms slender, 40–50 cm long, 0.3–0.5 mm diam. Culm-internodes terete. Lateral branches lacking. Ligule an eciliate membrane, 1–1.5 mm long, acuminate. Leaf-blades 10–15 cm long, 1–1.5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 10 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 3.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.5 mm long, 0.5 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 3 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.5 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma surface glabrous. Lemma apex acute. Palea 3 mm long. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1 mm long. Caryopsis with adherent pericarp, 1.5 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**, **Eastern Asia**. Taiwan.

Poa talamancae R.W. Pohl. *Fieldiana, Bot.,* 38(2): 8 (1976).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Costa Rica. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *Scott Mori & Roger Anderson 214*, 22 Jul 1966, Costa Rica: Prov. de Cartago: 83 km from San Jose on the Pan American Highway: Asuncion (summit of the Cerro de la Muerte) (LE).

Illustrations (Books): W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (489&492, Fig 183&185).

Derivation (Clifford & Bostock 2007): from Cordillera de Talamanca, Costa Rica.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms erect or geniculately ascending, 20–60 cm long, 1 mm diam., 3 -noded. Culm-nodes purple. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths keeled, smooth, glabrous on surface. Ligule an eciliate membrane, 1–2 mm long. Leaf-blades 3–15 cm long, 2–4 mm wide, dark green. Leaf-blade surface scaberulous. Leaf-blade margins scabrous. Leaf-blade apex hooded.

Inflorescence. Inflorescence a panicle. Peduncle 6–10 cm long. Panicle open, pyramidal, 8–11 cm long, 3–6 cm wide, bearing few spikelets. Primary panicle branches 1–2 -nate, 2–3 cm long. Panicle branches flexuous. Spikelets appressed, solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4.5–5.6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 1.8–2.4 mm long, 0.75–0.8 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume oblong or obovate, 2.3–3.4 mm long, 0.75–0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma oblong, 3.1–4.1 mm long, membranous, purple, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous, ciliate, hairy below. Lemma surface scaberulous, rough above. Lemma margins ciliate, hairy at base. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.1–1.4 mm long, yellow. Caryopsis with adherent pericarp, ovoid, 2 mm long. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Mesoamerica**. Costa Rica.

Poa tanfiljewii Roshev. ex Komarov. *Fl. URSS,* ii. 413 (1934).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *G. Tanfiliev*, 8 Aug 1892, Russia: Timanskaya tundra, Pechora bank near Kuraboz between Viska and Oksin (LE; IT: LE).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Gavril Ivanovich Tanfiljev (1857–1928) Russian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending, 40–60 cm long, with 0.33–0.5 of their length below uppermost node. Culm-internodes terete, smooth, distally glabrous. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 0.3–1.2 mm long, obtuse. Leaf-blades 1.5–4 mm wide. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, loose, 5–11 cm long. Primary panicle branches 3–5 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 3.5–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes pubescent. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma lateral veins obscure. Lemma surface pilose, hairy on veins. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Eastern Europe**.

Country /Province /State. North European Russia. Siberia, **Middle Asia**, **Caucasus**, **China**. Xinjiang.

Poa tangii Hitchcock. *Proc. Biol. Soc. Wash.* xliii. 94. (1930).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Shanxi: Pingyao Xian, shady ravine at Me-chaio-ku village, 1700 m, 21 May 1929, *T. Tang 835* (HT: US; IT: NAS, PE).

Recent Synonyms: *Poa shansiensis* Hitchcock, *Proc. Biol. Soc. Wash.* 43: 93. (1930).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Figs. 369 & 370).

Derivation (Clifford & Bostock 2007): in honor of Tang Tsin (1897–1984) Chinese botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary. Rhizomes elongated. Culms erect, 40 cm long. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1 mm long, truncate. Leaf-blades 1.5–3 cm long, 1–2 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 2–6 cm long, with spikelets clustered towards branch tips. Primary panicle branches ascending or spreading, 2 -nate, 2–3 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 4 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4–4.5 mm long, membranous, firmer above, shiny, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma margins ciliolate, hairy below. Lemma apex obtuse. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. Inner Mongolia, China North-Central, Qinghai.

Gansu, Hebei, Shanxi.

Poa telata J.F. Veldkamp. *Blumea,* 38(2): 449 (1994).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Papua New Guinea. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *W. McGregor 29*, 1889, Papua: New Guinea: New Guinea I., Cantral Div., Mt. Knustford (L, US-1259890).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *tela*, web; L. *-ata*, possessing. Lemmas sparsely hairy.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations intravaginal. Culms erect, 17–30 cm long. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 3.5–4.15 mm long, 2–3 mm long on basal shoots, acuminate. Leaf-blades erect, involute, 5.5–11 cm long, 0.75–1.25 mm wide, stiff. Leaf-blade surface smooth. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, nodding, 6–10 cm long, 1–2 cm wide. Primary panicle branches 1–2 -nate, 4.5–5 cm long, bearing 7–10 fertile spikelets on each lower branch. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5.75–6.25 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.75–1 mm long, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume lanceolate, 4.4–5.5 mm long, 0.8–0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume lateral veins obscure. Lower glume surface asperulous, rough generally. Lower glume apex acute. Upper glume ovate, 5.3–6.2 mm long, 1.1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume surface asperulous, rough generally. Upper glume apex acute.

Florets. Fertile lemma ovate, 5–5.6 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface scaberulous. Lemma apex acute, mucronate. Palea 1 length of lemma. Palea keels scaberulous. Palea surface scaberulous. Rhachilla extension 1.5–2 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.6–3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea.

Poa tenera F. Muell. ex Hook. f. *Fl. Tasm.* ii. 124. t. 164 (1858).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. **Basionym or Replaced Name**: *Poa saxicola* var. *effusa* Nees, *London J. Bot.* 2: 418 (1843). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: "Insula Van Diemen: 13 Dec 1837", *Gunn 1009* (HT: CGE).

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (159, Fig 112), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (422, Fig 83), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (354), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (323, Fig. 43), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Derivation (Clifford & Bostock 2007): L. thin. Culms slender.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary or caespitose. Cataphylls evident. Stolons present. Butt sheaths herbaceous. Basal innovations extravaginal. Culms erect or rambling, weak, 10–30 cm long. Culm-internodes terete, smooth or scaberulous, distally glabrous or pubescent. Lateral branches lacking. Leaf-sheaths loose, smooth or scaberulous, glabrous on surface. Ligule an eciliate membrane, 0.5–1.5 mm long, glabrous on abaxial surface or scaberulous on abaxial surface, truncate. Leaf-blades filiform or linear, flat or conduplicate or convolute, 5–20 cm long, 1–1.5 mm wide. Leaf-blade surface smooth or scaberulous, glabrous.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, elliptic, 2–12 cm long, bearing few spikelets. Primary panicle branches spreading, 2–6 -nate. Panicle branches capillary, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 3–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 1–1.5 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein smooth or scaberulous. Lower glume lateral veins absent or obscure. Lower glume apex obtuse or acute. Upper glume oblong, 1–1.5 mm long, 0.5 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein smooth or scaberulous. Upper glume apex obtuse or acute.

Florets. Fertile lemma oblong, oblong in profile, 2–3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface glabrous or pubescent, hairy below. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous, eciliate or ciliate, adorned below (ciliate). Palea surface glabrous or pubescent, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1–1.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. South Australia, New South Wales, Victoria, Tasmania.

Southern. Coast, Tablelands, Western Slopes.

Poa tenerrima Scribn. *U.S. Dept. Agric. Circ. Agrost.* ix. 4. (1899).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Anonymous s.n.*, no date, USA: California (US-748917).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (590).

Derivation (Clifford & Bostock 2007): L. very thin. Culms or inflorescence branches thin.

Classification. Subfamily Pooideae. Tribe: Poeae.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Southwestern USA**. California.

Poa tennantiana Petrie. *Chilton, Subantarctic Isl. N. Zeal.* ii. 476 (1909).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *T. Kirk s.n.*, 9 Jan 1890, New Zealand: The Snares (WELT-36063). LT designated by Edgar, New Zealand J. Bot. 24: 188 (1986).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of John Smaillie Tennant (1865–1958) New Zealand botanist and educator.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes short. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Basal innovations intravaginal. Culms robust, 50–100 cm long. Lateral branches lacking. Leaf-sheaths smooth or scaberulous, glabrous on surface. Ligule an eciliate membrane, 6–16 mm long, pubescent on abaxial surface, acuminate. Leaf-blades 16–38 cm long, 4.5–9 mm wide. Leaf-blade surface papillose, rough adaxially, glabrous. Leaf-blade margins ciliate, hairy at base. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle contracted, 9–15 cm long. Primary panicle branches appressed. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.5–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5 mm long, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2–2.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2.5–3 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous, ciliate, hairy below. Lemma surface scaberulous, puberulous, hairy below, hairy on veins. Lemma apex acute. Palea 2.5–3 mm long. Palea keels scabrous, adorned above. Palea surface smooth. Rhachilla extension 1 mm long.

Flower and Fruit. Lodicules 2, 0.5–0.8 mm long, membranous. Anthers 3, 1–1.5 mm long. Caryopsis with adherent pericarp, 1.5 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand South I, Stewart Is, Auckland Is.

Poa tenuicula Ohwi. *Fedde, Repert.* vi. 42 (1934).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Taiwan: Mt. Nankotaisan, July 1933, *J. Ohwi 4078b* (HT: KYO).

Illustrations (Books): C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (342), C-C Hsu,*Taiwan Grasses* (1975), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 394).

Derivation (Clifford & Bostock 2007): L. *tenuis*, thin; *-ulus,* diminiutive. Culms very delicate.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Culms erect, 20–30 cm long, 2 -noded. Culm-internodes terete. Lateral branches lacking. Leaf-sheaths 2–3 cm long. Ligule an eciliate membrane, 1–2 mm long, acute. Leaf-blades 3–5 cm long, 1.5–2.5 mm wide. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 5–7 cm long. Primary panicle branches 1–3.5 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth, pubescent. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3 mm long, 0.75 length of upper glume, membranous, much thinner on margins, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume oblong, 4 mm long, 1 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, 4 mm long, membranous, much thinner on margins, purple, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins ciliate. Lemma apex acute. Palea keels scabrous, ciliolate, adorned with hairs in the middle. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1 mm long. Caryopsis with adherent pericarp, 1.5 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**, **Eastern Asia**. Taiwan.

Poa thomasii N.F. Refulio-Rodriguez. *Syst. Bot.* 37 (1): 130 (2012).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. **Basionym or Replaced Name**: *Stenochloa californica* Nutt., *Proc. Acad. Nat. Sci. Philadelphia* 4: 25 (1848)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Gambel s.n.*, USA: California: Santa Catalina Island (GH; IT: US (fragm. ex GH & rough drawing)). hb. label for drawing has Nuttal script, and header Coll. NUTTALL, Presented by Elias Durand, 1866.

Recent Synonyms: *Dissanthelium californicum* (Nutt.) Benth., *Hook. Ic. Pl. t.* 1375. (1881).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (700).

Illustrations (Journals): *Phytokeys* (15:18, Fig.3 (2012)).

Derivation (Clifford & Bostock 2007): L. *-ica,* belonging to. From California, USA.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms decumbent, 20–35 cm long. Ligule an eciliate membrane. Leaf-blades flat, 8–13 cm long, 2–4 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, linear, 10–15 cm long. Primary panicle branches ascending, naked below or bearing spikelets almost to the base. Panicle branches flexuous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2.5–3 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.3 mm long.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein smooth or scaberulous. Lower glume apex acute. Upper glume lanceolate, 2.5–3 mm long, 1.2 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein smooth or scaberulous. Upper glume apex acute.

Florets. Fertile lemma elliptic, 2.1–2.2 mm long, chartaceous, keeled, 3 -veined, 0–3 -veined. Lemma lateral veins close to margins. Lemma surface puberulous. Lemma apex acute.

Flower and Fruit. Anthers 3, 0.4 mm long. Ovary glabrous. Endosperm farinose.
Distribution (TDWG). Continent. North America.
Country /Province /State. **Southwestern USA**, **Mexico**. California. Northwest Mexico. Baja California.

Poa tianschanica (Regel) Hack. ex O. Fedtsch. *Pl. Pamir,* 75. (1903).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

Basionym or Replaced Name: *Poa macrocalyx* var. *tianschanica* Regel, *Trudy Imp. S.-Peterburgsk. Bot. Sada* 7: 619 (1881). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Kyrgyzstan: Tien shan, in valle Dshauka med., 8--1000 ft, 7 Sept. 1877, *A. Regel* (LT: LE; ILT: LE) [only one collection cited].

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Tienshan, eastern Kazakhstan, former Soviet Union.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Stolons present. Culms geniculately ascending, 10–70 cm long. Culm-internodes terete, purple, distally pruinose or glabrous. Lateral branches lacking. Leaf-sheaths tubular for much of their length, with 0.5 of their length closed, smooth, glabrous on surface. Ligule an eciliate membrane, 0.25–3 mm long, obtuse. Leaf-blades flat or conduplicate, 2–5 mm wide, grey-green. Leaf-blade surface scaberulous.

Inflorescence. Inflorescence a panicle. Panicle open, oblong or pyramidal, 5–12 cm long, 3–5 cm wide. Primary panicle branches 4–5 -nate. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 3.5 mm long, 1 length of upper glume, membranous, purple, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 3.5 mm long, 1 length of adjacent fertile lemma, membranous, purple, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.5 mm long, membranous, purple, keeled, 5 -veined, more than 3-veined. Lemma lateral veins prominent. Lemma surface pubescent, hairy below, hairy on veins. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous, with 10–20 enations per keel. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia, **Middle Asia**, **China**, **Mongolia**. Altay, Buryatiya, Chita, Irkutsk, Tuva. Kazakhstan, Kirgizistan.

Poa timoleontis Heldr. ex Boiss. *Fl. Orient.* v. 607. (1884).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Greece. **Basionym or Replaced Name**: *Poa dshilgensis* Roshev. ex Komarov, Fl. URSS, 2: 377 (1934). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Heldreich*, Greece: in montosis siccis, Attica ad radices et in pascuis montais Hymentti atque prope Laurion (G; IST: US-947483 (ex hb. Hack.)). ST: *Orphanides*, Greece: monte Parnes (G). ST: *Heldreich*, Greece: in monte Panachaicon prope Patras (G). ST: *T. von Heldreich 29107*, 02 May 1878, (L). ST: *T. von Heldreich 104*, 02 May 1878, (GOET-2398, L).

Illustrations (Books): N.L.Bor, *Gramineae* in *Flora of Iraq* (1968) (121, Pl. 41).

Derivation (Clifford & Bostock 2007): in honor of Timoleon Holzmann (1843-) German Government official.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths thickened and forming a bulb. Culms 7–15(–20) cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 3–6 mm long, white. Leaf-blades filiform, involute or convolute, 2–5 cm long, 0.3–1 mm wide. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, dense, 2–4 cm long. Primary panicle branches 1–3 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2–2.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 2 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 2 mm long, 0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 2.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate. Lemma margins ciliolate. Lemma apex acute. Palea 0.9 length of lemma. Palea keels scabrous. Rhachilla extension with 1 mm long hairs.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1–1.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Vivipary absent, or occurs.

$2n = 14$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Southeastern Europe**.

Country /Province /State. : Albania, Bulgaria, Greece, Turkey Europe, Yugoslavia. **Middle Asia**, **Western Asia**, **China**. Kazakhstan, Kirgizistan. Afghanistan, Iraq, Lebanon-Syria, Palestine, Israel & Jordan. Xinjiang.

Poa tolmatchewii Roshev. *Izvest. Bot. Sada AN SSSR* 30:299 (1932).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *A.I. Tolmachev 25*, 13 Sep 1928, E.Tajmyr: lower reaches of a Rv.Yamu-Tarida (basin of Lk. Tajmyrskoje) (LE). Possible type. orig. lab.: E. Tajmyr: nizov'ya r.Yamu-tarida (basin Tajmyrskogo Ozera: region vesnovki ehkspeditsii (17[ca. 75]?7'N, 102?0'E) nizhn. chast' sklona u berega Yamu-Tarida.. HT: *Tolmatchew 834*, Eastern Taimyr, lower reaches of Yamu-Tarida, lower [art pf the slope near the Yamu-Tarida banks.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Alexsandr Innokentzevich Tolmachev (1903–1979) Russian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped moderately. Rhizomes absent or short. Culms 30–45 cm long, wiry. Culm-internodes terete, smooth, distally glabrous. Leaf-sheaths tubular for much of their length, with 0.5–0.75 of their length closed, without keel, glabrous on surface or puberulous. Ligule an eciliate membrane, 2 mm long, glabrous on abaxial surface, acute or acuminate. Leaf-blades flat or conduplicate, 3–6 cm long, 1.5–2.5 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 5.5–11 cm long, 5–9 cm wide, bearing few spikelets, with spikelets clustered towards branch tips. Primary panicle branches ascending, 2 -nate, 2–5 cm long, bearing 2–4 fertile spikelets on each lower branch. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the

upper sterile. Spikelets lanceolate, laterally compressed, 4–5 mm long, 2–3 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3–3.5 mm long, 0.8 length of upper glume, membranous, much thinner on margins, 1-keeled. Lower glume apex acute. Upper glume lanceolate, 3–3.5 mm long, 1 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 3–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma lateral veins obscure. Lemma surface puberulous, hairy between veins. Lemma margins ciliate. Lemma apex acute. Palea 0.9 length of lemma. Palea keels scabrous. Palea surface pubescent, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 56$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Eastern Europe**.

Country /Province /State. North European Russia. Siberia, Russian Far East, **China**. Manchuria.

Poa tonsa E.Edgar. *New Zealand J. Bot.,* 24(3): 477 (1986).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *A.F. Mark s.n.*, 9 Jan 1967, New Zealand: Omarama saddle, Central Otago, 5500 ft, occasional in snow tussock grassland (CHR-175630; IT: OTA-18377).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. shaven. Spikelets in whole or in part glabrous, as if shorn.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations intravaginal. Culms 7–15 cm long. Lateral branches lacking. Leaf-sheaths smooth or papillose, glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long, pubescent on abaxial surface, erose, acute. Leaf-blades flat, 1–3.5 cm long, 1–2 mm wide, coriaceous, light green. Leaf-blade surface scaberulous, rough adaxially, glabrous.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle open, oblong, 2–4.5 cm long. Primary panicle branches ascending, bearing 1–2 fertile spikelets on each lower branch. Panicle branches capillary, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 3–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5 mm long, smooth. Floret callus sparsely hairy or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 1.5–2 mm long, 1 length of upper glume, membranous, much thinner on margins, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or distinct. Lower glume apex acute. Upper glume ovate, 1.5–2 mm long, 0.75 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface smooth or asperulous. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 2–2.5 mm long, membranous, much thinner on margins, keeled, 5–7 -veined, more than 3-veined. Lemma midvein scabrous. Lemma surface scabrous, rough above, puberulous, hairy below. Lemma apex obtuse. Palea 1.5–2 mm long. Palea keels scabrous. Palea surface pubescent, hairy on back.

Flower and Fruit. Lodicules 2, 0.2 mm long, membranous. Anthers 3, 0.3–0.6 mm long. Caryopsis with adherent pericarp, 1–1.5 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand South I.

Poa tovarii R.J. Soreng. *Novon,* 8(2): 200 , nom. nov., as 'tovari' (1998).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Peru. **Basionym or Replaced Name**: *Poa geniculata* Tovar, *Publ. Mus. Hist. Nat. Javier Prado, Ser. B, Bot.* 32: 8, f. 6–8 (1984)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Edwin Anderson 1265*, 9 Jun 1950, Peru: La Libertad: Prov. de Otuzco: cerca Usquil, 3100 m, residual soil, roadside, small colong, not common (US-2012876; IT: US-2012877).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Oscar Tovar (1923-) Peruvian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Culms geniculately ascending, 70–90 cm long, 4–6 -noded. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 5–6 mm long, truncate. Leaf-blades 15–30 cm long, 3–4 mm wide. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 17–27 cm long. Primary panicle branches ascending. Panicle branches capillary. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.8–3 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 4 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 5–5.3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins prominent. Lemma surface scabrous, rough on veins. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa trachyphylla Pilger. *Engl. Jahrb.* xxv. 715 (1897).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Colombia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *A. Stübel 209*, Colombia: Volcán de Tolima (B; IT: BAA-2711 (fragm. ex B)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *trachys*, rough; *phyllon*, leaf. Leaf-blades scabrid.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Basal innovations intravaginal. Culms erect, 30 cm long. Culm-internodes striate, antrorsely scabrous. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 3–4 mm long. Leaf-blades conduplicate, 5–11 cm long, 2–4 mm wide, indurate, stiff. Leaf-blade surface scaberulous, rough on both sides. Leaf-blade margins scabrous. Leaf-blade apex abruptly acute, pungent.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Panicle open, oblong or ovate, 6–13 cm long, contracted about primary branches. Primary panicle branches 2 -nate. Panicle axis scabrous. Panicle branches flexuous, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the

upper sterile. Spikelets ovate, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, reaching apex of florets. Lower glume lanceolate, 4.5 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 5 mm long, 1.1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface scaberulous. Lemma apex obtuse. Palea 1 length of lemma. Palea keels scabrous. Palea apex dentate, 2 -fid. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Northern South America**, **Western South America**. Venezuela. Colombia, Peru.

Poa tracyi Vasey. *Bull. Torrey Bot. Club.* xv. 49 (1888).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *S.M. Tracy s.n.*, July 1887, USA: New Mexico: Colfax Co.: mesa sides near Raton, alt. 7000–8000 ft (US-556764; ILT; CAS, NY, RM, TAES). LT designated by Soreng & Hatch, Sida 10: 138 (1983).

ST: *Jun 1887*, (GH (Jun 10), US-517137 (Jun 8), US-723321 (Jun 10), US-919436 (Jun 10), , US-1869692 (sin. date), US-919210 (sin. date)).

ST: *S. M. Tracy*, 10 Jun 1887, USA: New Mexico, Raton (US-824809).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (544).

Derivation (Clifford & Bostock 2007): in honor of Samuel Mills Tracy (1847–1920) United States agronomist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths herbaceous. Culms geniculately ascending or decumbent, 25–125 cm long. Culm-internodes terete. Leaves cauline. Leaf-sheaths tubular for much of their length, with 0.5–0.9 of their length closed, keeled, puberulous. Ligule an eciliate membrane, 2–4.5 mm long, glabrous on abaxial surface or pubescent on abaxial surface, obtuse or acute. Leaf-blades 6–18 cm long, 2–5.5 mm wide, glaucous. Leaf-blade midrib keeled beneath. Leaf-blade surface glabrous. Leaf-blade apex hooded. Bisexual or gynodioecious ("male", in this context, indicating the bisexual state), with male and female spikelets in the same inflorescence or with male and female spikelets in different inflorescences.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 13–29 cm long. Primary panicle branches spreading or reflexed, 1–5 -nate, 2.5–8 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate or oblong, laterally compressed, 3–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 0.5 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 1–3 -veined. Upper glume lateral veins absent or obscure. Upper glume apex acute.

Florets. Fertile florets bisexual or female. Fertile lemma lanceolate, lanceolate in profile, 2.6–5 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins with distinct primaries but obscure intermediates. Lemma surface puberulous, hairy at base. Lemma margins ciliate, hairy below. Lemma apex obtuse. Palea 0.9 length of

lemma. Palea keels scaberulous. Palea surface glabrous or pubescent, hairy below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.25–3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence bisexual similar to female. Male spikelets resembling female.

2*n* = 28 (1 ref TROPICOS).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Northwest USA**, **South-central USA**. Colorado, Wyoming. New Mexico.

Poa trichophylla Boiss. *Fl. Orient.* v. 604. (1884).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from Greece. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Sartori*, 1846, Greece: Hab. in pascuis alpinis Parnassi, alt. 6000–7000' (G-Boiss, JE). ST: *Heldreich*, 1852, Greece OM: *Orph 366*, 14–26 Jul 1854, Greece: in pascuis alpinis montis Parnassi (W-s.n.). Possible type..

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *thrix*, hair; *phyllon*, leaf. Leaf-blades hair-like.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, cushion forming. Culms erect, 5–10 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1.5–2 mm long, white, acute. Leaf-blades filiform, convolute, 1–2 cm long, 0.3–0.5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 1.5–2.5 cm long, 0.8–1 cm wide. Primary panicle branches 1–2 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.75 length of upper glume, membranous, much thinner on margins, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume ovate, 0.9 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 2.5 mm long, membranous, keeled, lightly keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma apex obtuse.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Southeastern Europe**.

Country /Province /State. : Greece. **China**. Xinjiang.

Poa trinervis (Hack.) Monod de F. ex P. van Royen. *Alp. Fl. New Guinea*, 2: 1109 (1979).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Papua New Guinea. **Basionym or Replaced Name**: *Festuca trinervis* Hack., *Oesterr. Bot. Z.* 53: 35 (1903). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *W.E. de Margrat Armit s.n.*, Aug 1894, Papua New Guinea: New Guinea, Milne Bay, Dayman, [2743 m] (L).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *tria*, three; *nervum*, nerve. Lemma three-nerved.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths light brown, persistent and investing base of culm. Basal innovations extravaginal. Culms erect, 15–35 cm long. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 0.5–3.25 mm long, scaberulous on abaxial surface, acute. Leaf-blades erect, involute, 4–15 cm long, 0.5–0.7 mm wide, stiff. Leaf-blade surface smooth, glabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle open, lanceolate, 4–8.5 cm long, 0.5–2.5 cm wide. Primary panicle branches ascending or spreading, 1–3 -nate, 1.5–3.2 cm long, bearing 2–15 fertile spikelets on each lower branch. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2.8–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.4–0.5 mm long, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 2.1–3.1 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or distinct. Lower glume surface scabrous. Lower glume apex acute. Upper glume ovate, 2.6–3.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface asperulous. Upper glume apex acute.

Florets. Fertile lemma ovate, 2.5–3.5 mm long, membranous, keeled, 3–7 -veined, 0–3 -veined or more than 3-veined. Lemma lateral veins obscure. Lemma apex acute. Rhachilla extension 0.5–1 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.3–1.6 mm long. Caryopsis with adherent pericarp, ellipsoid, 1.5 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea.

Poa tristigmatica E.Desv. *C. Gay, Fl. Chil.* vi. 419. (1853).

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *C. Gay 49*, Feb 1831, Chile: Cordillera de Talcaregue (P; ILT: BAA (fragm. ex P), US-88717 (fragm. ex P & fragm. ex P-DESV-132)). LT designated by Soreng & Giussani, Contr. U.S. Natl. Herb. 48: 573 (2003). ST: *Commerson s.n.*, Chile: Bahia Dulcos en el estrecho de Magallanes (P).

Illustrations (Books): M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (200, Fig 131).

Derivation (Clifford & Bostock 2007): L. *tri*, three; Gk. *stigma*, mark; L. *-ica*, belonging to. Pistil with three stigmas.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Butt sheaths dark brown, persistent and investing base of culm. Culms erect, 13–60 cm long. Culm-internodes antrorsely scabrous. Leaf-sheaths longer than adjacent culm internode, smooth or antrorsely scabrous. Ligule an eciliate membrane, 5–10 mm long, acute. Leaf-blades curved, conduplicate, 2.5–10 cm long, 3.5–5 mm wide, coriaceous, stiff. Leaf-blade surface scabrous, rough adaxially or on both sides. Leaf-blade apex pungent. Dioecious.

Inflorescence. Inflorescence a panicle, exserted or embraced at base by subtending leaf. Panicle contracted, oblong or ovate, 4–8 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 7.5–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pilose. Floret callus hairs 3–6 mm long, 0.5 length of lemma.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 5.5–7 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume ovate, 6–8.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3–5 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma elliptic, 6–8 mm long, membranous, keeled, 5–7 -veined, more than 3-veined. Lemma midvein eciliate or ciliolate, hairy below. Lemma margins ciliolate, hairy below. Lemma hairs 0.5 mm long. Lemma apex acute. Palea keels scabrous, ciliate, adorned below (as to hairs). Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.5–4.3 mm long. Staminodes present, 0.2–0.3 mm long. Stigmas 2–3. Caryopsis with adherent pericarp, trigonous, 3–3.5 mm long. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female, 2–6 flowered, 5–9 mm long.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South.

Neuquén, Río Negro. Rest of Chile- Biobio, La Auracania, Maule, O'Higgins, Santado, Valpariso.

Poa trivialiformis Komarov. *Not. Syst. Herb. Hort. Petrop.* v. 150 (1924).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *V. Komarov 2548*, 31 Aug 1908, Russia: Kamchatka: basin of Bolshaya River near village Nachika, pebbled bank of Uzdets with willows (LE; IT: LE). LT according to Probatova (1985) 1: 273. OM: *V. Komarov s.n.*, 8 Jul 1908, Kamchatka (K-56).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. commonplace; *forma,* appearance. Resembling a related species with the epithet *trivialis.*.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Stolons present. Culms erect, 30–80 cm long. Culm-internodes smooth. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 4 mm long, obtuse. Leaf-blades 8–12 cm long, 2–4 mm wide. Leaf-blade surface scabrous, rough adaxially, glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 10–15 cm long. Primary panicle branches 5–10 cm long. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 4–5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma lateral veins distinct. Lemma surface pubescent. Lemma margins ciliate. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East, **China**. Kamchatka. Manchuria.

Poa trivialis L. *Sp. Pl.* 67. (1753).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from Europe. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: NT: *Hudson 16*, (LINN-87.9). NT designated by Soreng in Cafferty et al., Taxon 49(2): 256 (2000). OM: (LINN; US- (fragm. 2348 ex LINN)). fragm. 2348 is Poa trivialis L. [fide rjs 2007]. OM: (LINN; US- (fragm. 2349 ex LINN)). fragm. 2349 is Poa pratensis L. [fide rjs 2007].

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (337), C.E.Hubbard, *Grasses* (1968) (186), T. Cope & A. Gray, Grasses of the British Isles (45), G.Hegi, *Flora von Mitteleuropa* 1 (1909), N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 320), N.L.Bor, *Gramineae* in *Flora of Iraq* (1968) (115, Pl. 39), H.J.Noltie, *The Grasses of Bhutan* (2000) (571, Fig. 19), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (355), K.F.Best, et al, *Prairie Grasses* (1971) (199), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (569), W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (489, Fig 183), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978)

(152, Fig 92), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 403 as *P. trivialis* ssp. *trivialis*), E.Hafliger & E.Schultz, Grass Weeds, CIBA-GEIGY (2:122(1980)).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. commonplace. Widespread species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Stolons present. Culms erect or geniculately ascending or decumbent, 20–100 cm long, 3–5 -noded. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths keeled, antrorsely scabrous. Ligule an eciliate membrane, 4–10 mm long, acute. Leaf-blades 3–20 cm long, 1.5–6 mm wide. Leaf-blade surface smooth or scaberulous, glabrous. Leaf-blade apex abruptly acute, hardened.

Inflorescence. Inflorescence a panicle. Panicle open or contracted, oblong or ovate, dense or loose or effuse, equilateral or nodding, 3–20 cm long, 1–15 cm wide. Primary panicle branches spreading, 3–7 -nate. Panicle branches flexuous, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.3–2 mm long.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or oblong or ovate, laterally compressed, 3–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes obscured by lemmas, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–3 mm long, 0.8 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2.5–3.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma ovate, oblong in profile, 2.5–3.5 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy below. Lemma lateral veins distinct, stopping well short of apex. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

n = 7 (4 refs TROPICOS). $2n$ = 14 (5 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Africa (*), Temperate Asia, Tropical Asia, Australasia (*), North America (*), South America (*), Antarctica.

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Denmark, Finland, Foroyar, Great Britain, Iceland, Ireland, Northern Ireland, Norway, Sweden. : Austria, Liechstenstein, Belgium, Luxembourg, Czechoslovakia, Germany, Hungary, Netherlands, Poland, Switzerland. : Baleares, Corsica, Channel Islands, France, Monaco, Portugal, Sardinia, Andorra, Gibralter, Spain. : Albania, Bulgaria, Greece, Italy, San Marino, Vatican, Crete, Romania, Malta, Sicily, Turkey Europe, Yugoslavia. Belarus, Estonia, Kalingrad, Latvia, Lithuania, Baltic States, Krym, Central European Russia, East European Russia, North European Russia, South European Russia, Northwest European Russia, Moldova, Ukraine. **Northern Africa**, **Macaronesia**, **Southern Africa** (*). Libya, Morocco, Tunisia. Azores, Canary Is, Madeira. Gauteng. Siberia, Russian Far East, **Middle Asia**, **Caucasus**, **Western Asia**, **China**, **Mongolia**, **Eastern Asia**, **Russia**. Altay, Buryatiya, Chita, Irkutsk, Krasnoyarsk, Tuva. Kamchatka, Kuril Is, Primorye, Sakhalin. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Iran, Iraq. China South Central, Inner Mongolia, China North-Central, China Southeast, Xinjiang. Mongolia. Japan Hokkaido, or Honshu, or Shikoku, or Kyushu. Japan. **Indian Subcontinent**, **Malesia**. Eastern Himalaya, India, Pakistan, West Himalaya. Java. **Australia** (*), **New Zealand** (*). South Australia (*), New South Wales (*), A.C.T. (*), Victoria (*), Tasmania (*). Chatham Is, New Zealand North I, New Zealand South I, Stewart Is, Campbell Is, Auckland Is. **Subarctic America**, **Western Canada**, **Eastern Canada**, **Northwest USA**, **North-central USA**, **Northeast USA**, **Southwestern USA**, **South-central USA**, **Southeastern USA**. Aleutian Is, Alaska, Yukon, Greenland. British Columbia. Labrador, New Brunswick, Newfoundland, Nova Scotia, Ontario, Prince Edward I, Quebec. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. Illinois, Iowa, Kansas. Connecticut, Indiana, Maine, Massachusetts, Michigan, Ohio, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, West Virginia. Arizona, California, Nevada, Utah. New Mexico, Texas. North

Carolina, Tennessee. **Mesoamerica**, **Western South America**, **Southern South America**. Costa Rica. Bolivia, Colombia, Ecuador, Peru. Argentina Northeast, Argentina South, Argentina Northwest, Chile Central, Chile South, Uruguay. **Subantarctic islands**. Kerguelen, Tristan de Cunha.

Hebei. Jiangsu, Jiangxi. Sichuan. Darjeeling. Southern. Coast, Tablelands, Western Slopes. Jujuy, Salta. Buenos Aires. Chubut, Neuquén, Río Negro, Tierra del Fuego. Valparaiso, Santiago, Maule, Biobio. Los Lagos, Magellanes.

Poa trollii (Pilger) N.F. Refulio-Rodriguez. *Syst. Bot.* 37 (1): 130 (2012).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Bolivia. **Basionym or Replaced Name**: *Dissanthelium trollii* Pilger, *Notizbl. Bot. Gart. Berlin,* 11: 778 (1933). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Troll 1966*, Bolivia: La Union (B; IT: US-2379262 (frag. ex B)).

Illustrations (Books): S.A.Renvoize, *Gramineas de Bolivia* (1998) (160, Fig 38).

Derivation (Clifford & Bostock 2007): in honor of Carl Troll (1899–1975) German botanist.

Classification. Subfamily Pooideae.

Habit, Vegetative Morphology. Perennial. Rhizomes short. Culms 3–5.5 cm long. Ligule an eciliate membrane, 0.5–1 mm long. Leaf-blades flat or involute, 1.5–3 cm long, 1–2 mm wide. Leaf-blade surface scaberulous, rough on both sides. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle spiciform, lanceolate, 1.3–2 cm long, 0.5 cm wide, bearing few spikelets. Primary panicle branches appressed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4.5–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.3 mm long.

Glumes. Glumes persistent, similar, reaching apex of florets or exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume lateral veins obscure. Lower glume apex acute. Upper glume ovate, 4.5–5 mm long, 1.1–1.2 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume lateral veins obscure. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 4–4.3 mm long, chartaceous, keeled, 3 -veined, 0–3 -veined. Lemma midvein without distinctive roughness. Lemma surface smooth, glabrous. Lemma apex obtuse.

Flower and Fruit. Anthers 3, 2–2.2 mm long. Ovary glabrous. Endosperm farinose.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Bolivia, Peru.

Poa tuberifera Faurie ex Hack. *Oesterr. Bot. Zeitschr.* 451. (1902).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from Japan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *U. Faurie 4491*, Jun 1900, Japan: Shikoku, in humidis secus rivulos silvarum Tsurugi, ad 2000 m (BM, KYO, US-947485).

Illustrations (Books): T.Koyama, *Grasses of Japan and its neighbouring regions* (1987) (99, Fig 28).

Derivation (Clifford & Bostock 2007): L. *tuber*, swelling; *fero*, bear. Basal internodes thickened.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary. Butt sheaths pallid. Culms erect, 15–30 cm long, 0.5–0.8 mm diam., 2–4 -noded, swollen at the base, forming an ovoid corm. Leaf-sheaths tubular for much of their length, with 0.66–0.8 of their length closed, smooth. Ligule an eciliate membrane, 1 mm long, white, truncate or obtuse. Leaf-blades 5–10 cm long, 0.7–2 mm wide. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 4–15 fertile spikelets. Panicle open, ovate, effuse, 2–15 cm long, 1.5–4 cm wide, bearing few spikelets. Primary panicle branches spreading, 1–2 -nate, 1–5

cm long, bearing 1–5 fertile spikelets on each lower branch. Panicle branches capillary, smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 8–10 mm long, smooth.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or ovate, laterally compressed, 4.5–6 mm long, 2–3 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.8–1.5 mm long, smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2.2–2.5 mm long, 0.75–0.9 length of upper glume, membranous, much thinner on margins, 1-keeled, 1 -veined. Lower glume primary vein smooth. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume ovate, 2.5–3 mm long, 0.75–0.9 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein smooth. Upper glume apex acuminate.

Florets. Fertile lemma ovate, 3–3.5 mm long, 1.4–1.6 mm wide, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent, hairy below, hairy on veins. Lemma apex acute. Palea 2.2–2.8 mm long. Palea keels scabrous, ciliate, adorned with hairs below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.6–0.8 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Eastern Asia**. Japan Honshu, or Shikoku, or Kyushu. Japan.

Poa tucumana L. Parodi. *Rev. Argent. Agron.* xxix. 15 (1963).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Hjerting, Peterman & Sparre 9486*, 10 Feb 1952, Argentina: Tucamán: Depto. Taf? Infiernillo, Quebrada Honda, a 3300 m (BAA; IT: C, CORD).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (337).

Derivation (Clifford & Bostock 2007): from Tucuman, Argentina.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Basal innovations intravaginal. Culms erect, 12–20 cm long. Culm-internodes distally glabrous. Lateral branches lacking. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 2 mm long, erose. Leaf-blades flat or conduplicate, 3–6 cm long, 0.5–1.5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 5–8 cm long. Primary panicle branches spreading, 1 -nate, 2–3 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2–2.4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5 mm long. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume lanceolate, 2 mm long, 0.66 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 2 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma surface puberulous, hairy below. Lemma apex acute. Palea 1.5 mm long. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 1, 0.5–0.8 mm long. Caryopsis with adherent pericarp, oblong, 1 mm long, dark brown. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northeast.

Catamarca, Tucuman.

Poa tzvelevii N.S. Probatova. *Bot. Zhurn.,* 69(2): 258 (1984).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: USSR: Prov. Magadan, distr. Srednekansk, 50–60 km ad boreali-orientem versus a pag. Sejmczan, rivulum Ognennyj, in lapidosis, 4 Aug 1975, *M. Mazurenko* (HT:VLA; IT:LE) U.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): In honor of Nikolai Nikolaievich Tzvelev (1925-) Russian agrostologist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Culms erect, 15–20 cm long, with 0.1 of their length below uppermost node. Lateral branches lacking. Leaf-sheaths antrorsely scabrous, glabrous on surface. Ligule an eciliate membrane, 2–2.3 mm long, 1.5–2 mm long on basal shoots. Leaf-blades convolute, 0.5–1.7 mm wide. Leaf-blade surface scabrous.

Inflorescence. Inflorescence a panicle. Peduncle scaberulous above. Panicle open or contracted, lanceolate, 3–3.5 cm long. Primary panicle branches appressed, 1–2 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–5.6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes pubescent. Floret callus pubescent.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.7–4 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume ovate, 2.7–4 mm long, 0.7–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 3.3–4.2 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma surface asperulous, rough above. Lemma margins ciliate, hairy below. Lemma apex acute. Palea keels scabrous, adorned below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1–1.3 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East. Magadan.

Poa ullungdoensis Chung. *Journ. Wash. Acad. Sci.* xlv. 212 (1955).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Korea. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Chung, In-Cho 1673*, 1 Jul 1948, Korea (MICH).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Ullung, Korea.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths purple. Culms geniculately ascending, 25–40 cm long, 5–8 -noded. Culm-internodes elliptical in section. Lateral branches lacking. Leaf-sheaths tubular for much of their length, longer than adjacent culm internode, smooth, glabrous on surface. Ligule an eciliate membrane, 0.2 mm long, truncate. Leaf-blades involute, 9–17 cm long, 1–2 mm wide. Leaf-blade surface glabrous. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, 5–10 cm long, 1–1.7 cm wide. Primary panicle branches appressed, 2–5 -nate, simple or sparsely divided, 2.2–2.8 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2.5–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.2–2.2 mm long, 0.8–1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower

glume apex acute. Upper glume lanceolate, 1.7–2.8 mm long, 0.66–0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein smooth or scaberulous. Upper glume apex acute.

Florets. Fertile lemma elliptic, 3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent, hairy below. Lemma lateral veins obscure or distinct. Lemma margins pilose, hairy at base. Lemma apex acute. Palea keels scabrous. Palea apex entire or dentate, 2 -fid. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, 0.2–0.3 mm long, membranous. Anthers 3, 1.2–2 mm long, yellow. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Eastern Asia**. Korea.

Poa umbricola Vickery. *Contrib. N. S. Wales Nat. Herb.* iv. 194 (1970).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia: South Australia: Mt. Lofty Range: Morialta Falls, ca. 10.5 km. ENE of Adelaide, near top of first fall: 12 Oct 1957, *Hj. Eichler 14257* (HT: AD 95824051; IT: NSW 85459).

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (160, Fig 113).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *umbra*, any shady place; *-cola*, dweller. Growing in shady places.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Butt sheaths herbaceous, pallid. Basal innovations extravaginal. Culms rambling, 20–40 cm long. Culm-internodes terete, smooth. Culm-nodes glabrous. Lateral branches ample. Leaf-sheaths tight, longer than adjacent culm internode, keeled, smooth, glabrous on surface. Ligule a ciliolate membrane, 0.5 mm long, truncate. Leaf-blades flat or involute, 2–15 cm long, 1–2 mm wide. Leaf-blade surface scaberulous, rough adaxially, glabrous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, elliptic. Primary panicle branches spreading. Panicle branches capillary. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 0.9 length of upper glume, membranous, much thinner on margins, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume oblong, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma oblong, oblong in profile, 2.5–3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein eciliate or ciliolate. Lemma lateral veins prominent. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1–1.25 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. South Australia.

Southern.

Poa umbrosa Trin. *Mem. Acad. Petersb. Ser.* VI. i. 386. (1831).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *G.H. von Langsdorff s.n.*, 1829, Brazil: in umbrosis arenosis rivi Parana (LE-TRIN-2708.01; IT: US-88716 (fragm. ex LE-TRIN-2708.01)).

Illustrations (Books): S.A.Renvoize, *Gramineas de Bolivia* (1998), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (258 & 262, Fig. 55 & 57).

Derivation (Clifford & Bostock 2007): L. *umbra*, any shady place; *-osa*, abundance. Growing in shady places.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms geniculately ascending, 40–100 cm long. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane. Leaf-blades 3–4 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 8–19 cm long. Primary panicle branches 2–4 -nate. Panicle branches flexuous, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–3 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2.5–4 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**, **Brazil**, **Southern South America**. Bolivia. Brazil South. Paraguay, Uruguay.

Minas Gerais, Rio de Janeiro, Espirito Santo, Sao Paulo Parana, Catarina, Rio Grande do Sul. Paraná, Santa Catarina.

Poa unilateralis Scribn. ex Vasey. *Illustr. N. Am. Grass.* ii. t. 85. (1893).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *M. E. Jones 15*, May 1882, USA: California: San Francisco (US-556774).

Recent Synonyms: *Poa pachypholis* Piper, *Proc. Biol. Soc. Washington*, 18: 146. (1904).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (as subspecies *unilateralis* & *pachypholis*).

Derivation (Clifford & Bostock 2007): L. *unus*, one; *latus*, side; *-ale*, pertaining to. Inflorescence with branches directed towards one side.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths papery. Culms geniculately ascending or decumbent, 10–40 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane. Leaf-blades flat or conduplicate, 2–8 cm long, 1–3 mm wide.

Inflorescence. Inflorescence a panicle. Panicle spiciform, oblong, 2–6 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 6–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous or pubescent.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2–3 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume ovate, 2–3 mm

long, 0.66–0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma apex acute. Palea 1 length of lemma. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

n = 42 (1 ref TROPICOS).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Northwest USA**, **Southwestern USA**. Oregon, Washington. California.

Poa unispiculata Davidse, Soreng & P.M.Peterson. *J. Bot. Res. Instit. Texas* 4: 37 (2010).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**. Peru.

Poa ursina Velen. *Beitr. Fl. Bulg.* (1886).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Bulgaria. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Bulgaria: Am höchsten Bitoa ganze Plätze bedeckend, nicht rasig,.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *ursus*, bear; *-ina*, indicating possession. From localities inhabited by bears.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Butt sheaths persistent and investing base of culm. Basal innovations intravaginal. Culms erect, 20–30 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1–2.5 mm long, lacerate, obtuse. Leaf-blades flat or conduplicate, 4–9 cm long, 1–1.5 mm wide. Leaf-blade margins unthickened. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, elliptic, 3.5–5 cm long. Primary panicle branches 2 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 0.8–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate. Lemma margins ciliolate. Lemma apex acute. Palea keels ciliate, adorned below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.6 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Europe.

Region. **Southeastern Europe** and **Eastern Europe**.

Country /Province /State. Ukraine.

Poa urssulensis Trin. *Bunge, Verz. Suppl. Fl. Alt.* 10. (1835).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Russia: Altai Mts.: in montosis versus fontes fluvii Urssul, 1833, *Bunge* (HT: ?; IT: LE).

Recent Synonyms: *Poa krylovii Sist. Zam. Gerb. Tomsk. Univ.* 8:3 (1936).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Urssul, Altai Mountains, Russian Federation.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely or moderately. Culms 20–60 cm long, with 0.33–0.5 of their length below uppermost node. Culm-internodes terete, antrorsely scabrous. Lateral branches lacking. Leaf-sheaths open for most of their length, smooth. Ligule an eciliate membrane, 0.2–1.5 mm long. Leaf-blades 5–20 cm long, 1.3–3.5 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, oblong or ovate, 10–30 cm long. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes obscured by lemmas, scaberulous, glabrous. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.8–1 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume apex acuminate. Upper glume elliptic or ovate, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma ovate, 3.2–4 mm long, membranous, much thinner above, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma lateral veins stopping well short of apex. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 28$ (2 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Eastern Europe**.

Country /Province /State. North European Russia. Siberia, Russian Far East, **Middle Asia**, **China**, **Mongolia**, **Eastern Asia**, **Russia**. Altay, Buryatiya, Chita, Irkutsk, Tuva. Kamchatka, Kuril Is, Primorye. Kazakhstan, Kirgizistan, Turkmenistan. Inner Mongolia, Manchuria, China North-Central, Tibet, Xinjiang. Mongolia. Korea.

Gansu, Hebei, Shandong.

Poa uruguayensis L. Parodi. *Rev. Argent. Agron.* iii 147. (1936).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Uruguay. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Uruguay: Montevideo: Oct 1876, *Arechavaleta 42.5 carton 18b female*paratype no. 43 male.

Illustrations (Books): B.Rosengurtt, *Gramineas UruguayasI* (1970).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Uruguay.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations intravaginal. Culms erect, 40–50 cm long, 2 -noded. Culm-nodes glabrous. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 2–4 mm long, 1 mm long on basal shoots. Leaf-blades 10–15 cm long, 1–2 mm wide. Leaf-blade surface glabrous. Dioecious.

Inflorescence. Inflorescence a panicle. Panicle open, ovate or pyramidal, 8–12 cm long, 3–5 cm wide. Primary panicle branches whorled at lower nodes. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 6–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes sparsely hairy. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 4.5 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, 5.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous, ciliolate, hairy below. Lemma margins ciliolate, hairy below. Lemma apex acute. Palea 3.5–4 mm long. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 2.5 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Male inflorescence similar to female. Male spikelets resembling female, 6–8 flowered. Male spikelet lemma 3–4 mm long.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Uruguay.

Poa ussuriensis Roshev.

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Russia: Siberia: Ussuri terr., basin of Sujfun River, Suputinka river valley and tributary Volkhva, 5 June 1913, *V. Komarov 136* (HT: LE).

Recent Synonyms: *Poa kanboensis* Roshev., *Komarov, Fl. URSS,* 2: 394, 754 (1934).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 386).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Ussuri, Siberia.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending, 35–80 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1.5 mm long. Leaf-blades 2–5 mm wide. Leaf-blade surface scaberulous, rough adaxially.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, oblong, 10–20 cm long. Primary panicle branches 3–7 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate or ovate, laterally compressed, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume linear, 1.5 mm long, 0.5 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume linear, 3 mm long, 0.8–0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent, hairy at base. Lemma lateral veins distinct. Lemma margins pubescent, hairy at base. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East, **China**, **Eastern Asia**. Manchuria. Korea.

Poa uzonica Prob. *Fl. Rastitel'n. Dal'nego Vostoka* 449–450, 365–366 (2006).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Russia: [Far East] Kamtschatka, distr. Jelizovskij, reservatum Kronotskij, caldera vulcani Uzon, vallis rivuli, pratum montanum, 1.VIII. 1982, *N.S. Probatova, E.G. Rudyka* (HT: VLA; IT: LE, MO).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Culms 30–50 cm long, with 0.66 of their length below uppermost node. Culm-internodes smooth. Leaf-sheaths with 0.5 of their length closed, smooth. Ligule an eciliate membrane, 1.4–2 mm long, truncate or obtuse. Leaf-blades 1–2 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 5–7 cm long. Primary panicle branches ascending. Panicle branches flexuous, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes glabrous or sparsely hairy. Floret callus pubescent.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.9–3.8 mm long, membranous, 1-keeled. Lower glume apex acute. Upper glume lanceolate, 2.9–3.8 mm long, membranous, 1-keeled. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 3.6–5.3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent, hairy below. Lemma surface asperulous, puberulous, hairy below. Lemma apex acute. Palea keels scabrous. Palea surface puberulous, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.7–1.8 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East. Kamchatka.

Poa vaginata Pamp. *Archiv. Bot., Forli,* xii. (n. s. ii.) 20. (1936).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Libya. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: Libya: Oum-er-Rezem.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *vagina*, sheath; -*ata*, possessing. Leaf-sheaths conspicuous.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Butt sheaths thickened and forming a bulb. Culms erect or geniculately ascending, 6–7 cm long, 1 -noded. Culm-internodes unequal, the upper longer, terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths longer than adjacent culm internode. Ligule an eciliate membrane, 3–6 mm long, acuminate. Leaf-blades filiform, convolute, 3–4 cm long, 0.5 mm wide.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Panicle open, lanceolate, dense, 2–2.5 cm long. Primary panicle branches 1–2 -nate. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 0.8–0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acuminate. Upper glume ovate, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acuminate.

Florets. Fertile lemma ovate, 3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins ciliate, hairy below. Lemma apex obtuse. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Northern Africa**. Libya.

Poa verae Prob. *Bot. Zhurn. [Moscow & Leningrad]* 95 (6): 866 (2010).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Far East: Primoskjya Kraj, zaliv Petra Velikogo, Dal'nevostochny morskoj Biosfernyj zapovednik, ostrov Very, severo-zapadnyj sklon Terrasy zlakovo-raznotrovnyj.

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 35–45(–50) cm long, with 0.33 of their length below uppermost node. Culm-internodes smooth. Leaves mostly basal. Leaf-sheaths antrorsely scabrous. Ligule an eciliate membrane, 0.2–1.2 mm long. Leaf-blades convolute, 0.5–1.2 mm wide, glaucous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, loose, 8–12 cm long, 0.25 of culm length. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising (1–)2(–3) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 3.6–4.6(–5) mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes pubescent. Floret callus glabrous.

Glumes. Glumes persistent, similar, reaching apex of florets. Lower glume lanceolate, membranous, 1-keeled. Lower glume apex attenuate. Upper glume lanceolate, membranous, 1-keeled. Upper glume apex attenuate.

Florets. Fertile lemma ovate, 3.3–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent. Lemma margins pubescent. Lemma apex acute. Palea keels scaberulous. Palea surface puberulous, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.1–1.6 mm long.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East.

Poa venosa Swallen. *Contrib. U. S. Nat. Herb.* xxix. 399 (1950).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Guatemala. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.A. Steyermark 50310*, 8 Aug 1942, Guatemala: Huehuetenango (US-1935067; IT: F-1201922).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *vena*, vein; *-osa*, abundance. Veins conspicuous or many branched.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Culms erect, 50–70 cm long. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1 mm long. Leaf-blades 3–8 cm long, 2–8 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 10–13 cm long. Primary panicle branches ascending, 2 -nate, 2–5 cm long. Panicle branches flexuous, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–3 mm long, 0.8–1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2.5–3 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.5 mm long, membranous, purple, keeled, 5 -veined, more than 3-veined. Lemma surface pubescent, hairy below. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Mesoamerica**. Guatemala.

Poa veresczaginii Tsvelev. *Novosti Sist. Vyssh. Rast.* 1 1: 34 (1974).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Kazakhstan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *V. Vereshchagin s.n.*, 12 Aug 1926, Kazakhstan (extreme NE): Semipalatinsk Prov.: Katon-Karagaj: at the source of Rv. Ushkungaj-tributary of Rv. Sarymsan (LE; IT: LE). orig.label:"Katon-Karagaj Semipalatinskoj gub.: b istokakh r.Ushkungaj: pritoka r.Sarymsan".

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Victor Ivanovich Vereschagin (1871–1956) Soviet botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes short. Culms 17–30 cm long. Lateral branches lacking. Leaf-sheaths tubular for much of their length, with 0.5–0.75 of their length closed, smooth, glabrous on surface. Ligule an eciliate membrane, 2.5–4 mm long, 0.5–1.5 mm long on basal shoots. Leaf-blades 1.5–3.5 mm wide. Leaf-blade surface smooth. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, effuse, 3.5–8 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4.5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus pilose.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, membranous, 1-keeled. Lower glume apex acute. Upper glume ovate, membranous, 1-keeled. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.5–4.5 mm long, membranous or coriaceous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma margins ciliate, hairy below. Lemma apex acute. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.7–3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia, **Middle Asia**, **China**, **Mongolia**, **Russia**. Altay. Kazakhstan. Xinjiang.

Poa versicolor Bess. *Enum. Pl. Volh.* 41 (1821).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980) (& as *P.stepposa*), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Russia: Bolhynia, Podolia, prope Jaorlik, Sept. 1822, *Besser* (HT: ?; IT: LE).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (as subspecies *varia, relaxa, reverdattoi, orinosa, ochotensis* in Figures 407, 416, 417, 418, 421).

Derivation (Clifford & Bostock 2007): L. variously colored. Spikelets variously colored as with glumes being green in the lower third, purple in the middle and brown in the upper third.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Basal innovations extravaginal. Culms (20–)25–40(–65) cm long. Culm-internodes terete, smooth. Leaf-sheaths longer than adjacent culm internode. Ligule an eciliate membrane, 1.5–2.5 mm long, obtuse or acute. Leaf-blades 4–10 cm long, 1–2 mm wide. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate or pyramidal, dense or loose, 6–17 cm long. Primary panicle branches ascending, 2–5 -nate. Panicle branches flexuous, scaberulous or scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4(–5) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the

upper sterile. Spikelets cuneate, laterally compressed, 4–6.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth or scaberulous. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic or oblong, 3–3.8 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume oblong, 3–4.5 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, elliptic in profile or oblong in profile, 2.5–4 mm long, membranous, mid-green or purple, suffused with last colour, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate. Lemma margins ciliate. Lemma apex obtuse. Palea keels scabrous. Palea surface glabrous or pubescent, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.5–2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Europe, Temperate Asia, Tropical Asia.

Region. **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Albania, Greece, Romania, Yugoslavia. Central European Russia, East European Russia, North European Russia, South European Russia, Northwest European Russia. Siberia, Russian Far East, **Middle Asia**, **Caucasus**, **China**, **Mongolia**, **Eastern Asia**, **Russia**. Altay, Buryatiya, Chita, Irkutsk, Krasnoyarsk, Tuva. Amur, Kamchatka, Khabarovsk, Magadan, Primorye. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. China South Central, Inner Mongolia, Manchuria, China North-Central, Qinghai, China Southeast, Tibet, Xinjiang. Mongolia. Japan, Korea, Taiwan. **Indian Subcontinent**. Nepal, Pakistan, West Himalaya.

Gansu, Hebei, Shaanxi, Shandong, Shanxi. Anhui, Henan, Jiangsu, Jiangxi, Zhejiang. Sichuan, Yunnan.

Poa vorobievii N.S. Probatova. *Bot. Zhurn.*, 68(12): 1659 (1983).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Russia, Vladivostok: Pprobatova & Rudyka (VLA holo, LE).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms erect, curved, 35–70 cm long. Culm-internodes smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths smooth. Ligule an eciliate membrane, (0.3–)1.1–1.5 mm long. Leaf-blades 1.3–2.5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate or ovate, 6–15 cm long. Primary panicle branches ascending, with lower 0.33–0.5 length of panicle. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 2.8–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes scaberulous. Floret callus glabrous or pilose.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, membranous, 1-keeled. Lower glume apex acuminate. Upper glume elliptic or ovate, 3.8–4.5 mm long, 1.3 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma ovate, oblong in profile, 2.8–3.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate. Lemma margins ciliolate. Lemma apex obtuse. Palea keels scabrous. Palea surface puberulous, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.2–1.4 mm long.

$2n = 28$ (2 refs TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East. Primorye.

Poa vrangelica Tsvelev. *Novosti Sist. Vyssh. Rast.* 11: 37 (1974).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *V.V. Petrovskij s.n.*, 4 Aug 1964, Isl.Vrangel: bay Somnitelnaya: vic. vill.Zvezdnyj (LE). Orig.label:"O-v Vrangelya: bukhta Somnitel'naya (okr. pos. Zvezdnogo) rechnaya terrasa".

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. --*ica*, belonging to. From Ostrov Vrangelya, an island in the East Siberian Sea.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 10–20 cm long. Culm-internodes smooth. Lateral branches lacking. Leaf-sheaths open for most of their length, with 0.2–0.25 of their length closed, smooth, glabrous on surface. Ligule an eciliate membrane, 2–4 mm long, 1–2.5 mm long on basal shoots, glabrous on abaxial surface or scaberulous on abaxial surface. Leaf-blades conduplicate, 1–2 mm wide. Leaf-blade surface smooth.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear or lanceolate, 3–7 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.75 length of upper glume, membranous, 1-keeled. Lower glume apex acute. Upper glume ovate, 3 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.3–4.1 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma margins ciliate, hairy below. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Vegetative proliferation occurs.

$2n = 49$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East, **China**. Xinjiang.

Poa wardiana Bor. *Kew Bull.* 1948, 143 (1948).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: India: Assam, Balipara Frontier Tract, Poshing La, 10000–12000, a shade grass scattered along the path in Silver Fir-Rhododendron climax, 21 July 1938, *F. Kingdon-Ward 13990* (HT: DD; IT: BM, K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. -*ana*, indicating connection. In honor of Francis Kingdon-Ward (1885–1958) English botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Butt sheaths herbaceous, withering or persistent and investing base of culm. Culms decumbent, 20–35 cm long. Culm-internodes terete, smooth. Culm-nodes glabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 1.5 mm long, lacerate, truncate. Leaf-blades 4–8 cm long, 2 mm wide, flaccid. Leaf-blade surface scaberulous, rough on both sides. Leaf-blade margins scaberulous. Leaf-blade apex abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, lanceolate, 12 cm long. Primary panicle branches 1 -nate. Panicle branches flexuous, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 2.5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2.5 mm long, 0.8 length of adjacent fertile lemma, membranous, with hyaline margins, purple, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile florets divergent. Fertile lemma oblong, oblong in profile, 3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous, ciliate, hairy below. Lemma lateral veins prominent. Lemma surface scabrous. Lemma apex obtuse. Palea 0.9 length of lemma. Palea keels scabrous. Palea surface scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.75 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. China South Central, Tibet. **Indian Subcontinent**. Assam.

Yunnan. Assam.

Poa vvedenskyi Drobov. *Fl. Uzbekist., ed. Schreder,* i. 538 (1941).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Uzbekistan: Chulbair Mts., Khoja-Barnu Peak, rocks, 29 June 1929, *A. Vvedenskii 402* (HT: TAK; IT: LE).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Aleksei Ivanovich Vvedenskii (1911–1929) Russian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Butt sheaths thickened and forming a bulb. Culms 7–15 cm long. Culm-internodes smooth, distally glabrous. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane. Leaf-blades filiform, conduplicate, 1.5–3 cm long, 1 mm wide. Leaf-blade surface smooth, glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, effuse, 5 cm long, 3–5 cm wide. Primary panicle branches spreading, 1–2 -nate. Panicle branches smooth, glabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet, gaping. Lower glume lanceolate, 2.5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 2.5–2.75 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma elliptic or oblong, 3.5 mm long, membranous, purple, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate. Lemma surface pubescent, hairy on veins. Lemma apex acute. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Middle Asia**, **Western Asia**, **China**. Turkmenistan. Afghanistan. Xinjiang.

Poa wendtii Soreng & P. M. Peterson. *PhytoKeys* 15: 95–98 (2012).

TYPE from Mexico. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Cohuila.

Illustrations (Journals): *Phytokeys* (15: 96,97; Figs.22 & 23 (2012)).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Cataphylls evident. Rhizomes absent or elongated. Basal innovations extravaginal. Culms erect, 50–70 cm long, 3–4 -noded. Culm-internodes terete, smooth, distally glabrous. Lateral branches lacking. Leaf-sheaths tubular for much of

their length, with 0.2–0.4 of their length closed, 14–16 cm long, smooth or scaberulous. Ligule an eciliate membrane, 1.2–1.8 mm long, 2.7–3 mm long on basal shoots, scaberulous on abaxial surface, obtuse or acute. Leaf-blades flat or conduplicate, 10–22 cm long, 3.5 mm wide, glaucous, pruinose. Leaf-blade midrib keeled beneath. Leaf-blade venation with 15 secondary veins. Leaf-blade surface ribbed, scabrous, rough abaxially. Leaf-blade margins cartilaginous, scaberulous. Leaf-blade apex hooded.

Inflorescence. Inflorescence a panicle, comprising 50–70 fertile spikelets. Peduncle 2.5–4 cm long, smooth. Panicle open, pyramidal, equilateral or nodding, 13–14 cm long. Primary panicle branches spreading or reflexed, 2–3 -nate, 5–7 cm long, bearing 8–11 fertile spikelets on each lower branch. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.5 length of fertile spikelet, scabrous.

Fertile Spikelets. Spikelets comprising (2–)3(–4) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–1 mm long, obscured by lemmas, smooth. Floret callus woolly. Floret callus hairs 1–2 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–6.2 mm long, 0.8–0.9 length of upper glume, membranous, purple, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume lanceolate, 3–3.7 mm long, 0.8–0.9 length of adjacent fertile lemma, membranous, purple, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma elliptic, 3.5–4 mm long, membranous, purple, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma surface villous, hairy below, hairy on veins. Lemma margins villous, hairy below. Lemma apex obtuse or acute. Palea keels scabrous, adorned above. Palea surface glabrous or puberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.6–2.1 mm long. Caryopsis with adherent pericarp, ellipsoid, laterally compressed, sulcate on hilar side, 1.7–2 mm long, light brown. Hilum punctiform. Disseminule comprising a caryopsis and palea.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Mexico**. Northeast Mexico.

Coahuila.

Poa wheeleri Vasey. *Rothr. Rep. Bot. U. St. Surv.* vi. 291. (1874).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J. Wolf 1131A*, no date, USA: Colorado: South Park, in timber (US-55676; IT: GH [p.p.]).

Recent Synonyms: *Poa curta* Rydb., *Bull. Torr. Bot. Club,* 6: 584. (1909).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (547).

Derivation (Clifford & Bostock 2007): in honor of George Montague Wheeler (fl. 1871–1875) United States engineer and explorer.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes elongated. Butt sheaths herbaceous, green. Culms erect, 40–70 cm long. Culm-internodes terete. Leaf-sheaths tubular for much of their length, smooth or scaberulous, glabrous on surface. Ligule an eciliate membrane, 0.5–2 mm long, scaberulous on abaxial surface, erose or lacerate, obtuse or acute. Collar glabrous. Leaf-blades flat, angular in section, 5–10 cm long, 3–5 mm wide. Leaf-blade surface scaberulous, glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 5–15 cm long, with spikelets clustered towards branch tips. Primary panicle branches spreading or reflexed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 2.6–3.5 mm long, 0.75 length of upper glume, membranous, 1-keeled. Lower glume apex acute. Upper glume lanceolate, 3–4.2 mm long, 0.66–0.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 4.5–5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein scaberulous. Lemma lateral veins prominent. Lemma surface scaberulous, rough on veins, glabrous or puberulous, hairy between veins. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, 0.8 mm long, membranous. Anthers 3, 2.5–3 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Western Canada**, **Northwest USA**, **Southwestern USA**, **South-central USA**. Alberta, British Columbia, Saskatchewan. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. Arizona, California, Nevada, Utah. New Mexico.

Poa wilhelminae J.F. Veldkamp. *P. van Royen, Alp. Fl. New Guinea*, 2: 1081 (1979).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Papua New Guinea. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *L.J. Brass & E. Myer-Drees 10347 BIS*, Sep 1938, Papua New Guinea: New Guinea I., Irian Barat Prov. (L, US-176749).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): From Mount Wilhelmina, Papua, Indonesia.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Stolons absent or present. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Basal innovations extravaginal. Culms 15–30 cm long. Leaf-sheaths 0.5–3.7 cm long, smooth, glabrous on surface. Ligule an eciliate membrane, 2.25–3.5 mm long, erose, acute. Leaf-blades erect, flat or conduplicate, 2.3–9 cm long, 1.6–3.5 mm wide, stiff. Leaf-blade surface glabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Peduncle 10–22 cm long, smooth. Panicle open, ovate, 5.5–8 cm long, 3.7–4 cm wide. Primary panicle branches ascending, 2–4 -nate, 2.5–3.8 cm long, bearing 3–7 fertile spikelets on each lower branch. Panicle branches stiff, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1–2 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 3.75–5.25 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–1.1 mm long, smooth. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong or ovate, 2.25–2.75 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or distinct. Lower glume apex acute. Upper glume oblong, 2.65–2.9 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex emarginate to acute.

Florets. Fertile lemma ovate, 3.5–4 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface scabrous, rough on veins. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous, adorned above. Rhachilla extension 1.5–2.25 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1–1.4 mm long, yellow. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea.

Poa wisselii Jansen. *Reinwardtia,* ii. 330 (1953).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Mt. Carstensz, *Wissel 25a* (HT: BO-26830).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of F.J. Wissel (1907-) Dutch engineer and plant collector.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Basal innovations extravaginal or intravaginal. Culms erect, 10–20 cm long. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 0.4–0.75 mm long, erose. Leaf-blades erect or ascending, flat or conduplicate, 2.5–9.5 cm long, 1.7–2.6 mm wide. Leaf-blade surface scaberulous, rough adaxially, glabrous. Leaf-blade apex abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 2–3.5 cm long, 0.4–1.6 cm wide. Primary panicle branches appressed or ascending, 1–4 -nate, 1.3–2 cm long, bearing 3–6 fertile spikelets on each lower branch. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 2.3–3.25 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous or sparsely hairy or woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1.25–1.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 1.65–1.85 mm long, 0.66 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 2.6–2.85 mm long, membranous, keeled, 3 -veined, 0–3 -veined. Lemma apex acuminate, muticous or mucronate. Palea keels smooth or scaberulous, adorned above. Palea apex dentate, 2 -fid. Rhachilla extension 1.1–1.6 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.65–0.8 mm long. Caryopsis with adherent pericarp, obovoid, 1–1.5 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea West Papua (Irian Jaya). New Guinea.

Poa wolfii Scribn. *Bull. Torrey Bot. Club,* xxi. 228. (1894).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J. Wolf s.n.*, 1882, USA: Illinois (US-556809; IT: GH).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (515).

Derivation (Clifford & Bostock 2007): in honor of John Wolf (1820–1897) United States botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 40–80 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths scaberulous, glabrous on surface. Ligule an eciliate membrane. Leaf-blades 5–10 cm long, 1–2 mm wide. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 8–15 cm long, with spikelets clustered towards branch tips. Primary panicle branches ascending, 2 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 3–3.5 mm long, 1 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume ovate, 3–3.5 mm long, 0.75–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.5–4.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein pubescent. Lemma lateral veins distinct. Lemma margins pubescent. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **North-central USA**, **Northeast USA**. Illinois, Iowa, Minnesota, Missouri, North Dakota, Wisconsin. Indiana, Ohio, West Virginia.

Poa x jemlandica (Almq.) C.Richt. *Pl. Europ.* 1: 84. (1890).

Accepted by: T.G.Tutin et al, *Flora Europaea* 5 (1980).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Poa x gaspensis Fernald. *Rhodora,* i. 46. (1929).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Canada. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Fernald & Collins 344*, 14–16 Jul 1906, Canada: Quebec: Gaspe Co., wooded alluvial banks, Rv. Ste. Anne des Monts (GH; IT: US- (fragm. ex GH & photo)).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (as *P.*x*gaspensis*).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Gaspi Peninsula, Canada.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths scarious, light brown, persistent and investing base of culm. Culms erect, 15–50 cm long. Culm-internodes terete, smooth. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 2–6 mm long, truncate. Leaf-blades 10–20 cm long, 1–4 mm wide. Leaf-blade surface smooth or scaberulous, rough on both sides. Leaf-blade apex abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle open, oblong or ovate, 3–12 cm long, 0.6–6 cm wide, with spikelets clustered towards branch tips. Primary panicle branches ascending or spreading. Panicle branches capillary, smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2–3.4 mm long, 0.75 length of upper glume, membranous, much thinner on margins, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute. Upper glume ovate, 2.8–4.5 mm long, 1 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acuminate.

Florets. Fertile lemma ovate, oblong in profile, 2.5–4.5 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous, ciliate, hairy below. Lemma surface pubescent, hairy below, hairy on veins. Lemma apex acute. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.2–1.4 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Eastern Canada**. Labrador, Quebec.

Poa x limosa Scribn. & Williams ex Scribn. *U.S. Dept. Agric. Circ. Agrost.* ix. 5. (1899).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *H.N. Bolander s.n.*, no date, USA: California: Mono Lake (US-748920; IT: US-556832).

Recent Synonyms: *Poa fibrata* Swallen, *Journ. Wash. Acad. Sc.* . 210. (1940).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (as *P.*x*limosa*).

Derivation (Clifford & Bostock 2007): L. *limus*, mud; -*osa*, abundance. Growing in muddy places or swamp species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes elongated. Butt sheaths herbaceous, glossy, persistent and investing base of culm, with fibrous dead sheaths. Culms geniculately ascending, 15–35 cm long. Culm-internodes terete. Leaves mostly basal. Leaf-sheaths smooth. Ligule an eciliate membrane, 1–1.5 mm long. Leaf-blades curved, conduplicate, 4–8 cm long, 1–2 mm wide, stiff. Leaf-blade surface scabrous. Leaf-blade apex pungent.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 4–10 cm long. Primary panicle branches appressed, bearing spikelets almost to the base. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 0.75 length of upper glume, membranous, 1-keeled. Lower glume apex acute. Upper glume lanceolate, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 2.5–3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface scabrous, glabrous or puberulous, hairy at base. Lemma apex obtuse or acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Southwestern USA**.

Poa x multnomae Piper. *Bull. Torr. Bot. Club,* 1905, 435. (1905).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *C.V. Piper 6459*, 25 Jun 1904, USA: Oregon (US-556812; IT:US-923732, US-748837).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): from Multnomah Falls, Oregon, USA.

Classification. Subfamily Pooideae. Tribe: Poeae.

Poa x nematophylla Rydb. *Bull. Torr. Bot. Club,* 1905: 606. (1905).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Osterhout 2601*, 8 Jun 1902, USA: Colorado: Rio Blanco Co., Meeker (NY).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (as *P.*x*nematophylla*).

Derivation (Clifford & Bostock 2007): Gk. *nema*, thread*; phyllon*, leaf. Leaf-blades filiform.

Classification. Subfamily Pooideae. Tribe: Poeae.

Poa x nobilis Skalinska. *Acta Soc. Bot. Polon*. 24: 751 (1955).

Accepted by: T.G.Tutin et al, *Flora Europaea* 5 (1980).
Illustrations: None found.
Classification. Subfamily Pooideae. Tribe: Poeae.

Poa x taurica H. Pojark. *Novit. Syst. Pl. Vasc., Acad. Sci. URSS*, 1965, 51 (1965).

Accepted by: N.Tsvelev, *Grasses of the Soviet Union* (1983).
Illustrations: None found.
Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Tauria, now the Crimea, Ukraine.
Classification. Subfamily Pooideae. Tribe: Poeae.

Poa xenica E.Edgar & H.E.Connor. *New Zealand J. Bot.,* 37(1): 65 (1999).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: New Zealand: Riwaka River, bluffs in South Branch, 600 m, male plant, 3 Dec 1997, *G. Jane s.n.* (HT: CHR-512884A; IT: CHR-514884B).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk *xenikos*, alien. It was for some time thought that the species was not endemic.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations extravaginal. Culms 40–85 cm long, rooting from lower nodes. Culm-nodes swollen, glabrous. Leaf-sheaths open for most of their length, 5–10 cm long, keeled, ribbed, pubescent (retrorsely). Ligule a ciliolate membrane, 1 mm long, pubescent on abaxial surface. Leaf-blades flat, 40–80 cm long, 3–4 mm wide. Leaf-blade surface puberulous, hairy adaxially. Dioecious.

Inflorescence. Inflorescence a panicle, subtended by bracts. Panicle lanceolate, 12–25 cm long. Panicle axis smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets laterally compressed, 10–12 mm long, 2 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1.5 mm long. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume 2.5–3.5 mm long, purple, 1–3 -veined. Lower glume lateral veins ribbed. Upper glume 3.5–5 mm long, purple, 5 -veined. Upper glume lateral veins ribbed. Upper glume margins ciliate.

Florets. Fertile lemma 4.5–6 mm long, purple, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous (above). Lemma surface pubescent. Lemma margins ciliate. Lemma apex erose. Palea present, 4.5–5.2 mm long, 2-keeled. Palea keels scabrous. Palea apex dentate, 2 -fid. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, 0.5–1 mm long, membranous, ciliate. Anthers of male flowers 2.75–3.5 mm long, yellow or purple.

Male inflorescence similar to female.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand South I.

Poa xingkaiensis Y.X.Ma. *Bull. Bot. Res., Harbin* 22(4): 387 . (2002).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Heilongjiang: Mudanjiang, Xingkaihu, 400 m, 26 Aug. 2001, *Y.X. Ma 9080* (HT: ?) HT institute given in Chinese, may be Mudanjiang Teachers College.

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms erect, 40–50 cm long, 1–2 mm diam., 3–4 -noded. Culm-internodes smooth. Lateral branches lacking. Leaf-sheaths longer than adjacent culm internode, smooth. Ligule an eciliate membrane, 2.5–3 mm long, pubescent on abaxial surface, truncate. Leaf-blades flat, 5–20 cm long, 2–3 mm wide. Leaf-blade apex hooded.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 10–15 cm long, 2–3 cm wide. Primary panicle branches ascending, 5 -nate, 1–3 cm long, bearing 6–9 fertile spikelets on each lower branch. Panicle axis with lower internodes 1–2 cm long. Panicle branches capillary, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 3.5–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.8–4 mm long, 0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acuminate. Upper glume lanceolate, 4.1–4.5 mm long, 1.3 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 3–3.3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy above. Lemma surface glabrous. Lemma apex acute. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.7–0.8 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. Manchuria.

Poa yaganica Speg. *Anal. Mus. Buenos Aires,* v. 90. (1896).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Argentina. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Argentina: Patagonia: Hab. Vulgateissima in sylvis, Onniuaia, Agaia, Ushuuaia, Vallamatu. [Plantae per Fuegiam a ... in 1882], *C. Spegazzini s.n.*syntypes, no collections cited.

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (338), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (167, Fig 105).

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Yagan in the south of South America.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Culms 20–90 cm long. Culm-internodes distally glabrous. Lateral branches lacking. Leaves mostly basal, distichous. Leaf-sheaths keeled, smooth or scaberulous. Ligule an eciliate membrane, 3–4 mm long, scaberulous on abaxial surface, acute. Leaf-blades flat or conduplicate, 5–20 cm long, 4–5 mm wide, stiff. Leaf-blade surface scabrous, rough adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, equilateral or nodding, 6–12 cm long. Panicle branches flexuous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus woolly.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.5–4 mm long, 0.9 length of upper glume, membranous, 1-keeled, 1–3 -veined. Lower glume lateral veins absent or distinct. Lower glume apex acute. Upper glume ovate, 4–4.5 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4.5–5.5 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma surface scabrous, rough on veins. Lemma margins ciliate, hairy below. Lemma apex acute. Palea 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.8–2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South, Chile South.

Chubut, Tierra del Fuego. Chiloe, Aisen, Magellanes. Magellanes.

Poa zhongdianensis L. Liou. *Fl. Reipubl. Popularis Sin.* 9(2): 405 (2002).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Yunnan: Zhongdian, 3400–3600 m, 17 Aug. 1981, *Hengduanshan Exped. 3109* (HT: PE; IT: PE).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes short. Culms 40–70 cm long, 1–1.5 mm diam., 3–4 -noded. Culm-internodes smooth. Lateral branches lacking. Leaf-sheaths open for most of their length, with 0.6 of their length closed, 4.5–7.5 cm long, keeled, retrorsely scabrous, puberulous. Leaf-sheath oral hairs lacking or ciliate. Ligule an eciliate membrane, 1.7–2.2 mm long, 0.3–0.5 mm long on basal shoots, scaberulous on abaxial surface, truncate or obtuse. Leaf-blades flat or conduplicate, 5–20 cm long, 2–3 mm wide. Leaf-blade surface scabrous, rough adaxially or on both sides. Leaf-blade margins scabrous. Leaf-blade apex hooded.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 10–18 cm long, 5–10 cm wide. Primary panicle branches spreading, 2–4 -nate, 4–7 cm long, bearing 4–12 fertile spikelets on each lower branch. Panicle axis with lower internodes 2–3.5 cm long. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong or ovate, laterally compressed, 4–5.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1–1.2 mm long, scaberulous. Floret callus woolly.

Glumes. Glumes persistent, similar, with lower narrower than upper, shorter than spikelet. Lower glume lanceolate, 1.5–2.3 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein smooth. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume lanceolate, 2.5–3 mm long, 0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex acute.

Florets. Fertile florets bisexual or female. Fertile lemma lanceolate, 3.5–4 mm long, chartaceous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliolate, hairy above. Lemma surface scaberulous and papillose. Lemma margins ciliolate, hairy above. Lemma apex acute. Palea keels scabrous. Palea surface scaberulous or papillose. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1.8–2 mm long. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China South Central.

Yunnan.

Podagrostis aequivalvis (Trin.) Scribn. & Merrill. *Contrib. U. S. Nat. Herb.* xiii, 58 (1910).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Agrostis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Alaska. **Basionym or Replaced Name**: *Agrostis canina* var. *aequivalvis* Trin., *Mem. Acad. Imp. Sci. St.-Petersbourg, Ser. 6, Sci. Math.* 2(2): 171 (1832). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *Mertens s.n.*, 1829, USA: Alaska, Sitka (LE-TRIN-1586.03 (& fig.); IT: LE-TRIN-1586.02, US-2479150 (fragm. & photo ex LE-TRIN)).

Recent Synonyms: *Agrostis aequivalvis* (Trin.) Trin., *Mem. Acad. Petersb. Ser.*6. 6. I2. 362. (1841).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (695).

Derivation (Clifford & Bostock 2007): L. *aequus*, equal; *valvus*, scale. Glumes of similar length.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms 30–80 cm long. Lateral branches lacking. Ligule an eciliate membrane, 1–4 mm long, entire or lacerate, truncate. Leaf-blades flat or involute, 4–6 cm long, 1.5–3 mm wide. Leaf-blade surface scaberulous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 7–20 cm long. Primary panicle branches ascending or spreading. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 3.1–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, exceeding apex of florets, firmer than fertile lemma, shiny. Lower glume lanceolate, 3.1–4.5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 3.1–4.5 mm long, membranous, 1-keeled, 1 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma elliptic, 3–4 mm long, hyaline, without keel, 5 -veined, more than 3-veined. Lemma lateral veins extending close to apex. Lemma apex erose, obtuse, muticous. Palea 1 length of lemma, hyaline. Rhachilla extension 0.6–1 mm long, pubescent.

Flower and Fruit. Lodicules 2, 0.7 mm long, membranous. Anthers 3, 1 mm long. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. North America, South America.

Country /Province /State. **Subarctic America**, **Western Canada**, **Northwest USA**, **North-central USA**. Aleutian Is, Alaska. British Columbia. Oregon, Washington. Minnesota.

Podagrostis humilis (Vasey) Bjorkm. *Symb. Bot. Upsal.* xvii. No. 1, 15 (1960).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Agrostis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from US. **Basionym or Replaced Name**: *Agrostis humilis* Vasey, *Bull. Torrey Bot. Club* 10(2): 21 (1883)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *W.N. Suksdorf s. n.*, 16 Sep 1883, USA: Washington: Mount Paddo (Adams), elev. 7000 ft. (US-2479653 (packet); IST: LE (GST)). Flora of Washington.. LT: *T.J. Howell 85*, Aug 1882, USA: Washington: Yakima Co.: Mt. Adams (US-2479653). LT designated by A.S. Hitchcock, Man. grasses U. S., p.332, f. 668., p. 782 (1935).

Recent Synonyms: *Agrostis humilis* Vasey, *Bull. Torr. Club,* 10:. 21. (1883).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (695).

Derivation (Clifford & Bostock 2007): L. low growing. Short-statured in comparison with related species often prostrate.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 5–10 cm long. Lateral branches lacking. Leaves mostly basal. Ligule an eciliate membrane, 0.5–1 mm long, erose, truncate or obtuse. Leaf-blades filiform, flat or conduplicate, 2–10 cm long, 0.5–1 mm wide.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 1.5–2.5 cm long, 0.5 cm wide. Primary panicle branches appressed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension or with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 2 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, reaching apex of florets, firmer than fertile lemma, shiny. Lower glume lanceolate, 2 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume

primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2 mm long, membranous, 1-keeled, 1 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma elliptic, 2 mm long, hyaline, without keel, 5 -veined, more than 3-veined. Lemma lateral veins extending close to apex. Lemma apex erose, truncate, muticous. Palea 0.66–0.75 length of lemma, hyaline. Rhachilla extension 0–0.15 mm long.

Flower and Fruit. Lodicules 2, 0.3 mm long, membranous. Anthers 3, 0.6–0.7 mm long. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Northwest USA**. Colorado.

Podagrostis sesquiflora (Desvaux) L.R. Parodi ex E.G.Nicora. *Fl. Patagonica,* 3: 368 (1978).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Agrostis*).

TYPE from Chile. **Basionym or Replaced Name**: *Agrostis sesquiflora* E. Desv., *Fl. Chil.* 6: 318, t. 77, f. 3 (1854)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Cl. [Desv. 3] Gay s.n. [185]*, no date, Chile: Antuco (P; IT: US-75367 (fragm. ex P)).

Recent Synonyms: Agrostis sesquiflora E.Desv., C. Gay, *Fl. Chil.* 6: 318. (1853).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (339), E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (190, Fig. 53), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (365, Fig 244).

Derivation (Clifford & Bostock 2007): L. *sesqui*, one and a half; *flos*, flower. Spikelets with one fertile floret and a second sterile or male floret.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm. Culms 10–30 cm long, 2 -noded. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5–2.5 mm long, lacerate, obtuse or acute. Leaf-blades 1–6.5 cm long, 0.5–2.5 mm wide. Leaf-blade surface smooth or scaberulous, rough adaxially.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 2–6.5 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 2–2.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent. Floret callus hairs 0.1–0.2 mm long.

Glumes. Glumes persistent, similar, exceeding apex of florets, firmer than fertile lemma. Lower glume lanceolate, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2–2.5 mm long, 1–1.1 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma elliptic, 1.9–2.1 mm long, hyaline, without keel, 5 -veined, more than 3-veined. Lemma apex muticous. Palea 1.3–1.6 mm long, hyaline. Rhachilla extension 0.2–0.4 mm long, 0.25 length of fertile floret, pubescent, hairy at tip.

Flower and Fruit. Lodicules 2, 0.4–0.5 mm long, membranous. Anthers 3, 0.4–0.6 mm long. Caryopsis with adherent pericarp, fusiform, 1 mm long. Hilum linear.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South, Chile Central.

Mendoza. Río Negro. Rest of Chile- Biobio, La Auracania, Maule, O'Higgins, Santado, Valpariso. O'Higgins, Maule, Biobio, La Araucania.

Podagrostis thurberiana (Hitchcock) Hulten. *Fl. Aleut. Isl.* 75 (1937).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Agrostis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Agrostis*).

TYPE from USA. **Basionym or Replaced Name**: *Agrostis thurberiana* Hitchc., *U.S.D.A. Bur. Pl. Industr. Bull.* 68: 23, t. 1, f. 1 (1905). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *W.N. Suksdorf 1021*, 28 Aug 1890, USA: Washington: Skamania Co. (US-2479143; IT: MO).

Recent Synonyms: Agrostis thurberiana Hitchc., *U.S. Dept. Agric. Bull. Pl. Ind.* 68: 23. (1905).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of George Thurber (1821–90) United States botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Rhizomes short. Culms 15–30 cm long. Lateral branches lacking. Leaf-sheaths smooth. Ligule an eciliate membrane, 1–3 mm long, entire or lacerate, truncate or obtuse. Leaf-blades 0.5–3 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 5–10 cm long. Primary panicle branches ascending. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 2–2.3 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent.

Glumes. Glumes persistent, similar, exceeding apex of florets, firmer than fertile lemma, shiny. Lower glume lanceolate, 2–2.3 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2–2.3 mm long, membranous, 1-keeled, 1 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma elliptic, 2 mm long, hyaline, without keel, 5 -veined, more than 3-veined. Lemma lateral veins excurrent. Lemma apex dentate, 4 -fid, truncate, muticous. Palea 1 length of lemma, hyaline. Rhachilla extension 0.1–0.3 mm long, pubescent.

Flower and Fruit. Lodicules 2, 0.5–0.6 mm long, membranous. Anthers 3, 0.4–0.6 mm long. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Subarctic America**, **Western Canada**, **Northwest USA**, **Southwestern USA**. Aleutian Is, Alaska. Alberta, British Columbia. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. California, Utah.

Podophorus bromoides Phil. *Bot. Zeit.* xiv.649. (1856).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *F. Germain s.n.*, Oct 1854, Chile: Juan Fernández Islands (SGO-37130; IT: BHU, K, SGO-PHIL-35, SGO-63072, US- (fragm. ex SGO-PHIL-35 & photo), US-995981 (fragm. ex ?), US-112786). LT designated by Baeza et al., Brittonia 54: 159 (2002).

Illustrations (Books): E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (295, Fig. 97).

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resembling. Resembling *Bromus* , usually with respect to the inflorescence.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Culms decumbent, 30–40 cm long. Leaf-sheaths pubescent. Ligule an eciliate membrane, lacerate. Leaf-blades 5–15 cm long, 2–5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 5–7 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with diminished florets at the apex. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 9–12 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent.

Glumes. Glumes persistent, similar, reaching apex of florets or shorter than spikelet, thinner than fertile lemma, gaping. Lower glume linear, 5–9 mm long, 0.75 length of upper glume, herbaceous, 1-keeled,

3 -veined. Lower glume apex acuminate. Upper glume linear, 7–12 mm long, 0.75–1 length of adjacent fertile lemma, herbaceous, 1-keeled, 3–5 -veined. Upper glume apex acuminate.

Florets. Fertile lemma lanceolate, subterete, 9–12 mm long, coriaceous, without keel, 5 -veined, more than 3-veined. Lemma margins convolute, covering most of palea. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn flexuous, reflexed, 20–25 mm long overall. Palea coriaceous. Apical sterile florets 1 in number, barren, rudimentary. Apical sterile lemmas awned, 1 -awned. Apical sterile lemma awns 6–12 mm long.

Flower and Fruit. Ovary unappendaged, pubescent on apex. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Juan Fernandez Is.

Poecilostachys ambositrensis A.Camus. *Bull. Soc. Bot. France,* c. 23 (1953).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar Centre: environs d'Ambositra, foret de Ranomena., *Humbert & Swingle 4864* (HT: not designated).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. -*ensis*, denoting origin. From Ambongo, Madagascar.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Boivinellinae.

Habit, Vegetative Morphology. Perennial. Culms rambling, 60 cm long. Culm-internodes terete, distally glabrous. Lateral branches ample. Leaf-sheaths striately veined, glabrous on surface, outer margin hairy. Leaf-sheath auricles erect. Ligule an eciliate membrane, 1 mm long. Leaf-blades aciculate, 5–10 cm long, 4–5 mm wide. Leaf-blade surface glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 5–8, borne along a central axis, unilateral, 3–9 cm long. Central inflorescence axis 10–28 cm long. Rhachis angular, smooth on margins. Spikelet packing irregular. Spikelets in pairs. Fertile spikelets pedicelled, 2 in the cluster, subequal. Pedicels present, 1–7.5 mm long, glabrous.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, laterally compressed, 5.5–7 mm long, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 2.5–3 mm long, 0.3–0.5 length of spikelet, membranous, 1-keeled, 3 -veined. Lower glume surface glabrous. Lower glume apex acute, awned, 1 -awned, awn 3–6 mm long (deciduous). Upper glume ovate, 4 mm long, 0.6–0.75 length of spikelet, membranous, 1-keeled, 3 -veined. Upper glume surface glabrous. Upper glume apex acute, mucronate (0.5mm).

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret lanceolate, 1 length of spikelet, membranous, 5 -veined, glabrous, acute. Fertile lemma lanceolate, laterally compressed, 4 mm long, cartilaginous, without keel, 3 -veined, 0–3 -veined. Lemma margins convolute, covering most of palea. Lemma apex acute. Palea involute, 4 mm long, cartilaginous, 2 -veined, without keels.

Flower and Fruit. Anthers 3, 2 mm long.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Poecilostachys bakeri (Schinz) C.E.Hubb. *Kew Bull.* 1935, 307 (1935).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Madagascar. **Basionym or Replaced Name**: *Oplismenus bakeri* Schinz, *Consp. Fl. Afr.* 5: 771 (1985). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar, *Baron 3213* (HT: K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): In honor of John Gilbert Baker (1834–1920) English botanist.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Boivinellinae.

Habit, Vegetative Morphology. Perennial. Culms geniculately ascending or decumbent, slender, 30–45 cm long. Leaf-sheaths 2–3 cm long, pilose, outer margin hairy. Ligule an eciliate membrane, 1 mm long. Leaf-blades linear, 4–10 cm long, 4–6 mm wide. Leaf-blade surface glabrous, hairless except near base. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 4–6, borne along a central axis, 3–5 cm long. Central inflorescence axis 10–20 cm long. Spikelet packing lax. Spikelets in pairs. Fertile spikelets pedicelled, 2 in the cluster. Pedicels present.

Fertile Spikelets. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, laterally compressed, 5 mm long, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet. Lower glume lanceolate, 3–4 mm long, 0.66–0.75 length of spikelet, 5–7 -veined. Lower glume apex awned, 1 -awned, awn 3–6 mm long. Upper glume lanceolate, 4 mm long, 0.75 length of spikelet, 5–7 -veined.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret 5 mm long, 1 length of spikelet, 5–7 -veined. Fertile lemma lanceolate, laterally compressed, 4 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma apex acute.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Poecilostachys baronis A. Camus. *Bull. Soc. Bot. France,* 100: 22 (1953).

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar, Ambre: *Perrier* 19288.

Illustrations: None found.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Poecilostachys confertiflora A. Camus. *Not. Syst., Paris,* 15: 411 (1959).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar, Vohemar to Ambilobe: Decary 666.

Illustrations: None found.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Boivinellinae.

Habit, Vegetative Morphology. Annual. Culms prostrate, 30–40 cm long. Culm-internodes smooth, distally glabrous. Leaf-sheaths striately veined, pilose. Leaf-sheath auricles erect. Ligule a ciliolate membrane. Leaf-blades lanceolate, 4.5–7 cm long. Leaf-blade surface scaberulous, pilose, sparsely hairy, hairy abaxially. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 4–5, borne along a central axis, unilateral, 1.2–3.5 cm long. Central inflorescence axis 10–15 cm long. Rhachis angular. Spikelets solitary or in pairs. Fertile spikelets sessile and pedicelled, 1 in the cluster or 2 in the cluster, subequal or the lower smaller. Pedicels present, 0.5–1.5 mm long.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets linear or lanceolate, laterally compressed, 5 mm long, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 2.5–3 mm long, 0.5 length of spikelet, membranous, 1-keeled, 3–7 -veined. Lower glume surface pilose. Lower glume apex truncate, awned, 1 -awned, awn 2–6 mm long. Upper glume lanceolate, 3.5–4 mm long, 0.75 length of spikelet, membranous, 1-keeled, 3–7 -veined. Upper glume apex truncate, awned, 1 -awned, awn 1–2 mm long.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret elliptic, 1 length of spikelet, membranous, attenuate. Fertile lemma ovate, laterally compressed, 4–4.5 mm long,

cartilaginous, pallid, without keel. Lemma margins convolute, covering most of palea. Lemma apex attenuate. Palea involute, cartilaginous.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Poecilostachys festucacea (Mez) A.Camus. *Bull. Soc. Bot. France.* lxxvii. 641 (1931).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Madagascar. **Basionym or Replaced Name**: *Oplismenus festucaceus* Mez, *Notizbl. Bot. Gart. Berlin-Dahlem* 7: 54 (1917). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *Forsyth-Major 209*, Madagascar: in silva Ambohimitombo (B).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-acea*, resembling. Resembling *Festuca* in some respect, usually the habit or inflorescence.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Boivinellinae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms prostrate, 20–30 cm long, rooting from lower nodes. Ligule an eciliate membrane. Leaf-blades linear or lanceolate, 3–25 cm long, 3–11 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 3–8, borne along a central axis, unilateral, 1.5–9 cm long. Central inflorescence axis 4–25 cm long. Rhachis angular. Spikelet packing lax, irregular. Spikelets in pairs. Fertile spikelets pedicelled, 2 in the cluster, subequal or the lower smaller. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, laterally compressed, 7–8 mm long, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 3.5–5.5 mm long, 1–1.1 length of upper glume, 0.5–0.7 length of spikelet, membranous, 1-keeled, 5 -veined. Lower glume surface scabrous. Lower glume margins eciliate or ciliate (above). Lower glume apex acute, awned, 1 -awned, awn subapical, awn 3–10 mm long. Upper glume oblong, 3.5–4 mm long, membranous, without keels, 5 -veined. Upper glume apex obtuse.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret ovate, 1 length of spikelet, membranous, 7 -veined, obtuse. Fertile lemma ovate, laterally compressed, 5 mm long, cartilaginous, shiny, without keel, 5 -veined, more than 3-veined. Lemma margins convolute, covering most of palea. Lemma apex obtuse. Palea involute, cartilaginous, 2 -veined, without keels.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Poecilostachys geminata (Baker) Hack. *Sitzb. Acad. Wien*, l ix. 133 (1884).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Madagascar. **Basionym or Replaced Name**: *Lophatherum geminatum* Baker, *Journ. Linn. Soc.* xx. 300. (1883). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar: Baron 1061 (K holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *gemini*, twins; *-ata*, possessing. Inflorescence of paired branches.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Boivinellinae.

Habit, Vegetative Morphology. Perennial. Culms rambling, 100 cm long. Culm-internodes distally glabrous. Lateral branches ample. Leaf-sheaths striately veined, glabrous on surface, outer margin hairy. Leaf-sheath oral hairs ciliate. Leaf-sheath auricles erect, 0.25–3 mm long. Ligule a ciliate membrane, 1.5 mm long. Leaf-blades lanceolate, 11–21 cm long, 7–16 mm wide. Leaf-blade surface glabrous or pilose, sparsely hairy. Leaf-blade margins scaberulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 5–11, borne along a central axis, unilateral, 2 cm long. Central inflorescence axis 15–23 cm long. Rhachis angular, scaberulous on margins. Spikelet packing irregular. Spikelets in pairs. Fertile spikelets pedicelled, 2 in the cluster, subequal or the lower smaller. Pedicels present, 0.5–3 mm long, puberulous or pubescent.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, laterally compressed, 5.5–6.5 mm long, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 2–3.5 mm long, 0.3–0.5 length of spikelet, membranous, 1-keeled, 5–7 -veined. Lower glume surface glabrous. Lower glume apex acute, muticous or mucronate. Upper glume ovate, 2.5–3.5 mm long, 0.4 length of spikelet, membranous, 1-keeled, 5–7 -veined. Upper glume surface glabrous. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret lanceolate, 1 length of spikelet, membranous, 5–9 -veined, glabrous, acute. Fertile lemma lanceolate, laterally compressed, 4 mm long, cartilaginous, without keel, 3 -veined, 0–3 -veined. Lemma margins convolute, covering most of palea. Lemma apex acute. Palea involute, 4 mm long, cartilaginous, 2 -veined, without keels.

Flower and Fruit. Anthers 3, 3 mm long.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Poecilostachys gougerotiana A. Camus. *Bull. Soc. Bot. France*, 92: 52 (1945).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar, Analabe: Perrier 18530.

Illustrations: None found.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Boivinellinae.

Habit, Vegetative Morphology. Annual. Culms erect or geniculately ascending, slender, 20–25 cm long. Culm-nodes pubescent. Leaf-sheaths striately veined, pilose. Ligule a ciliolate membrane. Leaf-blades lanceolate, 3–4.5 cm long, 3–4 mm wide. Leaf-blade surface glabrous or puberulous. Leaf-blade margins scaberulous. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Racemes 3–5, borne along a central axis, erect, unilateral, 3.5–5 cm long. Central inflorescence axis 10–12 cm long. Rhachis angular. Spikelets in pairs. Fertile spikelets sessile and pedicelled, 1 in the cluster or 2 in the cluster, subequal or the lower smaller. Pedicels present, 2–6 mm long.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate or oblong, laterally compressed, 4.5–5 mm long, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate or ovate, 2.5–3 mm long, 0.5 length of spikelet, membranous, 1-keeled, 5 -veined. Lower glume margins ciliolate. Lower glume apex awned, 1 -awned, awn 2.5–2.8 mm long. Upper glume lanceolate or ovate, 2.6–2.8 mm long, 0.5–0.6 length of spikelet, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret lanceolate, 1 length of spikelet, membranous, 5 -veined, acute. Fertile lemma ovate, laterally compressed, 3 mm long, cartilaginous, without keel. Lemma margins convolute, covering most of palea. Lemma apex acute. Palea involute, cartilaginous.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Poecilostachys hildebrandtii Hack. *Sitzb. Acad. Wien*, l ix. 132. (1884).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar, Andrangoloaka: Hildebrandt 3759 (K iso).

Illustrations (Journals): *Hooker's Icones Plantarum* (t.3071 (1916)).

Derivation (Clifford & Bostock 2007): in honor of Johann Maria Hildebrandt (1847–1881) German-born traveller and plant collector.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Boivinellinae.

Habit, Vegetative Morphology. Perennial. Culms prostrate, 50–70 cm long, rooting from lower nodes. Culm-nodes pubescent. Leaf-sheaths pilose. Ligule an eciliate membrane, 1–1.5 mm long. Leaf-blades lanceolate, 2–7 cm long, 5–14 mm wide. Leaf-blade surface glabrous or pubescent, sparsely hairy.

Inflorescence. Inflorescence composed of racemes. Racemes 3–5, borne along a central axis, unilateral, 2–5 cm long. Central inflorescence axis 3–8 cm long. Rhachis angular. Spikelet packing irregular. Spikelets in pairs. Fertile spikelets sessile and pedicelled, 2 in the cluster, subequal or the lower smaller. Pedicels present, 3 mm long, tip cupuliform.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, laterally compressed, 6–7 mm long, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 4–5 mm long, 0.66 length of spikelet, membranous, 1-keeled, 7 -veined. Lower glume surface glabrous or pubescent. Lower glume apex acute, muticous or awned, 1 -awned, awn subapical, awn 1–8 mm long. Upper glume lanceolate, 5–6 mm long, 0.75 length of spikelet, membranous, 1-keeled, 7 -veined. Upper glume surface glabrous or pubescent. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret ovate, 1 length of spikelet, membranous, 7 -veined, acute. Fertile lemma lanceolate, laterally compressed, 5.5–6 mm long, cartilaginous, shiny, without keel, 5 -veined, more than 3-veined. Lemma margins convolute, covering most of palea. Lemma apex acute. Palea involute, cartilaginous, 2 -veined, without keels.

Flower and Fruit. Anthers 3, 4 mm long.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Poecilostachys humbertii A.Camus. *Bull. Soc. Bot. France,* lxxv. 37. (1928).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar, Tsaratanana: Perrier 16173 (K iso).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): In honor of Jean Henri Humbert (1887–1967) French botanist who collected in Madagascar.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Boivinellinae.

Habit, Vegetative Morphology. Perennial. Culms decumbent, 20–40 cm long. Leaf-sheaths glabrous on surface, outer margin hairy. Ligule a ciliate membrane. Leaf-blades lanceolate, 8–9 cm long, 4–6 mm wide. Leaf-blade surface glabrous or pilose, sparsely hairy, hairy abaxially. Leaf-blade margins scaberulous. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Racemes 6–8, borne along a central axis, unilateral, 0.8–1.5 cm long. Central inflorescence axis 7–20 cm long. Rhachis angular, hirsute on surface. Spikelet packing crowded. Spikelets in pairs. Fertile spikelets sessile and pedicelled, 2 in the cluster, subequal or the lower smaller. Pedicels present, 0.5 mm long.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets oblong, laterally compressed, 4.5–5 mm long, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 3 mm long, 0.66 length of spikelet, membranous, 1-keeled, 3 -veined. Lower glume margins ciliate. Lower glume apex acuminate, awned, 1 -awned, awn 3–5 mm long. Upper glume ovate, 3.5–4 mm long, 0.75

length of spikelet, membranous, 1-keeled, 3 -veined. Upper glume margins ciliate. Upper glume apex acute, mucronate.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret ovate, 1 length of spikelet, membranous, 5 -veined, ciliate on margins, fringed above, acute, mucronate. Fertile lemma ovate, laterally compressed, 3.5 mm long, cartilaginous, without keel. Lemma margins convolute, covering most of palea. Lemma apex acute. Palea involute, 3.5 mm long, cartilaginous, 2 -veined, without keels.

Flower and Fruit. Anthers 3, 2.5 mm long.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Poecilostachys mainborondroensis A. Camus. *Bull. Soc. Bot. France,* 97: 81 (1950).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar, Mt Mainborondro, Lokoko: Humbert 23376.

Illustrations: None found.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Boivinellinae.

Habit, Vegetative Morphology. Perennial. Culms prostrate, 35–40 cm long. Culm-internodes smooth, distally glabrous. Culm-nodes pubescent. Lateral branches sparse or ample. Leaf-sheaths mostly shorter than adjacent culm internode, striately veined, pubescent, outer margin glabrous or hairy. Leaf-sheath auricles absent or erect. Ligule a ciliolate membrane. Leaf-blades lanceolate, 3–12 cm long, 5–7 mm wide. Leaf-blade midrib prominent beneath. Leaf-blade margins scaberulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes borne along a central axis, unilateral, 0.7–4 cm long. Central inflorescence axis 6–15 cm long. Rhachis angular. Spikelets solitary or in pairs. Fertile spikelets sessile and pedicelled, 1 in the cluster or 2 in the cluster, subequal or the lower smaller. Pedicels present, 1.5–2.5 mm long.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets oblong, laterally compressed, 4.8–6 mm long, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 0.5 length of spikelet, membranous, 1-keeled, 3–5 -veined. Lower glume surface asperulous. Lower glume apex acute, mucronate or awned, 1 -awned, awn 3–5 mm long. Upper glume lanceolate, 0.5 length of spikelet, membranous, 1-keeled, 5 -veined. Upper glume surface asperulous. Upper glume apex acuminate.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret elliptic, 1 length of spikelet, membranous, acute. Fertile lemma ovate, laterally compressed, 3.5–4 mm long, cartilaginous, shiny, without keel. Lemma margins convolute, covering most of palea. Lemma apex acute. Palea involute, cartilaginous.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Poecilostachys manongarivensis A.Camus. *Bull. Soc. Bot. France,* lxxv. 33 (1928).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar, Manongarivo: *Perrier 11063* ; Madagascar, Manongarivo: *Perrier 11261*.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ense*, denoting origin. From the Manongarivo Massif, Madagascar.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Boivinellinae.

Habit, Vegetative Morphology. Perennial. Culms rambling, 100–200 cm long, rooting from lower nodes. Culm-internodes smooth. Lateral branches ample. Leaf-sheaths striately veined, glabrous on surface or pilose. Leaf-sheath auricles erect. Ligule a ciliate membrane. Leaf-blades lanceolate or oblong, 7–20 cm long, 5–12 mm wide. Leaf-blade surface pilose, sparsely hairy, hairy abaxially. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 6–20, borne along a central axis, unilateral, 2–6 cm long. Central inflorescence axis 15–30 cm long. Rhachis angular, with scattered hairs. Spikelets in pairs. Fertile spikelets pedicelled, 2 in the cluster, subequal or the lower smaller. Pedicels present, 1.6 mm long, ciliate.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets oblong, laterally compressed, 5–7 mm long, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 2 mm long, 0.33 length of spikelet, membranous, 1-keeled, 5 -veined. Lower glume surface pilose. Lower glume apex obtuse, muticous. Upper glume ovate, 2.8 mm long, 0.4–0.5 length of spikelet, membranous, 1-keeled, 5 -veined. Upper glume surface pilose. Upper glume apex obtuse.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret lanceolate or ovate, 1 length of spikelet, membranous, 5–7 -veined, pilose, acute. Fertile lemma oblong, laterally compressed, 4.8–5.2 mm long, cartilaginous, without keel, 3 -veined, 0–3 -veined. Lemma margins convolute, covering most of palea. Lemma apex acute. Palea involute, 5–6 mm long, cartilaginous, 2 -veined, without keels.

Flower and Fruit. Anthers 3.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Poecilostachys marojejyensis A. Camus. *Bull. Soc. Bot. France*, 97: 81 (1950).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar, Marojejy: Humbert 22731.

Illustrations: None found.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Boivinellinae.

Habit, Vegetative Morphology. Perennial. Culms decumbent, 18–20 cm long. Leaf-sheaths striately veined, glabrous on surface, outer margin hairy. Ligule a ciliolate membrane. Leaf-blades lanceolate, 1–1.5 cm long, 2.5–3 mm wide. Leaf-blade venation prominent. Leaf-blade margins tuberculate-ciliate. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, unilateral, bearing few fertile spikelets. Rhachis angular. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets oblong, laterally compressed, 5–5.5 mm long, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 4 mm long, 0.75 length of spikelet, membranous, 1-keeled, 3 -veined. Lower glume apex truncate, mucronate. Upper glume oblong, 4 mm long, 0.75 length of spikelet, membranous, purple, 1-keeled, 5 -veined. Upper glume surface puberulous, hairy at apex. Upper glume apex obtuse.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret elliptic, 1 length of spikelet, membranous, purple, 5 -veined, obtuse. Fertile lemma ovate, laterally compressed, 3–3.5 mm long, cartilaginous, pallid, without keel. Lemma margins convolute, covering most of palea. Lemma apex acute. Palea involute, cartilaginous.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Poecilostachys mollis Stapf. *Hook. Ic. Pl.* sub t. 3071 (1916).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar, Tanala country: Major 86 (K holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. soft. Softly hairy usually of leaf-blades.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Boivinellinae.

Habit, Vegetative Morphology. Annual. Culms geniculately ascending or decumbent, 60 cm long. Leaf-sheaths pilose. Leaf-sheath auricles absent. Ligule an eciliate membrane, 1–1.5 mm long, scarious. Leaf-blades lanceolate, 10–15 cm long, 10–15 mm wide. Leaf-blade surface pubescent. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 10, borne along a central axis, unilateral, 3–5 cm long. Rhachis angular. Spikelet packing contiguous, irregular. Spikelets in pairs. Fertile spikelets sessile and pedicelled, 2 in the cluster. Pedicels present, 1–2 mm long.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, laterally compressed, 6.5–7 mm long, falling entire.

Glumes. Glumes shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 3–3.5 mm long, 0.5 length of spikelet, herbaceous, without keels, 5 -veined. Lower glume surface glabrous. Lower glume apex acute, awned, 1 -awned, awn 2–5 mm long. Upper glume lanceolate, 4.5 mm long, 0.66 length of spikelet, herbaceous, without keels, 7 -veined. Upper glume surface glabrous. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret lanceolate, 1 length of spikelet, 7 -veined, pilose (sparsely). Fertile lemma lanceolate, laterally compressed, coriaceous, without keel. Palea involute, coriaceous, without keels.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Poecilostachys muscicola A. Camus. *Bull. Soc. Bot. France*, 100: 21 (1953).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar, Ambondrombe: Herb. Jard. Bot. *Tananan 4626*.

Illustrations: None found.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Boivinellinae.

Habit, Vegetative Morphology. Perennial. Culms erect, 30–35 cm long. Culm-internodes smooth, distally glabrous. Leaf-sheaths striately veined, glabrous on surface, outer margin hairy. Leaf-sheath auricles absent. Ligule a ciliolate membrane. Leaf-blades spreading, lanceolate, 1.5–2 cm long, 1–1.5 mm wide. Leaf-blade venation with 8 secondary veins. Leaf-blade margins scaberulous. Leaf-blade apex acute or acuminate or attenuate.

Inflorescence. Inflorescence composed of racemes. Racemes borne along a central axis, spreading, unilateral. Central inflorescence axis 4–5 cm long. Rhachis angular. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets oblong, laterally compressed, 5.5 mm long, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 0.5 length of spikelet, membranous, 1-keeled, 5 -veined. Lower glume apex awned, 1 -awned, awn 5–6 mm long. Upper glume lanceolate, 0.75 length of spikelet, membranous, 1-keeled, 5 -veined. Upper glume apex acute, mucronate.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret elliptic, 1 length of spikelet, membranous, 7 -veined, acute. Fertile lemma ovate, laterally compressed, 4 mm long, cartilaginous, keeled. Lemma margins convolute, covering most of palea. Lemma apex acuminate. Palea involute, cartilaginous.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Poecilostachys oplismenoides (Hack.) Clayton. *Kew Bull.*, 42(2): 403: (1987).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Mozambique. **Basionym or Replaced Name**: *Panicum oplismenioides* Hack. *Bol. Soc. Brot.*6: 141 (1888). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Mozambique, Gorungosa: *Rodrtigues de Cavalho* (W holo).

Recent Synonyms: *Chloachne oplismenoides* (Hack.) Robyns, *Bull. Jard. Bot. Brux.* 9:. 173 (1932).

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (235, Fig. 161 as *Chloachne*), R.M.Polhill, F.T.E.A., *Gramineae* (as *Chloachne*), G.V.Pope et al., *Flora Zambesiaca* 10, S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (193, Fig. 80), R.M.Polhill, F.T.E.A., *Gramineae* (3(1982):546, Fig.130 as *Chloachne secunda*).

Illustrations (Journals): *Hooker's Icones Plantarum* (t.3072 (1916) as *Chloachne secunds*).

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resembling. In habit similar to *Oplismenus*.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Boivinellinae.

Habit, Vegetative Morphology. Perennial. Culms prostrate, 30–100 cm long, rooting from lower nodes. Ligule a ciliate membrane. Leaf-blades lanceolate, 4–15 cm long, 5–20 mm wide. Leaf-blade venation with obscure cross veins.

Inflorescence. Inflorescence composed of racemes. Racemes borne along a central axis, unilateral, 2–7 cm long, simple or secondarily branched. Central inflorescence axis 6–20 cm long. Rhachis angular. Spikelet packing lax, irregular. Spikelets in pairs. Fertile spikelets pedicelled, 2 in the cluster. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, laterally compressed, 6–8 mm long, falling entire.

Glumes. Glumes similar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 0.3–0.6 length of spikelet, herbaceous, without keels, 5 -veined. Lower glume surface setose, with tubercle-based hairs. Lower glume apex acuminate. Upper glume ovate, 5–6 mm long, herbaceous, without keels, 5 -veined. Upper glume surface setose, with tubercle-based hairs. Upper glume apex acuminate.

Florets. Basal sterile florets 1, barren, with palea or without significant palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, herbaceous, 7 -veined, setose, with tubercle-based hairs, acute. Fertile lemma elliptic, laterally compressed, 4 mm long, cartilaginous, shiny, without keel, rounded except near apex, 5 -veined, more than 3-veined. Lemma margins involute. Lemma apex acute. Palea involute, cartilaginous, without keels.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **West Tropical Africa**, **West-Central Tropical Africa**, **Northeast Tropical Africa**, **East Tropical Africa**, **South Tropical Africa**. Nigeria. Burundi, Cameroon, Annobon, Principe & Sao Tome, Bioko, Rwanda. Ethiopia (inc. Eritrea), Sudan. Kenya, Tanzania. Malawi, Mozambique, Zambia, Zimbabwe.

Poecilostachys tsaratananensis A.Camus. *Bull. Soc. Bot. France,* lxxv. 35 (1928).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar, Tsaratanana: *Perrier 15522* (K iso).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ense*, denoting origin. From Mt Tsaratanana, Madagascar.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Boivinellinae.

Habit, Vegetative Morphology. Perennial. Culms decumbent, 40–60 cm long, rooting from lower nodes. Culm-internodes smooth, distally glabrous. Leaf-sheaths striately veined, glabrous on surface. Ligule a ciliate membrane. Leaf-blades lanceolate, 5–12 cm long, 8–14 mm wide. Leaf-blade venation with obscure cross veins. Leaf-blade surface glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 5–10, borne along a central axis, unilateral, 1–3 cm long. Central inflorescence axis 6–25 cm long. Rhachis angular, pubescent on surface.

Spikelet packing crowded. Spikelets in pairs. Fertile spikelets pedicelled, 2 in the cluster, subequal or the lower smaller. Pedicels present, 0.5–1.5 mm long.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets oblong, laterally compressed, 5.5–7 mm long, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 4 mm long, 0.66 length of spikelet, membranous, 1-keeled, 5 -veined. Lower glume surface pilose. Lower glume apex acuminate, mucronate or awned, 1 -awned, awn 1.5–5 mm long. Upper glume lanceolate, 5–5.5 mm long, 0.9 length of spikelet, membranous, 1-keeled, 5–7 -veined. Upper glume surface pubescent. Upper glume apex acute, muticous or mucronate.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret lanceolate, 1 length of spikelet, membranous, 7 -veined, pubescent, acute. Fertile lemma oblong, laterally compressed, 4.5 mm long, cartilaginous, without keel. Lemma margins convolute, covering most of palea. Lemma apex acute. Palea involute, cartilaginous, 2 -veined, without keels.

Flower and Fruit. Anthers 3.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Poecilostachys viguieri A.Camus. *Bull. Soc. Bot. France,* lxxv. 36 (1928).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar, Analamazoatra: *Perrier 10817* .

Illustrations: None found.

Derivation (Clifford & Bostock 2007): In honor of Rene Viguier (1880–1931) French botanist who collected on Madagascar.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Boivinellinae.

Habit, Vegetative Morphology. Perennial. Culms rambling, 20–40 cm long, rooting from lower nodes. Culm-internodes distally glabrous. Lateral branches ample. Leaf-sheaths striately veined, glabrous on surface, outer margin hairy. Ligule a ciliate membrane. Leaf-blades lanceolate, 4–7.5 cm long, 6–7 mm wide. Leaf-blade surface scaberulous, glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 4–6, borne along a central axis, unilateral, 1.5–4 cm long. Central inflorescence axis 5–12 cm long. Rhachis angular, with scattered hairs. Spikelets in pairs. Fertile spikelets pedicelled, 2 in the cluster, subequal or the lower smaller. Pedicels present, 0.5–3 mm long, glabrous.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets oblong, laterally compressed, 6–7 mm long, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 3–3.5 mm long, 0.5 length of spikelet, membranous, 1-keeled, 5 -veined. Lower glume surface asperulous, glabrous. Lower glume apex acute, awned, 1 -awned, awn 5–6 mm long. Upper glume lanceolate, 2.8–3.2 mm long, 0.5 length of spikelet, membranous, 1-keeled, 5 -veined. Upper glume surface glabrous. Upper glume apex acute, muticous or mucronate.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret lanceolate, 1 length of spikelet, membranous, 5 -veined, glabrous, acute. Fertile lemma lanceolate, laterally compressed, 4 mm long, cartilaginous, without keel. Lemma margins convolute, covering most of palea. Lemma apex acute. Palea involute, 4 mm long, cartilaginous, 2 -veined, without keels.

Flower and Fruit. Anthers 3, 2.5 mm long.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Pogonachne racemosa Bor. *Kew Bull.* 1949, 176 (1949).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *Woodrow s.n.*, 25 Oct 1896, India (US-727936 (fragm.)).

Illustrations (Books): N.L.Bor, *The grasses of Burma, Ceylon, India and Pakistan* (1960) (201, Fig 11), S.W.L.Jacobs & J.Everett (2000) (376, Fig.6), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Fig. 97).

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Pl. 25).

Derivation (Clifford & Bostock 2007): L. *racemus*, stalk of a cluster of grapes; -*osa*, abundance. The spikelets are borne in racemes or contracted panicles.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Ischaeminae.

Habit, Vegetative Morphology. Annual. Culms 60–100 cm long, rooting from lower nodes. Ligule an eciliate membrane, 3 mm long, lacerate. Leaf-blades 12–25 cm long, 10–15 mm wide. Leaf-blade surface pilose, hairy on both sides, with tubercle-based hairs. Leaf-blade margins scabrous.

Inflorescence. Synflorescence compound, scanty.

Inflorescence composed of racemes, terminal and axillary, subtended by a spatheole. Spatheole linear, 6–12 cm long, herbaceous. Racemes 1, single, 4–6 cm long. Rhachis fragile at the nodes, flattened, ciliate on margins. Rhachis internodes linear, 4 mm long. Spikelets solitary or in pairs. Fertile spikelets pedicelled, 1 in the cluster. Companion sterile spikelets sessile, 0–1 in the cluster. Pedicels present, cuneate, flattened, 2.5–3 mm long, ciliate, tip cupuliform.

Sterile Spikelets. Companion sterile spikelets absent or represented by single glumes, linear, 0.5 mm long, shorter than fertile, persistent.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, laterally compressed, gibbous, 10 mm long, falling entire, deciduous from the base. Spikelet callus cuneate, 1 mm long, bearded, base truncate. Spikelet callus hairs 0.4 length of spikelet.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume ovate, 1 length of spikelet, coriaceous, without keels, 7 -veined. Lower glume surface pilose. Lower glume apex acute. Upper glume ovate, gibbous, coriaceous, with membranous margins, without keels, keel-less except near apex, 5 -veined. Upper glume surface pilose, with a dorsal tuft of hair. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret lanceolate, hyaline, 3 -veined. Fertile lemma oblong, 5–6 mm long, hyaline, without keel, 3 -veined, 0–3 -veined. Lemma apex dentate, 2 -fid, obtuse, awned, 1 -awned. Principal lemma awn from a sinus, geniculate, 30–40 mm long overall, with twisted column. Column of lemma awn glabrous. Palea 0.8 length of lemma, 2 -veined, without keels.

Flower and Fruit. Lodicules 2, 2 mm long. Anthers 3.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indian Subcontinent**. India.

Maharashtra.

Pogonarthria fleckii (Hack.) Hack. *Vierteljahrsschr. Nat. Ges. Zurich,* lvii. 532 (1912).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Namibia. **Basionym or Replaced Name**: *Diplachne fleckii* Hack., *Bull. Herb. Boissier* 4(App. 3): 25 (1896). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Fleck s.n.*, Namibia: Rehoboth (Z).

Illustrations (Books): M.A.N.Muller, *Grasses of South West Africa/Namibia* (1984).

Derivation (Clifford & Bostock 2007): in honor of Eduard Fleck (fl 1890) German geologist and plant collector in South Africa.

Classification. Subfamily Chloridoideae. Tribe: Eragrostideae.

Habit, Vegetative Morphology. Annual, caespitose, clumped densely. Culms decumbent, 13–42 cm long. Culm-internodes distally pilose. Leaf-sheaths pilose, with tubercle-based hairs. Ligule a fringe of hairs. Leaf-blades 6–18 cm long, 3–6 mm wide. Leaf-blade surface pilose, with tubercle-based hairs.

Inflorescence. Inflorescence composed of racemes. Racemes numerous, borne along a central axis, ascending, unilateral, 2–5 cm long. Central inflorescence axis 8–15 cm long. Rhachis deciduous from axis, angular. Spikelet packing broadside to rhachis, crowded. Spikelets ascending, solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 0.8–1.6 mm long.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 5–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes pubescent, hairy at tip.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.2–2.4 mm long, 0.5–0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex attenuate. Upper glume lanceolate, 2.4–3.2 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent. Upper glume apex attenuate.

Florets. Fertile florets decreasing in size upwards. Fertile lemma lanceolate, 2–3 mm long, membranous, keeled, 3 -veined, 0–3 -veined. Lemma midvein scaberulous. Lemma surface asperulous. Lemma apex attenuate, awned, 1 -awned. Principal lemma awn 1–2 mm long overall. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, cuneate, fleshy. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **South Tropical Africa**, **Southern Africa**. Angola, Mozambique, Zambia, Zimbabwe. Namibia, Botswana.

Pogonarthria leiarthra Hack. *Vierteljahrsschr. Nat. Ges. Zurich,* lvii. 531 (1912).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Namibia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Rautanen s.n.*, Namibia: Ovamboland, Ondonga (W).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk *leios*, smooth; *arthron*, joint. Unlike related species, the rhachilla internodes lack short hairs.

Classification. Subfamily Chloridoideae. Tribe: Eragrostideae.

Habit, Vegetative Morphology. Annual, caespitose, clumped loosely. Culms erect, robust, 25–80 cm long. Culm-internodes distally glabrous. Leaf-sheaths glabrous on surface or pilose. Ligule a fringe of hairs. Leaf-blades 7–20 cm long, 3–4 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence composed of racemes. Racemes numerous, borne along a central axis, ascending or spreading, unilateral, 1–3 cm long. Central inflorescence axis 15–30 cm long. Rhachis deciduous from axis, angular. Spikelet packing broadside to rhachis, crowded. Spikelets ascending, solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 0.8–1.6 mm long.

Fertile Spikelets. Spikelets comprising 5–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes pubescent, hairy at tip.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.1–3.2 mm long, 0.6–0.7 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex attenuate. Upper glume lanceolate, 3.2–4.8 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent. Upper glume apex attenuate.

Florets. Fertile florets decreasing in size upwards. Fertile lemma lanceolate, 3.2–4.4 mm long, membranous, keeled, 3 -veined, 0–3 -veined. Lemma midvein scaberulous. Lemma surface asperulous. Lemma apex attenuate, awned, 1 -awned. Principal lemma awn 2 mm long overall. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, cuneate, fleshy. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.
Country /Province /State. **Southern Africa**. Namibia.

Pogonarthria refracta Launert. *Senck. Biol*. xlvii. 304 (1966).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Zambia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Zambia: prope Namwalam, 17 Feb 1962, *Mitchell 13/9* (HT: BM; IT: FR, K, SRGH).

Illustrations (Books): G.V.Pope et al., *Flora Zambesiaca* 10 (2(1999):151 t. 43).

Derivation (Clifford & Bostock 2007): L. curved back abruptly. Mostly applied to species whose mature inflorescence branches curve back.

Classification. Subfamily Chloridoideae. Tribe: Eragrostideae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending, 15–45 cm long, 3–5 -noded. Culm-internodes distally pilose. Leaf-sheaths glabrous on surface or pilose. Leaf-sheath oral hairs bearded. Ligule a fringe of hairs. Leaf-blades flat or involute, (1.5–)3–15(–20) cm long, 1.5–2.5 mm wide. Leaf-blade surface pilose, hairy on both sides. Leaf-blade apex attenuate.

Inflorescence. Inflorescence composed of racemes, bearing juvenile spikelets at emergence. Racemes numerous, borne along a central axis, deflexed or spreading, unilateral, 0.8–1.5 cm long. Central inflorescence axis 4–15 cm long. Rhachis deciduous from axis, angular, scabrous on margins. Spikelet packing broadside to rhachis, crowded. Spikelets ascending, solitary. Fertile spikelets pedicelled. Pedicels present, cuneate, 0.8–2 mm long, scaberulous.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating between fertile florets but the lowest falling with glumes attached. Rhachilla internodes elongated below proximal fertile floret, clavate, 0.8 mm long, pubescent, hairy at tip.

Glumes. Glumes deciduous with pedicel attached (to rhachis), similar, shorter than spikelet. Lower glume lanceolate, 1.5–1.7 mm long, 1–1.1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 1.4–1.6 mm long, 0.6 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume primary vein scabrous. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile florets decreasing in size upwards. Fertile lemma ovate, 2.5–3 mm long, membranous, keeled, 3 -veined, 0–3 -veined. Lemma midvein scaberulous. Lemma margins ciliolate, hairy above. Lemma apex acuminate. Palea elliptic, 0.9 length of lemma, 2 -veined. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, cuneate, fleshy. Anthers 3, 0.6 mm long. Caryopsis with adherent pericarp, lanceolate, isodiametric, trigonous, 1.6 mm long.

Distribution (TDWG). Continent. Africa.
Country /Province /State. **South Tropical Africa**. Zambia.

Pogonarthria squarrosa (Roem. & Schult.) Pilger. *Notizbl. Bot. Gart. Berlin,* v. 149 (1910).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from South Africa. **Basionym or Replaced Name**: *Poa squarrosa* Roem. & Schult., *Syst. Veg.* 2: 553 (1817). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Lichtenstein s.n.*, South Africa: Cape: In terra Beetjunarum prope Rissipien (B).

Illustrations (Books): R.M.Polhill, F.T.E.A., *Gramineae* (2(1974):268, Fig.73), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (184, Fig 159), M.A.N.Muller, *Grasses of South West Africa/Namibia* (1984), G.E.Gibbs Russell el al, *Grasses of Southern Africa* (1990) (273, Fig 169), J.Bosser, *Graminees des Paturage et des Cultures a Madagascar (*1969) (179, Fig 62), S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (132, Fig 54), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 25 *Poaceae*, part 2 (2003) (107).

Images: F.van Oudtshoorn, *Guide to Grasses of Southern Africa* (1999).

Derivation (Clifford & Bostock 2007): L. spreading at right angles from a common axis. Inflorescence arms held at right angles to common axis.

Classification. Subfamily Chloridoideae. Tribe: Eragrostideae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 40–150 cm long. Ligule a fringe of hairs, 0.25–0.5 mm long. Leaf-blades flat or convolute, 4–33 cm long, 2–5.5 mm wide. Leaf-blade surface scabrous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence composed of racemes, bearing juvenile spikelets at emergence. Racemes numerous, borne along a central axis, spreading or ascending, straight or arcuate, unilateral, 1–6.5 cm long. Central inflorescence axis 11–44 cm long. Rhachis deciduous from axis, angular. Spikelet packing broadside to rhachis, crowded. Spikelets ascending, solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 4–10 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 3.3–7.8 mm long, breaking up at maturity, rhachilla persistent, retaining paleas, fragile above, with the distal florets disarticulating separately. Rhachilla internodes pubescent, hairy at tip.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 0.8–1.5 mm long, 0.5–0.7 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume surface scabrous. Lower glume apex acuminate. Upper glume lanceolate, 2.6–4.2 mm long, 0.7–0.8 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume primary vein scabrous. Upper glume lateral veins absent. Upper glume surface asperulous. Upper glume apex acuminate.

Florets. Fertile florets decreasing in size upwards. Fertile lemma ovate, 2–3 mm long, membranous, keeled, 3 -veined, 0–3 -veined. Lemma midvein scaberulous. Lemma surface asperulous. Lemma apex acuminate. Palea elliptic, 0.9 length of lemma, 2 -veined. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, cuneate, fleshy. Caryopsis with adherent pericarp, ellipsoid, laterally compressed, trigonous, 0.5–0.75 mm long. Embryo 0.3–0.4 length of caryopsis.

n = 60 (1 ref TROPICOS). $2n$ = 40 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa, North America.

Country /Province /State. **West Tropical Africa**, **Northeast Tropical Africa**, **East Tropical Africa**, **South Tropical Africa**, **Southern Africa**, **Western Indian Ocean**. Benin, Ghana, Nigeria. Eritrea, Sudan. Kenya, Tanzania, Uganda. Angola, Malawi, Mozambique, Zambia, Zimbabwe. Namibia, Botswana, Limpopo, North-West, Gauteng, Mpumalanga, Swaziland, Free State, Kwazulu-Natal, Lesotho, Northern Cape, Eastern Cape (?). Madagascar. **Southwestern USA**. Arizona.

Pogonatherum biaristatum S.L. Chen & G.Y. Sheng. *Bull. Bot. Res. North-East. Forest. Univ.,* 13(1): 76 (1993).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Hainan: Ya Xian, sub silvis, 19 March 1933, *F.C. Hao 70381* (HT: SCBI).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 828).

Derivation (Clifford & Bostock 2007): L. *bi-*, two; *arista*, bristle; *-atum*, possessing. Lemmas of both florets in spikelet awned.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Saccharinae.

Habit, Vegetative Morphology. Perennial, mat forming. Culms erect or geniculately ascending, 40–60 cm long, 1–2 mm diam., wiry, 10–13 -noded. Culm-nodes bearded. Lateral branches ample. Leaf-sheaths mostly shorter than adjacent culm internode, glabrous on surface or pilose. Ligule a ciliolate membrane, 0.3–0.7 mm long, pubescent on abaxial surface, truncate or obtuse. Leaf-blades 2–4.5 cm long, 1–3 mm wide, stiff. Leaf-blade surface glabrous, hairless throughout or except near base. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes, terminal and axillary. Axillary inflorescences present throughout the plant, similar to terminal. Peduncle flexuous. Racemes 1, single, 2–3 cm long, 2 mm wide. Rhachis fragile at the nodes, subterete, villous on margins. Rhachis internodes linear. Spikelets in pairs. Fertile spikelets sessile and pedicelled, 2 in the cluster, the upper smaller. Pedicels present, linear, villous.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets elliptic, laterally compressed, 2–3 mm long, falling entire, deciduous from the base or with accessory branch structures. Spikelet callus pilose or bearded, base obtuse, attached transversely. Spikelet callus hairs white, 0.5–3 mm long, 0.2–1 length of spikelet.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume oblong, 2.5 mm long, 0.8 length of upper glume, 0.8 length of spikelet, cartilaginous, much thinner on margins, without keels, 5 -veined. Lower glume surface scabrous, glabrous to pubescent. Lower glume apex truncate or obtuse, awned, 1 -awned, awn 15 mm long. Upper glume elliptic, cartilaginous. Upper glume surface scabrous. Upper glume apex dentate, 2 -fid, awned, 1 -awned, awn 16–17 mm long.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret linear or lanceolate, hyaline, 0 -veined, without midvein, without lateral veins. Fertile lemma oblong, 1.5–2 mm long, hyaline, without keel, 1 -veined, 0–3 -veined, one-veined. Lemma margins ciliolate, hairy above. Lemma apex dentate, 2 -fid, awned, 1 -awned. Principal lemma awn from a sinus, geniculate, 17.5 mm long overall, with twisted column. Palea lanceolate or oblong, hyaline, without keels.

Flower and Fruit. Lodicules absent. Anthers 1 or 2. Caryopsis with adherent pericarp, fusiform or oblong or ovoid.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. Hainan.

Pogonatherum crinitum (Thunb.) Kunth. *Enum. Pl.* i. 478. (1833).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.Koyama, *Grasses of Japan and its neighboring regions* (1987), W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).

TYPE from Japan. **Basionym or Replaced Name**: *Andropogon crinitus* Thunb., *Fl. Jap.* 40, pl. 7 (1784). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Japan: no loc. given,.

Recent Synonyms: *Pogonatherum paniceum* (Lam.) Hack., *Allg. Bot. Zeitschr.* 12: 178 (1906).

Illustrations (Books): T.Koyama, *Grasses of Japan and its neighbouring regions* (1987) (419, Fig. 164), C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (750), C-C Hsu,*Taiwan Grasses* (1975) (684, Pl. 1475), K.M.Matthew, Illustrations on the *Flora of Tamilnadu Carnatic* (1982) (Pl. 918 & 919), H.J.Noltie, *The Grasses of Bhutan* (2000) (779, Fig. 53), H.Duistermaat, *Field Guide to the Grasses of Singapore* (2005) (113, Fig. 116), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 826), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Fig. 98).

Images: H.Duistermaat, *Field Guide to the Grasses of Singapore* (2005);, G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012)
(Pl. 25).

Derivation (Clifford & Bostock 2007): L. with long hair. Hairy as of leaf-blades or awns invested in long weak hairs.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Saccharinae.

Habit, Vegetative Morphology. Perennial, mat forming. Culms prostrate, 10–30 cm long, wiry. Lateral branches fastigiate. Ligule a ciliolate membrane. Leaf-blades 1–4 cm long, 1–3 mm wide.

Inflorescence. Inflorescence composed of racemes, terminal and axillary. Axillary inflorescences present throughout the plant, similar to terminal. Peduncle flexuous. Racemes 1, single, straight or arcuate, 1–3 cm long. Rhachis fragile at the nodes, subterete, villous on margins. Rhachis internodes linear. Spikelets in pairs. Fertile spikelets sessile and pedicelled, 2 in the cluster. Pedicels present, linear, villous.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets elliptic, laterally compressed, 1.3–2 mm long, falling entire, deciduous from the base or with accessory branch structures. Spikelet callus bearded, base obtuse, attached transversely. Spikelet callus hairs white, 1–1.5 length of spikelet.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume elliptic, 0.9 length of upper glume, 0.9 length of spikelet, cartilaginous, without keels. Lower glume surface

pubescent. Lower glume apex obtuse. Upper glume elliptic. Upper glume apex emarginate, awned, 1 -awned, awn 8–22 mm long.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret oblong, 0.66 length of spikelet, hyaline, 0 -veined, without midvein, without lateral veins. Fertile lemma oblong, 1–2 mm long, hyaline, without keel, 1 -veined, 0–3 -veined, one-veined. Lemma apex dentate, 2 -fid, awned, 1 -awned. Principal lemma awn from a sinus, flexuous, 8–22 mm long overall. Palea absent or minute.

Flower and Fruit. Lodicules absent. Anthers 1.

n = 10 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa, Temperate Asia, Tropical Asia, Australasia, Pacific, South America.

Country /Province /State. **Northern Africa**, **Western Indian Ocean**. Egypt. Mauritius (+), Madagascar (*), Rodrigues (+). **Western Asia**, **China**, **Eastern Asia**. Afghanistan. China South Central, Hainan, China Southeast. Japan Shikoku, or Kyushu. Japan, Nansei-Shoto, Ogosawara-shoto, Taiwan. **Indian Subcontinent**, **Indo-China**, **Malesia**, **Papuasia**. Eastern Himalaya, India, Nepal, Pakistan, Sri Lanka. Cambodia, Laos, Myanmar, Thailand, Vietnam. Borneo, Java, Lesser Sunda Is, Malaya, Singapore, Moluccas, Philippines, Sulawesi, Sumatra. New Guinea West Papua (Irian Jaya). New Guinea, Solomon Is. **Australia**. Queensland. **Southwestern Pacific**, **Northwestern Pacific**. Marianas. **Brazil**. Brazil West Central, Brazil Southeast.

Anhui, Fujian, Guangdong, Guangxi, Hunan, Jiangxi, Zhejiang. Guizhou, Hubei, Sichuan, Yunnan. Darjeeling, Bhutan, Sikkim. Assam, Meghalaya, Mizoram, Nagaland, Tripura. Andhra Pradesh, Bihar, Kerala, Karnataka. Orissa, Punjab, Tamilnadu, Uttah Pradesh, West Bengal. North. Distrito Federal. Sao Paulo.

Pogonatherum rufobarbatum Griff. *Notul.* iii. 81. (1851).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Iter Assam 159*, 18 Oct 1835, India: Assam: in aquois, Moosmai (?).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *rufus*, red; *barba*, beard; *-ata*, possessing. Awn with reddish hairs.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Saccharinae.

Habit, Vegetative Morphology. Perennial, mat forming. Culms rambling, 25–60 cm long. Leaf-sheath auricles erect. Ligule an eciliate membrane, 1 mm long. Leaf-blades lanceolate, 5–10 cm long, 3–6 mm wide.

Inflorescence. Inflorescence composed of racemes, terminal and axillary. Axillary inflorescences present throughout the plant, similar to terminal. Peduncle flexuous. Racemes 1, single, straight or arcuate, 2.5–6 cm long. Rhachis fragile at the nodes, subterete, villous on margins. Rhachis internodes linear, 2.5 mm long, 0.66 length of fertile spikelet. Spikelets in pairs. Fertile spikelets sessile and pedicelled, 2 in the cluster. Pedicels present, filiform, 2 mm long, villous.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets oblong, laterally compressed, 3.2–3.5 mm long, falling entire, deciduous from the base or with accessory branch structures. Spikelet callus pubescent, base obtuse, attached transversely. Spikelet callus hairs white.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume oblong, 0.9 length of spikelet, cartilaginous, without keels, 3–7 -veined. Lower glume surface pubescent. Lower glume apex lobed, 2 -fid. Upper glume oblong, 1 length of spikelet, cartilaginous, 1-keeled. Upper glume surface pilose, hairy above. Upper glume apex dentate, 2 -fid, awned, 1 -awned, awn 1.5 mm long.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret lanceolate, hyaline, 0 -veined, without midvein, without lateral veins, acute. Fertile lemma lanceolate, 3 mm long, hyaline, without keel, 1 -veined, 0–3 -veined, one-veined. Lemma apex lobed, 2 -fid, incised 0.33–0.5 of lemma length, awned, 1 -awned. Principal lemma awn from a sinus, geniculate, 17–20 mm long overall, with twisted column. Palea 1 length of lemma, hyaline, without keels.

Flower and Fruit. Lodicules absent. Anthers 2, 2.5–3 mm long.

n = 20 (1 ref TROPICOS).
Distribution (TDWG). Continent. Tropical Asia.
Country /Province /State. **Indian Subcontinent**. Assam.
Assam, Meghalaya. Orissa.

Pogonochloa greenwayi C.E.Hubb. *Hook. Ic. Pl.* v. t. 3421 (1940).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Zimbabwe. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: *P.J. Greenway 5768*, 23 Sep 1938, Zimbabwe: (US-1815405).

Illustrations (Books): G.V.Pope et al., *Flora Zambesiaca* 10 (2(1999):245, t. 75).

Illustrations (Journals): *Hooker's Icones Plantarum* (t.3421 (1940)).

Derivation (Clifford & Bostock 2007): in honor of Percy James Greenway (1897–1980) English botanist.

Classification. Subfamily Chloridoideae. Tribe: Chlordoideae incertae sedis.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Basal innovations flabellate. Culms 30–40 cm long. Ligule an eciliate membrane. Leaf-blades 2–14 cm long, 2–6 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes numerous, borne along a central axis, closely spaced, in a multilateral false spike, unilateral, 0.5–1 cm long. Central inflorescence axis 3–10 cm long. Rhachis angular, glabrous on margins. Spikelet packing broadside to rhachis, irregular. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with diminished florets at the apex. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 3–3.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, similar to fertile lemma in texture, gaping. Lower glume oblong, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse or acute, awned, 1 -awned, awn 0.5–1.5 mm long. Upper glume oblong, 1.3–1.4 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex emarginate or truncate, awned, 1 -awned, awn 0.5–1.5 mm long.

Florets. Fertile lemma lanceolate, 2.3–2.6 mm long, membranous, keeled, 3 -veined. Lemma surface pilose. Lemma apex awned, 1 -awned. Principal lemma awn flexuous, 20–45 mm long overall. Palea oblong, 0.8 length of lemma, 2 -veined. Palea apex ciliate. Apical sterile florets 1–2 in number, barren, in a clump, linear, 0–2 mm long. Apical sterile lemmas awned, 1 -awned. Apical sterile lemma awns 15–25 mm long, 1–2 per spikelet in number.

Flower and Fruit. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **South Tropical Africa**. Zambia, Zimbabwe.

Pogononeura biflora Napper. *Kirkia,* iii. 112 (1963).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Tanzania. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Tanzania, Seronera: Greenway 10091 (EA holo, K).

Illustrations (Books): R.M.Polhill, F.T.E.A., *Gramineae* (2(1974):301, Fig.83 as 'Pogoneura').

Derivation (Clifford & Bostock 2007): L. *bis*, twice; *flos*, flower. Florets two per spikelet.

Classification. Subfamily Chloridoideae. Tribe: Zoysieae.

Habit, Vegetative Morphology. Annual, caespitose. Culms geniculately ascending, 28–70 cm long. Leaves cauline. Ligule a fringe of hairs. Leaf-blades conduplicate, 2–12 cm long, 3–5 mm wide, glaucous. Leaf-blade venation distinct. Leaf-blade surface pilose, sparsely hairy, hairy adaxially. Leaf-blade margins cartilaginous, ciliate. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Racemes 12–25, borne along a central axis, unilateral, 1–6.5 cm long. Central inflorescence axis 12–28 cm long. Rhachis angular. Spikelets appressed, solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension or with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, subterete, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent.

Glumes. Glumes lower persistent, upper deciduous, similar, exceeding apex of florets, firmer than fertile lemma. Lower glume lanceolate, 4.5–5.1 mm long, 0.8–0.9 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 5.4–5.9 mm long, 1.8–2 length of adjacent fertile lemma, membranous, without keels, 1 -veined. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile florets appressed to rhachilla, imbricate to tip. Fertile lemma elliptic, 2.7–3.2 mm long, membranous, without keel, 3 -veined, 0–3 -veined. Lemma midvein pubescent. Lemma lateral veins close to margins. Lemma margins ciliate (grey-green hairs). Lemma apex dentate, 2 -fid, awned, 1 -awned. Principal lemma awn from a sinus, 1 mm long overall, not or scarcely exserted from spikelet. Palea 2 -veined. Palea keels ciliate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp, ellipsoid, dorsally compressed, plano-convex, 1.3–1.6 mm long.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **East Tropical Africa**. Tanzania, Uganda.

Pohlidium petiolatum G. Davidse, T.R. Soderstrom & R.P. Ellis. *Syst. Bot.,* 11(1): 131 (1986).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Panama. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *G. Davidse 25059*, 29 Sep 1983, Panama: Cocl? Pintada Dist. (US-2993221).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *petiolus*, little leg; *-ata*, possessing. Leaf-blades with a pseudopetiole.

Classification. Subfamily Panicoideae. Tribe: Zeugiteae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 7–19 cm long. Leaf-sheaths inflated. Leaf-sheath auricles erect, 2–8 mm long. Ligule an eciliate membrane, 2–8 mm long. Leaf-blade base with a false petiole. Leaf-blades elliptic or ovate, 2–4.5 cm long, 8–16 mm wide. Leaf-blade venation with distinct cross veins. Leaf-blade apex acuminate, filiform. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 4–8 cm long, 2–3 cm wide. Primary panicle branches 0.5–1.5 cm long. Sexes segregated, on bisexual branches, with male above. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets pedicelled. Pedicels present, 3–14 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 2.5–3 mm long, falling entire.

Glumes. Glumes both absent or obscure.

Florets. Fertile florets female. Fertile lemma lanceolate, 2.5–3 mm long, herbaceous, keeled, 5–7 -veined, more than 3-veined. Lemma surface puberulous. Lemma apex acute. Palea 0.9 length of lemma. Palea surface pubescent, hairy on back.

Flower and Fruit. Lodicules 2, fleshy, truncate. Anthers 2–3, 1.5–2.4 mm long. Stigmas 2. Caryopsis with adherent pericarp, ellipsoid, laterally compressed, 1.8 mm long. Embryo 0.33 length of caryopsis.

Male spikelets distinct from female, 1–4 flowered, lanceolate, 3–6.4 mm long. Male spikelet glumes absent or 1. Male spikelet lemma 5–7 -veined, muticous.

n = 12 (1 ref TROPICOS).

Distribution (TDWG). Continent. South America.

Country /Province /State. **Mesoamerica**. Panama.

Polevansia rigida De Winter. *Bothalia*, ix. 131 (1966).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Lesotho. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Lesotho, Lekhalabatesi valley: Pole-Evans 12 (PRE holo, K).

Illustrations (Books): G.E.Gibbs Russell el al, *Grasses of Southern Africa* (1990) (274, Fig 170).

Derivation (Clifford & Bostock 2007): L. stiff. Culms, spikelets or inflorescence branches held stiffly erect.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 8–40 cm long. Ligule a ciliolate membrane. Leaf-blades 2–15 cm long, 1–2 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 5–12, borne along a central axis, closely spaced, in a multilateral false spike, unilateral, 0.5–2 cm long. Central inflorescence axis 1–3 cm long. Rhachis flattened. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, dorsally compressed, 4–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus obtuse.

Glumes. Glumes persistent, dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 2 mm long, 0.5 length of upper glume, 0.5 length of spikelet, hyaline, without keels, 0 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume lanceolate, 4–4.5 mm long, 1 length of adjacent fertile lemma, membranous, without keels, 1 -veined. Upper glume primary vein conspicuous. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma elliptic, 4–4.5 mm long, coriaceous, without keel, 3 -veined, 0–3 -veined. Lemma lateral veins obscure. Lemma apex dentate, 2 -fid, mucronate. Palea 1 length of lemma, coriaceous, 2 -veined.

Flower and Fruit. Caryopsis with adherent pericarp, ellipsoid.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Lesotho, Eastern Cape.

Polypogon australis Brongn. *Duperr. Voy. Coq. Bot.* 21 (1829).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *D. Lesson, D. Urville*, Jan 1825, Chile: La Conception du Chili (P; IT: US- (fragm. ex P [Brongn. 10])).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (341), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (666), E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (178, Fig. 47), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (396, Fig 262).

Derivation (Clifford & Bostock 2007): L. of the south. From the south in general as from Africa, America, Europe or elsewhere.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Culms 30–120 cm long. Leaf-sheaths smooth or antrorsely scabrous. Ligule an eciliate membrane, 1.5–3 mm long, erose, truncate. Leaf-blades 3–15 cm long, 1.5–8 mm wide. Leaf-blade surface scaberulous, rough on both sides.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong, interrupted, 5–25 cm long. Primary panicle branches 4–8 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 1.8–3.5 mm long, falling entire. Spikelet callus oblong, 0.2–1 mm long. Floret callus glabrous.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma, gaping. Lower glume oblong, 1.8–3.5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface scabrous. Lower glume apex truncate, awned, 1 -awned, awn 4–15 mm long. Upper glume oblong, 1.8–3.5 mm long, 1.8–2 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface scabrous. Upper glume apex truncate, awned, 1 -awned, awn 4–15 mm long.

Florets. Fertile lemma oblong, 1–1.7 mm long, cartilaginous, without keel, 5 -veined, more than 3-veined. Lemma lateral veins excurrent. Lemma apex dentate, 4 -fid, truncate, awned, 1 -awned. Principal lemma awn from a sinus, 3.5–9 mm long overall. Palea 1 mm long, 1 length of lemma, hyaline, 2 -veined. Palea apex with excurrent keel veins.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.6–0.9 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Europe (*), North America, South America.

Region. **Northern Europe** (*).

Country /Province /State. : GB Aliens (Ryves et al). **Northwest USA**, **Southwestern USA**, **Mexico**. Washington. California, Nevada, Utah. Northwest Mexico. **Southern South America**. Argentina South, Chile North, Chile Central, Chile South, Juan Fernandez Is.

Mendoza, Tucuman. La Pampa. Chubut, Neuquén, Río Negro, Santa Cruz. Rest of Chile- Biobio, La Auracania, Maule, O'Higgins, Santado, Valpariso, Chiloe, Aisen, Magellanes. Tarapaca, Antofagasta, Atacama. Coquimbo, Valparaiso, Santiago, O'Higgins, Maule, Biobio, La Araucania. Los Lagos, Aisen. Baja California.

Polypogon brachyatherus Phil.. *Anales Univ Chile* 94: 8 (1896).

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: Anon, Jan 1877, Prov. Arauco (SGO 31157).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (342).

Polypogon exasperatus (Trin.) S.A. Renvoize. *Gramineas de Bolivia:* 235 (1998).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online (& as *P. kuntzei*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

Recent Synonyms: *Agrostis sanctaecruzensis* Speg., *Anal. Mus. BuenosAires*, 7:186 (1902). *Agrostis haenkeana* Hitchc., *Contrib. U. S. Nat. Herb.* 24: 381 (1927).

Agrostis kuntzei Mez, *Repert. Spec. Nov. Regni Veg.* 17(19–30): 300 (1921).

Illustrations (Books): M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (390, Fig 259 as *Agrostis santacruzensis*).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes absent or elongated. Culms erect or geniculately ascending, (7–)20–50 cm long. Leaf-sheaths smooth. Ligule an eciliate membrane, 0.5–1.5 mm long, truncate or obtuse. Leaf-blades 5–15 cm long, 2–5 mm wide. Leaf-blade surface smooth or scabrous.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate or elliptic, 7–25 cm long. Primary panicle branches whorled at most nodes, bearing spikelets almost to the base. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 2–4 mm long, scabrous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 2.8–3.5 mm long, falling entire, deciduous with the pedicel. Spikelet callus pubescent. Floret callus glabrous.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma, gaping. Lower glume lanceolate, 2.8–3.5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface scabrous. Lower glume apex acute, muticous. Upper glume lanceolate, 2.8–3.5 mm long, 2–3 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface scabrous. Upper glume apex acute, muticous.

Florets. Fertile lemma ovate, 1.1–1.5 mm long, membranous, without keel, 5 -veined, more than 3-veined. Lemma apex dentate, 4 -fid, truncate, awned, 1 -awned. Principal lemma awn subapical, 1.2–3.5 mm long overall. Palea 0.4–0.7 length of lemma, hyaline.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.7–0.9 mm long. Caryopsis with adherent pericarp, oblong.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**, **Brazil**, **Southern South America**. Bolivia, Colombia, Peru. Brazil South. Argentina South, Argentina Northwest, Chile Central, Chile South.

Santa Catarina. Catamarca, Jujuy, La Rioja, Tucuman. Chubut, Neuquén, Río Negro, Santa Cruz. Chiloe, Aisen, Magellanes. Santiago, Maule, Biobio, La Araucania. Los Lagos, Magellanes.

Polypogon fugax Nees ex Steud. *Syn. Pl. Gram.* 184 (1854).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.Koyama, *Grasses of Japan and its neighboring regions* (1987), W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: NW India: wet ground beside lakes and streams or in marshes, 600–2400 m, *Royle* (HT: ?).

Illustrations (Books): N.L.Bor, *Gramineae* in *Flora of Iraq* (1968) (315, Pl. 113), C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (282), C-C Hsu,*Taiwan Grasses* (1975), T.A.Cope, *Flora of Pakistan* 143: *Poaceae* (1982) (469, Fig 51), H.J.Noltie, *The Grasses of Bhutan* (2000) (597, Fig. 24), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (666), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 506).

Derivation (Clifford & Bostock 2007): L. ephemeral. Short-lived species often from inhospitable habitats.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, culms solitary or caespitose. Culms erect or decumbent, 5–60 cm long. Ligule an eciliate membrane, 1–10 mm long. Leaf-blades 3–20 cm long, 3–10 mm wide. Leaf-blade surface scaberulous, rough adaxially or on both sides.

Inflorescence. Inflorescence a panicle. Panicle spiciform, oblong or ovate, continuous or interrupted, 2–15 cm long, 0.6–3.5 cm wide. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 0.2–0.3 mm long, scabrous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2–2.5 mm long, falling entire. Spikelet callus oblong or cuneate, 0.2–0.4 mm long.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma. Lower glume oblong, 1 length of upper glume, membranous, 1-keeled, keeled above, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume surface asperulous. Lower glume margins ciliolate. Lower glume apex emarginate, awned, 1 -awned, awn 1–3 mm long. Upper glume oblong, 2 length of adjacent fertile lemma, membranous, 1-keeled, keeled above, 1 -veined. Upper glume primary vein scabrous. Upper glume lateral veins absent. Upper glume surface asperulous. Upper glume margins ciliolate. Upper glume apex emarginate, awned, 1 -awned, awn 1–3 mm long.

Florets. Fertile lemma oblong, 1–1.5 mm long, hyaline, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma apex dentate, 4 -fid, muticous or awned, 1 -awned. Principal lemma awn from a sinus, 0–1.5 mm long overall. Palea 1 length of lemma, hyaline, 2 -veined.

Flower and Fruit. Anthers 3, 0.3–0.5 mm long. Caryopsis with adherent pericarp. Hilum linear.

n = 21 (5 refs TROPICOS). $2n$ = 42 (2 refs TROPICOS).

Distribution (TDWG). Continent. Europe (*), Africa, Temperate Asia, Tropical Asia, Australasia, Pacific, North America.

Region. **Northern Europe** (*).

Country /Province /State. : GB Aliens (Ryves et al). **Macaronesia**, **Northeast Tropical Africa**. Canary Is, Madeira. Ethiopia (inc. Eritrea), Somalia. **Middle Asia**, **Caucasus**, **Western Asia**, **China**, **Eastern Asia**, **Russia**. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Iran, Iraq. China South Central, China North-Central, China Southeast, Tibet, Xinjiang. Japan Honshu, or Shikoku, or Kyushu. Japan, Korea, Nansei-Shoto, Taiwan. **Indian Subcontinent**, **Indo-China**. Eastern Himalaya, India, Pakistan, West Himalaya. Myanmar. **New Zealand** (*). Kermadec Is, New Zealand North I, New Zealand South I. **North-central Pacific**. Hawaii. **Southwestern USA**. California.

Shaanxi, Shandong, Shanxi. Anhui, Fujian, Guangdong, Guangxi, Henan, Jiangsu, Zhejiang. Guizhou, Hubei, Sichuan, Yunnan. Bhutan. Manipur, Meghalaya, Nagaland. Bihar. Punjab, Tamilnadu, Uttah Pradesh. Himachal Pradesh, Jammu Kashmir.

Polypogon griquensis (Stapf) Gibbs-Russ. & Fish. *Bothalia* 36:71 (2006).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from South Africa. **Basionym or Replaced Name**: *Agrostis griquensis* Stapf, *Kew Bull.* 1897, 290 (1897). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South Africa, Griquatown: *Burchell 1863* (K holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis,* denoting origin. From Griqualand West, South Africa.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose, clumped loosely. Culms erect or geniculately ascending, 3–20 cm long, 1–3 -noded. Culm-nodes glabrous. Lateral branches lacking or sparse. Leaf-sheaths smooth. Ligule an eciliate membrane, 3–4 mm long, lacerate. Leaf-blades 2–6 cm long, 1–1.5 mm wide. Leaf-blade surface smooth or scaberulous, rough adaxially. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear or lanceolate, continuous or interrupted, 1–8 cm long, 0.3–1 cm wide. Primary panicle branches appressed, 1–2.5 cm long. Spikelets solitary. Fertile spikelets sessile or pedicelled. Pedicels absent or present, linear, 0.2–0.4 mm long, scabrous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 1–1.4 mm long, falling entire, deciduous with the pedicel. Spikelet callus square.

Glumes. Glumes similar, reaching apex of florets or exceeding apex of florets, firmer than fertile lemma, shiny, gaping. Lower glume oblong, 1–1.4 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume margins ciliolate. Lower glume apex emarginate or obtuse, muticous or mucronate. Upper glume oblong, 1–1.4 mm long, 1–1.4 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume primary vein scabrous. Upper glume lateral veins absent. Upper glume surface asperulous. Upper glume margins ciliolate. Upper glume apex emarginate or obtuse, muticous or mucronate.

Florets. Fertile lemma oblong, 1 mm long, cartilaginous, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma apex erose, truncate, awned, 1 -awned. Principal lemma awn apical or subapical, straight, 0.4–0.5 mm long overall. Palea 0.66–0.75 length of lemma, hyaline, 0 -veined.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.25 mm long. Caryopsis with adherent pericarp, ovoid, 0.5–0.75 mm long. Hilum linear.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Namibia, Free State, Northern Cape.

Polypogon hissaricus (Roshev.) Bor. *K. H. Rechinger, Fl. Iran., Lief.* 70, 307 (1970).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960) (as *Agrostis stewartii*), N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *Agrostis*).

TYPE from Tadzhikistan:. **Basionym or Replaced Name**: *Agrostis hissarica* Roshev., *Not. Syst. Herb. Hort. Petrop*. 4:. 93 (1923). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *W. Lipsky no. 3511*, ST: *Balabajew s.n.*, 20 Jul 1915, Prov. Samerkand Utsch-Chada ST: *O. Knorring*, Minkwitz ST: *no. 1791*, 1911, Prov. Fergana, distr. Andishan, Otusart, sub trajectu Taldy bel.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Hissar District, Turkestan.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Culms geniculately ascending or decumbent, 60–110 cm long, rooting from lower nodes. Ligule an eciliate membrane, 3–6 mm long, truncate or obtuse. Leaf-blades 7–25 cm long, 3–7.5 mm wide. Leaf-blade surface scabrous, rough on both sides.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, interrupted, loose or effuse, 10–20 cm long. Primary panicle branches whorled at most nodes. Panicle axis bearing deciduous branches. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1–1.5 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, (2.5–)3–3.5(–5) mm long, falling entire, deciduous with the pedicel, pedicel base acute. Floret callus glabrous.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma, shiny, gaping. Lower glume oblong, 2.5–4 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface scabrous. Lower glume apex acute, muticous. Upper glume oblong, 2.5–4 mm long, 1.2–1.6 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface scabrous. Upper glume apex obtuse, muticous.

Florets. Fertile lemma oblong, 2–2.5 mm long, membranous, without keel, 5 -veined, more than 3-veined. Lemma apex entire, obtuse, muticous. Palea 0.66 length of lemma, hyaline, 2 -veined.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 1–1.5 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **Middle Asia**, **Western Asia**, **China**. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Afghanistan, Iran. Xinjiang. **Indian Subcontinent**. Pakistan, West Himalaya.

Jammu Kashmir.

Polypogon interruptus H. B. & K. *Nov. Gen. et Sp.* i. 134. t. 44. (1815).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).

TYPE from Venezuela. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Humboldt & Bonpland s.n.*, May, Venezuela: Amazonas: in sylvis opacis Orinocensibus prope Atures, Rio Cataniapo et speluncam Ataruipe (P; IT: B-WILLD-1558, US-82088 (fragm. ex P-HBK as Setaria), US-82088 (fragm. ex B-WILLD, and letter from A. Chase to Hubbard at K)).

Recent Synonyms: *Polypogon tarapacanus* Phil., *Anal. Mus. nac. Chile* 82 (1891).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (342), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (664), S.A.Renvoize, *Gramineas de Bolivia* (1998) (238, Fig 46).

Illustrations (Journals): *Ruizia* (13:197, Fig 21j (1993)).

Derivation (Clifford & Bostock 2007): L. not continuous. Spikelets or inflorescence branches clustered at intervals along an axis.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms decumbent, 30–80 cm long. Ligule an eciliate membrane, 2–5 mm long. Leaf-blades 4–6 mm wide.

Inflorescence. Inflorescence a panicle. Panicle contracted or spiciform, oblong, continuous or interrupted, 5–15 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, cuneate, 0.5–1 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 2.5–3 mm long, falling entire, deciduous with the pedicel. Floret callus glabrous.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma, gaping. Lower glume oblong, 2.5–3 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface scabrous. Lower glume apex emarginate, awned, 1 -awned, awn 3–5 mm long. Upper glume oblong, 2.5–3 mm long, 2.5–3 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface scabrous. Upper glume apex obtuse, awned, 1 -awned, awn 3–5 mm long.

Florets. Fertile lemma oblong, 1 mm long, cartilaginous, shiny, without keel, 5 -veined, more than 3-veined. Lemma apex dentate, 4 -fid, truncate, awned, 1 -awned. Principal lemma awn from a sinus, 1.5–2 mm long overall. Palea 1 length of lemma, hyaline, 2 -veined.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp, oblong.

Distribution (TDWG). Continent. Pacific, North America, South America.

Country /Province /State. **North-central Pacific**. Hawaii (*). **Subarctic America**, **Western Canada**, **Northwest USA**, **North-central USA**, **Southwestern USA**, **South-central USA**, **Southeastern USA**, **Mexico**. British Columbia. Oregon, Washington. Nebraska, Oklahoma. Arizona, California. New Mexico, Texas. Louisiana. Central Mexico, Northeast Mexico, Northwest Mexico, Southwest Mexico. **Caribbean**, **Northern South America**, **Western South America**, **Southern South America**. Venezuela. Bolivia, Colombia, Peru. Argentina Northwest, Chile North, Chile Central, Chile South.

Catamarca, Jujuy, La Rioja, Mendoza, Salta, San Juan, Tucuman. Cordoba. Rest of Chile- Biobio, La Auracania, Maule, O'Higgins, Santado, Valpariso. Tarapaca, Antofagasta, Atacama. Coquimbo, Valparaiso, Santiago, O'Higgins, Maule, Biobio, La Araucania. Los Lagos. Distrito Federal, Mexico State, Puebla. Durango, Hidalgo, Neuvo Leon. Baja California, Baja California Sur. Michoacan.

Polypogon ivanovae Tsvelev. *Akad. Nauk SSSR Bot. Inst. Komarova, Rast. Tsentral. Azii, Fasc.* 4, 7 (1968).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Xinjiang: Kunlun Shan ("Kaschgaria"), north slopes, 1300–1700 m, 12 June 1889, *W.J. Roborovski 315* (HT: LE).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): In honor of Valentina Ivanova (1928-) Russian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Culms geniculately ascending, 8–20 cm long. Culm-internodes smooth, distally glabrous. Ligule a ciliolate membrane, 2–4.5 mm long, scaberulous on abaxial surface. Leaf-blades flat or conduplicate, 3–20 cm long, 0.8–2.5 mm wide. Leaf-blade surface scaberulous, rough on both sides.

Inflorescence. Inflorescence a panicle. Peduncle scaberulous above. Panicle contracted, linear, 2.5–7 cm long, 0.5–1.5 cm wide. Primary panicle branches 4 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.7–2.5 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2.2–2.8 mm long, falling entire, deciduous with the pedicel.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma. Lower glume oblong, 2.2–2.8 mm long, 1 length of upper glume, membranous, 1-keeled, keeled above, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume surface scabrous. Lower glume apex obtuse, awned, 1 -awned, awn 0.5–2 mm long. Upper glume oblong, 2.2–2.8 mm long, 2 length of adjacent fertile lemma, membranous, 1-keeled, keeled above, 1 -veined. Upper glume primary vein scabrous. Upper glume lateral veins absent. Upper glume surface scabrous. Upper glume apex obtuse, awned, 1 -awned, awn 0.5–2 mm long.

Florets. Fertile lemma ovate, 1.4–1.7 mm long, hyaline, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface smooth, glabrous. Lemma apex dentate, 2 -fid, awned, 1 -awned. Principal lemma awn from a sinus, straight or curved, 2.3–3.5 mm long overall. Palea 0.66 length of lemma, hyaline, 2 -veined.

Flower and Fruit. Anthers 3, 0.2–0.8 mm long. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. Xinjiang.

Polypogon linearis Trin. *Linnaea,* x. 301. (1836).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *E.F. Poeppig s.n. [76]*, 1827, Chile: Concon (LE-TRIN-1569.01a; IT: US-82051 (ex W)). b equals IST *P.longiflorus* Nees ex Steud..

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *linea*, linen thread; *-are*, pertaining to. Inflorescence a spike-like panicle.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect, 7–30 cm long. Ligule an eciliate membrane. Leaf-blades 1–10 cm long, 1–3 mm wide.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear, 1–10 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform or linear, 0.5–2 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 3–4 mm long, falling entire, deciduous from the base. Spikelet callus square or oblong, 0.2–0.5 mm long. Floret callus glabrous.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma, gaping. Lower glume oblong, 3–4 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface scabrous. Lower glume apex emarginate or obtuse, awned, 1 -awned, awn 4–5 mm long. Upper glume oblong, 3–4 mm long, 1.5 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface scabrous. Upper glume apex emarginate or obtuse, awned, 1 -awned, awn 4–5 mm long.

Florets. Fertile lemma oblong, 2–2.5 mm long, cartilaginous, shiny, without keel, 5 -veined, more than 3-veined. Lemma apex dentate, 4 -fid, truncate, awned, 1 -awned. Principal lemma awn from a sinus, 2–3 mm long overall, deciduous. Palea 0.6–0.7 length of lemma, hyaline.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Europe (*), South America.

Region. **Northern Europe** (*).

Country /Province /State. : GB Aliens (Ryves et al). **Southern South America**. Chile Central.

Rest of Chile- Biobio, La Auracania, Maule, O'Higgins, Santado, Valpariso. Tarapaca, Antofagasta. Valparaiso, Santiago, O'Higgins, Maule, Biobio. Los Lagos.

Polypogon lutosus (Poir.) Hitchc. *U.S.D.A. Bull.*(1915–23) 772: 138 (1920).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Agropogon*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960) (as *A. subaristatus*), N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *Agrostis subaristata*).

TYPE from UK. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: England: Specimens from Wells, on the Norfolk coast,.

Recent Synonyms: *Agropogon lutosus* (Poir.) P. Fourn., *Quatre Fl. France* 50 (1934). X *Agropogon littoralis* (Sm.) C.E.Hubb., *J. Ecol.* 33: 333 (1946), *nom. illeg.*.

Illustrations (Books): S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (356 as *Polypogon*), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (232, Fig. 32 as *Polypogon*), A.S.Hitchcock, *Manual of the Grasses of the West Indies* (1936) (77, Fig. 43 as *Polypogon*), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (669), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 471).

Derivation (Clifford & Bostock 2007): L. *lutum*, mud; *-osa*, abundance. Growing in water or damp places.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary or caespitose, clumped loosely. Culms geniculately ascending or decumbent, slender, 8–60 cm long. Culm-internodes smooth. Lateral branches sparse, arising from lower culm. Leaf-sheaths smooth. Ligule an eciliate membrane, 3–7 mm long, erose, obtuse. Leaf-blades 3–20 cm long, 2–11 mm wide. Leaf-blade surface scaberulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate or oblong or ovate, continuous or interrupted, 2–18 cm long, 0.6–7 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2–3 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, firmer than fertile lemma, gaping. Lower glume elliptic or oblong, 2–3 mm long, 1 length of upper glume, membranous, 1-keeled, keeled above, 1 -veined. Lower glume lateral veins absent. Lower glume surface asperulous. Lower glume apex emarginate, awned, 1 -awned, awn 1–2 mm long. Upper glume elliptic or oblong, 2–3 mm long, 1.5–2 length of adjacent fertile lemma, membranous, 1-keeled, keeled above, 1 -veined. Upper glume lateral veins absent. Upper glume surface asperulous. Upper glume apex emarginate, awned, 1 -awned, awn 1–2 mm long.

Florets. Fertile lemma elliptic to oblong, 1.5–2 mm long, hyaline, without keel, 5 -veined, more than 3-veined. Lemma apex dentate, 4 -fid, awned, 1 -awned. Principal lemma awn subapical, 3 mm long overall. Palea oblong, 0.75 length of lemma, hyaline, 2 -veined.

Flower and Fruit. Lodicules 2, lanceolate, membranous. Anthers 3, 1 mm long. Stigmas 2. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Tropical Asia, Australasia, North America, South America.

Region. **Northern Europe**, **Southwestern Europe**, and **Southeastern Europe**.

Country /Province /State. : Great Britain. **Northeast Tropical Africa**. Eritrea. **Western Asia**, **China**. Afghanistan, Iran. China South Central, China North-Central, Tibet. **Indian Subcontinent**, **Indo-China**. India, Pakistan, West Himalaya. Myanmar. **Australia** (*), **New Zealand** (*). Queensland, New South Wales, Victoria, Tasmania. **Northwest USA**, **Southwestern USA**, **South-central USA**, and **Southeastern USA**. **Mesoamerica**, **Caribbean**, **Northern South America**, **Western South America**, and **Southern South America**. Bermuda. Colombia.

Gansu. Sichuan, Yunnan. Uttah Pradesh. Jammu Kashmir.

Polypogon maritimus Willd. *Ges. Naturf Fr. Neue Schr.* iii. 442. (1801).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: Cult. from seed collected by Herrn Boupland from the coast of Rochella V: *Boupland*, Habitat in oceani littoribus occidentalibus gallicae (B-WILLD; IT: US (fragm. ex B [Willd. hb, sheet 1, no. 23, in cover 68])).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (343), N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 272), L.Boulos, *Flora of Egypt* 4 (2005) (177, Pl. 50), N.L.Bor, *Gramineae* in *Flora of Iraq* (1968) (316, Pl. 114), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (246, Fig 189), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (499, Fig 97), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (232, Fig 32 as var.*subspatheaceus*), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (667), B.Rosengurtt, *Gramineas UruguayasI* (1970) (30, Fig. 6).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. belonging to the sea. Growing by the seaside.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms erect or geniculately ascending, 10–30 cm long. Ligule an eciliate membrane. Leaf-blades 2–5 cm long, 2–4 mm wide. Leaf-blade surface scaberulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle, subtended by an inflated leaf-sheath. Panicle spiciform, linear or oblong, 2–5 cm long, 1–1.5 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 0.5–1 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 2–2.5 mm long, falling entire, deciduous from the base. Spikelet callus square, base obtuse. Floret callus glabrous.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma, shiny, gaping. Lower glume oblong, 2–2.5 mm long, 1 length of upper glume, membranous, much thinner above, purple, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface scabrous, rough below. Lower glume margins ciliate. Lower glume apex lobed, 2 -fid, awned, 1 -awned, awn 3–7 mm long. Upper glume oblong, 2–2.5 mm long, 1.6–2 length of adjacent fertile lemma, membranous, purple, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface scabrous, rough below. Upper glume margins ciliate. Upper glume apex lobed, 2 -fid, awned, 1 -awned, awn 3–7 mm long.

Florets. Fertile lemma oblong, 1.25 mm long, membranous, without keel, 5 -veined, more than 3-veined. Lemma lateral veins extending close to apex. Lemma apex entire, truncate, muticous. Palea 1 length of lemma, hyaline, 2 -veined.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp, obovoid, 1 mm long. Embryo 0.33 length of caryopsis.

$2n = 14$ (2 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Australasia (*), North America, South America.

Region. **Northern Europe** (*), **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : GB Aliens (Ryves et al). : Baleares, Corsica, France, Portugal, Sardinia, Spain. : Greece, Italy, Crete, Sicily, Turkey Europe, Yugoslavia. East European Russia, South European Russia. **Northern Africa**, **Macaronesia**. Algeria, Egypt, Libya, Morocco, Tunisia. Azores, Canary Is, Madeira. Siberia, **Middle Asia**, **Caucasus**, **Western Asia**, **China**, **Mongolia**, **Russia**. Altay. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Afghanistan, Iran, Iraq. Gulf States. Xinjiang. Mongolia. **Australia** (*). Western Australia (*), South Australia (*), Victoria (*), Tasmania (*). **Southwestern USA**, **South-central USA**, **Mexico**. California. New Mexico, Texas. Northwest Mexico. **Western South America**, **Brazil**, **Southern South America**. Colombia. Brazil South. Argentina Northeast, Chile Central, Uruguay.

South-West. Southern. Rio Grande do Sul. Buenos Aires. Valparaiso, Maule. Baja California, Sonora.

Polypogon mollis (Thouars) C.E.Hubb. & E.W.Groves. *Bull. Brit. Mus. (Nat. Hist.), Bot.,* 8(4): 399: (1981).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Tristan da Cunha. **Basionym or Replaced Name**: *Phalaris mollis* Thouars, *Ess Fl. ISle Trist.* 37 (1808). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Tristan da Cunha: Coll?.

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Rhizomes elongated. Culms geniculately ascending, 30–75 cm long. Lateral branches lacking. Ligule an eciliate membrane, 3–6 mm long, lacerate. Leaf-blades 10–25 cm long, 4–8 mm wide. Leaf-blade surface smooth.

Inflorescence. Inflorescence a panicle. Panicle spiciform, oblong, continuous or interrupted, 10–15 cm long, 1.5–2 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, 2–6 mm long, scabrous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then

both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2.5–4.5 mm long, falling entire, deciduous with the pedicel.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma. Lower glume lanceolate, 2.5–4.5 mm long, 1 length of upper glume, membranous, 1 -veined. Lower glume lateral veins absent. Lower glume surface hispidulous. Lower glume apex acuminate, awned, 1 -awned, awn 1–2.5 mm long. Upper glume lanceolate, 2.5–4.5 mm long, membranous, 1 -veined. Upper glume lateral veins absent. Upper glume surface hispidulous. Upper glume apex acuminate, awned, 1 -awned, awn 1–2.5 mm long.

Florets. Fertile lemma ovate, 2–2.5 mm long, hyaline, without keel, 5 -veined, more than 3-veined. Lemma lateral veins excurrent. Lemma surface scaberulous, rough on veins. Lemma apex obtuse, awned, 1 -awned. Principal lemma awn subapical, 0.6–1.5 mm long overall. Palea oblong, 1 mm long, hyaline, 0 -veined.

Flower and Fruit. Anthers 3, 0.3–1 mm long. Caryopsis with adherent pericarp, oblong, 1 mm long.

Distribution (TDWG). Continent. Antarctica.

Country /Province /State. **Subantarctic islands**. Tristan de Cunha.

Polypogon monspeliensis (L.) Desf. *Fl. Atlant.* i. 66. (1798).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983), T.Koyama, *Grasses of Japan and its neighboring regions* (1987), W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).

TYPE from France. **Basionym or Replaced Name**: *Alopecurus monspeliensis* L., *Sp. Pl.* 1: 61 (1753). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Anon.*, Europe (LINN-82.6). LT designated by Hubbard, Fl. Trop. East Afr. Gramineae 1: 100 (1970), but specific sheet not indicated; specific sheet designated by Scholz in Cafferty et al., Taxon 49(2): 245 (2000).

ST: (LINN-82.7).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (343), C.E.Hubbard, *Grasses* (1968) (310), T. Cope & A. Gray, Grasses of the British Isles (115), G.Hegi, *Flora von Mitteleuropa* 1 (1909), H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (189, Fig. 111), R.M.Polhill, F.T.E.A., *Gramineae* (1(1970):99, Fig. 33), G.V.Pope et al., *Flora Zambesiaca* 10 (1(1970):85, T. 26), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (103, Fig. 74), G.E.Gibbs Russell el al, *Grasses of Southern Africa* (1990) (274, Fig. 171), N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 273), S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (45, Fig. 21), L.Boulos, *Flora of Egypt* 4 (2005) (177, Pl. 50), T.A.Cope, in M.Thulin, *Poaceae* (Gramineae). *Flora of Somalia* (1995) (155, Fig. 78), N.L.Bor, *Gramineae* in K.H.Rechinger, *Flora Iranica*. No. 70/30 (1970) (Tab. 47), N.L.Bor, *Gramineae* in *Flora of Iraq* (1968) (317, Pl. 115), T.Koyama, *Grasses of Japan and its neighbouring regions* (1987) (166, Fig. 57), C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (284), C-C Hsu,*Taiwan Grasses* (1975), H.J.Noltie, *The Grasses of Bhutan* (2000) (597, Fig. 24), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (248, Fig. 190), C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952) (141, Pl. 42), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (499, Fig. 97), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (357), J.C.Tothill,& J.B.Hacker. *The grasses of southern Queensland* (1983) (356), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989) (133, Fig. 20), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (232, Fig. 32), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), W.L.Wagner et al., *Manual of the Flowering Plants of Hawai'i*, Vol. 2 (1990) (1586, Pl. 235), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (666), F.W.Gould, *The Grasses of Texas* (1975) (146, Fig. 73), A.S.Hitchcock, *Manual of the Grasses of the West Indies* (1936) (76, Fig. 42), S.A.Renvoize, *Gramineas de Bolivia* (1998) (176, Fig. 42), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina*), Pt II, Gramineas (1969) (129, Fig. 42), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (200, Fig. 53), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (396, Fig. 263), B.Rosengurtt, *Gramineas UruguayasI* (1970) (30, Fig. 6), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 505), E.Hafliger & E.Schultz, Grass Weeds, CIBA-GEIGY (2:111(1980)), E.Hafliger

& E.Schultz, Grass Weeds, CIBA-GEIGY (2:123(1980)), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Fig. 195).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);, L.Boulos, *Flora of Egypt* 4 (2005);, F.van Oudtshoorn, *Guide to Grasses of Southern Africa* (1999), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012)

(Pl. 25).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From mons Pessulanus, the Roman name for Montpellier.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, culms solitary or caespitose. Culms erect or decumbent, 6–80 cm long. Ligule an eciliate membrane, 3–15 mm long. Leaf-blades 5–20 cm long, 2–8 mm wide. Leaf-blade surface scaberulous, rough adaxially or on both sides.

Inflorescence. Inflorescence a panicle. Panicle spiciform, oblong or ovate, continuous or interrupted, 1.5–16 cm long, 1–3.5 cm wide. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, 0.5 mm long, scabrous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2–3 mm long, falling entire. Spikelet callus square, base obtuse.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma. Lower glume oblong, 1 length of upper glume, membranous, 1-keeled, keeled above, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume surface asperulous. Lower glume margins ciliolate. Lower glume apex emarginate, awned, 1 -awned, awn 4–7 mm long. Upper glume oblong, 2 length of adjacent fertile lemma, membranous, 1-keeled, keeled above, 1 -veined. Upper glume primary vein scabrous. Upper glume lateral veins absent. Upper glume surface asperulous. Upper glume margins ciliolate. Upper glume apex emarginate, awned, 1 -awned, awn 4–7 mm long.

Florets. Fertile lemma oblong, 1–1.5 mm long, hyaline, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma apex dentate, 4 -fid, muticous or awned, 1 -awned. Principal lemma awn from a sinus, 0–2 mm long overall. Palea 1 length of lemma, hyaline, 2 -veined.

Flower and Fruit. Anthers 3, 0.3–0.5 mm long. Caryopsis with adherent pericarp, obovoid. Hilum linear.

n = 7 (1 ref TROPICOS), or 14 (10 refs TROPICOS). $2n$ = 28 (8 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Tropical Asia, Australasia (*), Pacific, North America, South America, Antarctica.

Region. **Northern Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**, **Middle Europe**.

Country /Province /State. : Great Britain. : Czechoslovakia. : Baleares, Corsica, France, Portugal, Sardinia, Spain. : Albania, Bulgaria, Greece, Italy, Crete, Romania, Sicily, Turkey Europe, Yugoslavia. Krym, Northwest European Russia, Ukraine. **Northern Africa**, **Macaronesia**, **West Tropical Africa**, **Northeast Tropical Africa**, **East Tropical Africa**, **South Tropical Africa**, **Southern Africa** (*), **Middle Atlantic Ocean**, **Western Indian Ocean**. Algeria, Egypt, Libya, Morocco, Tunisia. Azores, Cape Verde, Madeira. Niger. Eritrea, Ethiopia (inc. Eritrea), Socotra, Somalia, Sudan. Kenya, Tanzania. Zimbabwe. Namibia, Botswana, Gauteng, Free State, Kwazulu-Natal, Northern Cape, Western Cape, Eastern Cape. St Helena. Mauritius (*). Siberia, Russian Far East, **Middle Asia**, **Caucasus**, **Western Asia**, **Arabian Peninsula**, **China**, **Mongolia**, **Eastern Asia**, **Russia**. Altay. Primorye. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Iran, Iraq. Gulf States, Kuwait, Oman. China South Central, Inner Mongolia, China North-Central, Qinghai, China Southeast, Tibet, Xinjiang. Mongolia. Japan Honshu, or Shikoku, or Kyushu. Japan, Nansei-Shoto, Taiwan. **Indian Subcontinent**, **Indo-China**, **Malesia**, **Papuasia**. Eastern Himalaya, India, Pakistan, Sri Lanka, West Himalaya. Vietnam. New Guinea. **Australia** (*), **New Zealand** (*). Western Australia (*), Northern Territory (*), South Australia (*), Queensland (*), New South Wales (*), A.C.T. (*), Victoria (*), Tasmania (*), Lord Howe-Norfolk Is (*). Kermadec Is, New Zealand North I, New Zealand South I. **North-central Pacific**. Hawaii (*). **Subarctic America**, **Western Canada**, **Northwest USA**, **Northeast USA**, **Southwestern USA**, **South-central USA**, **Southeastern USA**, **Mexico**. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. New Jersey. Arizona, California, Nevada, Utah. New Mexico, Texas. Alabama, Florida, Georgia, Louisiana, Mississippi, South Carolina. Central Mexico, Northeast Mexico, Northwest Mexico, Southwest Mexico, Southeast Mexico.

Mesoamerica, **Caribbean**, **Western South America**, **Brazil**, **Southern South America**. Costa Rica, Guatemala. Bermuda. Bolivia, Colombia, Ecuador, Peru. Brazil South. Argentina Northeast, Argentina South, Argentina Northwest, Chile North, Chile Central, Chile South, Paraguay, Uruguay. **Subantarctic islands**. Tristan de Cunha.

Gansu, Hebei, Shaanxi, Shandong, Shanxi. Anhui, Fujian, Guangdong, Henan, Jiangsu, Zhejiang. Sichuan, Yunnan. Darjeeling, Sikkim. Meghalaya. Bihar, Delhi, Karnataka. Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamilnadu, Uttah Pradesh, West Bengal. Himachal Pradesh, Jammu Kashmir. Eremean, South-West. Central Australia. NW & Lake Eyre, Southern. Central, South East, Inland. Coast, Tablelands, Western Slopes, Western Plains. Rio Grande do Sul. Catamarca, Jujuy (*), La Rioja, Mendoza, Salta, Santiago del Estero, San Juan, San Luis, Tucuman. Buenos Aires, Cordoba, Distrito Federal, Entre Rios, La Pampa. Chubut, Neuquén, Río Negro, Santa Cruz. Tarapaca, Antofagasta, Atacama. Coquimbo, Valparaiso, Santiago, O'Higgins, Maule, Biobio, La Araucania. Los Lagos. Distrito Federal, Mexico State. Aguascalientes, Chihuahua, Durango, Guanajuato, Hidalgo, Queretaro, Zacatecas. Baja California. Jalisco, Michoacan, Oaxaca. Chiapas.

Polypogon nilgiricus Kabeer & V. J. Nair. *Nordic J. Bot.* 25: 9–11 (2008).

TYPE from India, Tamil Nadu, Nilgiri Hills, Manjakambai, ca 980 m, 3 Mar 2004, K. Althaf Ahamed Kabeer 117749 (CAL holotype, MH isotype).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Stolons present. Culms decumbent, 45–90 cm long. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 8–14 mm long, lacerate, acute. Leaf-blades linear or lanceolate, 5–30 cm long, 6–10 mm wide. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade margins scaberulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Peduncle 10–30 cm long, glabrous. Panicle open, oblong, dense, 6–13 cm long, 2–6 cm wide. Primary panicle branches whorled at most nodes, 1.5–3.5 cm long. Panicle axis scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.6–0.8 mm long, scabrous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 1.8–2 mm long, 0.8 mm wide, falling entire, deciduous with the pedicel. Floret callus glabrous.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma, gaping. Lower glume oblong, 1.8–2 mm long, 0.4 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume surface scabrous. Lower glume margins ciliolate. Lower glume apex emarginate or acute, awned, 1 -awned, awn 2–3 mm long. Upper glume oblong, 1.8–2 mm long, 1.8–2 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume primary vein scabrous. Upper glume lateral veins absent. Upper glume surface scabrous. Upper glume margins ciliolate. Upper glume apex emarginate or acute, awned, 1 -awned, awn 2–3 mm long.

Florets. Fertile lemma oblong, 1 mm long, 0.3 mm wide, membranous or chartaceous, shiny, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, excurrent. Lemma apex dentate, 2 -fid or 4 -fid, awned, 1 -awned. Principal lemma awn from a sinus, 1.2–1.4 mm long overall. Palea 1 length of lemma, hyaline, 2 -veined.

Flower and Fruit. Lodicules 2, 0.2–0.3 mm long, membranous. Anthers 3, 0.2 mm long.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indian Subcontinent**. India.

Tamilnadu.

Polypogon parvulus Roseng., Arrill. de Maffei & Izag. deArtucio. *Gramin. Urug.* 33 (1970).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Uruguay. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Uruguay: Tacuaremb? blanqueal próximo al A. Yaguari, ruta 26, 7 Oct 1961, *Del Puerto 216* (HT: MVFA).

Illustrations (Books): B.Rosengurtt, *Gramineas UruguayasI* (1970) (34, Fig. 8 & 9).

Derivation (Clifford & Bostock 2007): L. *parvus*, small; *-ula,* diminutive. Dwarf in habit.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Basal innovations intravaginal. Culms erect, 5–10 cm long, 2 -noded. Lateral branches lacking. Leaf-sheaths scaberulous, glabrous on surface. Ligule an eciliate membrane, 1.5–2.3 mm long, erose, truncate. Leaf-blades 2 cm long, 1 mm wide. Leaf-blade midrib indistinct. Leaf-blade surface scaberulous, glabrous.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Panicle spiciform, linear, 3–5 cm long. Primary panicle branches 0.5–1 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform or linear, 1.5–6 mm long, scaberulous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 3.5–8 mm long, falling entire, deciduous with the pedicel. Floret callus glabrous.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma, recurved at apex. Lower glume lanceolate, 3.5–8 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein spinulose. Lower glume lateral veins absent. Lower glume apex acute, awned, 1 -awned, awn 3.5–4.5 mm long. Upper glume lanceolate, 3.5–8 mm long, 2 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume primary vein spinulose. Upper glume lateral veins absent. Upper glume apex emarginate or obtuse, awned, 1 -awned, awn 3.5–4.5 mm long.

Florets. Fertile lemma oblong, 1.8 mm long, cartilaginous, without keel, 5 -veined, more than 3-veined. Lemma lateral veins excurrent. Lemma surface asperulous. Lemma apex dentate, 3 -fid, truncate. Palea 0.6 mm long, 0.33 length of lemma, hyaline, 0 -veined, without keels.

Flower and Fruit. Lodicules 2, 0.5 mm long, membranous. Anthers 3, 0.5–0.6 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Uruguay.

Santa Fe.

Polypogon pygmeus N.N. Tsvelev. *Byull. Mosk. Obshch. Ispyt. Prir., Biol.,* 80(6): 84 (1975).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Afghanistan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *Gubanov I., Pavlov V. & Yunos M. 697*, 22 Jul 1974, Afghanistan: Bamian: Baidi-Amyr: 2850 m. (LE).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms 2–7 cm long. Culm-internodes smooth, distally glabrous. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 0.6–1.5 mm long. Leaf-blades flat or conduplicate, 0.6–1.3 mm wide. Leaf-blade surface scaberulous.

Inflorescence. Inflorescence a panicle. Panicle spiciform, lanceolate or oblong, 0.5–1.4 cm long, 0.4–0.5 cm wide. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 0.2 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 1.2–2.5 mm long, falling entire. Spikelet callus oblong or cuneate.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma. Lower glume oblong, 1 length of upper glume, membranous, 1-keeled, keeled above, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume surface asperulous. Lower glume margins ciliolate. Lower glume apex dentate, 2 -fid, awned, 1 -awned, awn 2–3 mm long. Upper glume oblong, 1.2–1.5 mm long, 1.4–1.5 length of adjacent fertile lemma, membranous, 1-keeled, keeled above, 1 -veined. Upper glume primary vein scabrous. Upper glume lateral veins absent. Upper glume surface asperulous. Upper glume margins ciliolate. Upper glume apex dentate, 2 -fid, awned, 1 -awned, awn 2–3 mm long.

Florets. Fertile lemma oblong, 0.8–1.1 mm long, hyaline, shiny, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma apex muticous. Palea 1 length of lemma, hyaline, 2 -veined.

Flower and Fruit. Anthers 3, 0.2–0.4 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Western Asia**. Afghanistan.

Polypogon schimperianus (Hochst. ex Steud.) T.A. Cope. *Kew Bull.*, 50(1): 116 (1995).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Ethiopia. **Basionym or Replaced Name**: *Agrostis schimperiana* Hochst. ex Steud., *Syn. Pl. Glumac.* 1: 170 (1854). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Schimper, pl. Schimp. Abyss, sect. II, 746*, 20 Dec 1838, Ethiopia: Tigre (K; ILT: LE, MO-2104769, US-843543 (ex hb. J. Gay)). LT designated (as type) by Ali Chaudahry, Grass. Saudi Arabia 132 (1989). ST: *Schimper, pl. Schimp. Abyss., sect. II, 973*, 20 Dec 1838, [Africa]: Abyssinia: prope Adoam (K, LE, MO-2104768). Schimperi iter Abyssinicum. Sectio secunda..

Illustrations (Books): S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (45, Fig 21).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Georg Heinrich Wilhelm Schimper (1804–78) German plant collector in Near East and north-eastern Africa.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Stolons present. Culms geniculately ascending or decumbent, 30–120 cm long, 4–11 -noded. Ligule an eciliate membrane, 3–7 mm long. Leaf-blades 6–15 cm long, 3–5 mm wide. Leaf-blade surface scaberulous.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear or oblong, continuous or interrupted, 6–20 cm long, 0.6–2.5 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1–3 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 2–2.6 mm long, falling entire, deciduous with the pedicel, readily shedding fertile florets, pedicel base acute. Floret callus glabrous.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma, gaping. Lower glume lanceolate, 2–2.6 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface scabrous. Lower glume apex acute. Upper glume lanceolate, 2–2.6 mm long, 1.3–1.7 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface scabrous. Upper glume apex acute.

Florets. Fertile lemma oblong, 1.5 mm long, hyaline, without keel, 5 -veined, more than 3-veined. Lemma lateral veins excurrent. Lemma apex erose, truncate, muticous or mucronate. Principal lemma awn subapical. Palea 0.9 length of lemma, hyaline, 2 -veined.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.8–1.4 mm long. Caryopsis with adherent pericarp, 1 mm long. Hilum linear. Endosperm farinose.

Distribution (TDWG). Continent. Africa, Temperate Asia.

Country /Province /State. **West-Central Tropical Africa**, **Northeast Tropical Africa**, **East Tropical Africa**, **South Tropical Africa**. Rwanda. Ethiopia (inc. Eritrea). Kenya, Tanzania, Uganda. Zambia, Zimbabwe. **Arabian Peninsula**. Saudi Arabia, Yemen.

Polypogon strictus Nees. *Linnaea,* vii. 297. (1832).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Ascension Is. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Ascension Is.: Coll?.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. erect. Inflorescence branches erect.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect, 7–70 cm long. Ligule an eciliate membrane. Leaf-blades 10–20 cm long, 1–5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear or lanceolate, 10–20 cm long. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 1.5–1.8 mm long, falling entire, deciduous from the base. Spikelet callus square, base obtuse. Floret callus glabrous.

Glumes. Glumes similar, reaching apex of florets or exceeding apex of florets, firmer than fertile lemma, gaping. Lower glume oblong, 1.5–1.8 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume surface asperulous. Lower glume apex dentate, 2 -fid, awned, 1 -awned, awn 10–25 mm long. Upper glume oblong, 1.5–1.8 mm long, 1–1.2 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent. Upper glume surface asperulous. Upper glume apex dentate, 2 -fid, awned, 1 -awned, awn 10–25 mm long.

Florets. Fertile lemma elliptic, 1.5 mm long, cartilaginous, shiny, without keel, 5 -veined, more than 3-veined. Lemma apex lobed, 2 -fid, incised 0.33 of lemma length, awned, 1 -awned. Principal lemma awn from a sinus, 5–10 mm long overall. Palea 1 length of lemma, hyaline, 2 -veined.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**, **Middle Atlantic Ocean**. Western Cape, Eastern Cape.

Polypogon tenellus R. Br. *Prod.* 173. (1810).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Austalia, Lewin Promontory: Coll?.

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (249, Fig 191), C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952) (141, Pl 42), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (232, Fig 32), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. slender. Culms or inflorescence branches slender.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect, 30–50 cm long. Ligule an eciliate membrane. Leaf-blades 3–15 cm long, 0.5–4 mm wide. Leaf-blade surface scabrous.

Inflorescence. Inflorescence a panicle. Panicle spiciform, lanceolate or oblong, continuous or interrupted, 5–12 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear or oblong, 0.5–2 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2.5 mm long, falling entire, deciduous from the base. Spikelet callus oblong, 0.5 mm long, pubescent, base obtuse. Floret callus glabrous.

Glumes. Glumes similar, reaching apex of florets or exceeding apex of florets, firmer than fertile lemma, recurved at apex. Lower glume lanceolate, 2.5 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface pilose, hairy below. Lower glume apex acuminate, awned, 1 -awned, awn 8–9 mm long. Upper glume lanceolate, 2.5 mm long, 1–1.2 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface pilose, hairy below. Upper glume apex acuminate, awned, 1 -awned, awn 8–9 mm long.

Florets. Fertile lemma lanceolate, 2–2.5 mm long, cartilaginous, without keel, 5 -veined, more than 3-veined. Lemma apex entire, emarginate or acute, awned, 1 -awned. Principal lemma awn dorsal, arising 0.5 way up back of lemma, geniculate, 16–25 mm long overall, with twisted column. Palea 0.5 length of lemma, hyaline, 2 -veined.

Flower and Fruit. Lodicules 2, membranous. Anthers 1. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Europe (*), Australasia.

Region. **Northern Europe** (*).
Country /Province /State. : GB Aliens (Ryves et al). **Australia**. Western Australia, South Australia. South-West. Southern.

Polypogon tenuis Brongn. *Duperr. Voy. Coq. Bot.* 22. (1829).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.
TYPE from Ascension Is. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: L'ile de l'Ascension,.
Illustrations: None found.
Derivation (Clifford & Bostock 2007): L. thin. Culms, leaf-blades or pedicels, slender.
Classification. Subfamily Pooideae. Tribe: Poeae.
Habit, Vegetative Morphology. Annual, caespitose. Culms erect, 7–70 cm long. Ligule an eciliate membrane. Leaf-blades 10–20 cm long, 1–5 mm wide.
Inflorescence. Inflorescence a panicle. Panicle spiciform, linear or lanceolate, 10–20 cm long. Spikelets solitary. Fertile spikelets sessile.
Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 1.5–1.8 mm long, falling entire, deciduous from the base. Spikelet callus square, base obtuse. Floret callus glabrous.
Glumes. Glumes similar, reaching apex of florets or exceeding apex of florets, firmer than fertile lemma, gaping. Lower glume oblong, 1.5–1.8 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume surface asperulous. Lower glume apex dentate, 2 -fid, awned, 1 -awned, awn 10–25 mm long. Upper glume oblong, 1.5–1.8 mm long, 1–1.2 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume primary vein scaberulous. Upper glume lateral veins absent. Upper glume surface asperulous. Upper glume apex dentate, 2 -fid, awned, 1 -awned, awn 10–25 mm long.
Florets. Fertile lemma elliptic, 1.5 mm long, cartilaginous, shiny, without keel, 5 -veined, more than 3-veined. Lemma apex lobed, 2 -fid, incised 0.33 of lemma length, awned, 1 -awned. Principal lemma awn from a sinus, 5–10 mm long overall. Palea 1 length of lemma, hyaline, 2 -veined.
Flower and Fruit. Lodicules 2, membranous. Anthers 3. Caryopsis with adherent pericarp.
Distribution (TDWG). Continent. Africa.
Country /Province /State. **Southern Africa** and **Middle Atlantic Ocean**. Ascension, St Helena.

Polypogon viridis (Gouan) Breistr. *Bull. Soc. Bot. France, cx. Sess. Extraord.* l ix. 56 (1966).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Agrostis viridis*), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960) (as *Agrostis semiverticillata*), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *Polypogon semiverticillatus*), W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).
TYPE from France. **Basionym or Replaced Name**: *Agrostis viridis* Gouan, *Hortus Monsp.* 546 (1762). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *Anon.*, France (P).
Recent Synonyms: *Polypogon semiverticillatus* (Forssk.) Hylander, *Uppsala Univ. Arsskr.*, No. 7:74 (1945).
Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (344), C.E.Hubbard, *Grasses* (1968) (306 as *Agrostis semiverticillata*), T. Cope & A. Gray, Grasses of the British Isles (114), N.N.Tsvelev, *Grasses of the Soviet Union* (1983) (437 (295), Pl.5 as *P. semiverticillatus*), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (99, Fig. 69, as *Agrostis semiverticillata*), G.E.Gibbs Russell el al, *Grasses of Southern Africa* (1990) (275, Fig. 172), N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 274), S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (45, Fig. 21), L.Boulos, *Flora of Egypt* 4 (2005) (177, Pl. 50), N.L.Bor, *Gramineae* in *Flora of Iraq* (1968) (319, Pl. 116 as *Polypogon semiverticillatus*), T.A.Cope, *Flora of Pakistan* 143: *Poaceae* (1982) (474, Fig. 52 as *Agrostis*), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (249, Fig. 192), W.L.Wagner et al., *Manual of the*

Flowering Plants of Hawai'i, Vol. 2 (1990) (1493, Pl. 218 as *Agrostis semiverticillata*), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (664), S.A.Renvoize, *Gramineas de Bolivia* (1998) (238, Fig. 46), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (396, Fig. 264 as *Polypogon semiverticillatus*), B.Rosengurtt, *Gramineas UruguayasI* (1970) (20, Fig. 2 as *Polypogon semiverticillatus*), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (as *Agrostis viridis*), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 507), E.Hafliger & E.Schultz, Grass Weeds, CIBA-GEIGY (2:124(1980)).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);, L.Boulos, *Flora of Egypt* 4 (2005);.

Derivation (Clifford & Bostock 2007): L. green. Widely applied but especially to species with green spikelets.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, persisting or short-lived, caespitose. Stolons absent or present. Culms geniculately ascending or decumbent, (15–)30–100 cm long, without nodal roots or rooting from lower nodes. Ligule an eciliate membrane, 2–4 mm long. Leaf-blades 2–17 cm long, 2–7 mm wide. Leaf-blade surface scaberulous.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong or ovate, interrupted, 2–8(–11) cm long, 0.5–4 cm wide. Primary panicle branches whorled at most nodes, bearing spikelets almost to the base. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, 0.2–0.5 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 1.75–2 mm long, falling entire, deciduous with the pedicel. Floret callus glabrous.

Glumes. Glumes similar, exceeding apex of florets, firmer than fertile lemma. Lower glume elliptic, 1.75–2 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface scabrous. Lower glume margins ciliolate. Lower glume apex obtuse. Upper glume elliptic, 1.75–2 mm long, 1.3–1.8 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface scabrous. Upper glume margins ciliolate. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 1–1.5 mm long, hyaline, without keel, 5 -veined, more than 3-veined. Lemma apex erose, truncate, muticous. Palea 0.9 length of lemma, hyaline, 2 -veined.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.5–0.75 mm long. Caryopsis with adherent pericarp, oblong, 1 mm long. Hilum linear. Endosperm farinose.

n = 14 (6 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Tropical Asia, Australasia (*), Pacific, North America, South America.

Region. **Northern Europe** (*), **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**, **Middle Europe**.

Country /Province /State. : Great Britain (*). : Switzerland. : Baleares, Corsica, France, Portugal, Sardinia, Spain. : Albania, Bulgaria, Italy, Crete, Sicily, Turkey Europe, Yugoslavia. Krym. **Northern Africa**, **Macaronesia**, **Northeast Tropical Africa**, **South Tropical Africa**, **Southern Africa** (*). Algeria, Egypt, Libya, Morocco, Tunisia. Azores, Canary Is, Madeira. Eritrea, Ethiopia (inc. Eritrea), Somalia. Angola, Zimbabwe. Namibia, Gauteng, Swaziland, Free State, Kwazulu-Natal, Northern Cape, Western Cape, Eastern Cape. **Middle Asia**, **Caucasus**, **Western Asia**, **Arabian Peninsula**, **China**. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Iran, Iraq. Oman. China South Central. **Indian Subcontinent**, **Indo-China**. Pakistan, West Himalaya. **Australia** (*), **New Zealand** (*). Western Australia (*), South Australia (*), New South Wales (*), Victoria (*), Tasmania (*). New Zealand North I, New Zealand South I. **North-central Pacific** (*). New Caledonia (*). Hawaii (*). **Northwest USA**, **Southwestern USA**, **South-central USA**, **Mexico**. Colorado, Washington. Arizona, California, Nevada, Utah. New Mexico, Texas. Central Mexico, Northeast Mexico, Gulf (Mexico), Northwest Mexico, Southwest Mexico, Southeast Mexico. **Mesoamerica**, **Caribbean**, **Western South America**, **Southern South America**. Guatemala. Jamaica (& as *Agrostis semiverticillata*). Bolivia, Colombia, Peru. Argentina Northeast, Argentina South, Argentina Northwest, Chile South, Uruguay.

Yunnan. Jammu Kashmir. South-West. Southern. Coast, Tablelands, Western Slopes, Western Plains. Jujuy (*), Mendoza, Salta, San Juan, San Luis, Tucuman. Buenos Aires, Cordoba, Distrito Federal, Entre Rios, La Pampa. Chubut, Neuquén, Río Negro. Tarapaca, Antofagasta. Coquimbo, Valparaiso, Santiago,

Biobio, La Araucania. Los Lagos. Distrito Federal, Mexico State, Morelos, Puebla. Aguascalientes, Coahuila, Chihuahua, Durango, Guanajuato, Hidalgo, Neuvo Leon, Queretaro, San Luis Potosi, Tamaulipas, Zacatecas. Veracruz. Baja California, Baja California Sur, Sonora. Guerrero, Jalisco, Michoacan, Oaxaca. Chiapas.

Polytoca digitata (L.f.) Druce. *Rep. Bot. Exch. Cl. Brit. Isles,* 1916, 641 (1917).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from Indonesia. **Basionym or Replaced Name**: *Apluda digitata* L. f., *Suppl. Pl.* 434 (1782). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: probably Indonesia: Java:, *Thunberg s.n. in Herb. LINN-1213.6* (HT: LINN (microfiche IDC)).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (835, Fig. 64), R.Pilger, *Die Naturlichen Pflanzenfamilien* 14e (1940) (99, Fig. 187), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 903).

Illustrations (Journals): *Blumea* (47:571(2002)).

Derivation (Clifford & Bostock 2007): L. *digitus*, finger; *-ata*, possessing. Inflorescence branches finger-like.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Chionachninae.

Habit, Vegetative Morphology. Perennial. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Culms 100–150 cm long. Culm-nodes pubescent. Ligule a ciliolate membrane. Leaf-blades 45–60 cm long, 15–25 mm wide. Leaf-blade surface glabrous or hirsute. Monoecious, with male terminal and mixed axillary inflorescences.

Inflorescence. Inflorescence composed of racemes, axillary, subtended by a spatheole, embraced at base by subtending leaf. Spatheole lanceolate, herbaceous. Racemes 1, single, 3–8 cm long, bearing few fertile spikelets, bearing 3–6 fertile spikelets on each (and 0–10 male spikelets). Rhachis fragile at the nodes, subterete, pilose on surface. Rhachis internodes oblong, bearing a sterile companion laterally. Rhachis internode tip cupuliform. Sexes segregated, on bisexual branches, with male above. Spikelets embracing internode, in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Male spikelets sessile and pedicelled, 2 in a cluster. Pedicels present, fused to internode, united wholly.

Sterile Spikelets. Companion sterile spikelets represented by single glumes, lanceolate, 12–18 mm long, longer than fertile, separately deciduous.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets oblong, dorsally compressed, 6–7 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus base truncate, with central peg, attached transversely.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma, shiny. Lower glume elliptic, 1 length of spikelet, indurate, much thinner above, pallid, 2-keeled, keeled above, winged on keel, winged above. Lower glume surface not waisted, villous, hairy below. Lower glume apex entire, obtuse. Upper glume elliptic, coriaceous. Upper glume apex acuminate.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret oblong, cartilaginous, acuminate. Fertile florets female. Fertile lemma oblong, hyaline, without keel. Lemma apex acuminate. Palea hyaline, without keels.

Flower and Fruit. Caryopsis with adherent pericarp, 7–8 mm long. Hilum punctiform.

Male inflorescence of subdigitate racemes. Male spikelets distinct from female, with pedicels fused to rhachis, 6–7 mm long. Male spikelet glumes 2, muticous.

n = 10 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. China South Central, Hainan, China Southeast. **Indian Subcontinent**, **Indo-China**, **Malesia**, **Papuasia**. Eastern Himalaya, India. Cambodia, Myanmar, Thailand, Vietnam. Java, Malaya, Philippines. New Guinea PNG. New Guinea.

Guangdong, Guangxi. Yunnan. Sikkim. Assam, Meghalaya. West Bengal.

Polytoca wallichiana (Steud.) Benth. *Journ. Linn. Soc.* xix. 52. (1881).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from Burma. **Basionym or Replaced Name**: *Cyathorhachis wallichiana* Nees ex Steud., *Syn. Pl. Glumac.* 1: 403 (1854). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Herb. Wallich 8629-B*, Jan 1827, Burma: Moalmyne (B; IT: K (IDC microfiche 7394), L (fragm. ex B)). LT designated by Henrard, Meded. Rijks-Herb. 67: 9 (1931).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (835, Fig. 64).

Illustrations (Journals): *Blumea* (47:570(2002) as *Cyathorhachis*).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Nathanial Wallich (1786–1854) Danish-born physician and sometime superintendent Calcutta Botanic Gardens.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Chionachninae.

Habit, Vegetative Morphology. Annual. Culms 30–120 cm long, with prop roots. Leaf-sheaths hispid, with tubercle-based hairs. Ligule a ciliolate membrane. Leaf-blades linear or lanceolate, 20–90 cm long, 25–35 mm wide. Monoecious, with male terminal and mixed axillary inflorescences.

Inflorescence. Synflorescence compound, fasciculate, 6–10 cm long, dense.

Inflorescence composed of racemes, axillary, subtended by a spatheole, embraced at base by subtending leaf. Spatheole lanceolate, herbaceous. Racemes 1–9 (1 of them female), single or digitate, 3–8 cm long, bearing few fertile spikelets, bearing 3–7 fertile spikelets on each (and 0–10 male spikelets). Rhachis fragile at the nodes, flattened, pubescent on surface, ciliate on margins. Rhachis internodes clavate, 5–6 mm long, bearing a sterile companion laterally. Rhachis internode tip crateriform. Sexes segregated, on unisexual branches or bisexual branches, with male above or below. Spikelets embracing internode, in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Male spikelets sessile and pedicelled, 2 in a cluster. Pedicels present, fused to internode, united wholly.

Sterile Spikelets. Companion sterile spikelets represented by single glumes, lanceolate, 10–20 mm long, longer than fertile, separately deciduous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, dorsally compressed, 6–7 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus base truncate, with central peg, attached transversely.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume oblong, 1 length of spikelet, indurate, much thinner above, pallid, 2-keeled, keeled above, winged on keel, winged broadly, winged above. Lower glume surface convex, laterally waisted, pubescent, hairy below. Lower glume apex entire or erose, emarginate or obtuse. Upper glume oblong, 0.75 length of spikelet, coriaceous, without keels, 7 -veined. Upper glume apex caudate.

Florets. Fertile florets female. Fertile lemma oblong, 4 mm long, cartilaginous, without keel, 9 -veined, more than 3-veined. Lemma apex cuspidate. Palea oblong, 0.75 length of lemma, hyaline, 1 -veined, without keels. Palea apex cuspidate.

Flower and Fruit. Caryopsis with adherent pericarp, square, flattened, concavo-convex, 2.5 mm long. Hilum punctiform.

Male inflorescence of subdigitate racemes. Male spikelets distinct from female, with free pedicels, 2 flowered, ovate, 6 mm long. Male spikelet glumes 2, awned (5–15mm). Male spikelet lemma 3 -veined.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indian Subcontinent**, **Indo-China**. Eastern Himalaya. Andaman Is, Myanmar, Thailand.

Bhutan, Sikkim. Assam.

Polytrias indica (Houtt.) J.F. Veldkamp. *Blumea,* 36(1): 180: (1991).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online (as *P. amaura*), W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960) (as *P. amura*), W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).

TYPE from Indonesia. **Basionym or Replaced Name**: *Phleum indicum* Houtt., *Nat. Hist.* 13: 198, pl. 90, f. 2 (1782). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Indonesia: Java:, *Herb. Houtteyn s.n.* (HT: G).

Recent Synonyms: *Andropogon amaurus* Büse, *Pl. Jungh*.3: 360 (1854). *Polytrias amaura* (Büse) Kuntze nom superfl, *Rev. Gen.* 788 (1891).

Illustrations (Books): H.B.Gilliland, *Grasses of Malaya* (1971) (245, Fig. 53 as *P. amaura*), H.Duistermaat, *Field Guide to the Grasses of Singapore* (2005) (113, Fig. 117), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 25 *Poaceae*, part 2 (2003) (625 as *P. amaura*), E.Judziewicz, *Flora of the Guianas*, 187. *Poaceae* (1990) (as *P.amaura*), W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (496, Fig. 187 as *P. amaura*), E.Judziewicz, *Flora of the Guianas*, 187. *Poaceae* (1990) (134, Fig. 19 as *P. amaura*), R.Pilger, *Die Naturlichen Pflanzenfamilien* 14e (1940) (121, Fig. 69 as E*ulalia praemorsa*), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 830 as *P. indica* var. *indica* & *P. indica* var. *nana*), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Fig. 75, as *Ischaemum*).

Images: H.B.Gilliland et al., *Flora of Malaya Vol. 3 Grasses* (1971); (as *P. amaura*), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012)
(Pl. 20 as Ischaemum).

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From India.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Saccharinae.

Habit, Vegetative Morphology. Perennial, mat forming. Culms prostrate, 10–30 cm long, rooting from lower nodes. Ligule a ciliolate membrane. Leaf-blades lanceolate, 2–5 cm long, 2–5 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, 2–6 cm long. Rhachis fragile at the nodes, flattened, ciliate on margins. Rhachis internodes linear. Spikelets in threes. Fertile spikelets sessile and pedicelled, 3 in the cluster, all alike, 2 sessile. Pedicels present, linear, flattened, ciliate.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets elliptic, dorsally compressed, truncate, 4–5 mm long, falling entire, deciduous from the base or with accessory branch structures. Spikelet callus base truncate, attached transversely.

Glumes. Glumes dissimilar, reaching apex of florets, firmer than fertile lemma. Lower glume oblong, 1 length of spikelet, cartilaginous, 2-keeled, keeled obtusely, 6 -veined. Lower glume intercarinal veins distinct. Lower glume surface pilose. Lower glume apex truncate. Upper glume oblong, 4–5 mm long, without keels, 3 -veined. Upper glume surface pilose. Upper glume apex truncate.

Florets. Basal sterile florets 1, with vestigial lower floret. Fertile lemma oblong, 2 mm long, hyaline, firmer above (coriaceous), without keel, 1 -veined, 0–3 -veined, one-veined. Lemma apex dentate, 2–3 -fid, with linear lobes, incised 0.3 of lemma length, awned, 1 -awned. Principal lemma awn from a sinus, geniculate, 10–12 mm long overall, with twisted column. Palea absent or minute.

Distribution (TDWG). Continent. Africa, Temperate Asia, Tropical Asia, Australasia, Pacific, North America, South America.

Country /Province /State. **West-Central Tropical Africa**. Cameroon. **China**, **Eastern Asia**. Hainan, China Southeast. Taiwan. **Indian Subcontinent**, **Indo-China**, **Malesia**, **Papuasia**. Bangladesh, India, Laccadive Is, Sri Lanka. Andaman Is, Myanmar, Thailand, Vietnam. Borneo, Java, Lesser Sunda Is, Malaya, Singapore, Philippines, Sumatra. New Guinea PNG. New Guinea. **Australia** (*). Queensland. **Southwestern Pacific**, **Northwestern Pacific**. Fiji (*), Samoa (*). Caroline Is (*), Marianas (*). **Southeastern USA**. Florida. **Mesoamerica**, **Northern South America**, **Western South America**. Costa Rica, Guatemala, Panama. Surinam, Venezuela. Colombia.

Hong Kong. Assam, Tripura. Bihar, Kerala, Karnataka. Madhya Pradesh, Maharashtra, Orissa, Tamilnadu, Uttah Pradesh, West Bengal. North, Inland.

Pommereulla cornucopiae L. f. Nov. Gram. 31. (1779).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Habitat in India, *König. s.n.*.

Illustrations (Books): N.L.Bor, *The grasses of Burma, Ceylon, India and Pakistan* (1960) (621, Fig 74).

Derivation (Clifford & Bostock 2007): L. *cornu*, horn; *copicus*, plenty. The inflorescence is a head encircled by a bell-shaped cover of apical leaves resembling the Horn of Plenty.

Classification. Subfamily Chloridoideae. Tribe: Chlordoideae incertae sedis.

Habit, Vegetative Morphology. Perennial. Stolons present. Basal innovations flabellate. Culms 5–15 cm long. Ligule a fringe of hairs. Leaf-blades flat or conduplicate, 2.5–8 cm long, 2–3 mm wide. Leaf-blade apex obtuse.

Inflorescence. Inflorescence composed of racemes, embraced at base by subtending leaf. Racemes 1, single, unilateral, 2–8 cm long. Rhachis angular. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1–2 basal sterile florets, 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate (turbinate), dorsally compressed, 7–9 mm long, breaking up at maturity, disarticulating above glumes but not between florets. Floret callus elongated, 3 mm long, pubescent, pungent.

Glumes. Glumes persistent, dissimilar, reaching apex of florets, thinner than fertile lemma, gaping. Lower glume lanceolate, 0.5 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume lanceolate, membranous, without keels, 3 -veined. Upper glume apex acuminate.

Florets. Basal sterile florets 1 or 2 or more, similar, barren, without significant palea, attached to and deciduous with the fertile. Lemma of lower sterile floret similar to fertile lemma, elliptic, 6 mm long, coriaceous, 7–9 -veined, pubescent, lobed, 4 -fid, awned. Awn of lower sterile floret dorsal, 5–6 mm long. Fertile lemma elliptic, 6 mm long, coriaceous, without keel, 7–9 -veined, more than 3-veined. Lemma surface pubescent. Lemma apex lobed, 3 -fid, with outer lobes longer, with ovate lobes, incised 0.4 of lemma length, awned, 1 -awned. Principal lemma awn dorsal, arising 0.3 way up back of lemma, 5–6 mm long overall. Palea 2 -veined. Palea keels ciliolate. Apical sterile florets 1 in number, barren, elliptic, 3 mm long. Apical sterile lemmas pubescent, awned, 1 -awned. Apical sterile lemma awns dorsal, 3–4 mm long.

Flower and Fruit. Anthers 2–3, 0.25 mm long. Caryopsis with free soft pericarp, obovoid. Embryo 0.75 length of caryopsis. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indian Subcontinent**. India, Sri Lanka.

Andhra Pradesh, Karnataka. Tamilnadu.

Porteresia coarctata (Roxb.) Tateoka. *Bull. Nat. Sci. Mus., Tokyo,* viii. 406 (1965).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960) (as *Oryza*).

TYPE from India. **Basionym or Replaced Name**: *Oryza coactata* Roxb., *Fl. Ind.* 2: 206 (1832). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: India: Ganges Delta, 1796, *Dr. Buchanan*.

Illustrations (Books): G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Fig. 288).

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012)
(Pl. 25).

Derivation (Clifford & Bostock 2007): L. *coarcto*, compress; *-ata*, possessing; Panicles spicate-spiciform.

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

Habit, Vegetative Morphology. Perennial. Culms decumbent, 50–90 cm long, rooting from lower nodes. Ligule an eciliate membrane, 2–3 mm long. Leaf-blades 20–40 cm long, 5–8 mm wide, coriaceous. Leaf-blade surface ribbed. Leaf-blade margins cartilaginous, spinulose. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, 10–20 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, tip discoid.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 10–12 mm long, falling entire. Spikelet callus attached transversely.

Glumes. Glumes both absent or obscure.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea. Lemma of lower sterile floret subulate, 3–4 mm long. Fertile lemma oblong, 10–12 mm long, coriaceous, keeled, 9 -veined, more than 3-veined. Lemma apex rostrate, awned, 1 -awned. Principal lemma awn pungent, 3 mm long overall. Palea elliptic, 1 length of lemma, coriaceous, 4 -veined. Palea apex acuminate.

Flower and Fruit. Lodicules 2. Anthers 6. Caryopsis with adherent pericarp, oblong, isodiametric, biconvex. Embryo 0.5 length of caryopsis. Hilum linear, 1 length of caryopsis.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indian Subcontinent**, **Indo-China**. Bangladesh, India, Pakistan. Myanmar. Tamilnadu, West Bengal.

Potamophila parviflora R. Br. *Prod.* 211. (1810).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia, Port Jackson: Brown 5171 (K iso).

Illustrations (Books): S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (357), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (363, Fig 49), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *parvus*, small; *flos*, flower. Spikelets small or with few florets.

Classification. Subfamily Ehrhartoideae. Tribe: Zizaniinae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms 30–150 cm long, 3–7 mm diam. Ligule an eciliate membrane, 5–15 mm long. Leaf-blades 20–50 cm long, 4–6 mm wide. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, 15–45 cm long. Primary panicle branches bearing spikelets almost to the base. Panicle branches capillary, flexuous, pubescent in axils. Spikelets appressed, solitary. Fertile spikelets pedicelled. Pedicels present, filiform, tip cupuliform.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate or oblong, laterally compressed, compressed slightly, 3–5.5 mm long, falling entire.

Glumes. Glumes both absent or obscure.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea. Lemma of lower sterile floret ovate, 0.5–1.5 mm long, 0.1–0.25 length of fertile lemma, membranous, 0 -veined, without midvein, without lateral veins, acute. Fertile florets bisexual (or some unisexual). Fertile lemma oblong, 3–5.5 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma lateral veins prominent. Lemma apex obtuse. Palea elliptic, 1 length of lemma, chartaceous, 3 -veined, without keels.

Flower and Fruit. Lodicules 2, lanceolate, 1 mm long. Anthers 6, 3 mm long. Stigmas 2. Caryopsis with adherent pericarp, obovoid.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. New South Wales.

Coast.

Prosphytochloa prehensilis (Nees) Schweickerdt. *Der Zuchter,* i. 194 (1961).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from South Africa. **Basionym or Replaced Name**: *Maltebrunia prehensilis* Nees, *Fl. Afr. Austral. Ill.* 1: 194 (1841). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *J.F. Drège s.n.*, South Africa: Cape (L).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (33, Fig.3, as *Potamophia*), G.E.Gibbs Russell el al, *Grasses of Southern Africa* (1990) (277, Fig 174).

Derivation (Clifford & Bostock 2007): L. prehendo, seize; *-ilis*, property. The leaf tips are coiled enabling the plant to climb.

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

Habit, Vegetative Morphology. Perennial. Culms scandent, 100–1000 cm long. Leaves heterophyllous with the distal narrower and retrorsely scabrid at the apex. Ligule an eciliate membrane. Leaf-blades lanceolate, 8–15 cm long, 3–12 mm wide, flaccid. Leaf-blade surface glabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 4–14 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, angular, tip cupuliform.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 6–9 mm long, falling entire.

Glumes. Glumes both absent or obscure.

Florets. Fertile lemma elliptic, laterally compressed, 6–9 mm long, chartaceous, keeled, lightly keeled, 5 -veined, 0–3 -veined. Lemma surface scabrous. Lemma margins involute. Lemma apex acute. Palea lanceolate, 1 length of lemma, chartaceous, 3 -veined, 1-keeled. Palea keels scabrous. Palea apex acute.

Flower and Fruit. Lodicules 2. Anthers 6. Stigmas 2.

n = 12 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Limpopo, Mpumalanga, Swaziland, Kwazulu-Natal, Eastern Cape.

Psammagrostis wiseana C.A.Gardner & C.E.Hubb. *Hook. Ic. Pl.* iv. t. 3361 (1938).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia, W Australia, Manberis Station: Gardner 3035 (K holo).

Illustrations (Books): C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952) (112, Pl 32), K.O.Mallett (ed.), *Flora of Australia*, Vol 44B. *Poaceae* (2004) (410, Fig 73), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Illustrations (Journals): *Hooker's Icones Plantarum* (t.3361 (1938)).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Frank Joseph Scott Wise (1897–1986) Australian politician.

Classification. Subfamily Chloridoideae. Tribe: Eragrostideae.

Habit, Vegetative Morphology. Annual. Butt sheaths pubescent. Culms decumbent or prostrate, 4–35 cm long (long). Leaf-sheaths inflated. Ligule a fringe of hairs. Leaf-blades 0.3–3.5 cm long, 1–2 mm wide. Leaf-blade surface ribbed. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes or comprising only a few spikelets, terminal and axillary, deciduous as a whole, subtended by a spatheole, embraced at base by subtending leaf. Spatheole lanceolate, 0.3–1 cm long, herbaceous. Peduncle straight or nodding, widened at apex, disarticulating, disarticulating above uppermost sheath, base blunt. Racemes 1, single, unilateral, 0.5–1 cm long, bearing 1 spikelet or few fertile spikelets, bearing 1–3 fertile spikelets on each. Rhachis flattened. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 3–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–8.5 mm long, falling entire, deciduous with accessory branch structures. Rhachilla internodes clavate, 1–2 mm long.

Glumes. Glumes dissimilar, shorter than spikelet, similar to fertile lemma in texture. Lower glume lanceolate, 2.5 mm long, 0.9–1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2.5–3 mm long, 1.1–1.3 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 2.2–2.3 mm long, membranous, keeled, 3 -veined, 0–3 -veined. Lemma lateral veins ribbed. Lemma apex obtuse, mucronate. Palea bowed outwards, 1 length of lemma, 2 -veined.

Palea keels scaberulous. Palea apex truncate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.5–0.6 mm long. Caryopsis with free soft pericarp, oblong, trigonous, 1 mm long. Embryo 0.33 length of caryopsis. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. Western Australia.

Eremean.

Psammochloa villosa (Trin.) Bor. *Kew Bull.* 191 (1951).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. **Basionym or Replaced Name**: *Arundo villosa* Trin., 3(30): , pl. 352 (1836)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China, Inner Mongolia: Coll?.

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 258).

Derivation (Clifford & Bostock 2007): L. *villi*, long weak hairs; *-osa*, abundance. The plant in whole or in part covered with long hairs.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Butt sheaths coriaceous, persistent and investing base of culm, with fibrous dead sheaths. Culms scandent, 50–150 cm long. Lateral branches lacking. Ligule an eciliate membrane, 3–8 mm long. Leaf-blades convolute, 30–50 cm long, 5–10 mm wide, stiff. Leaf-blade surface ribbed, pubescent, densely hairy, hairy adaxially. Leaf-blade margins ciliate. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 30–60 cm long, 2–4 cm wide. Primary panicle branches bearing spikelets almost to the base. Panicle branches smooth or scabrous, glabrous or pubescent. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, cuneate, 5–10 mm long, scabrous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed or subterete, 10–11 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pilose, obtuse.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma, gaping. Lower glume lanceolate, 10 mm long, 0.9 length of upper glume, membranous, 1-keeled, keeled above, 5–7 -veined. Lower glume surface scabrous. Lower glume apex truncate or obtuse. Upper glume lanceolate, 11 mm long, 1.1 length of adjacent fertile lemma, membranous, with hyaline margins, 1-keeled, keeled above, 5–7 -veined. Upper glume surface scabrous. Upper glume apex truncate or obtuse.

Florets. Fertile lemma elliptic, subterete, 10 mm long, chartaceous, without keel, 9 -veined, more than 3-veined. Lemma surface villous. Lemma margins flat, exposing palea. Lemma hairs white, 2.5 mm long. Lemma apex dentate, 2 -fid, muticous or awned, 1 -awned. Principal lemma awn from a sinus, 0–10 mm long overall, deciduous. Palea elliptic, 1 length of lemma, chartaceous, 5–7 -veined, without keels. Palea surface pilose. Palea apex truncate.

Flower and Fruit. Lodicules 3, oblanceolate, membranous, ciliate, obtuse. Anthers 3, 7.5 mm long, anther tip penicillate. Stigmas 2.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**, **Mongolia**. Inner Mongolia, China North-Central, Qinghai, Xinjiang. Mongolia.

Gansu, Shaanxi. Nei Mongol, or Ningxia.

Psathyrostachys caduca (Boiss.) Melderis. *K. Danske Vid. Selsk., Biol. Skrift.*, xiv. No. 4 : 9 (1965).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Afhganistan. **Basionym or Replaced Name**: *Elymus caducus* Boiss. *Fl. Orient.* 5: 691 (1884)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ILT: *J.E.T.Aitchison 815*, Dec.1879, Afhganistan: Kurrum valley: Karatigah & Seratigah, from 9000 to 11,000 ft. (LE). LT: *Aitchison 815*, in valle Kurrum ad Karatigah et Sertigah, 9–11000' (G-BOISS; IBM, K, LISU, P, S).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. dropping off early. Florets or spikelets shed shortly after anthesis.

Classification. Subfamily Pooideae. Tribe: Triticeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths light brown, glabrous. Culms 23–45 cm long, 3–4 -noded. Culm-internodes distally glabrous or pubescent. Culm-nodes brown, glabrous. Leaf-sheaths pubescent. Ligule an eciliate membrane. Leaf-blades 17–170 cm long, 2–5 mm wide. Leaf-blade surface ribbed, pubescent, densely hairy, hairy on both sides. Leaf-blade margins scabrous.

Inflorescence. Inflorescence composed of racemes. Peduncle pubescent above. Racemes 1, single, linear or oblong, bilateral, 3–7.6 cm long, 7–12 mm wide. Rhachis fragile at the nodes, ciliate on margins. Spikelet packing broadside to rhachis. Rhachis internodes cuneate, 2.7–3.9 mm long, falling with spikelet above. Spikelets in threes. Fertile spikelets sessile, 3 in the cluster, subequal.

Fertile Spikelets. Spikelets comprising 1(–2) fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 15–28 mm long, 1.2–2 mm wide, falling entire, deciduous with accessory branch structures.

Glumes. Glumes collateral, similar, exceeding apex of florets, gaping. Lower glume subulate, 15–28 mm long, 1 length of upper glume. Lower glume surface pilose. Lower glume hairs 0.7–1 mm long. Upper glume subulate, 15–28 mm long. Upper glume surface pilose. Upper glume hairs 0.7–1 mm long.

Florets. Fertile lemma lanceolate, 7.5–19 mm long, coriaceous, without keel, 7 -veined, more than 3-veined. Lemma midvein scabrous. Lemma surface glabrous. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 6–14 mm long overall, limb scabrous. Palea coriaceous. Palea surface pubescent. Rhachilla extension 2–4.4 mm long.

Flower and Fruit. Anthers 5.5–6.8 mm long, purple. Ovary pubescent on apex. Caryopsis with adherent pericarp, 6.5–7.5 mm long. Hilum linear.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Western Asia**. Iran.

Psathyrostachys daghestanica (Alexeenko & Woronow) Nevski. *Komarov, Fl. URSS,* ii. 715 (1934).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. **Basionym or Replaced Name**: *Elymus daghestanicus* Alex., *Trudy Tiflissk. Bot. Sada* 6(1): 97 (1902). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT2 IT: *Th. Alexeenko 57, Fl. Cauc. exs.*, 6(19) Jun 1901, [Caucasus]: Dagestan: Dist. Awarsk: Gimri (Genu): elev. 1500' (LE). Possible type. Orig. label: Dagestania, distr. Awarsk, in rupestribus schistosis supra p. Gimri (Genu), 1500' ca..

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Daghestan, former Soviet Union.

Classification. Subfamily Pooideae. Tribe: Triticeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Rhizomes short. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Culms 30–70 cm long. Culm-internodes smooth, distally glabrous. Leaf-sheath auricles falcate. Ligule an eciliate membrane. Leaf-blades 2.5–6.5 cm long, 1–3 mm wide, grey-green. Leaf-blade surface glabrous.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, linear, bilateral, 5–6.5 cm long, 8–10 mm wide. Rhachis fragile at the nodes, ciliate on margins. Spikelet packing broadside to rhachis. Rhachis internodes cuneate, falling with spikelet above. Spikelets in threes. Fertile spikelets sessile, 3 in the cluster.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 8–17 mm long, falling entire, deciduous with accessory branch structures.

Glumes. Glumes collateral, similar, reaching apex of florets, gaping. Lower glume subulate, 8–16 mm long, 1 length of upper glume. Lower glume surface scabrous, pilose. Upper glume subulate, 8–16 mm long. Upper glume surface scabrous, pilose.

Florets. Fertile lemma lanceolate, 8–17 mm long, coriaceous, without keel, 7 -veined, more than 3-veined. Lemma surface pilose. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 3–8 mm long overall. Palea coriaceous. Palea keels scaberulous.

Flower and Fruit. Ovary pubescent on apex. Caryopsis with adherent pericarp. Hilum linear.

2*n* = 28 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Caucasus**. North Caucasus.

Psathyrostachys fragilis (Boiss.) Nevski. *Komarov, Fl. URSS,* ii. 716 (1934).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Iran. **Basionym or Replaced Name**: *Hordeum fragile* Boiss., *Diagn. Pl. Orient.* 7: 128 (1846). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Kotschy 375*, 14 May 1842, in monte Sabst-Buschom prope Schiras, ca 4500 ft (G-BOISS; IT: BM, CAL, G, GOET, HEL, JE, K, L, LE, M, MO, S, US-865938 (fragm. ex CAEN), US-1127075 (ex W),, W.).

Illustrations (Books): N.L.Bor, *Gramineae* in K.H.Rechinger, *Flora Iranica*. No. 70/30 (1970) (Tab. 34), N.L.Bor, *Gramineae* in *Flora of Iraq* (1968) (259, Pl. 89).

Derivation (Clifford & Bostock 2007): L. weak. Inflorescences readily disarticulating.

Classification. Subfamily Pooideae. Tribe: Triticeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Culms 30–60 cm long. Ligule an eciliate membrane. Leaf-blades convolute, 15–30 cm long, 1–2 mm wide, glaucous.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, bilateral, 7–9 cm long. Rhachis fragile at the nodes. Spikelet packing broadside to rhachis. Rhachis internodes linear, 4–5 mm long, falling with spikelet above. Spikelets ascending, in threes. Fertile spikelets sessile, 3 in the cluster, all alike.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with diminished florets at the apex. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 10–13 mm long, falling entire, deciduous with accessory branch structures.

Glumes. Glumes collateral, similar, exceeding apex of florets, gaping. Lower glume subulate, 35–55 mm long, 1 length of upper glume. Lower glume surface scabrous. Upper glume subulate, 35–55 mm long. Upper glume surface scabrous.

Florets. Fertile lemma lanceolate, 10–13 mm long, coriaceous, without keel, 7 -veined, more than 3-veined. Lemma surface scabrous, rough above. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn curved, spreading, 40–55 mm long overall. Palea coriaceous. Palea keels scabrous. Apical sterile florets 1 in number, barren, linear.

Flower and Fruit. Ovary beaked, pubescent on apex. Caryopsis with adherent pericarp. Hilum linear, 1 length of caryopsis.

2*n* = 14 (6 refs TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Caucasus**, **Western Asia**. Transcaucasus. Iran, Iraq.

Psathyrostachys huashanica Keng ex P. C. Kuo. *Fl. Tsinlingensis,* 1(1): 440 (1976).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Shaanxi: Hua Shan, 600 m, 26 June 1956, *K.T. Fu & P.C. Kuo 10091* (HT: ?).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 549).

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Hua Shan, China.

Classification. Subfamily Pooideae. Tribe: Triticeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes short. Butt sheaths glabrous. Culms 30–40 cm long, 2–4 -noded. Culm-internodes distally glabrous. Ligule an eciliate membrane. Leaf-blades 6–45 cm long, 5–6.5 mm wide. Leaf-blade surface ribbed, scabrous, rough abaxially, puberulous or pilose, hairy adaxially. Leaf-blade margins scabrous.

Inflorescence. Inflorescence composed of racemes. Peduncle pubescent above. Racemes 1, single, bilateral, 4–9 cm long, 10–15 mm wide. Rhachis fragile at the nodes, pubescent on surface, ciliate on margins. Spikelet packing broadside to rhachis. Rhachis internodes cuneate, 2.7–4.2 mm long, falling with spikelet above. Spikelets in threes. Fertile spikelets sessile, 3 in the cluster, the central smaller (9–13mm).

Fertile Spikelets. Spikelets comprising 1–2(–3) fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 11–19 mm long, 1.2–1.3 mm wide, falling entire, deciduous with accessory branch structures.

Glumes. Glumes collateral, similar, exceeding apex of florets, gaping. Lower glume subulate, 11–19 mm long, 1 length of upper glume. Lower glume surface scabrous. Upper glume subulate, 11–19 mm long. Upper glume surface scabrous.

Florets. Fertile lemma lanceolate, 8.2–10 mm long, coriaceous, without keel, 7 -veined, more than 3-veined. Lemma surface smooth or scaberulous, glabrous. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 8.5–14 mm long overall. Palea coriaceous. Rhachilla extension 2.8–3 mm long.

Flower and Fruit. Anthers 4–5 mm long, yellow. Ovary pubescent on apex. Caryopsis with adherent pericarp, 4.5–6 mm long. Hilum linear.

$2n = 14$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China North-Central, China Southeast.

Shaanxi. Henan.

Psathyrostachys juncea (Fisch.) Nevski. *Komarov, Fl. URSS,* ii. 714 (1934).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. **Basionym or Replaced Name**: *Elymus junceus* Fisch., *Mem. Soc. Imp. Naturalistes Moscou* 1: 25, pl. 4 (1811). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: (LE). HT: *Herb. Fischer s.n.*, s.d., Europ. Russia: Volga region (LE). Orig. label: "Ad Wolgam sponte,...". LT: *Redoffsky s.n.*, Ad Wolgam sponte (LE; IHEL).

Illustrations (Books): N.L.Bor, *Gramineae* in K.H.Rechinger, *Flora Iranica*. No. 70/30 (1970) (Tab. 35), K.F.Best, et al, *Prairie Grasses* (1971) (123 as *Elymus junceus*), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (373), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 550 as *Psathyrostachys juncea* var. *juncea*).

Derivation (Clifford & Bostock 2007): L. *juncea*, rush-like. Leaf-blades convolute resembling those of certain *Juncus* species.

Classification. Subfamily Pooideae. Tribe: Triticeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths grey or light brown, glabrous. Culms 20–110 cm long, 2–4 -noded. Culm-internodes distally glabrous. Leaf-sheath oral hairs lacking. Leaf-sheath auricles falcate. Ligule an eciliate membrane, 0.2–0.3 mm long. Leaf-blades flat or involute, 6–30 cm long, 7–18 mm wide, glaucous or grey-green. Leaf-blade surface scabrous, rough abaxially or on both sides, glabrous. Leaf-blade margins scabrous.

Inflorescence. Inflorescence composed of racemes. Peduncle pubescent above. Racemes 1, single, bilateral, 4.5–12.5 cm long, 5–12 mm wide. Rhachis fragile at the nodes, pubescent on surface, ciliate on margins. Spikelet packing broadside to rhachis. Rhachis internodes cuneate, 3.7–6 mm long, falling with spikelet above. Spikelets in threes. Fertile spikelets sessile, 3 in the cluster, subequal.

Fertile Spikelets. Spikelets comprising 1–3 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 6.1–9.4 mm long, 1.4–1.8 mm wide, falling entire, deciduous with accessory branch structures.

Glumes. Glumes collateral, similar, exceeding apex of florets, gaping. Lower glume subulate, 4.5–9.4 mm long, 1 length of upper glume. Lower glume surface scabrous, glabrous to pubescent, hairy generally or below. Lower glume hairs 0.2–0.5 mm long. Upper glume subulate, 4.5–9.4 mm long. Upper glume surface scabrous, glabrous to puberulous, hairy generally or below. Upper glume hairs 0.2–0.5 mm long.

Florets. Fertile lemma lanceolate, 6.1–9.4 mm long, coriaceous, without keel, 7 -veined, more than 3-veined. Lemma surface glabrous to pubescent, hairy below. Lemma hairs 0.1–0.5 mm long. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 2–3 mm long overall. Palea coriaceous. Rhachilla extension 3.2–6.2 mm long.

Flower and Fruit. Anthers 3.8–5.1 mm long. Ovary pubescent on apex. Caryopsis with adherent pericarp, 4.3–5 mm long. Hilum linear.

n = 7 (3 refs TROPICOS). 2n = 14 (10 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia, North America (+), South America.

Region. **Eastern Europe**.

Country /Province /State. Central European Russia, East European Russia, South European Russia. Siberia, **Middle Asia**, **Western Asia**, **China**, **Mongolia**, **Russia**. Altay, Irkutsk, Tuva. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan. Iran. Inner Mongolia, China North-Central, Xinjiang. Mongolia. **Subarctic America**, **Western Canada**, **Northwest USA**, **South-central USA**. Alaska, Yukon. Alberta, British Columbia, Saskatchewan. Colorado, Idaho, Montana, Wyoming. New Mexico, Texas. **Western South America**. Bolivia.

Gansu. Nei Mongol.

Psathyrostachys kronenburgii (Hack.) Nevski. *Komarov, Fl. URSS,* ii. 713 (1934).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. **Basionym or Replaced Name**: *Hordeum kronenburgii* Hack., *Allg. Bot. Z. Syst.* 11: 133 (1905). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *A. Kronenburg 65*, June 1904, Nordostseite des Pereval Taldyk im suedostl. Fergana, 2700 m (B; ILE, W).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 549).

Derivation (Clifford & Bostock 2007): in honor of A. Kronenburg (fl. 1903–1904) plant collector in Central Asia.

Classification. Subfamily Pooideae. Tribe: Triticeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths grey or light brown, glabrous. Culms 50–90 cm long, 3–5 -noded. Culm-internodes distally glabrous. Leaf-sheath oral hairs lacking. Leaf-sheath auricles falcate. Ligule an eciliate membrane, 0.4 mm long. Leaf-blades 20–40 cm long, 4.5–5 mm wide, mid-green or glaucous. Leaf-blade surface scabrous, rough adaxially or on both sides, glabrous. Leaf-blade margins scabrous.

Inflorescence. Inflorescence composed of racemes. Peduncle pubescent above. Racemes 1, single, bilateral, 5–7.5 cm long, 9–12 mm wide. Rhachis fragile at the nodes, pubescent on surface, ciliate on margins. Spikelet packing broadside to rhachis. Rhachis internodes cuneate, 3–6 mm long, falling with spikelet above. Spikelets in threes. Fertile spikelets sessile, 3 in the cluster, subequal.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 7.5–10.5 mm long, 1.5–2.1 mm wide, falling entire, deciduous with accessory branch structures.

Glumes. Glumes collateral, similar, exceeding apex of florets, gaping. Lower glume subulate, 7.5–10.5 mm long, 1 length of upper glume. Lower glume surface pilose. Lower glume hairs 0.8–1.5 mm long. Upper glume subulate, 7.5–10.5 mm long. Upper glume surface pilose. Upper glume hairs 0.8–1.5 mm long.

Florets. Fertile lemma lanceolate, 7.5–9.5 mm long, coriaceous, without keel, 5 -veined, more than 3-veined. Lemma lateral veins prominent. Lemma surface pilose. Lemma hairs 1–1.5 mm long. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 2.2–4.5 mm long overall. Palea coriaceous. Rhachilla extension 3.5–5.5 mm long.

Flower and Fruit. Anthers 3.5–5.5 mm long, purple. Ovary pubescent on apex. Caryopsis with adherent pericarp, 4–4.5 mm long. Hilum linear.

2*n* = 14 (2 refs TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Middle Asia**, **China**, **Russia**. Kazakhstan, Kirgizistan, Turkmenistan. China North-Central, Qinghai, Xinjiang.

Gansu.

Psathyrostachys lanuginosa (Trin.) Nevski. *Komarov, Fl. URSS,* ii. 714 (1934).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. **Basionym or Replaced Name**: *Elymus lanuginosus* Trin., *Fl. Altaic.* 1: 121 (1829). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Russia: Siberia: Altai, legi versus cacumen montinum Arkaul et Dolenkaka, 15 May 1826, *C.A. Meyer s.n.* (LT: LE; IG, GOET, HEL, K, LE, MO, W).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 549).

Classification. Subfamily Pooideae. Tribe: Triticeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths grey or light brown, glabrous. Culms 15–60 cm long, 2–3 -noded. Culm-internodes distally glabrous. Leaf-sheath oral hairs lacking. Leaf-sheath auricles absent or falcate. Ligule an eciliate membrane, 0.2–0.6 mm long. Leaf-blades flat or involute, 4–13 cm long, 3–4 mm wide, glaucous. Leaf-blade surface scabrous, rough adaxially or on both sides, glabrous. Leaf-blade margins scabrous.

Inflorescence. Inflorescence composed of racemes. Peduncle glabrous or pubescent above. Racemes 1, single, oblong, bilateral, 1–3 cm long, 4–9 mm wide. Rhachis fragile at the nodes, ciliate on margins. Spikelet packing broadside to rhachis. Rhachis internodes cuneate, 1.5–3 mm long, falling with spikelet above. Spikelets in pairs (rarely) or in threes. Fertile spikelets sessile, (2–)3 in the cluster, subequal.

Fertile Spikelets. Spikelets comprising 1(–2) fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 5.5–10.5 mm long, 1.1–1.7 mm wide, falling entire, deciduous with accessory branch structures.

Glumes. Glumes collateral, similar, exceeding apex of florets, gaping. Lower glume subulate, 5.5–10.5 mm long, 1 length of upper glume. Lower glume surface villous. Lower glume hairs 0.5–1.3 mm long. Upper glume subulate, 5.5–10.5 mm long. Upper glume surface villous. Upper glume hairs 0.5–1.3 mm long.

Florets. Fertile lemma lanceolate, 5.8–9 mm long, coriaceous, without keel, 7 -veined, more than 3-veined. Lemma surface pilose. Lemma hairs 0.7–1 mm long. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 1.3–2.5(–3.7) mm long overall, limb ciliate. Palea coriaceous. Palea surface pilose. Rhachilla extension 2.7–5.5 mm long.

Flower and Fruit. Anthers 3–4 mm long, yellow. Ovary pubescent on apex. Caryopsis with adherent pericarp, 3.5–3.8 mm long. Hilum linear.

2*n* = 14 (2 refs TROPICOS), or 28 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia, **Middle Asia**, **Western Asia**, **China**, **Russia**. Altay. Kazakhstan, Kirgizistan. Iran. China North-Central, Xinjiang.

Gansu.

Psathyrostachys narmanica Cabi & Doğan. *Austr. J. Crop Sci.* 5 (12): 1505, f. 3 (2011).

TYPE from Turkey. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: A8 Erzurum**:** Narman to Pasinler, Fairy chimneys place, [40?8.050' N, 41?2.608' E], 1608 m, red soil slopes, 22.vi.2008, *E.Cabi* 3498 [holotype GAZI].

Illustrations: None found.

Illustrations (Journals): *Austral. J. Cr. Sci.* (5 (12): 1504 (2011)).

Classification. Subfamily Pooideae. Tribe: Triticeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths light brown, glabrous. Culms 50–70 cm long, 2 -noded. Culm-internodes 20–25 cm long, distally glabrous. Culm-nodes glabrous. Leaf-sheaths 9–12.5 cm long. Ligule an eciliate membrane. Leaf-blades flat or involute, 10–30 cm long, 1–2 mm wide. Leaf-blade venation prominent. Leaf-blade surface scabrous, glabrous.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, linear, bilateral, 6–8.5 cm long, 6–9 mm wide. Rhachis fragile at the nodes, ciliate on margins. Spikelets in pairs or in threes. Fertile spikelets sessile, 2–3 in the cluster.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, dorsally compressed, 15–16.5 mm long, falling entire, deciduous with accessory branch structures.

Glumes. Glumes collateral, similar, exceeding apex of florets, gaping. Lower glume subulate, 15–16.5 mm long, 1 length of upper glume. Lower glume surface pilose. Lower glume hairs 0.8–1 mm long. Upper glume subulate, 15–16.5 mm long. Upper glume surface pilose. Upper glume hairs 0.8–1 mm long.

Florets. Fertile lemma lanceolate, 9.5–11 mm long, coriaceous, without keel, more than 3-veined. Lemma surface pilose. Lemma apex awned, 1 -awned. Principal lemma awn 5–7 mm long overall. Palea 11 mm long.

Flower and Fruit. Anthers 3, 4.5–6 mm long. Ovary pubescent on apex. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Western Asia**. Turkey.

Psathyrostachys rupestris (Alexeenko) Nevski. *Komarov, Fl. URSS,* ii. 715 (1934).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. **Basionym or Replaced Name**: *Hordeum rupestre* Alex., *Trudy Tiflissk. Bot. Sada* 6(1): 96 (1902). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: PT: *Alexeenko s. n.*, 22 May 1901, Caucasus: Dagestan: Dist. Awarsk: Gimri: Mt. Schuhi-meer: elev. 5200' (LE). LT: *Alexeenko 12922, Fl. Cauc.*, 24 May 1901, Caucasus: Dagestan: Dist. Awarsk: Gimri: Mt. Schuhi-meer: elev. 3900' (LE). LT: *Th. Alexeenko s.n.*, 22 May 1901, Dagestan, distr. Avarsk, in decliv meridionali monti (LE-selected by Tzvelev 1983).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *rupes*, rock; *-estre*, place of growth; Growing amongst rocks.

Classification. Subfamily Pooideae. Tribe: Triticeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths grey, glabrous. Culms 20–70 cm long, 3–4 -noded. Culm-internodes distally glabrous. Leaf-sheath oral hairs lacking. Leaf-sheath auricles falcate. Ligule an eciliate membrane, 0.2–0.4 mm long. Leaf-blades flat or involute, 2.5–6.5 cm long, 0.8–2.8 mm wide. Leaf-blade surface smooth or scabrous, rough adaxially, glabrous. Leaf-blade margins scabrous.

Inflorescence. Inflorescence composed of racemes. Peduncle glabrous. Racemes 1, single, linear or oblong, bilateral, 2.5–6.5 cm long, 5–10 mm wide. Rhachis fragile at the nodes, ciliate on margins. Spikelet packing broadside to rhachis. Rhachis internodes cuneate, 2–4 mm long, falling with spikelet above. Spikelets in pairs or in threes. Fertile spikelets sessile, 2–3 in the cluster, the central smaller (8–13mm).

Fertile Spikelets. Spikelets comprising 1–2 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 9–16 mm long, 1.1–1.5 mm wide, falling entire, deciduous with accessory branch structures.

Glumes. Glumes collateral, similar, exceeding apex of florets, gaping. Lower glume subulate, 9–16 mm long, 1 length of upper glume. Lower glume surface scabrous, glabrous or pilose. Lower glume hairs 0.6–1 mm long. Upper glume subulate, 9–16 mm long. Upper glume surface scabrous, glabrous or pilose. Upper glume hairs 0.6–1 mm long.

Florets. Fertile lemma lanceolate, 6.7–11.6 mm long, coriaceous, without keel, 7 -veined, more than 3-veined. Lemma surface glabrous or pilose. Lemma hairs 0.6–1 mm long. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 4.7–8.5 mm long overall, limb smooth or scabrous. Palea coriaceous. Palea keels scaberulous. Palea surface glabrous or pilose. Rhachilla extension 3–5 mm long.

Flower and Fruit. Anthers 3–4 mm long, yellow. Ovary pubescent on apex. Caryopsis with adherent pericarp, 4–6.5 mm long. Hilum linear.

2*n* = 42 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Caucasus**. North Caucasus.

Psathyrostachys scabriphylla Ponert. *Feddes Repert.*, 83(7–8): 507 (1973).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Triticeae.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Western Asia**. Iran.

Psathyrostachys stoloniformis C.Baden. *Nordic J. Bot.,* 9(5): 449 (1990).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Gansu: s-Springs Mountain on S. outskirts of Lanzhou, 3 Aug. 1980, *D.R. Dewey D2562* (HT: C; IT: K, LD, UT).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Triticeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Butt sheaths light brown, glabrous. Culms 40–60 cm long, 2–3 -noded. Culm-internodes distally glabrous. Leaf-sheath oral hairs lacking. Leaf-sheath auricles falcate. Ligule an eciliate membrane, 0.4–0.6 mm long. Leaf-blades involute, 10–17 cm long, 3–5 mm wide. Leaf-blade surface scabrous, rough on both sides, glabrous. Leaf-blade margins scabrous.

Inflorescence. Inflorescence composed of racemes. Peduncle pubescent above. Racemes 1, single, bilateral, 7–9.5 cm long, 8–12 mm wide. Rhachis fragile at the nodes, pubescent on surface, ciliate on margins. Spikelet packing broadside to rhachis. Rhachis internodes cuneate, 2–4.2 mm long, falling with spikelet above. Spikelets in threes. Fertile spikelets sessile, 3 in the cluster, subequal.

Fertile Spikelets. Spikelets comprising 1–2 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 9–14 mm long, 1.1–1.3 mm wide, falling entire, deciduous with accessory branch structures.

Glumes. Glumes collateral, similar, exceeding apex of florets, gaping. Lower glume subulate, 8.8–14 mm long, 1 length of upper glume. Lower glume surface scabrous, pilose, hairy below. Lower glume hairs 0.5–0.8 mm long. Upper glume subulate, 8.8–14 mm long. Upper glume surface scabrous, pilose, hairy below. Upper glume hairs 0.5–0.8 mm long.

Florets. Fertile lemma lanceolate, 9.4–10.2 mm long, coriaceous, without keel, 7 -veined, more than 3-veined. Lemma surface pilose. Lemma hairs 0.2–0.5 mm long. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 3.4–7 mm long overall. Palea coriaceous. Rhachilla extension 3.4–7 mm long.

Flower and Fruit. Anthers 3.5–5 mm long, yellow. Ovary pubescent on apex. Caryopsis with adherent pericarp, 4.4–4.6 mm long. Hilum linear.

2*n* = 14 (6 refs TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China North-Central, Qinghai.

Gansu.

Pseudanthistiria burmanica Hook. f. *Fl. Brit. Ind.* vii. 220 (1896).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from Burma. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Burma, Pegu: Kurz 2755 (K holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Burma, now Myanmar.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Anthistiriinae.

Habit, Vegetative Morphology. Annual, mat forming. Culms rambling, slender, 18–30 cm long, wiry, rooting from lower nodes. Leaf-sheaths narrower than blade at the collar, glabrous on surface. Ligule an eciliate membrane. Leaf-blades lanceolate, 2.5–5 cm long, 2–5 mm wide, flaccid. Leaf-blade venation distinct. Leaf-blade surface glabrous.

Inflorescence. Synflorescence compound, scanty, 2–4 cm long.

Inflorescence composed of racemes, terminal and axillary, subtended by a spatheole, enclosed. Spatheole lanceolate, 1–1.5 cm long, membranous, glabrous. Racemes 1, single, 1 cm long, bearing few fertile spikelets, bearing 2 fertile spikelets on each. Rhachis fragile at the nodes. Rhachis internodes linear. Spikelets in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, linear.

Sterile Spikelets. Companion sterile spikelets well-developed, containing empty lemmas or male, lanceolate, 5–6 mm long, longer than fertile, separately deciduous. Companion sterile spikelet callus oblong, 0.5 mm long, truncate. Companion sterile spikelet glumes cartilaginous, glabrous, eciliate on margins, muticous. Companion sterile spikelet lemmas 2, enclosed by glumes.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets oblong, dorsally compressed, 3–4 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus pilose, base obtuse, attached obliquely.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume oblong, 1 length of spikelet, cartilaginous, without keels. Lower glume surface asperulous. Upper glume oblong, 1-keeled.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret oblong, 1 mm long, hyaline, 0 -veined, without midvein, without lateral veins. Fertile lemma oblong. Lemma apex entire, awned, 1 -awned. Principal lemma awn geniculate, 25–35 mm long overall, with twisted column. Column of lemma awn glabrous. Palea absent or minute.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indo-China**. Myanmar, Thailand.

Pseudanthistiria heteroclita (Roxb.) Hook. f. *Fl. Brit. Ind.* vii. 219 (1896).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from China ex India. **Basionym or Replaced Name**: *Anthistiria heteroclita* Roxb., *Fl. Ind.* 1: 253–254 (1820). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Roxburgh*, India: Bengal: pastures near Calcutta Possible type..

Recent Synonyms: *Pseudanthistiria hispida* Hook.f., *Fl. Brit. Ind.* 7: 219 (1896).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 891), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Fig. 99).

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Pl. 25).

Derivation (Clifford & Bostock 2007): Gk. *heteros*, different; *klitus*, hillside. Species with disjunct distributions.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Anthistiriinae.

Habit, Vegetative Morphology. Annual, mat forming. Culms geniculately ascending or decumbent, 30–80 cm long, wiry, rooting from lower nodes. Lateral branches sparse. Leaf-sheaths as wide as blade at the collar, glabrous on surface. Ligule an eciliate membrane. Leaf-blades 15–30 cm long, 3–5 mm wide, flaccid. Leaf-blade venation distinct. Leaf-blade surface pilose, with tubercle-based hairs. Leaf-blade margins glabrous or ciliate.

Inflorescence. Synflorescence compound, fasciculate, 20–30 cm long.

Inflorescence composed of racemes, terminal and axillary, subtended by a spatheole, enclosed. Spatheole lanceolate, 0.7–1 cm long, membranous, tuberculate, setose. Racemes 1, single, 0.6–0.8 cm long, bearing few fertile spikelets, bearing 2 fertile spikelets on each. Rhachis fragile at the nodes. Rhachis

internodes linear. Spikelets in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, linear.

Sterile Spikelets. Companion sterile spikelets well-developed, containing empty lemmas or male, lanceolate, 4–5 mm long, longer than fertile, separately deciduous. Companion sterile spikelet callus oblong, 0.5 mm long, truncate. Companion sterile spikelet glumes cartilaginous, tuberculate, ciliate on margins, muticous. Companion sterile spikelet lemmas 2, enclosed by glumes.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets oblong, dorsally compressed, 3–4 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus pilose, base obtuse, attached obliquely.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume oblong, 1 length of spikelet, cartilaginous, without keels. Lower glume surface hispidulous. Upper glume oblong, 1-keeled.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret oblong, 1 mm long, hyaline, 0 -veined, without midvein, without lateral veins. Fertile lemma oblong. Lemma apex entire, awned, 1 -awned. Principal lemma awn geniculate, 18–24 mm long overall, with twisted column. Column of lemma awn glabrous. Palea absent or minute.

Flower and Fruit. $2n = 20$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. China Southeast. **Indian Subcontinent**. Bangladesh, India.

Hong Kong. Daman, Gujarat. Maharashtra, West Bengal.

Pseudanthistiria intermedia Birari & D'Cruz. *J. Bombay Nat. Hist. Soc.*, 73(1): 192 (1976).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: India, Satpura: Birari.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. intermediate. Having affinities with but distinct from other species.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Anthistiriinae.

Flower and Fruit. $n = 10$ (1 ref TROPICOS). $2n = 20$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indian Subcontinent**. India.

Maharashtra.

Pseudanthistiria umbellata (Hack.) Hook. f. *Fl. Brit. Ind.* vii. 220 (1896).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from Sri Lanka. **Basionym or Replaced Name**: *Andropogon umbellatus* Hack., in DC. *Monog. Phan.* vi. 401. (1889). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Sri Lanka: Thwaites CP 963 (K iso).

Illustrations (Books): G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Fig. 100).

Derivation (Clifford & Bostock 2007): L. *umbella*, parasol; *-ata*, possessing. Inflorescence branches whorled.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Anthistiriinae.

Habit, Vegetative Morphology. Annual, mat forming. Culms decumbent, 30–60 cm long, wiry, rooting from lower nodes. Ligule a ciliolate membrane. Leaf-blade base broadly rounded. Leaf-blades lanceolate, 1.5–5 cm long, 3–8 mm wide, flaccid. Leaf-blade surface glabrous or pilose, sparsely hairy.

Inflorescence. Synflorescence compound, fasciculate, 5–20 cm long.

Inflorescence composed of racemes, terminal and axillary, subtended by a spatheole, enclosed. Spatheole lanceolate, 1–1.5 cm long, membranous, purple. Peduncle flexuous. Racemes 1, single, 1 cm long, bearing few fertile spikelets, bearing 2 fertile spikelets on each. Rhachis fragile at the nodes. Rhachis internodes linear. Spikelets in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, linear.

Sterile Spikelets. Companion sterile spikelets well-developed, containing empty lemmas or male, lanceolate, 4–6 mm long, longer than fertile, separately deciduous. Companion sterile spikelet callus oblong, 0.5 mm long, truncate. Companion sterile spikelet glumes cartilaginous, muticous. Companion sterile spikelet lemmas 2, enclosed by glumes.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets oblong, dorsally compressed, 3–4 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus pilose, base obtuse, attached obliquely.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume oblong, 1 length of spikelet, cartilaginous, without keels. Upper glume oblong, 1-keeled.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret oblong, 1 mm long, hyaline, 0 -veined, without midvein, without lateral veins. Fertile lemma oblong. Lemma apex entire, awned, 1 -awned. Principal lemma awn geniculate, 10–20 mm long overall, with twisted column. Column of lemma awn glabrous. Palea absent or minute.

Flower and Fruit. n = 10 (1 ref TROPICOS). $2n$ = 20 (1 ref TROPICOS).

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indian Subcontinent**. India, Sri Lanka.

Kerala. Maharashtra, Orissa, Tamilnadu.

Pseudechinolaena camusiana Bosser. *Adansonia,* 15(1): 132 (1975).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar, Ankirihitra: Perrier 11152 (P holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Aimie Antionette Camus (1879–1965), French botanist.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Boivinellinae.

Habit, Vegetative Morphology. Annual, mat forming. Culms prostrate, 20–30 cm long, rooting from lower nodes. Culm-nodes pubescent. Leaf-sheaths pilose. Ligule a ciliolate membrane. Leaf-blade base asymmetrical. Leaf-blades lanceolate or ovate, 1–4 cm long, 5–7 mm wide. Leaf-blade surface glabrous or pilose. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Racemes 4–6, borne along a central axis, unilateral, 1–2.5 cm long. Central inflorescence axis 4–8 cm long. Rhachis angular. Spikelet packing contiguous, irregular. Spikelets in pairs. Fertile spikelets sessile and pedicelled, 2 in the cluster, the lower smaller (often maturing later). Pedicels present, 0.7–1 mm long.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets ovate, laterally compressed, gibbous, 2.5–3 mm long, falling entire.

Glumes. Glumes shorter than spikelet, thinner than fertile lemma. Lower glume elliptic, 1.5–2 mm long, 0.6–0.7 length of spikelet, herbaceous, without keels, 3 -veined. Lower glume surface smooth or asperulous. Lower glume apex acute, mucronate. Upper glume ovate, gibbous, 2–2.5 mm long, 0.8 length of spikelet, herbaceous, 1-keeled, winged on margins or winged on keel or winged on margins, 5 -veined. Upper glume surface glabrous or pubescent, with tubercle-based hairs. Upper glume apex acute.

Florets. Basal sterile florets 1, male or barren, with palea. Lemma of lower sterile floret lanceolate, 1 length of spikelet, chartaceous, much thinner above, much thinner on margins, thinner along midline, 5 -veined, obtuse. Fertile lemma elliptic, laterally compressed, gibbous, 1.5–1.6 mm long, coriaceous, shiny, without keel, 3 -veined, 0–3 -veined. Lemma apex acute. Palea involute, coriaceous, without keels.

Flower and Fruit. Anthers 3, 1.4–1.5 mm long. Caryopsis 1.2–1.3 mm long.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Pseudechinolaena madagascariensis (A. Camus) Bosser. *Adansonia,* 15(1): 127 (1975).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Madagascar. **Basionym or Replaced Name**: *Perulifera madagascariensis* A. Camus, *Bull. Soc. Bot. France* 74: 889 (1928)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar, Tananarive: Waterlot.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ense*, denoting origin. From Madagascar.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Boivinellinae.

Habit, Vegetative Morphology. Annual. Culms decumbent, 10–20 cm long, 5–6 -noded. Culm-nodes pubescent. Ligule a ciliolate membrane, truncate. Leaf-blades linear or lanceolate, 1.5–6.5 cm long, 3–8 mm wide. Leaf-blade surface glabrous or pilose. Leaf-blade margins cartilaginous, scaberulous.

Inflorescence. Inflorescence composed of racemes, embraced at base by subtending leaf. Racemes 5–13, borne along a central axis, unilateral, 0.8–1.3 cm long. Central inflorescence axis 2.5–7 cm long. Rhachis angular, scaberulous on margins. Spikelet packing crowded, irregular. Spikelets in pairs. Fertile spikelets pedicelled, 1 in the cluster. Companion sterile spikelets sessile, 1 in the cluster. Pedicels present, oblong, 0.2–0.4 mm long.

Sterile Spikelets. Companion sterile spikelets rudimentary.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets ovate, laterally compressed, gibbous, 1.7–2 mm long, falling entire.

Glumes. Glumes exceeding apex of florets, thinner than fertile lemma. Lower glume oblong, 1.5 mm long, 0.75 length of spikelet, herbaceous, without keels, 3 -veined. Lower glume surface asperulous. Lower glume apex acute, awned, 1 -awned, awn 3–4 mm long. Upper glume ovate, gibbous, 1.7–2 mm long, 1 length of spikelet, herbaceous, without keels, 5 -veined. Upper glume surface tuberculate, setose, with hooked hairs. Upper glume apex caudate.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret ovate, gibbous, 1.5–1.6 mm long, 0.9 length of spikelet, chartaceous, much thinner on margins, fenestrate (at the base), 3 -veined, pubescent, hairy above, obtuse. Fertile lemma ovate, laterally compressed, gibbous, 1.2–1.3 mm long, coriaceous, shiny, without keel, 3–5 -veined, 0–3 -veined or more than 3-veined. Lemma margins convolute. Lemma apex obtuse. Palea coriaceous, without keels.

Flower and Fruit. Anthers 3, 1.2 mm long. Caryopsis with adherent pericarp, lanceolate, 1 mm long.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Pseudechinolaena moratii Bosser. *Adansonia,* 15(1): 133 (1975).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar, Soalala: *Morat 720* (P holo, K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): In honor of Phillipe Morat (1937-) French botanist.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Boivinellinae.

Habit, Vegetative Morphology. Annual, mat forming. Culms prostrate, 15–25 cm long, rooting from lower nodes. Culm-nodes pubescent. Leaf-sheaths pilose. Ligule an eciliate membrane, 0.5–1 mm long. Leaf-blade base asymmetrical. Leaf-blades elliptic, 1–2.5 cm long, 4–10 mm wide. Leaf-blade surface glabrous or pilose. Leaf-blade margins scaberulous. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Racemes 6–8, borne along a central axis, ascending, unilateral, 1.2–2 cm long. Central inflorescence axis 3–6 cm long. Rhachis angular. Spikelet packing contiguous, irregular. Spikelets in pairs. Fertile spikelets sessile and pedicelled, 2 in the cluster, the lower smaller (often maturing later). Pedicels present, 0.5–1 mm long.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets ovate, laterally compressed, gibbous, 2 mm long, falling entire.

Glumes. Glumes shorter than spikelet, thinner than fertile lemma. Lower glume elliptic, 1.5 mm long, 0.75 length of spikelet, herbaceous, without keels, 3 -veined. Lower glume apex acute, mucronate. Upper glume ovate, gibbous, 1.5–1.6 mm long, 0.8 length of spikelet, herbaceous, 1-keeled, 5 -veined. Upper glume primary vein with pectinate knobs. Upper glume surface setose, with hooked hairs. Upper glume apex acute.

Florets. Basal sterile florets 1, male or barren, with palea. Lemma of lower sterile floret ovate, 1 length of spikelet, coriaceous, much thinner above, much thinner on margins, thinner along midline, 3 -veined, obtuse. Fertile lemma elliptic, laterally compressed, gibbous, 1–1.1 mm long, coriaceous, shiny, without keel. Lemma apex acute. Palea involute, coriaceous, without keels.

Flower and Fruit. Anthers 3, 0.9–1 mm long. Caryopsis ovoid, 0.7–0.8 mm long.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Pseudechinolaena perrieri A.Camus. *Bull. Soc. Bot. France,* xcvi. 51 (1949).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar, Ankirihitra: *Perrier 11152*; Madagascar, Ankarafantsika: *Perrier 11219* ; Madagascar, Ankarafantsika: *Perrier 11224*.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Joseph Marie Henri Alfred Perrier de la Bbthie (1872–1958) French botanist.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Boivinellinae.

Habit, Vegetative Morphology. Annual, mat forming. Culms prostrate, 15–30 cm long, rooting from lower nodes. Ligule an eciliate membrane or a ciliolate membrane, 0.5–1 mm long. Leaf-blade base broadly rounded. Leaf-blades oblong, 0.8–3 cm long, 4–8 mm wide. Leaf-blade surface glabrous or pilose. Leaf-blade margins scaberulous. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Racemes 5–8, borne along a central axis, spreading, unilateral, 0.5–2.5 cm long. Central inflorescence axis 4–12 cm long. Rhachis angular. Spikelet packing contiguous, irregular. Spikelets in pairs. Fertile spikelets sessile and pedicelled, 2 in the cluster, the lower smaller (often maturing later). Pedicels present, 0.5–1 mm long.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets ovate, laterally compressed, gibbous, 2.2–2.5 mm long, falling entire.

Glumes. Glumes reaching apex of florets, thinner than fertile lemma. Lower glume oblong, 1.5–2.2 mm long, 0.7–0.9 length of spikelet, herbaceous, without keels, 3 -veined. Lower glume surface glabrous. Lower glume apex acute. Upper glume ovate, gibbous, 1.5–2.2 mm long, 0.7–0.9 length of spikelet, herbaceous, without keels, 5 -veined. Upper glume surface setose, hairy below, with hooked hairs. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret ovate, 1 length of spikelet, coriaceous, much thinner above, much thinner on margins, fenestrate (at the base), 3 -veined, obtuse. Fertile lemma ovate, laterally compressed, gibbous, 1.5 mm long, coriaceous, shiny, without keel. Lemma apex acute. Palea involute, coriaceous, without keels.

Flower and Fruit. Anthers 3, 1 mm long. Caryopsis 1 mm long.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Pseudechinolaena polystachya (H. B. & K.) Stapf. *Prain, Fl. Trop. Afr.* ix. 495 (1919).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from Colombia. **Basionym or Replaced Name**: *Echinolaena polystachya* Kunth, *Nov. Gen. Sp. (quarto ed.)* 1: 119 (1815) [1816]. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Humboldt & Bonpland s.n.*, May, Colombia: in ripa fluminis Magdalenae inter Tenrife et Zambrano (P; IT: B-W, US-2907501 (fragm. ex B, P)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, Aristidoideae a Pharoideae (2012) (4444), H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (245, Fig. 173), W. Robyns (1929 and 1934). Flora Agrostologique du Congo Belge et du Ruanda-Urundi, I. Maydees et Andropgonees and II. Panicees. Bruxelles, Goemaere (74, Pl. 24), R.M.Polhill, F.T.E.A., *Gramineae* (3(1982):548, Fig.131), G.V.Pope et al., *Flora Zambesiaca* 10, L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (365, Fig. 314), G.E.Gibbs Russell el al, *Grasses of Southern Africa* (1990) (278, Fig. 175), J.Bosser, *Graminees des Paturage et des Cultures a Madagascar (*1969) (343, Fig 128), S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (193, Fig. 80), K.M.Matthew, Illustrations on the *Flora of Tamilnadu Carnatic* (1982) (Pl. 920 & 921), H.J.Noltie, *The Grasses of Bhutan* (2000) (683, Fig. 37), E.E.Henty, *A Manual of the Grasses of New Guinea* (1969) (157, Pl. 60), S.A.Renvoize, *Gramineas de Bolivia* (1998) (379, Fig. 80), S.A.Renvoize, *The Grasses of Bahia*, 1984 (247, Fig. 92), E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (431, Fig. 150), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (898, Fig. 182 & 904, Fig. 183), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina*), Pt II, Gramineas (1969) (331, Fig. 136), W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (498, Fig. 188), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (494, Fig. 127), B.Rosengurtt, *Gramineas UruguayasI* (1970) (386, Fig. 171), G.Harling & C.Persson, *Flora of Ecuador* (2006) (78: 9, Fig. 1 (2006)), E.Judziewicz, *Flora of the Guianas*, 187. *Poaceae* (1990) (356, Fig. 66), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 705).

Illustrations (Journals): *Hooker's Icones Plantarum* (t.3094 (1922)), *Ruizia* (13:298, Fig 36c-d (1993)).

Images: H.B.Gilliland et al., *Flora of Malaya Vol. 3 Grasses* (1971);.

Derivation (Clifford & Bostock 2007): G. *polys*, many; *stachys*, ear of corn. Plants with many branched culms or inflorescences.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Boivinellinae.

Habit, Vegetative Morphology. Annual, mat forming. Culms prostrate, 10–30 cm long, with aerial roots from the nodes. Ligule an eciliate membrane, truncate. Leaf-blades lanceolate, 1–8 cm long, 3–14 mm wide. Leaf-blade venation without cross veins or with obscure cross veins.

Inflorescence. Inflorescence composed of racemes. Racemes 2–8, borne along a central axis, unilateral, 0.5–6 cm long. Central inflorescence axis 2–20 cm long. Rhachis subterete. Spikelet packing distant, irregular. Spikelets solitary or in pairs. Fertile spikelets pedicelled or sessile and pedicelled, the lower smaller (often much reduced). Pedicels present.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets ovate, laterally compressed, gibbous, 3.5–5.7 mm long, falling entire.

Glumes. Glumes reaching apex of florets, thinner than fertile lemma. Lower glume lanceolate to elliptic, 1 length of spikelet, herbaceous, without keels, 3 -veined. Lower glume apex acute or acuminate. Upper glume ovate, gibbous, herbaceous, without keels, 7 -veined. Upper glume surface glabrous or setose, with hooked hairs. Upper glume apex acute or acuminate.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret oblong, 1 length of spikelet, chartaceous, much thinner above, much thinner on margins, fenestrate (at the base), truncate. Fertile lemma oblong, laterally compressed, gibbous, 2 mm long, coriaceous, shiny, without keel, 5 -veined, more than 3-veined. Lemma margins convolute. Lemma apex emarginate. Palea involute, coriaceous, without keels.

Flower and Fruit. n = 18 (1 ref TROPICOS). 2n = 36 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa, Temperate Asia, Tropical Asia, North America, South America.

Country /Province /State. **West Tropical Africa**, **West-Central Tropical Africa**, **Northeast Tropical Africa**, **East Tropical Africa**, **South Tropical Africa**, **Southern Africa**, **Western Indian Ocean**. Ghana, Guinea, Ivory Coast, Liberia, Nigeria, Sierre Leone. Burundi, Central African Republic, Cameroon, Gabon, Annobon, Principe & Sao Tome, Bioko, Rwanda, DRC. Ethiopia (inc. Eritrea), Sudan. Kenya, Tanzania, Uganda. Angola, Malawi, Mozambique, Zambia, Zimbabwe. Limpopo, Kwazulu-Natal, Eastern Cape. Madagascar. **China**. China South Central, Hainan, China Southeast, Tibet. **Indian Subcontinent**, **Indo-China**, **Malesia**, **Papuasia**. Eastern Himalaya, Sri Lanka. Thailand, Vietnam. Java, Lesser Sunda Is, Moluccas, Sumatra. New Guinea West Papua (Irian Jaya). New Guinea. **Mexico**. Central Mexico, Gulf (Mexico), Southwest Mexico, Southeast Mexico. **Mesoamerica**, **Northern South America**, **Western South America**, **Brazil**, **Southern South America**. Costa Rica, Guatemala, Honduras, Nicaragua, Panama. Guyana, Venezuela. Bolivia, Colombia, Ecuador, Peru. Brazil West Central, Brazil Northeast, Brazil Southeast, Brazil North, Brazil South. Argentina Northeast, Argentina Northwest, Paraguay, Uruguay.

Fujian, Guangdong, Guangxi. Yunnan. Darjeeling, Bhutan, Sikkim. Assam, Manipur, Nagaland. Kerala, Karnataka. Tamilnadu, West Bengal. Distrito Federal, Mato Grosso, Goiás, Mato Grosso do Sul. Bahia. Tocantins. Minas Gerais, Rio de Janeiro, Sao Paulo. Paraná, Santa Catarina. Jujuy, Salta, Tucuman. Buenos Aires, Corrientes, Misiones, Santa Fe. Puebla. Veracruz. Guerrero, Oaxaca. Chiapas, Tabasco.

Pseudechinolaena tenuis Bosser. *Adansonia,* 15(1): 128 (1975).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar, Marovoay: Perrier 11219 (P holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. thin. Culms, leaf-blades or pedicels, slender.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Boivinellinae.

Habit, Vegetative Morphology. Annual, mat forming. Culms prostrate, 20–35 cm long, rooting from lower nodes. Leaf-sheaths pilose. Ligule an eciliate membrane, 0.5–0.7 mm long. Leaf-blade base asymmetrical. Leaf-blades elliptic, 0.6–1.5 cm long, 3–6 mm wide. Leaf-blade surface pilose, hairy on both sides. Leaf-blade margins scaberulous. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Racemes 4–8, borne along a central axis, unilateral, 3–5 cm long, with branchlets at base of longer racemes. Central inflorescence axis 8–12 cm long. Rhachis angular. Spikelet packing distant, irregular. Spikelets in pairs. Fertile spikelets sessile and pedicelled, 2 in the cluster, the lower smaller (often maturing later). Pedicels present, 1 mm long.

Sterile Spikelets. Basal sterile spikelets absent or rudimentary.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets ovate, laterally compressed, gibbous, 2–2.2 mm long, falling entire.

Glumes. Glumes shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 1.8 mm long, 0.8–0.9 length of spikelet, herbaceous, without keels, 3 -veined. Lower glume surface glabrous. Lower glume apex obtuse. Upper glume ovate, gibbous, 2 mm long, 1 length of spikelet, herbaceous, 1-keeled, winged on keel or winged on margins, 5 -veined. Upper glume surface pubescent, with tubercle-based hairs. Upper glume apex obtuse or acute.

Florets. Basal sterile florets 1, male or barren, with palea. Lemma of lower sterile floret ovate, 1 length of spikelet, chartaceous, much thinner above, much thinner on margins, thinner along midline, 3 -veined, obtuse. Fertile lemma elliptic, laterally compressed, gibbous, 1.5 mm long, coriaceous, shiny, without keel. Lemma apex acute. Palea involute, coriaceous, without keels.

Flower and Fruit. Anthers 3, 0.7–0.9 mm long. Caryopsis 1 mm long.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Pseudobromus africanus (Hack.) Stapf. *Flora Capensis* 7: 763–764 (1900).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from South Africa. **Basionym or Replaced Name**: *Brachyelytrum africanum* Hack., *Bull. Herb. Boissier* 3(8): 382 (1895)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Rehmann 5732*, South Africa: Transvaal: Houtbosh (W; GRA, K).

Recent Synonyms: *Pseudobromus silvaticus* K. Schum., *Engl. Pflanzenw. Ost-Afr.* C 108 (July) (1895). *Festuca africana* (Hack.) Clayton, *Kew Bulletin* 40(4): 727–728 (1985).

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (171, Fig. 94 as *Pseudobromus silvaticus*), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (61, Fig. 34 as *Pseudobromus africanus*).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating location. From Africa.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short, knotty. Culms 60–200 cm long. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane. Leaf-blades 20–40 cm long, 6–14 mm wide, flaccid. Leaf-blade venation with obscure cross veins.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 25–50 cm long. Primary panicle branches spreading. Panicle branches flexuous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform.

Fertile Spikelets. Spikelets comprising (1–)2 fertile florets, with a barren rhachilla extension or with diminished florets at the apex. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, subterete, 7–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent, obtuse.

Glumes. Glumes persistent, similar, shorter than spikelet, similar to fertile lemma in texture. Lower glume lanceolate or oblong, 2–5.5 mm long, 0.7–0.9 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute or acuminate. Upper glume lanceolate or oblong, 3–6 mm long, 0.5–0.7 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute or acuminate.

Florets. Fertile lemma lanceolate, 6–9 mm long, membranous, without keel, 3(–5) -veined, 0–3 -veined or more than 3-veined. Lemma lateral veins with distinct primaries but obscure intermediates. Lemma apex entire or dentate, 2 -fid, awned, 1 -awned. Principal lemma awn subapical, flexuous, 12–20 mm long overall. Palea 1 length of lemma. Palea keels scaberulous. Rhachilla extension 0.5 length of fertile floret. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3. Ovary pubescent on apex. Caryopsis with adherent pericarp, hairy at apex. Embryo 0.15–0.2 length of caryopsis. Hilum linear, 1 length of caryopsis.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **West-Central Tropical Africa**, **Northeast Tropical Africa**, **East Tropical Africa**, **South Tropical Africa**, **Southern Africa**. Rwanda. Sudan. Kenya, Tanzania, Uganda. Malawi, Mozambique, Zambia. Limpopo, Mpumalanga, Kwazulu-Natal, Western Cape, Eastern Cape.

Pseudobromus ambilobensis A. Camus. *Bull. Soc. Bot. France*, 102: 120 (1955).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar, Marivorahona: *Humbert & Capuron 25809*.

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Culms erect, 70–80 cm long. Culm-internodes striate, smooth, distally glabrous. Lateral branches ample. Leaf-sheaths striately veined, smooth. Ligule an eciliate membrane. Leaf-blades 20–22 cm long, 8 mm wide, light green. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open. Primary panicle branches spreading, 5–6 cm long. Panicle branches flexuous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 1–3 mm long.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 14–17 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1.5–2 mm long, pilose.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3.4–4 mm long, 0.5 length of upper glume, chartaceous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume lanceolate, 7–8 mm long, 0.75 length of adjacent fertile lemma, chartaceous, without keels, 3 -veined. Upper glume apex acuminate, muticous.

Florets. Fertile lemma lanceolate, 8–10 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface asperulous, rough above. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn subapical, 6–8 mm long overall. Apical sterile florets resembling fertile though underdeveloped.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Pseudobromus breviligulatus A.Camus. *Notul. Syst. (Paris)*: 12: 149 (1946).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar, Tsaratanana: Perrier 16150 (P syn).

Recent Synonyms: *Pseudobromus biflorus* A.Camus, *Bull. Soc. Bot. France*, 77: 512 (1931).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *brevis*, short; *ligula*, little tongue; *-ata*, possessing. Ligule short.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 60–80 cm long. Culm-internodes smooth, distally glabrous. Leaf-sheaths striately veined, glabrous on surface. Ligule an eciliate membrane, 1 mm long, lacerate, truncate. Leaf-blades 25–35 cm long, 8–10 mm wide. Leaf-blade surface scaberulous, glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, effuse, 30–32 cm long. Primary panicle branches ascending, 5–8 cm long. Panicle branches glabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with diminished florets at the apex. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, subterete, 18–24 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet, similar to fertile lemma in texture. Lower glume lanceolate, 4–4.2 mm long, 0.7–0.8 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 5.5 mm long, 0.75 length of adjacent fertile lemma, membranous, without keels, 5 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 7–8 mm long, membranous, without keel, 3 -veined, 0–3 -veined. Lemma surface asperulous. Lemma apex dentate, 2 -fid, awned, 1 -awned. Principal lemma awn subapical, 10–15 mm long overall. Palea 9 mm long. Rhachilla extension 3 mm long, glabrous. Apical sterile florets 1 in number, barren, lanceolate, 3 mm long. Apical sterile lemmas awned, 1 -awned. Apical sterile lemma awns 7–8 mm long.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp, oblong, 5 mm long. Hilum linear.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Pseudobromus engleri (Pilger) Clayton. *Kew Bull.* 23: 293 (1969).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Tanzania. **Basionym or Replaced Name**: *Festuca engleri*, *Bot. Jahrb. Syst.* 40: 85 (1907). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Tanganyika: West-Usambara: Magamba oberhalb Kwai, Hohenwald. 200–2600 M. n. M,.

Illustrations (Books): R.M.Polhill, F.T.E.A., *Gramineae* (1(1970):55, Fig.20as *Pseudobromus engleri*), G.V.Pope et al., *Flora Zambesiaca* 10 (1(1971):53, t. 14 as *Pseudobromus engleri*).

Derivation (Clifford & Bostock 2007): in honor of Heinrich Gustav Adolph Engler (1844–1930) German botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short, knotty. Culms 130–200 cm long. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane. Leaf-blades 30–45 cm long, 7–20 mm wide, flaccid. Leaf-blade venation with obscure cross veins.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 30–40 cm long. Primary panicle branches spreading. Panicle branches flexuous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, subterete, 9–13 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas. Floret callus pubescent, obtuse.

Glumes. Glumes persistent, similar, shorter than spikelet, similar to fertile lemma in texture. Lower glume lanceolate, 4–6 mm long, 0.7–0.9 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume lanceolate, 6–8 mm long, 0.8 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma lanceolate, 7–9 mm long, membranous, without keel, 3–5 -veined, 0–3 -veined or more than 3-veined. Lemma lateral veins with distinct primaries but obscure intermediates. Lemma apex entire or dentate, 2 -fid, awned, 1 -awned. Principal lemma awn subapical, flexuous, 7–10 mm long overall. Palea 1 length of lemma. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3. Ovary pubescent on apex. Caryopsis with adherent pericarp, hairy at apex. Embryo 0.15–0.2 length of caryopsis. Hilum linear, 1 length of caryopsis.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **West-Central Tropical Africa**, **East Tropical Africa**, **South Tropical Africa**. Rwanda. Kenya, Tanzania. Zimbabwe.

Pseudobromus humbertianus A.Camus. *Not. Syst.,* ed. Humbert, 12: 150 (1946).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar, Mt. Itrafanaomby: Humbert 13459 (K iso).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana,* indicating connection. In honor of Jean Henri Humbert (1887–1967) French botanist who collected in Madagascar.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 60–90 cm long, 5–6 -noded. Lateral branches lacking. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, truncate. Leaf-blades conduplicate or involute, 10–20 cm long, 1.8 mm wide. Leaf-blade surface glabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 15–22 cm long, bearing few spikelets. Primary panicle branches 2–3 -nate, 2–7 cm long. Panicle axis scaberulous. Panicle branches straight or flexuous, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 5–8 mm long.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 12–15 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 2.5–3 mm long, scaberulous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 5 mm long, 0.75 length of upper glume, chartaceous, without keels, 1 -veined. Lower glume lateral veins absent. Lower

glume apex acuminate. Upper glume lanceolate, 7 mm long, 0.7–0.8 length of adjacent fertile lemma, chartaceous, with hyaline margins, without keels, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma lanceolate, 7–11 mm long, herbaceous, without keel, 3 -veined, 0–3 -veined. Lemma lateral veins obscure. Lemma surface puberulous, hairy above. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 6 mm long overall. Palea 2 -veined. Palea keels scabrous.

Flower and Fruit. Anthers 3, 2.8 mm long. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Pseudobromus tenuifolius A. Camus. *Bull. Soc. Bot. France*, 77: 513 (1930).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar, Ambatalaona: Viguier & Humbert 1197 (P holo).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 50–60 cm long. Culm-internodes striate, smooth, distally glabrous. Culm-nodes brown. Lateral branches lacking. Leaf-sheaths striately veined, glabrous on surface. Ligule an eciliate membrane, truncate. Leaf-blades involute, 15–22 cm long, 1 mm wide. Leaf-blade surface scaberulous, rough adaxially, glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate or ovate, 18–20 cm long, bearing few spikelets. Panicle branches flexuous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 3–12 mm long, glabrous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 20–22 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 2.5 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet, similar to fertile lemma in texture. Lower glume lanceolate, 5–6 mm long, 0.7–0.8 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume lanceolate, 7–8 mm long, 0.4 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acuminate, awned, 1 -awned, awn 1.5 mm long.

Florets. Fertile lemma lanceolate, 10–12 mm long, membranous, without keel, 3–5 -veined, 0–3 -veined or more than 3-veined. Lemma apex awned, 1 -awned. Principal lemma awn 8–10 mm long overall. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 2.5 mm long, yellow. Ovary pubescent on apex. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Pseudodanthonia himalaica (Hook. f.) Bor & C.E.Hubb. *Kew Bull.* 1958:427 (1958).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. **Basionym or Replaced Name**: *Danthonia himalaica* Hook. f., *Fl. Brit. India* 7(22): 281 (1897) [1896]. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: TYPE COLLECTION: *J.F. Duthie 14467*, 19 Apr 1894, India: (US-00878184). CS.

Illustrations (Books): N.L.Bor, *The grasses of Burma, Ceylon, India and Pakistan* (1960).

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From the Himalayas.

Classification. Subfamily Pooideae. Tribe: Phaenospermateae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 30–45 cm long. Leaf-sheath auricles erect. Ligule an eciliate membrane, 7 mm long, acute. Leaf-blades involute, 15–30 cm long, 1.5–2 mm wide, coriaceous. Leaf-blade surface scaberulous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle or composed of racemes, comprising 1–10 fertile spikelets. Panicle contracted, lanceolate, 2–9 cm long, bearing few spikelets. Primary panicle branches simple.

Panicle branches angular. Racemes 1, single (reduced from a panicle). Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, ciliate.

Fertile Spikelets. Spikelets comprising 4–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 12–25 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes obscured by lemmas. Floret callus bearded, obtuse.

Glumes. Glumes persistent, similar, exceeding apex of florets or reaching apex of florets, thinner than fertile lemma, gaping. Lower glume lanceolate, 15–20 mm long, 0.8 length of upper glume, chartaceous, yellow or dark brown, 1-keeled, 5–7 -veined. Lower glume primary vein scabrous. Lower glume apex attenuate. Upper glume lanceolate, 20–25 mm long, 2 length of adjacent fertile lemma, chartaceous, with hyaline margins, yellow or dark brown, 1-keeled, 7–9 -veined. Upper glume primary vein scabrous. Upper glume apex setaceously acuminate.

Florets. Fertile lemma lanceolate, 10–14 mm long, coriaceous, without keel, 7–9 -veined, more than 3-veined. Lemma surface pilose, hairy below. Lemma apex lobed, 2 -fid, with linear lobes, incised 0.3 of lemma length, awned, 1 -awned. Principal lemma awn from a sinus, geniculate, 20 mm long overall, with twisted column. Palea 0.6 length of lemma, 2 -veined. Palea keels winged, narrowly winged. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, ovate, membranous. Anthers 3. Stigmas 3. Styles free to the base. Ovary pubescent all over.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indian Subcontinent**. West Himalaya.

Uttah Pradesh. Himachal Pradesh, Jammu Kashmir, Uttaranchal.

Pseudodichanthium serrafalcoides (Cooke & Stapf) Bor. *Indian Forester,* lxvi. 272 (1940).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. **Basionym or Replaced Name**: *Andropogon serrafalcoides* Cooke & Stapf, *Bull. Misc. Inform. Kew* 1908: 450 (1908). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: India orientalis Western Ghat, Sakarpattar, near Lanauli, *Woodrow s.n.*.

Illustrations (Books): S.W.L.Jacobs & J.Everett (2000) (377, Fig. 7), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Fig. 101).

Illustrations (Journals): *Hooker's Icones Plantarum* (t.3598 (1962)).

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Pl. 25).

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resembling. Racemes resembling the spikelets of *Serrafalcus*.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Andropogoninae.

Habit, Vegetative Morphology. Annual. Culms 30–90 cm long, rooting from lower nodes. Ligule a ciliolate membrane, 1 mm long. Leaf-blades 5–15 cm long, 4–6 mm wide. Leaf-blade surface scabrous. Leaf-blade margins scabrous.

Inflorescence. Inflorescence composed of racemes. Peduncle flexuous. Racemes 1, single, oblong, arcuate, unilateral, 1.5–4 cm long. Rhachis fragile at the nodes, angular, ciliate on margins. Rhachis internodes cuneate. Rhachis internode tip oblique, cupuliform. Spikelets in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, cuneate, flattened, 2 mm long, ciliate, tip cupuliform, toothed.

Sterile Spikelets. Basal sterile spikelets well-developed, 4–6 in number, barren, elliptic, 8–9 mm long, larger than fertile. Basal sterile spikelet glumes chartaceous (winged).

Companion sterile spikelets well-developed, containing empty lemmas, elliptic, asymmetrical, dorsally compressed, 10 mm long, longer than fertile, deciduous with the fertile. Companion sterile spikelet glumes chartaceous, winged on margins, distinctly veined, acute. Companion sterile spikelet lemmas 1, enclosed by glumes.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the

lower floret male or barren, the upper fertile. Spikelets elliptic, dorsally compressed, 6.5–7 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus base obtuse, inserted.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume elliptic, asymmetrical, 6.5–7 mm long, 1 length of spikelet, chartaceous, without keels, winged on margins, winged broadly, winged all along. Lower glume apex emarginate. Upper glume elliptic, 6 mm long, chartaceous, without keels, 3 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret elliptic, 3.5 mm long, hyaline, 0 -veined, without midvein, without lateral veins. Fertile lemma linear, hyaline, without keel, 1 -veined, 0–3 -veined, one-veined. Lemma apex awned, 1 -awned. Principal lemma awn apical, geniculate, 35 mm long overall, with twisted column. Column of lemma awn 15 mm long, glabrous. Palea absent or minute.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **Arabian Peninsula**. Oman. **Indian Subcontinent**. India.

Maharashtra.

Pseudolasciasis bathiei (A.Camus) A.Camus. *Bull. Mens. Soc. Linn. Lyon* 14: 72 (1945).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Madagascar. **Basionym or Replaced Name**: *Panicum bathiei* A.Camus, *Bull. Soc. Bot. France*, 73: 977 (1927). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Madagascar: bois Firingalava; Bemarivo., *Perrier 501, 11281* (ST: not designated) LT by Bosser & Florens (1999), Perrier 11281: LT: P; ILT: P.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): In honor of Joseph Marie Henri Alfred Perrier de la Bathie (1873–1958) French botanist.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Panicinae.

Habit, Vegetative Morphology. Perennial. Culms rambling, 300–400 cm long, woody (below) or firm (above). Culm-internodes distally glabrous. Lateral branches ample. Leaf-sheaths striately veined, glabrous on surface, outer margin hairy. Ligule a ciliate membrane. Leaf-blade base broadly rounded. Leaf-blades lanceolate, 12–14 cm long, 8–10 mm wide, stiff. Leaf-blade surface glabrous or pilose, hairy abaxially. Leaf-blade margins scaberulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, effuse, 10–15 cm long. Primary panicle branches ascending. Panicle branches glabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 10–30 mm long.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets orbicular, dorsally compressed, 2.9–3 mm long, falling entire.

Glumes. Glumes similar, reaching apex of florets, thinner than fertile lemma. Lower glume lanceolate, 2.5 mm long, 0.8–0.9 length of spikelet, membranous, without keels, 7 -veined. Lower glume surface pilose. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 11 -veined. Upper glume surface hirsute. Upper glume apex obtuse.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 11 -veined, pubescent, obtuse. Palea of lower sterile floret 2–7 mm long. Fertile lemma ovate, dorsally compressed, 2 mm long, indurate, light brown, shiny, without keel. Lemma surface glabrous. Lemma margins involute. Lemma apex acuminate. Palea involute, indurate.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Pseudolasciasis leptolomoides (A.Camus) A.Camus. *Bull. Mens. Soc. Linn. Lyon* 14: 72 (1945).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Comores. **Basionym or Replaced Name**: *Panicum leptolomoides* A.Camus, *Bull. Mus. Hist. Nat. Paris,* . 514. (1924). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Comores (Boivin).", *Boivin s.n.* (HT: P).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk *-oides*, resembling. Resembling *Leptoloma* with respect to inflorescence.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Panicinae.

Habit, Vegetative Morphology. Perennial. Culms erect, 50–70 cm long, 3–4 mm diam. Culm-internodes distally glabrous. Lateral branches ample. Leaf-sheaths striately veined, glabrous on surface, outer margin hairy. Ligule a ciliate membrane. Leaf-blades lanceolate, 15–16 cm long, 9–14 mm wide. Leaf-blade margins scaberulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, effuse, 15–22 cm long, 15–22 cm wide. Primary panicle branches 8–11 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 30–50 mm long, tip widened.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets elliptic, dorsally compressed, 4.5–4.8 mm long, falling entire.

Glumes. Glumes similar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 4.4–4.7 mm long, 0.9 length of spikelet, membranous, without keels, 5–7 -veined. Lower glume surface glabrous. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5–9 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 7–9 -veined, acute. Palea of lower sterile floret 4 mm long, pilose, adorned on flanks. Fertile lemma oblong, dorsally compressed, 3.5–3.7 mm long, indurate, shiny, without keel. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Pseudolasciasis neoperrieri A.Camus. *Bull. Bot. Soc. France,* lxxiii. 976 (1927).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Madagascar. **Basionym or Replaced Name**: *Panicum neoperrieri* A.Camus, *Bull. Bot. Soc. France,* 53: 976 (1927). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.M.H.A. Perrier de la Bathie 14538*, no date, Madagascar: massif d' Andringitra (P; IT: US-1298204 (fragm.)).

Illustrations: None found.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Panicinae.

Habit, Vegetative Morphology. Perennial. Culms erect, 300–400 cm long. Culm-internodes distally glabrous. Lateral branches ample. Leaf-sheaths striately veined, puberulous. Ligule a ciliate membrane. Leaf-blades lanceolate, 9–11 cm long, 8–15 mm wide, stiff. Leaf-blade surface puberulous. Leaf-blade margins scaberulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, effuse, 15 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 10–30 mm long.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets orbicular, dorsally compressed, 2.8–3 mm long, falling entire.

Glumes. Glumes similar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 2.8–3 mm long, 1 length of spikelet, membranous, without keels, 9–11 -veined. Lower glume lateral veins prominent. Lower glume surface woolly, hairy at apex. Lower glume apex obtuse. Upper glume ovate, 1 length of spikelet, membranous, without keels, 9–11 -veined. Upper glume lateral veins prominent. Upper glume surface woolly, hairy at apex. Upper glume apex obtuse.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 9 -veined, woolly, hairy at apex, obtuse. Palea of lower sterile floret 2.5–2.6 mm long, pubescent. Fertile lemma ovate, dorsally compressed, 2.7 mm long, indurate, shiny, without keel. Lemma margins involute. Lemma apex obtuse, pubescent. Palea involute, indurate.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Western Indian Ocean**. Madagascar.

Pseudopentameris brachyphylla (Stapf) Conert. *Mitt. Bot. Staatssamml. Munchen*, 10: 304 (1971).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from South Africa. **Basionym or Replaced Name**: *Danthonia brachyphylla* Stapf, *Fl. Cap.* 7: 520–521 (1899). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *Zeyher 1826 delta*, South Africa T: *G.A. Zenker 25740*, South Africa: Cape (L).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (2550, Fig 221as *Danthonia*), G.E.Gibbs Russell el al, *Grasses of Southern Africa* (1990) (279, Fig 176).

Derivation (Clifford & Bostock 2007): Gk. *brachys*, short; *phyllon*, leaf. Leaf-blades short.

Classification. Subfamily Danthonioideae. Tribe: Arundineae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm, with curly dead sheaths. Culms 30–90 cm long. Ligule a fringe of hairs. Leaf-blades flat or conduplicate, 5–15 cm long, 2–4 mm wide, stiff. Leaf-blade surface ribbed. Leaf-blade apex attenuate, filiform.

Inflorescence. Inflorescence a panicle, comprising 5–10 fertile spikelets. Panicle contracted, lanceolate or oblong, 7–12 cm long, bearing few spikelets. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, without rhachilla extension or with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 30–45 mm long, 10 mm wide, breaking up at maturity, disarticulating below each fertile floret. Floret callus elongated, pubescent, pungent, disarticulating obliquely.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 30–45 mm long, 1 length of upper glume, scarious, without keels, 3–7 -veined. Lower glume apex attenuate. Upper glume lanceolate, 30–45 mm long, 3–4 length of adjacent fertile lemma, scarious, without keels, 3–7 -veined. Upper glume apex attenuate.

Florets. Fertile lemma oblong, subterete, 9–11 mm long, coriaceous, without keel, 9 -veined, more than 3-veined. Lemma surface pilose, hairy all along. Lemma margins involute, interlocking with palea keels. Lemma apex lobed, 2 -fid, incised 0.3–0.4 of lemma length, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 19–30 mm long overall, with twisted column. Lateral lemma awns present, arising on apex of lobes, wrapped around principal, 6–8 mm long, shorter than principal. Palea 1 length of lemma.

Flower and Fruit. Ovary glabrous. Caryopsis with adherent pericarp, fusiform. Hilum linear.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pseudopentameris caespitosa N.P. Barker. *Bothalia,* 25(2): 147 (1995).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from South Africa. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South Africa: Western Cape: 3419 (Caledon): Bredasdorp (-DC), eastern corner of Farm Buffeljagt, 19 Nov 1987, *Linder 4362* (HT: BOL).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *caespes*, grass that has been cut; *-osa*, abundance. Habit tufted.

Classification. Subfamily Danthonioideae. Tribe: Arundineae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending, 70–100 cm long. Ligule a fringe of hairs. Leaf-blades flat or convolute, 45–50 cm long, 2–8 mm wide. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle, comprising 10–20 fertile spikelets. Panicle contracted, lanceolate, 9–23 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension or with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 33–60 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 33–60 mm long, 1 length of upper glume, scarious, purple, without keels, 5–9 -veined. Lower glume surface asperulous. Lower glume apex attenuate. Upper glume lanceolate, 33–60 mm long, 4–6 length of adjacent fertile lemma, scarious, purple, without keels, 5–9 -veined. Upper glume primary vein scaberulous. Upper glume apex attenuate.

Florets. Fertile lemma oblong, subterete, 8–10 mm long, cartilaginous, without keel, 9–11 -veined, more than 3-veined. Lemma lateral veins transversely connected at apex. Lemma surface pubescent, hairy above. Lemma margins involute, interlocking with palea keels. Lemma apex lobed, 2 -fid, with lobes 2–4 mm long, acute or acuminate, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 27–45 mm long overall, with 17–27 mm long limb, with twisted column. Column of lemma awn 10–18 mm long. Lateral lemma awns present, arising on apex of lobes, 15–30 mm long, shorter than principal. Palea apex dentate, 2 -fid. Apical sterile florets 0–1 in number, barren, lanceolate, 0–1 mm long.

Flower and Fruit. Lodicules 2, glabrous or ciliate. Anthers 3, 9 mm long. Ovary glabrous. Caryopsis with adherent pericarp, fusiform, 5–6 mm long. Hilum linear.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pseudopentameris macrantha (Schrader) Conert. *Mitt. Bot. Staatssamml. Munchen,* 10: 304 (1971).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from South Africa. **Basionym or Replaced Name**: *Danthonia macrantha* Schrad., *Mant.* 2: 385 (1824). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *Hesse s.n.*, South Africa.

Illustrations (Journals): *Ann. Missouri Bot. Gard*. (97: 339, Fig.8 (2010)).

Derivation (Clifford & Bostock 2007): Gk. *makros*, large; *anthos*, flower. Spikelets large.

Classification. Subfamily Danthonioideae. Tribe: Arundineae. Tribe: Danthonieae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 50–120 cm long. Ligule a fringe of hairs. Leaf-blades convolute, 15–45 cm long, 2–8 mm wide, stiff. Leaf-blade surface ribbed. Leaf-blade apex attenuate, filiform.

Inflorescence. Inflorescence a panicle. Panicle contracted, ovate, 9–23 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with a barren rhachilla extension or with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 35–55 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus elongated, 2.5 mm long, bearded, with longer hairs above, disarticulating obliquely. Floret callus hairs 0.33 length of lemma.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 35–55 mm long, 1 length of upper glume, scarious, without keels, 3–7 -veined. Lower glume apex attenuate. Upper glume lanceolate, 35–55 mm long, 4–5 length of adjacent fertile lemma, scarious, without keels, 3–7 -veined. Upper glume apex attenuate.

Florets. Fertile lemma oblong, subterete, 9–11 mm long, coriaceous, without keel, 9 -veined, more than 3-veined. Lemma surface pilose, hairy above. Lemma margins involute, interlocking with palea keels. Lemma apex lobed, 2 -fid, incised 0.3 of lemma length, awned, 3 -awned. Principal lemma awn from a sinus, geniculate, 20–30 mm long overall, with twisted column. Lateral lemma awns present, arising on apex of lobes, 10–18 mm long, shorter than principal. Palea 1 length of lemma. Apical sterile florets 0–1 in number, barren, lanceolate, 0–1 mm long.

Flower and Fruit. Ovary glabrous. Caryopsis with adherent pericarp, fusiform. Hilum linear, 0.8 length of caryopsis.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Western Cape.

Pseudopogonatherum contortum (Brong.) A.Camus. Lecomte*, Fl. Gen. Indo-Chine,* vii. 255 (1922).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Eulalia*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from Australia. **Basionym or Replaced Name**: *Pogonatherum contortum* Brongn., *Voy. Monde* 2(2): 90, pl. 17 (1831). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Molucca Islands: Bourou,.

Recent Synonyms: *Eulalia contorta* (Brongn.) Kuntze. *Rev. Gen*. 775 (1891). *Eulalia collina* (Bal.) Keng, sine bas ref, *Fl. Ill. Pl. Prim. Sin. :*183 (1959).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (773, Fig. 52 as *Eulalia*), J.R.Wheeler et al, *Flora of the Kimberley Region* (1992) (1201, Fig 340), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 823/824 as *P. contortum* var. *linearifolium* & *P. contortum* var. *sinense*).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);, G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012)
(Pl. 25).

Derivation (Clifford & Bostock 2007): L. twisted. Awns hygroscopic and so twisted when dry.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Saccharinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect, slender, 20–50 cm long. Ligule a ciliolate membrane. Leaf-blades filiform or linear, flat or involute, 10–30 cm long, 1.5 mm wide. Leaf-blade surface scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 3–20, digitate, 4–6 cm long. Rhachis tough or fragile at the nodes, subterete, ciliate on margins. Rhachis hairs lengthening towards internode tip, white. Rhachis internodes linear. Rhachis internode tip transverse. Spikelets in pairs. Fertile spikelets pedicelled or sessile and pedicelled, 2 in the cluster. Pedicels present, linear, angular, ciliate.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, dorsally compressed, 1.5–2.5 mm long, falling entire, deciduous from the base or with accessory branch structures. Spikelet callus square, 0.4 mm long, pilose, base obtuse, attached transversely. Spikelet callus hairs white, 0.4–0.8 mm long.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma, shiny. Lower glume elliptic, 1 length of spikelet, chartaceous, much thinner above, 2-keeled, keeled above, keeled obtusely. Lower glume primary vein ciliolate. Lower glume intercarinal veins absent. Lower glume surface concave. Lower glume apex dentate, 2 -fid, truncate or obtuse. Upper glume lanceolate, chartaceous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume margins eciliate or ciliolate. Upper glume apex obtuse, awned, 1 -awned, awn 7–15 mm long.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret ovate, 0.75–1.25 mm long, 0.5 length of spikelet, hyaline, 0 -veined, without midvein, without lateral veins, obtuse. Fertile lemma linear, hyaline, without keel, 1 -veined, 0–3 -veined, one-veined. Lemma apex dentate, 2 -fid, awned, 1 -awned. Principal lemma awn from a sinus, geniculate, 20–30 mm long overall, with twisted column. Column of lemma awn hispidulous. Palea absent or minute.

Flower and Fruit. Anthers 3, 0.6–0.7 mm long.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia, Australasia.

Country /Province /State. **China**. China South Central, Hainan, China Southeast. **Indian Subcontinent**, **Indo-China**, **Malesia**. Eastern Himalaya, India, Nepal. Laos, Myanmar, Thailand, Vietnam. Java, Lesser Sunda Is, Moluccas, Philippines. **Australia**. Western Australia, Northern Territory, Queensland.

Fujian, Guangdong, Guangxi, Jiangxi. Sichuan, Yunnan. Sikkim. Assam, Nagaland. Bihar, Karnataka. Tamilnadu, Uttah Pradesh, West Bengal. Kimberley. Darwin & Gulf, Victoria R & Barkly Tableland. North, Central.

Pseudopogonatherum egregium (Reeder) Jansen. *Reinwardtia* 2(2): 335. 1953.

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Papua New Guinea. **Basionym or Replaced Name**: *Eulalia irritans* var. *egregia* Reeder, *J. Arnold Arbor.* 29(4): 336, pl. y, f. d-e (1948). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Papua New Guinea: Western Division: Wai Kussa River, 1890, *MacGregor 8* (HT: US (1128068)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. extraordinary. Differing markedly in some respect from closely related species.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Saccharinae.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Papuasia**. New Guinea PNG. New Guinea.

Pseudopogonatherum filifolium (S.L.Chen) H.Yu, Y.F.Deng & N.X.Zhao. *Novon* 14(2): 242 (2004).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006) (as *Eulalia*).

TYPE from China. **Basionym or Replaced Name**: *Eulalia filifolia* S.L. Chen, *Gram. Orient. Sin.* 249, 287, f. 165 (1962). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Anhui: Jingde, grassy hillsides, 25 Sept. 1915, *F. Courtois 12570* (HT: NAS).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *filum,* thread; *folium*, leaf. Leaf-blades very narrow.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Saccharinae.

Habit, Vegetative Morphology. Perennial. Culms 17–30 cm long, 3–4 -noded. Culm-internodes distally glabrous. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.1 mm long. Leaf-blades filiform or linear, involute, 5–17 cm long, 1 mm wide. Leaf-blade surface puberulous, hairy adaxially.

Inflorescence. Inflorescence composed of racemes. Racemes 1–3, single or paired or digitate, 2–4.5 cm long. Rhachis tough, ciliate on margins. Rhachis internodes linear, 1.3 mm long. Spikelets in pairs. Fertile spikelets pedicelled, 2 in the cluster. Pedicels present, linear, unequal.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, dorsally compressed, 2 mm long, falling entire, deciduous from the base. Spikelet callus square, pilose or bearded, base obtuse, attached transversely. Spikelet callus hairs 0.3–1.7 mm long.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume lanceolate, 1 length of spikelet, chartaceous, light brown, 2-keeled. Lower glume surface pilose. Lower glume apex obtuse. Upper glume lanceolate, chartaceous, 1-keeled. Upper glume mucronate.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret oblong, 1 mm long, hyaline, 0 -veined, without midvein, without lateral veins, obtuse. Fertile lemma linear, 1 mm long, hyaline, without keel, 1 -veined, 0–3 -veined, one-veined. Lemma apex dentate, 2 -fid, awned, 1 -awned. Principal lemma awn from a sinus, geniculate, 6–7 mm long overall, with a straight or slightly twisted column. Column of lemma awn glabrous. Palea absent or minute.

Flower and Fruit. Anthers 3, 0.7 mm long.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Anhui.

Pseudopogonatherum irritans (R.Br.) A.Camus. *Ann. Soc. Linn. Lyon,* n. s., lxviii. 205 (1922).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Eulalia*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from Australia. **Basionym or Replaced Name**: *Saccharum irritans* R. Br., *Prodr.* 1: 203 (1810). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: (T.) Littora Novae Hollandiae intra tropicum,.

Recent Synonyms: *Eulalia irritans* (R.Br.) Kuntze, *Rev. Gen.* 775 (1891).

Illustrations (Books): J.C.Tothill,& J.B.Hacker. *The grasses of southern Queensland* (1983) (358).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *irrito*, irritate. Callus sharp.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Saccharinae.

Habit, Vegetative Morphology. Annual. Culms erect, 60–100 cm long, 6–8 -noded. Leaf-sheaths glabrous on surface. Ligule a ciliolate membrane, 0.5 mm long. Leaf-blades filiform, involute, 25–50 cm long, 1 mm wide, glaucous. Leaf-blade surface pubescent, hairy adaxially. Leaf-blade apex attenuate.

Inflorescence. Inflorescence composed of racemes. Racemes numerous, digitate, erect or ascending, 3–5 cm long. Central inflorescence axis 1–3 cm long. Rhachis tough or fragile at the nodes, 0.4 mm wide, ciliate on margins. Rhachis internodes linear. Rhachis internode tip transverse. Spikelets in pairs. Fertile spikelets sessile and pedicelled or pedicelled (when tough), 2 in the cluster. Pedicels present, linear, angular, 1–2.5 mm long, ciliate.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets elliptic, dorsally compressed, 2.5–3 mm long, falling entire, deciduous from the base or with accessory branch structures. Spikelet callus 1 mm long, bearded, base acute, attached obliquely. Spikelet callus hairs 1–1.5 mm long.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume oblong, 1 length of spikelet, chartaceous, 2-keeled, keeled above, 2 -veined. Lower glume surface convex or flat, pilose. Lower glume hairs white. Lower glume apex dentate, 2 -fid. Upper glume oblong, 1 length of spikelet, 1-keeled, 1–3 -veined. Upper glume lateral veins absent or obscure. Upper glume surface pilose. Upper glume hairs white. Upper glume awned, 1 -awned, awn 5–7 mm long.

Florets. Basal sterile florets 1, with vestigial lower floret. Fertile lemma oblong, hyaline, without keel. Lemma apex lobed, 2 -fid, awned, 1 -awned. Principal lemma awn from a sinus, bigeniculate, 30–50 mm long overall, with twisted column. Column of lemma awn ciliate, with 1.5–2 mm long hairs. Palea absent or minute.

Flower and Fruit. Anthers 3, 1 mm long.

Distribution (TDWG). Continent. Tropical Asia, Australasia.

Country /Province /State. **Indo-China**, **Malesia**, **Papuasia**. Myanmar, Thailand. Philippines. New Guinea PNG. New Guinea. **Australia**. Western Australia, Northern Territory, Queensland.

Kimberley. Darwin & Gulf. North, Central.

Pseudopogonatherum koretrostachys (Trin.) Henrard. *Blumea* 4(3): 521. 1941.

Accepted by: S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from Philippines. **Basionym or Replaced Name**: *Andropogon koretrostachys* Trin., *Mem. Acad. Imp. Sci. St.-Petersbourg, Ser. 6, Sci. Math.* 2(3): 273 (1832). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: V. spp. Manill.,.

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 825).

Derivation (Clifford & Bostock 2007): Gk. *koris*, crab; *stachys*, ear of corn. Inflorescence branches subverticillate.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Saccharinae.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. China South Central, Hainan, China Southeast. **Indo-China**, **Malesia**. Laos, Thailand. Malaya, Philippines.

Anhui, Fujian, Guangdong, Guangxi, Jiangxi, Zhejiang. Yunnan.

Pseudoraphis balansae Henrard. *Blumea,* Suppl. 1, 230 (1937).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from Vietnam. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *B. Balansa s.n.*, (L, US-1761558). HT: *B. Balansa s.n.*, 25 Nov 1886, Vietnam: Quang Nam-Da Nang, Da Nang (L).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Benjamin Balansa (1825–1892) French botanist.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Cenchrinae.

Habit, Vegetative Morphology. Perennial, mat forming. Stolons present. Culms prostrate, 30–40 cm long, rooting from lower nodes. Lateral branches ample. Leaf-sheath auricles erect. Ligule an eciliate membrane. Leaf-blades floating, 2–3 cm long, 2–3 mm wide. Leaf-blade apex obtuse.

Inflorescence. Inflorescence composed of racemes, embraced at base by subtending leaf. Peduncle 4 cm long. Racemes 4–6, borne along a central axis, appressed, 1 cm long, bearing 1 spikelet or few fertile spikelets, bearing 1–2 fertile spikelets on each. Central inflorescence axis 4 cm long. Rhachis angular, scabrous on margins, terminating in a barren extension, extension bristle-like, extension 6–9 mm long. Spikelet packing abaxial. Spikelets appressed, solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, dorsally compressed, 4.5–5 mm long, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume oblate, 0.1 length of spikelet, hyaline, without keels, 0 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume elliptic, 3.5 mm long, 0.75 length of spikelet, membranous, without keels, 7 -veined. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret elliptic, 1 length of spikelet, membranous, 11–12 -veined, obtuse. Fertile florets female. Fertile lemma lanceolate, 2.3 mm long, cartilaginous, without keel. Lemma margins flat. Lemma apex obtuse. Palea 1 length of lemma, cartilaginous, without keels.

Flower and Fruit. Anthers 3, 4 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. Hainan. **Indo-China**. Thailand, Vietnam.

Pseudoraphis brunoniana (Griff.) R. Pilger. *Notizbl. Bot. Gart. Berlin-Dahlem,* 10(93): 209, 210: (1928).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from Bangladesh. **Basionym or Replaced Name**: *Panicum brunonianum* Wall. & Griff., *J. Asiat. Soc. Bengal* 5: 574 (1836)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Bangladesh ("Bengal"): Sylhet district, near Goalnuyar, 28 Sept. 1835. (locality uncertain), *W. Griffith 6559* (HT: L; IT: L) "Hab. In aquis leniter currentibus profundis plagarum Bheels dictarum prope Goalna.

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 766).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Robert Brown, (1773–1858), Scots-born English botanist.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Cenchrinae.

Habit, Vegetative Morphology. Perennial, mat forming. Stolons present. Culms prostrate, 15–30 cm long, rooting from lower nodes. Culm-nodes pubescent. Ligule a ciliolate membrane. Leaf-blades floating, 4–6 cm long, 2–4 mm wide. Leaf-blade surface scaberulous.

Inflorescence. Inflorescence composed of racemes. Racemes 15–20, borne along a central axis, ascending or spreading, 2.5–3 cm long, bearing 1 spikelet or few fertile spikelets, bearing 1–3 fertile spikelets on each. Central inflorescence axis 5–12 cm long. Rhachis angular, scabrous on margins, terminating in a barren extension, extension bristle-like, extension 10–15 mm long. Spikelet packing abaxial. Spikelets appressed, solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, dorsally compressed, 8–10 mm long, falling entire.

Glumes. Glumes dissimilar, exceeding apex of florets, thinner than fertile lemma. Lower glume oblate, 1 mm long, 0.1 length of spikelet, hyaline, without keels, 0 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 7–9 -

veined. Upper glume surface scabrous. Upper glume margins eciliate or ciliolate. Upper glume apex attenuate, awned, 1 -awned, awn 1–10 mm long.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret elliptic, 7–8 mm long, 0.8 length of spikelet, membranous, attenuate, awned. Awn of lower sterile floret 1–5 mm long. Palea of lower sterile floret 0.5 length of lemma. Fertile lemma oblong, 2.5–3 mm long, cartilaginous, without keel. Lemma margins flat. Lemma apex acute. Palea 1 length of lemma, cartilaginous, without keels.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp, ovoid, 1.5 mm long.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**, **Eastern Asia**. China Southeast. Taiwan. **Indian Subcontinent**, **Indo-China**, **Malesia**. Bangladesh, India. Myanmar, Thailand, Vietnam. Philippines.

Anhui, Guangdong. Assam. Bihar. Orissa, Rajasthan, West Bengal.

Pseudoraphis depauperata (Nees ex Hook.f.) Keng. *Sinensia,* xi. 413 (1940).

Accepted by: T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from India. **Basionym or Replaced Name**: *Chamaeraphis spinescens* var. *depauperata* Nees ex Hook. f., *Fl. Brit. India* 7(21): 62 (1897) [1896]. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: India: 'Jheels of Bengal, the Deccan and Ceylon", *R. Wight 1654* (HT: K).

Illustrations (Books): T.Koyama, *Grasses of Japan and its neighbouring regions* (1987) (381, Fig 149).

Derivation (Clifford & Bostock 2007): L. reduced. Small compared with related species.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Cenchrinae.

Habit, Vegetative Morphology. Perennial, mat forming. Stolons present. Culms prostrate, 50–90 cm long, rooting from lower nodes. Culm-internodes 3–7 cm long. Culm-nodes glabrous. Lateral branches ample. Leaf-sheaths inflated. Leaf-sheath auricles erect, 0.7–1 mm long. Ligule a fringe of hairs, 1 mm long. Leaf-blades floating, 3–9 cm long, 2–5 mm wide. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes, embraced at base by subtending leaf. Racemes 6–12, borne along a central axis, closely spaced, in a multilateral false spike, appressed, 1 cm long, bearing 1 spikelet, bearing 1(–2) fertile spikelets on each. Central inflorescence axis 3–6 cm long. Rhachis angular, scabrous on margins, terminating in a barren extension, extension bristle-like, extension 7–15 mm long. Spikelet packing abaxial. Spikelets appressed, solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, dorsally compressed, 4–5 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume oblate, 0.6–0.75 mm long, 0.1 length of spikelet, hyaline, without keels, 0 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 7–9 -veined. Upper glume surface hispidulous. Upper glume apex attenuate.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret elliptic, 4–4.3 mm long, 0.9–1 length of spikelet, membranous, scabrous, rough above, acute. Palea of lower sterile floret 0.5 length of lemma. Fertile lemma ovate, 1.25 mm long, cartilaginous, pallid, without keel. Lemma margins flat. Lemma apex acute. Palea 1 length of lemma, cartilaginous, without keels.

Flower and Fruit. Anthers 3, 0.5–0.7 mm long. Caryopsis with adherent pericarp, obovoid, 1.8 mm long.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**, **Eastern Asia**. Japan Honshu, or Shikoku, or Kyushu. Japan, Taiwan.

Pseudoraphis jagonis B.K. Simon. *Austrobaileya* 8: 212 (2010).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: **T:** Queensland. Cook District: Port Douglas, 27 November 2003, *R.L.Jago 6610* (holo: BRI; iso: CANB, K, L, MO, NSW, SI).

Illustrations (Journals): *Austrobaileya* (8: 213, Fig.5 (2010)).

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Cenchrinae.

Habit, Vegetative Morphology. Perennial, mat forming. Culms prostrate, 15–40 cm long, 7–14 -noded. Culm-nodes pubescent. Ligule an eciliate membrane, 0.2–0.3 mm long. Leaf-blades 1–6 cm long, 0.5–1.5 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes numerous, borne along a central axis, closely spaced, spreading, 2–3 cm long, bearing 2–4 fertile spikelets on each. Central inflorescence axis 2–5 cm long. Rhachis angular, terminating in a barren extension, extension bristle-like, extension 2–3 mm long. Spikelet packing abaxial. Spikelets appressed, solitary. Fertile spikelets pedicelled. Pedicels present, 0.5–4 mm long.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, dorsally compressed, 4–5 mm long, 0.6–0.8 mm wide, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume oblong, 0.2–0.3 mm long, 0.05 length of spikelet, hyaline, without keels, 0 -veined. Lower glume lateral veins absent. Lower glume apex truncate. Upper glume lanceolate, 4–5 mm long, 1 length of spikelet, membranous, without keels, 13–15 -veined. Upper glume surface smooth or scabrous. Upper glume apex cuspidate.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret lanceolate, 2.5–3 mm long, 0.6–0.7 length of spikelet, membranous, 7 -veined, acuminate. Palea of lower sterile floret 2–2.2 mm long. Fertile lemma oblong, 1.5–1.7 mm long, membranous, without keel. Lemma margins flat. Lemma apex acute. Palea 1 length of lemma, membranous, without keels.

Flower and Fruit. Anthers 2, 1.5–1.7 mm long.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. Queensland.

North.

Pseudoraphis minuta (Mez) Pilger. *Notizbl. Bot. Gart. Berlin*, x. 210 (1928).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from Vietnam. **Basionym or Replaced Name**: *Chamaeraphis minuta* Mez, *Notizbl. Bot. Gart. Berlin-Dahlem* 7: 48 (1917). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *C.B. Clarke 17040*, no date, Vietnam: Bengalia inferior prope Daccar (B; IST: US-865690 (fragm. ex B)). ST: *B. Balansa 1593*, no date, Vietnam: Tonkin, prope Hanoi ad paludum margines (P; IST: US-865691 (fragm. ex P)). ST: *B. Balansa 1592*, no date, Vietnam: Tonkin, prope Hanoi ad paludum margines (P; IT: US-865692 (fragm. ex P)). ST: *B. Balansa 4779*, no date, Vietnam: Tonkin, prope Hanoi ad paludum margines (B(fragm., US-865693)). From berlin. ST: *Kurz*, Burma ST: *Keenan*, Cachar.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. very small. Smaller than usual in some respect.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Cenchrinae.

Habit, Vegetative Morphology. Perennial, mat forming. Stolons present. Culms prostrate, 30–35 cm long, 3–6 -noded, rooting from lower nodes. Culm-nodes pubescent. Ligule an eciliate membrane. Leaf-blades floating, 2.5–4 cm long, 3–4 mm wide. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes numerous, borne along a central axis, closely spaced, spreading, 2–3 cm long, bearing 5–10 fertile spikelets on each. Central inflorescence axis 4.5–5 cm long. Rhachis angular, scabrous on margins, terminating in a barren extension, extension bristle-like, extension 3–5 mm long. Spikelet packing abaxial. Spikelets appressed, solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, dorsally compressed, 3.5–4 mm long, falling entire.

Glumes. Glumes dissimilar, exceeding apex of florets, thinner than fertile lemma. Lower glume oblate, 0.1 length of spikelet, hyaline, without keels, 0 -veined. Lower glume lateral veins absent. Lower glume

apex obtuse. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 7–9 -veined. Upper glume surface glabrous or pubescent, hairy on veins. Upper glume apex cuspidate.

Florets. Basal sterile florets 1, male or barren, with palea. Lemma of lower sterile floret elliptic, 2–2.5 mm long, 0.5–0.66 length of spikelet, membranous, 7–9 -veined, acute. Fertile lemma oblong, 1.2 mm long, chartaceous, without keel. Lemma margins flat. Lemma apex acute. Palea 1 length of lemma, chartaceous, without keels.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp, ellipsoid, sulcate on hilar side.

n = 8 (1 ref TROPICOS).

Distribution (TDWG). Continent. Tropical Asia, Australasia.

Country /Province /State. **Indo-China**. Myanmar, Vietnam. **Australia**. Northern Territory.

Assam. Darwin & Gulf.

Pseudoraphis paradoxa (R.Br.) Pilger. *Notizbl. Bot. Gart. Berlin,* x. 210 (1928).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. **Basionym or Replaced Name**: *Panicum paradoxum* R.Br., *Prod.* 193 (1810). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia, Port Jackson: Brown (K iso).

Illustrations (Books): S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (358), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989) (215, Fig. 34), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): Gk. *para*, irregular; *doxa*, opinion. Different from the expected in regard to related species.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Cenchrinae.

Habit, Vegetative Morphology. Perennial, mat forming. Stolons present. Culms prostrate, 30–40 cm long, rooting from lower nodes. Culm-nodes glabrous. Ligule an eciliate membrane or a ciliolate membrane, 1–1.5 mm long. Leaf-blades floating, 1–5 cm long, 2.75 mm wide. Leaf-blade surface scaberulous, rough on both sides. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Racemes borne along a central axis, appressed, 1 cm long, bearing 1 spikelet, bearing 1(–2) fertile spikelets on each. Central inflorescence axis 3–8 cm long. Rhachis angular, scabrous on margins, terminating in a barren extension, extension bristle-like, extension 10–20 mm long. Spikelet packing abaxial. Spikelets appressed, solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, dorsally compressed, acuminate, 7.5–10 mm long, falling entire. Rhachilla internodes elongated below proximal fertile floret. Rhachilla elongation 0.4 mm long.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume oblate, 1.5 mm long, 0.15 length of spikelet, hyaline, without keels, 0 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 13–15 -veined. Upper glume surface smooth or asperulous, rough on veins. Upper glume apex attenuate.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret elliptic, 1 length of spikelet, membranous, 13 -veined, acuminate. Fertile florets female. Fertile lemma elliptic, 3.25–3.5 mm long, cartilaginous, without keel, 5 -veined, more than 3-veined. Lemma margins flat. Lemma apex acute. Palea 1 length of lemma, cartilaginous, without keels.

Flower and Fruit. Anthers 3, 3.5 mm long. Caryopsis with adherent pericarp, ellipsoid, 2 mm long. Embryo 0.33 length of caryopsis. Hilum linear.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. Queensland, New South Wales, A.C.T., Victoria.

North, Central, South East. Coast.

Pseudoraphis simaoensis Y.Y. Qian. *Guihaia* 15(4): 305–306, f. 1. 1995.

TYPE from ?China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Simaao, alt. 1300 m in stagnis is, *Qian Yiyong 494* (HT: SMAO).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Simao, Yunnan Province, China.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Cenchrinae.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China South Central.

Yunnan.

Pseudoraphis sordida (Thwaites) Phillips. *Novon* 13(4): 469 (2003).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from Sri Lanka. **Basionym or Replaced Name**: *Panicum sordidum* Thwaites, *Enum. Pl. Zeyl.* 443 (1864). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Sri Lanka: Columbo, *G. Thwaites C.P. 3857* (IT: K).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 766).

Derivation (Clifford & Bostock 2007): L. dirty. Spikelets dark-green.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Cenchrinae.

Habit, Vegetative Morphology. Perennial, caespitose. Stolons present. Culms prostrate, slender, 20–50 cm long. Culm-internodes purple. Culm-nodes glabrous. Leaf-sheaths loose. Ligule a ciliate membrane. Leaf-blades floating, linear, 2–6 cm long, 2–4 mm wide. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes, embraced at base by subtending leaf. Racemes 8–30, borne along a central axis, erect, 1.5–4 cm long, bearing 1(–2) fertile spikelets on each. Central inflorescence axis 3–9 cm long. Rhachis angular, scabrous on margins, terminating in a barren extension, extension bristle-like, extension 8–12 mm long. Spikelet packing abaxial, distant. Spikelets appressed, solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, dorsally compressed, acuminate, 4–6 mm long, falling entire. Spikelet callus oblong.

Glumes. Glumes dissimilar, exceeding apex of florets, thinner than fertile lemma. Lower glume oblate, 0.6–0.8 mm long, 0.1 length of spikelet, hyaline, without keels, 0 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume lanceolate, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume surface pilose. Upper glume margins spinulose. Upper glume apex acuminate (sharply).

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret elliptic, 1 length of spikelet, membranous, 7 -veined, acute. Fertile lemma elliptic, 1.3–1.4 mm long, cartilaginous, without keel, 5 -veined, more than 3-veined. Lemma margins flat. Lemma apex obtuse. Palea separating from lemma above, 1 length of lemma, cartilaginous, without keels.

Flower and Fruit. Anthers 2, 0.6–1.1 mm long. Caryopsis exposed between gaping lemma and palea at maturity.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**, **Eastern Asia**. China South Central, China North-Central, China Southeast. Japan, Korea. **Indian Subcontinent**. India, Sri Lanka.

Shandong. Fujian, Hunan, Jiangsu, Zhejiang. Hubei, Yunnan.

Pseudoraphis spinescens (R. Br.) Vickery. *Proc. Roy. Soc. Queensl*. lxii. 69 (1952).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from Australia. **Basionym or Replaced Name**: *Panicum spinescens* R. Br., *Prod.* 193 (1810). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *R. Brown*, Australia: New South Wales: near Port Jackson (BM).

Recent Synonyms: *Pseudoraphis abortiva* (R.Br.) Pilger, *Notizbl. Bot. Gart. Berlin* 10:. 210 (1928).

Illustrations (Books): C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (606), C-C Hsu,*Taiwan Grasses* (1975) (595, Pl. 1444), K.M.Matthew, Illustrations on the *Flora of Tamilnadu Carnatic* (1982) (Pl. 922 & 923), H.B.Gilliland, *Grasses of Malaya* (1971) (161, Fig 31), E.E.Henty, *A Manual of the Grasses of New Guinea* (1969) (160, Pl. 6), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (475, Fig 408), J.R.Wheeler et al, *Flora of the Kimberley Region* (1992) (as *P. abortiva*), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (616, Fig 124), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (358), J.C.Tothill,& J.B.Hacker. *The grasses of southern Queensland* (1983) (360), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989) (215, Fig. 34), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Fig. 174).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);, G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012)
(Pl. 25).

Derivation (Clifford & Bostock 2007): L. spinesco, become thorny. Inflorescence branches terminally pungent.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Cenchrinae.

Habit, Vegetative Morphology. Perennial, mat forming. Stolons present. Culms prostrate, 10–30 cm long. Ligule a ciliolate membrane. Leaf-blades floating, 3–12 cm long, 2–7 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 8–30, borne along a central axis, 1.5–4 cm long. Central inflorescence axis 3–9 cm long. Rhachis angular, scabrous on margins, terminating in a barren extension, extension bristle-like. Spikelet packing abaxial, distant. Spikelets appressed, solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, dorsally compressed, acuminate, 5–8 mm long, falling entire. Spikelet callus oblong.

Glumes. Glumes dissimilar, exceeding apex of florets, thinner than fertile lemma. Lower glume oblate, 0.1 length of spikelet, hyaline, without keels, 0 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume lanceolate, membranous, without keels, 7–11 -veined. Upper glume margins spinulose. Upper glume apex caudate or attenuate.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret elliptic, 0.7 length of spikelet, membranous, 5–9 -veined, acute. Fertile lemma elliptic, 1.5 mm long, cartilaginous, without keel, 5 -veined, more than 3-veined. Lemma margins flat. Lemma apex obtuse. Palea separating from lemma above, 1 length of lemma, cartilaginous, without keels.

Flower and Fruit. Caryopsis exposed between gaping lemma and palea at maturity.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia, Australasia.

Country /Province /State. **China**, **Eastern Asia**. China South Central, China North-Central, China Southeast. Taiwan. **Indian Subcontinent**, **Indo-China**, **Malesia**, **Papuasia**. India, Sri Lanka. Myanmar, Thailand, Vietnam. Borneo, Java, Malaya, Philippines, Sulawesi. New Guinea West Papua (Irian Jaya). New Guinea. **Australia**. Western Australia, Northern Territory, South Australia, Queensland, New South Wales, Victoria.

Shandong. Guangdong, Hunan, Jiangsu, Zhejiang. Hubei, Yunnan. Andhra Pradesh, Bihar, Goa, Kerala. Madhya Pradesh, Maharashtra, Rajasthan, Tamilnadu, Uttah Pradesh, West Bengal. Kimberley. Darwin & Gulf, Victoria R & Barkly Tableland, Central Australia. NW & Lake Eyre, Southern. North, Central, South East, Inland. Coast, Western Slopes, Western Plains.

Pseudoroegneria cognata (Hack.) ?Löve. *Fl. Pakistan,* 143: 628 (1982).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960) (as *Agropyron*).

TYPE from India. **Basionym or Replaced Name**: *Agropyron cognatum* Hack., *Allg. Bot. Z. Syst.* 11: 22 (1905). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: India, Kashmir: Duthie 11895 (W holo).

Recent Synonyms: *Elymus cognatus* (Hack.) T.A. Cope, *Fl. Pakistan* 143: 628 (1982).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 603).

Derivation (Clifford & Bostock 2007): L. related. Similar to another species.

Classification. Subfamily Pooideae. Tribe: Triticeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Culms erect or geniculately ascending, 25–60 cm long. Leaf-sheaths outer margin glabrous. Ligule an eciliate membrane. Leaf-blades flat or conduplicate, 6–15 cm long, 1–3 mm wide. Leaf-blade surface pubescent, hairy adaxially.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, bilateral, 6–12 cm long. Rhachis flattened, scabrous on margins. Spikelet packing broadside to rhachis. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic to oblong, laterally compressed, 10–15 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic, 5–7 mm long, 0.8–0.9 length of upper glume, coriaceous, without keels, 3–5 -veined. Lower glume lateral veins ribbed. Lower glume apex acute. Upper glume elliptic, 6–8 mm long, 0.7–0.8 length of adjacent fertile lemma, coriaceous, without keels, 5–7 -veined. Upper glume lateral veins ribbed. Upper glume apex acute.

Florets. Fertile lemma lanceolate or oblong, 8–10 mm long, coriaceous, keeled, keeled above, 5 -veined, more than 3-veined. Lemma apex emarginate or acute, muticous. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, elliptic, membranous. Anthers 3, 3–5 mm long. Stigmas 2. Ovary pubescent on apex. Caryopsis with adherent pericarp.

$2n = 14$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **Western Asia**, **China**. Tibet. **Indian Subcontinent**. Pakistan.

Uttah Pradesh. Jammu Kashmir.

Pseudoroegneria dsinalica (Sablina) ? Löve. *Feddes Repert*. 95(7–8): 445 (1984).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Elymus*), N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *Elytrigia*).

TYPE from Russia. **Basionym or Replaced Name**: *Elytrigia dshinalica* Sablina, *Novosti Sist. Vyssh. Rast.*, 12: 44 (1975). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: PT: *Sablina s. n.*, 12 Jul 1972, [Caucasus]: Dist. Stavropol: Kislovodsk: Mt. Dzhinal (LE). Orig. label: Stavropol'skij kraj, st. Podkumok, yugo-zapadnyj sklon g. Dzhinal, slabo zadernovannyi izvestnyakovyj sklon.

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Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica,* belonging to. From Dzhinal, a mountain in the Caucasus.

Classification. Subfamily Pooideae. Tribe: Triticeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Rhizomes short. Culms geniculately ascending, 60–65 cm long. Ligule an eciliate membrane. Leaf-blades convolute, 1.5–2.2 mm wide, grey-green. Leaf-blade surface scabrous, rough adaxially, glabrous.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, straight or arcuate, bilateral, 15–18 cm long. Rhachis flattened, scabrous on margins. Spikelet packing broadside to rhachis. Rhachis internodes linear. Rhachis internode tip flat. Spikelets appressed, solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 5–9 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 12–19 mm long, 4–6 mm wide, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes collateral, persistent, similar, shorter than spikelet. Lower glume lanceolate, 9–10 mm long, 1 length of upper glume, coriaceous, without keels, 5–7 -veined. Lower glume surface scabrous,

rough below. Lower glume apex acute. Upper glume lanceolate, 9–10 mm long, coriaceous, without keels, 5–7 -veined. Upper glume surface scabrous, rough below. Upper glume apex acute.

Florets. Fertile lemma elliptic, 7–9 mm long, coriaceous, 5 -veined, more than 3-veined. Lemma surface scaberulous, rough above. Lemma apex awned, 1 -awned. Principal lemma awn curved, 17–20 mm long overall. Palea 1 length of lemma. Palea keels scabrous, adorned above, with 0.75 of their length adorned. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Stigmas 2. Ovary pubescent on apex. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Caucasus**. North Caucasus, Transcaucasus.

Pseudoroegneria gracillima (Nevski) ? Löve. *Feddes Repert*. 95(7–8): 447 (1984).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Elymus*), N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *Elytrigia*).

TYPE from Russia. **Basionym or Replaced Name**: *Agropyron gracillimum* Nevski, *Komarov, Fl. URSS*, 2: 638 (1934). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *G. Radde 422*, 1 Jul 1885, Caucasus: [Dagestan]: Mikra (LE).

Recent Synonyms: *Elytrigia gracillima* (Nevski) Nevski. *Elymus gracillima* .

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. very delicate. Of slender habit.

Classification. Subfamily Pooideae. Tribe: Triticeae.

Habit, Vegetative Morphology. Perennial. Culms 30–65 cm long. Culm-internodes distally glabrous or pubescent. Ligule an eciliate membrane. Leaf-blades involute, 7–15 cm long, 0.5–1.5 mm wide, glaucous. Leaf-blade surface puberulous, hairy adaxially or on both sides. Leaf-blade margins glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, bilateral, 6.5–16 cm long. Rhachis flattened, scabrous on margins. Spikelet packing broadside to rhachis, lax. Rhachis internodes linear, 13–22 mm long. Rhachis internode tip flat. Spikelets appressed, solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 4–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic to oblong, laterally compressed, 15–20 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes collateral, persistent, similar, shorter than spikelet. Lower glume lanceolate, 6–8 mm long, 0.75 length of upper glume, coriaceous, without keels, 5–7 -veined. Lower glume apex obtuse. Upper glume lanceolate, 8–11 mm long, 1 length of adjacent fertile lemma, coriaceous, without keels, 5–7 -veined. Upper glume apex obtuse.

Florets. Fertile lemma lanceolate, 8–11 mm long, coriaceous, 5 -veined, more than 3-veined. Lemma apex obtuse or acute, muticous. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Stigmas 2. Ovary pubescent on apex. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Caucasus**. North Caucasus.

Pseudoroegneria heidemaniae (Tzvelev) ? Löve. *Feddes Repert*. 95(7–8): 446 (1984).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Elymus*), N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *Elytrigia*).

TYPE from Russia. **Basionym or Replaced Name**: *Elytrigia heidemaniae* Tsvelev, *Novosti Sist. Vyssh. Rast*., 9: 60 (1972). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *T. Heideman s. n.*, 7 Jun 1933, [Caucasus: Azerbaijan]: Nakhichevan: Ordubad: Utsh-Daranga (LE). Possible type and 5 isotypes. Orig. label: Transcaucasia, Nachrespublica, Ordubad, pr. p. Utsh-Daranga, in rupibus..

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of T. Heideman (fl. 1932–1934) who collected in Nakhichevan, former Soviet Union.

Classification. Subfamily Pooideae. Tribe: Triticeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms 20–30 cm long. Leaf-sheaths glabrous on surface or puberulous. Ligule an eciliate membrane. Leaf-blades convolute, 0.4–0.9 mm wide. Leaf-blade surface pubescent, hairy adaxially.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, bilateral, 4–8 cm long. Rhachis flattened. Spikelet packing broadside to rhachis, lax. Rhachis internodes linear. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic to oblong, laterally compressed, 7–10 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 4.5–6.5 mm long, 1 length of upper glume, coriaceous, 1-keeled, 2–3 -veined. Lower glume apex obtuse, muticous or mucronate. Upper glume lanceolate, 4.5–6.5 mm long, 0.75–0.85 length of adjacent fertile lemma, coriaceous, 1-keeled, 2–3 -veined. Upper glume apex obtuse, muticous or mucronate.

Florets. Fertile lemma oblong, 6–7.5 mm long, coriaceous, 5 -veined, more than 3-veined. Lemma apex acute, muticous or awned, 1 -awned. Principal lemma awn 2–4 mm long overall. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 3.5–4.5 mm long. Stigmas 2. Ovary pubescent on apex. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Caucasus**. Transcaucasus.

Pseudoroegneria kosaninii (Nábelek) ? Löve. *Feddes Repert*. 95(7–8): 445 (1984).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Kurdistan. **Basionym or Replaced Name**: *Agropyron kosaninii* Nabelek, *Spisy Prir. Fak. Masarykovy Univ*. 111: 25 (1929)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Kurdistan turcicae distr. Ramoran, mons Halakur-Dagh ad orientem ab urbe Seert, ca. 2400 m, *Nabelek 3336* (HT: BRA).

Recent Synonyms: *Elymus kosaninii* (Nábělek) Melderis.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Nedelyko Kosanin (1874–1934) Serbian botanist.

Classification. Subfamily Pooideae. Tribe: Triticeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms erect, slender, 35–40 cm long. Culm-internodes distally pubescent. Leaf-sheaths pubescent, outer margin hairy. Leaf-sheath auricles falcate. Ligule an eciliate membrane. Leaf-blades convolute, 15–20 cm long, 2–4 mm wide, stiff, glaucous. Leaf-blade surface pubescent.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, bilateral, 5–12 cm long, bearing few fertile spikelets, bearing 5–8 fertile spikelets on each. Rhachis flattened, pilose on surface, scabrous on margins. Spikelet packing broadside to rhachis, lax. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 5–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic to oblong, laterally compressed, compressed slightly, 15 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume obovate, 6–7 mm long, 0.75 length of upper glume, coriaceous, much thinner on margins, without keels, 5 -veined. Lower glume lateral veins ribbed. Lower glume surface asperulous, rough on veins. Lower glume apex obtuse. Upper glume obovate, 8–9 mm long, 1 length of adjacent fertile lemma, coriaceous, with hyaline margins, without keels, 5 -veined. Upper glume lateral veins ribbed. Upper glume surface asperulous, rough on veins. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 8–9 mm long, coriaceous, keeled, keeled above, 5 -veined, more than 3-veined. Lemma apex acute, muticous. Palea keels ciliolate, adorned all along. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, elliptic, membranous. Anthers 3. Stigmas 2. Ovary pubescent on apex. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia.
Country /Province /State. **Western Asia**. Iran.

Pseudoroegneria spicata (Pursh) A.Lvve. *Taxon,* 29(1): 168 (1980).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Elmus*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. **Basionym or Replaced Name**: *Festuca spicata* Pursh, *Fl. Amer. Sept.* 1: 83 (1814) [1813]. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: USA: On the waters of the Missouri and Columbia rivers...v.s. in Herb. Lewis, *Lewis s.n.*.

Recent Synonyms: *Elymus spicatus* (Pursh) Gould, *Madrono,* 9: 125 (1947).

Illustrations (Books): K.F.Best, et al, *Prairie Grasses* (1971) (43 as *Agropyrum spicatum*), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (280).

Derivation (Clifford & Bostock 2007): L. spica, thorn; *-ata,* possessing; Inflorescence a spike or spicate panicle.

Classification. Subfamily Pooideae. Tribe: Triticeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 50–100 cm long. Leaf-sheaths glabrous on surface. Leaf-sheath auricles absent. Ligule an eciliate membrane, 1–2 mm long. Leaf-blades filiform, involute, 1–3 mm wide, light green or mid-green. Leaf-blade surface puberulous, hairy adaxially.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, bilateral, 10–25 cm long, bearing 5–12 fertile spikelets on each. Rhachis flattened, scabrous on margins. Spikelet packing broadside to rhachis, lax. Rhachis internodes linear, 10–20 mm long. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 6–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic to oblong, laterally compressed, 20–25 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1.5–2 mm long, scaberulous.

Glumes. Glumes collateral, persistent, similar, shorter than spikelet. Lower glume lanceolate, 10 mm long, 1 length of upper glume, coriaceous, yellow, without keels, 3–5 -veined. Lower glume surface smooth or scabrous, rough on veins. Lower glume apex obtuse or acute. Upper glume lanceolate, 10 mm long, 1 length of adjacent fertile lemma, coriaceous, yellow, without keels, 3–5 -veined. Upper glume surface smooth or scabrous, rough on veins. Upper glume apex obtuse or acute.

Florets. Fertile lemma lanceolate to oblong, 8–10 mm long, coriaceous, 5–7 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma apex acute, awned, 1 -awned. Principal lemma awn curved, 10–20 mm long overall. Palea 1 length of lemma. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, membranous. Anthers 3. Stigmas 2. Ovary pubescent on apex. Caryopsis with adherent pericarp.

$2n$ = 14 (15 refs TROPICOS), or 28 (2 refs TROPICOS).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Subarctic America**, **Western Canada**, **Northwest USA**, **North-central USA**, **Southwestern USA**, **South-central USA**. Alaska, Yukon. Alberta, British Columbia, Saskatchewan. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. North Dakota, Nebraska, Oklahoma. Arizona, California, Nevada, Utah. New Mexico, Texas.

Pseudosasa acutivagina T.H. Wen & S.C. Chen. *J. Bamboo Res.,* 3(2): 31 (1984).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Qingyuan, slopes, below 500 m, *S.Q. Chen 83053* (HT: ZJFI; IT: NAS).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *acuo,* sharpen; *vagina*, sheath. Culm leaf-sheaths narrowly-acuminate at the apex.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.
Zhejiang.

Pseudosasa aeria T.H. Wen. *Bull. Bot. Res. North-East. Forest. Inst.,* 3(1): 94 (1983).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Pingyang, *C.H. Feng 76003* (HT: ZJFI).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *aer*, atmosphere. Aerial roots grow from the culms and stolons.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 300–600 cm long, 20 mm diam., woody. Culm-internodes terete, thin-walled, 30–40 cm long, mid-green, distally glabrous. Lateral branches dendroid. Branch complement two. Culm-sheaths present, coriaceous, pilose, hairy on margins, auriculate, ciliate on shoulders. Culm-sheath blade lanceolate, erect. Leaves cauline, 3–5 per branch. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs setose, 13 mm long. Ligule an eciliate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 11–20 cm long, 12–20 mm wide. Leaf-blade surface glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 20–40 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes several, 1–2 empty glumes, persistent, similar, shorter than spikelet. Upper glume lanceolate. Upper glume apex acute.

Florets. Fertile lemma ovate, 11 mm long, chartaceous, without keel, more than 3-veined. Lemma lateral veins with cross-veins. Lemma surface pubescent. Lemma apex acuminate. Palea apex obtuse. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, ciliate. Anthers 3. Stigmas 3. Ovary glabrous. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.
Zhejiang.

Pseudosasa amabilis (McClure) P. C. Keng. Keng, *Claves Gen. & Spec. Gramin. Sinic.* 154 (1957).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. **Basionym or Replaced Name**: *Arundinaria amabilis* McClure, *Lingnan Sci. J.* 10(1): 6, pl. 1–8 (1931). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Guangdong: Lingnan, Guangning Xian, Mung Haang above Koo Shui on the Sui River, March 3, 1929, *Tang & Feng 17531–2* (HT: Lingnan University).

Illustrations (Books): D.Farrelly, *The Book of Bamboo* (1984) (159), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 149 as *Pseudosasa amabilis* var. *amabilis* & *Pseudosasa amabilis* var. *convexa*).

Derivation (Clifford & Bostock 2007): L. lovely. Of attractive appearance.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph, scaly. Butt sheaths absent. Culms 600–1300 cm long, 30–57 mm diam., woody, 28–44 -noded, without nodal roots. Culm-internodes terete, thin-walled, 24–48 cm long, light green, striate. Culm-nodes glabrous. Lateral branches dendroid. Buds or branches absent from lower part of culm. Branch complement three. Culm-sheaths present, deciduous, 20–42 cm long, brown, hispid, with appressed hairs, with dark brown

hairs, hairy on margins, truncate at apex, setose on shoulders, shoulders with curved hairs, shoulders with 10–15 mm long hairs. Culm-sheath ligule 5 mm high, ciliolate. Culm-sheath blade lanceolate, deciduous, 9–18 cm long, 8–20 mm wide. Leaf-sheaths outer margin hairy. Leaf-sheath oral hairs ciliate, 5–15 mm long. Ligule a ciliolate membrane, 1–2 mm long, pubescent on abaxial surface. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.5 cm long. Leaf-blades lanceolate, 15–35 cm long, 15–35 mm wide. Leaf-blade venation with 14–18 secondary veins, with obscure cross veins. Leaf-blade margins scaberulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle, comprising 3–15 fertile spikelets, bracteate at pedicel base. Panicle contracted, oblong, 4–6 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 2.5–9 mm long, pubescent.

Fertile Spikelets. Spikelets comprising 5–14 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 15–27 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 3–4 mm long, pubescent, hairy at tip.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 6–7 mm long, chartaceous, without keels. Lower glume surface pubescent, hairy above. Lower glume margins ciliate. Lower glume apex acute. Upper glume oblong, 9–11 mm long, chartaceous, without keels. Upper glume surface pubescent, hairy above. Upper glume margins ciliate. Upper glume apex acute.

Florets. Fertile lemma oblong or ovate, 10–15 mm long, 4–8 mm wide, chartaceous, without keel, more than 3-veined. Lemma surface puberulous. Lemma margins ciliate, hairy above. Lemma hairs 3–5 mm long. Palea 5–9.5 mm long, 2 -veined. Palea keels ciliolate. Palea surface pubescent, hairy on back, hairy above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, 2.5 mm long, ciliate. Anthers 3, 6–7 mm long. Filaments 9 mm long. Stigmas 3. Ovary glabrous. Caryopsis with adherent pericarp, apex unappendaged.

$2n = 48$ (3 refs TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, North America (+).

Country /Province /State. **China**. China Southeast.

Fujian, Guangdong, Guangxi, Hunan, Jiangxi.

Pseudosasa amplexicaulis W.T. Lin & Z.J. Feng. *J. South China Agr. Univ.* 14(1): 51. 1993.

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Pingyan, Changtianxiang, Gaoshe, *Z.J. Feng 83784* (HT: CANT).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *amplexatio*, embrace; *caulis*, stem. The connate leaf-sheath and ligule encircle the stem.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Guangdong.

Pseudosasa brevivaginata G.H.Lai. *J. Bamboo Res.* 19(2): 37 (2001).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China, Anhui, Tiantang: Lai 97127 (NF holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *brevis*, short; *vagina*, sheath; *-ata*. possessing. Leaf-sheaths only about half the length of the succeeding internode.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 120–160 cm long, 5–7 mm diam., woody. Culm-internodes terete. Culm-nodes with distinct supra-nodal ridge. Lateral branches dendroid, erect. Culm-sheaths present, tardily deciduous or deciduous, 0.5 length of internode, coriaceous, green and purple, distinctly mottled with last colour, antrorsely scabrous, hispid, with dark brown hairs, without auricles, glabrous on shoulders. Culm-sheath

ligule 0.5–1 mm high, ciliate. Culm-sheath blade linear, reflexed, 1.6–2.8 cm long, glabrous on surface. Leaves cauline, (2–)3–4 per branch. Leaf-sheaths glabrous on surface, outer margin hairy. Leaf-sheath oral hairs setose, deciduous. Leaf-sheath auricles falcate. Ligule an eciliate membrane, 0.5–1 mm long, truncate. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 11–18 cm long, 14–25 mm wide. Leaf-blade venation with 12–14 secondary veins, with distinct cross veins. Leaf-blade surface glabrous. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Anhui.

Pseudosasa cantorii (Munro) P. C. Keng. Keng, *Claves Gen. & Spec. Gramin. Sinic.* 154 (1957).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from India. **Basionym or Replaced Name**: *Bambusa cantorii* Munro, *Trans. Linn. Soc. London* . T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: India: Cantor (K holo).

Recent Synonyms: *Sinobambusa pulchella* T.H. Wen, *J. Bamboo Res.,* 1(2): 16 (1982). *Pseudosasa hainanensis* G.A.Fu, *J. Bamboo Res.,* 13(3): 1 (1994).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 153).

Derivation (Clifford & Bostock 2007): In honor of Theodor Edvard Cantor (1809–1860) Danish-born botanist who collected in China and Malaya.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, woody. Culm-internodes terete or channelled, thin-walled, distally pubescent. Lateral branches dendroid. Branch complement one or two or three, with subequal branches, thinner than stem. Culm-sheaths present, persistent or tardily deciduous or deciduous, auriculate, setose on shoulders, shoulders with 6–8 mm long hairs. Leaves cauline, 3–4 per branch. Leaf-sheaths 5–6 cm long, glabrous on surface, outer margin hairy. Leaf-sheath oral hairs ciliate. Ligule an eciliate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate or oblong, 10–17 cm long, 20–35 mm wide. Leaf-blade venation with distinct cross veins. Leaf-blade surface glabrous or pubescent, hairy abaxially. Leaf-blade apex acuminate.

Inflorescence. Synflorescence simple.

Spikelets solitary. Fertile spikelets sessile or pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–13 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 10–70 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 5–6 mm long.

Glumes. Glumes two, persistent, similar, shorter than spikelet.

Florets. Fertile lemma ovate, 8–10 mm long, chartaceous, without keel, more than 3-veined. Lemma apex acute. Palea 1 length of lemma, chartaceous, 4 -veined. Palea keels ciliolate or ciliate. Palea surface pubescent. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, 2 mm long, ciliate. Anthers 3. Stigmas 3. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. Hainan, China Southeast.

Fujian, Guangdong, Jiangxi.

Pseudosasa distichus (Mitf.) Nakai. *Rika Kyo-iku*, 15: No. 6 69 (1932).

TYPE from UK, cult. **Basionym or Replaced Name**: *Bambusa disticha* Mitford, *Garden (London)* 46: 547 (1894). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Britain, Cult.: Coll?.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk *distichos*, in two rows. Plants with conspicuously two-rowed spikelets or leaves.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**, **Eastern Asia**. China Southeast. Japan.
Jiangsu (+), Zhejiang (+).

Pseudosasa gracilis S.L. Chen & G.Y. Sheng. *Acta Phytotax. Sin.,* 21(4): 405 (1983).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Hunan: Yizhang, 6 May 1977, *Z.P. Wang et al. 77004* (HT: JSB).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. slender. Culms or inflorescences slender.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 160 cm long, 4 mm diam., woody. Culm-internodes terete, thin-walled, 15–24 cm long, mid-green. Culm-nodes flush with internodes. Lateral branches dendroid. Branch complement two or three. Culm-sheaths present, persistent, coriaceous, glabrous or puberulous, hairy on margins, without auricles, setose on shoulders, shoulders with 8 mm long hairs. Culm-sheath blade linear or lanceolate, as wide as sheath at base, erect, glabrous on surface, acuminate. Leaves cauline, 2–3 per branch. Leaf-sheaths 2.5–3.5 cm long, pilose, outer margin hairy. Leaf-sheath oral hairs setose, spreading or curly, 7–14 mm long. Leaf-sheath auricles absent. Ligule a ciliolate membrane, 0.5–1.5 mm long. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 14–19 cm long, 12–17 mm wide. Leaf-blade venation with 12–14 secondary veins, with obscure cross veins. Leaf-blade surface glabrous. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.
Hunan.

Pseudosasa hindsii (Munro) S.L. Chen & G.Y. Sheng ex T.G. Liang. *Fujian Bamboos* 1987: 142, 131, f. 2–102 (1987).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *Pleioblastus*).

TYPE from China. **Basionym or Replaced Name**: *Arundinaria hindsii* Munro, *Trans. Linn. Soc. London* 26(1): 31 (1868). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Guangdong: Hongkong, 1841, *Hinds s.n. (herb. Bentham)* (H: K).

Recent Synonyms: *Pseudosasa magilaminaris* B.M. Yang, *J. Hunan Sci. Technol. Univ.*, 1(1): 11 (1985). *Acidosasa denigrata* W.T. Lin, *J. South China Agr. Univ.* 14(1): 48–49, f. 4 (1998).

Pleioblastus hindsii (Munro) C.D.Chu & C.S.Chao, *Fl. Reipubl. Popul. Sin.*, 9(1): 653 (1996).

Arundinaria panda Keng, *Sinensia* 7: 416 (1936).

Pseudosasa aureovagina W.T.Lin. *J. Bamboo Res.,* 12(3): 4 (1993).

Pseudosasa baiyunensis W.T.Lin, *J. Bamboo Res.,* 13(2): 20 (1994).

Pseudosasa multifloscula (W.T. Lin) W.T. Lin, *Guihaia* 10(1): 18 (1990).

Pseudosasa nigrinodis G.A.Fu, *J. Bamboo Res.,* 15(1): 4 (1996).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 153).

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Butt sheaths absent. Culms 4 mm diam., woody. Culm-internodes terete, thin-walled. Lateral branches dendroid. Branch complement one or two. Culm-sheaths present. Leaves 1–3 per branch. Leaf-sheaths 2.5–4 cm long, glabrous on surface or pubescent. Leaf-sheath oral hairs setose, 8 mm long. Ligule an eciliate membrane, 1 mm long, pubescent on abaxial surface, truncate. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.2–0.4 cm long. Leaf-blades lanceolate, 5–15 cm long, 7–12 mm wide. Leaf-blade venation with 4–10 secondary veins, with distinct cross veins. Leaf-blade surface glabrous. Leaf-blade margins smooth. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes, embraced at base by subtending leaf. Racemes 1, single, bearing 2–5 fertile spikelets on each. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 2–15 mm long, glabrous or puberulous.

Fertile Spikelets. Spikelets comprising 4–11 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 23–55 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 3–5 mm long, pubescent and pilose, hairy all along but hairs longer above. Floret callus pubescent.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 8–13 mm long, chartaceous, without keels, 5–9 -veined. Lower glume margins eciliate or ciliolate. Lower glume apex acute. Upper glume elliptic, 8–13 mm long, chartaceous, without keels, 5–9 -veined. Upper glume margins eciliate or ciliolate. Upper glume apex acute.

Florets. Fertile lemma lanceolate or ovate, 10–14 mm long, chartaceous, without keel, 9–11 -veined, more than 3-veined. Lemma surface glabrous or puberulous. Lemma margins ciliate, hairy above. Lemma apex acuminate. Palea 8–10 mm long, 2 -veined. Palea keels ciliate. Palea surface pubescent. Palea apex entire. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, 3 mm long, veined, ciliate. Anthers 3, 4.5–6 mm long. Stigmas 3. Caryopsis with adherent pericarp, apex unappendaged.

Distribution (TDWG). Continent. Temperate Asia, Australasia.

Country /Province /State. **China**. China Southeast. **New Zealand** (*).

Fujian, Guangdong, Guangxi, Hunan, Jiangxi, Zhejiang.

Pseudosasa japonica (Steud.) Makino. *Journ. Jap. Bot*. ii. 15 (1920).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980) (as *Arundinaria*), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Japan. **Basionym or Replaced Name**: *Arundinaria japonica* Siebold & Zucc. ex Steud., *Syn. Pl. Glumac.* 1: 334 (1854). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *P.F. von Siebold s.n.*, no date, Japan: Metake (L (2 sheets), US-2808850).

Recent Synonyms: *Pseudosasa usawae* (Hayata) Makino & Nemoto, *Fl. Jap.* ed. 2, 1390 (1931).

Illustrations (Books): C-C Hsu,*Taiwan Grasses* (1975) (721, Pl. 1488), E.Edgar. & H.E.Connor, *Flora of New Zealand* 5, *Gramineae* (2000) (35, Fig. 1), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (.28), D.Farrelly, *The Book of Bamboo* (1984) (177), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 148).

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to; Japan, a modified spelling Zhapan introduced into Europe by Marco Polo as a transliteration for the Chinese name for the large islands to the east of that country. From Japan.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 300–500 cm long, 10–20 mm diam., woody. Culm-internodes terete, thin-walled, 15–30 cm long. Lateral branches dendroid. Bud complement 1. Branch complement one, solitary, as thick as stem. Culm-sheaths present, persistent, pilose, without auricles, glabrous on shoulders. Culm-sheath blade linear or lanceolate. Leaves cauline, 4–7 per branch. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs lacking. Ligule an eciliate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 8–35 cm long, 10–45 mm wide. Leaf-blade venation with distinct cross veins. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, obovate, 10–20 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–12 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 15–45 mm long, 3–4 mm wide, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 4–9 mm long, 0.5–0.8 length of upper glume, chartaceous, without keels, 5 -veined. Lower glume apex acute. Upper glume lanceolate, 8–12 mm long, 1 length of adjacent fertile lemma, chartaceous, without keels, 7–9 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 8–13 mm long, chartaceous, without keel, 17–23 -veined, more than 3-veined. Lemma apex acuminate, muticous or mucronate or awned, 1 -awned. Principal lemma awn 0–2 mm long overall. Palea 0.9 length of lemma, 8–10 -veined. Palea keels ciliate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, ovate, 3–4 mm long, ciliate. Anthers 3–4, 6 mm long. Stigmas 3. Ovary glabrous. Caryopsis with adherent pericarp, ovoid, 11 mm long.

$2n = 48$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe (+), Africa (+), Temperate Asia, Tropical Asia, Australasia (+), North America (+), South America (+).

Region. **Northern Europe** (*), **Southwestern Europe**.

Country /Province /State. : GB Aliens (Ryves et al), Ireland. : France. **Northern Africa**, **Macaronesia**. Azores, Madeira. **Caucasus**, **Western Asia**, **China**, **Eastern Asia**. China Southeast. Japan, Korea, Nansei-Shoto, Taiwan. **Indo-China**, **Malesia**. Vietnam. Java. **New Zealand** (*). New Zealand North I, New Zealand South I. **Mexico**. Central Mexico, Gulf (Mexico). **Brazil**. Brazil Southeast.

Guangdong, Jiangsu, Shanghai, Zhejiang. Sao Paulo. Distrito Federal. Veracruz.

Pseudosasa jiangleensis N.X. Zhao & N.H. Xia. *Pl. Longqi Mount., Fujian, China* (ed. Z.Y. Li): 600 (1994).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China.

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 70–100(–120) cm long, 10–30(–50) mm diam., woody. Culm-internodes terete, thick-walled, 40 cm long. Lateral branches dendroid, erect. Branch complement three. Culm-sheaths present, deciduous, chartaceous, glaucous, concolorous, hispid, glabrous on margins, concave at apex or truncate at apex, without auricles, glabrous on shoulders or ciliate on shoulders. Culm-sheath ligule 4–5 mm high, entire or ciliate. Culm-sheath blade linear or lanceolate, reflexed, pubescent. Leaves cauline, 4–6(–7) per branch. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs lacking. Leaf-sheath auricles absent. Ligule an eciliate membrane, 2 mm long. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 9–20 cm long, 10–25 mm wide. Leaf-blade venation with 8–12 secondary veins, with distinct cross veins. Leaf-blade surface glabrous, hairless except near base. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Fujian.

Pseudosasa longiligula T.H. Wen. *J. Bamboo Res.,* 1(1): 27 (1982).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Guangxi: Chuanchoun, *Wen 77806* (HT: ZJFI).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *longus*, long; *ligula*, small tongue. Ligule, long.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 800 cm long, 50 mm diam., woody. Culm-internodes terete, 40–56 cm long, distally glabrous. Lateral branches dendroid. Branch complement one or two or three. Culm-sheaths present, coriaceous, pilose, hairy on margins, concave at apex, auriculate, setose on shoulders. Culm-sheath ligule entire. Culm-sheath blade linear or lanceolate, narrower than sheath, erect. Leaves cauline, 4–6 per branch. Leaf-sheaths 6 cm long, pubescent, outer margin hairy. Leaf-sheath oral hairs scanty. Leaf-sheath auricles absent or falcate. Ligule a ciliolate membrane, 8 mm long. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate or oblong, 15–22 cm long, 13–30 mm wide. Leaf-blade

venation with 10–14 secondary veins, with distinct cross veins. Leaf-blade surface pubescent, hairy abaxially. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Guangxi.

Pseudosasa magilaminaris B.M. Yang. *J. Hunan Sci. Technol. Univ.* 1(1): 111 (1985).

Accepted by: S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Hunan: Jiangyong, slopes of hills, 24 Nov. 1983, B.M. Yang 0949 (HT: HNTC).

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China South Central.

Pseudosasa maculifera J.L. Lu. *Jour. Hen. Agr. Coll.* 1981(2): 71, f. 4 (1981).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China.

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 151 as *Pseudosasa maculifera* var. *maculifera* & *Pseudosasa maculifera* var. *hirsuta*).

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 200–400 cm long, 5–15 mm diam., woody. Culm-internodes terete, 21–31 cm long, yellow or light green, distally mealy. Culm-nodes with distinct supra-nodal ridge. Lateral branches dendroid. Branch complement one or two or three. Culm-sheaths present, green and brown, concolorous or distinctly mottled with last colour, glabrous or hispid, with tawny hairs, hairy on margins, without auricles, glabrous on shoulders or ciliate on shoulders. Culm-sheath ligule 1.5–4 mm high, green. Culm-sheath blade lanceolate or triangular, erect or reflexed. Leaves cauline, 2–4 per branch. Leaf-sheaths glabrous on surface, outer margin hairy. Leaf-sheath oral hairs setose, spreading. Leaf-sheath auricles erect or falcate. Ligule an eciliate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate or elliptic, 7–14 cm long, 12–22 mm wide. Leaf-blade venation with 10–18 secondary veins. Leaf-blade surface scabrous, pubescent, sparsely hairy, hairy abaxially. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence comprising only a few spikelets, comprising 1–2 fertile spikelets. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 30–50 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 6 mm long, pubescent.

Glumes. Glumes two, persistent, similar, shorter than spikelet. Lower glume lanceolate, chartaceous, without keels. Upper glume lanceolate, chartaceous, without keels.

Florets. Fertile lemma ovate, chartaceous, without keel, more than 3-veined. Palea keels ciliate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3. Anthers 3. Stigmas 3. Ovary pubescent on apex. Caryopsis with adherent pericarp, oblong, 9–13 mm long.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Henan, Zhejiang.

Pseudosasa membraniligulata B.M.Yang. *Bamboo Res.,* 1989(2): 3 (1989).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Hunan:, *B.M. Yang 06537* (HT: HNNU) abnormal type specimen.

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 100 cm long, 5 mm diam., woody. Culm-internodes terete, thin-walled, 10–15 cm long, mid-green, distally glabrous. Culm-nodes glabrous. Lateral branches dendroid. Branch complement one or two or three. Culm-sheaths present, tardily deciduous, 5.5–9 cm long, 4–5 times as long as wide, chartaceous, purple, pubescent, hairy at the base, with purple hairs, hairy on margins, without auricles, glabrous on shoulders. Culm-sheath ligule 2–3 mm high, lacerate. Culm-sheath blade triangular, erect, 4–5 cm long, 1–15 mm wide. Leaves cauline, 2–4 per branch. Leaf-sheaths 5–5.5 cm long, glabrous on surface. Leaf-sheath oral hairs lacking. Leaf-sheath auricles absent. Ligule a ciliolate membrane, 1 mm long, truncate. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate or oblong, 12–18 cm long, 12–25 mm wide. Leaf-blade venation with 10–14 secondary veins. Leaf-blade surface pubescent. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. Hainan.

Pseudosasa nabeshimana (Koidz.) Koidz. *Acta Phytotax. & Geobot.* iii. 151 (1934).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Japan. **Basionym or Replaced Name**: *Pleioblastus nabeshimanus* Koidz., *Acta Phytotax. Geobot.* 3: 15 (1934). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Hab. Kyushiu: Prov. Chikuzen, insl. Shirashima, 2 Oct 1932, *Y.Nabeshima*.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Y. Nabeshima (fl. 1932).

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 200–300 cm long, 5–8 mm diam., woody. Culm-internodes terete, yellow, distally pubescent. Culm-nodes swollen, glabrous. Lateral branches dendroid. Branch complement two or three or several. Culm-sheaths present, persistent, pubescent, with reflexed hairs. Culm-sheath blade lanceolate. Leaves cauline. Leaf-sheaths puberulous, outer margin hairy. Leaf-sheath oral hairs ciliate, deciduous. Ligule a ciliolate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 20–30 cm long, 12–23 mm wide, fleshy. Leaf-blade venation with distinct cross veins. Leaf-blade surface glabrous. Leaf-blade margins scabrous. Leaf-blade apex attenuate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Eastern Asia**. Japan.

Pseudosasa nanningensis (Q.H.Dai) D.Z.Li & Y.X. Zhang. *Act. Bot. Fennica* 48: 79–83 (2011).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Guangxi, Nanning, Laohuling, 12/5/1983 *Q.H.Dai & C.F.Huang 8311* (holo GXFI).

Illustrations (Journals): *Ann.Bot. Fennici* (48: 81, Fig. 1 (2011)).

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Pseudosasa orthotropa S.L. Chen & T.H. Wen. *J. Bamboo Res.*, 1(1): 46 (1982).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Wencheng, *S.D. Yu 80506* (HT: ZJFI; IT: Jiang. Inst. Bot.).

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 300–400 cm long, 10–14 mm diam., woody. Culm-internodes terete, 40 cm long, purple, distally pubescent. Culm-nodes flush with internodes. Lateral branches dendroid. Branch complement one or two or three. Culm-sheaths present, purple, pubescent, with white hairs, auriculate, ciliate on shoulders. Culm-sheath ligule entire. Culm-sheath blade lanceolate, erect. Leaves cauline, 8–11 per branch. Leaf-sheaths 6–9 cm long, glabrous on surface. Leaf-sheath oral hairs ciliate. Leaf-sheath auricles falcate. Ligule a ciliate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 16–34 cm long, 15–35 mm wide. Leaf-blade venation with 10–16 secondary veins, with distinct cross veins. Leaf-blade surface glabrous. Leaf-blade margins scabrous. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Fujian, Jiangxi, Zhejiang.

Pseudosasa owatarii (Makino) Makino. *Journ. Jap. Bot.* 2: 16 (1920).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Japan. **Basionym or Replaced Name**: *Arundinaria owatarii* Makino, *Bot. Mag. (Tokyo)* 21: 16 (1907). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Japan: Shikoko I.: Tokushima Prefect., Dec. 1914, *H. Nakano s.n.* (HT: US).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): In honor of Chutaro Owatari (fl. 1892 – 1898) Japanese plant collector.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 40–100 cm long, 2–5 mm diam., woody. Culm-internodes terete, thin-walled, distally glabrous. Culm-nodes flush with internodes, glabrous. Lateral branches dendroid, arising from upper culm. Bud complement 1. Branch complement one, solitary, as thick as stem. Culm-sheaths present, glabrous. Leaves cauline, 3–4 per branch. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs lacking. Ligule an eciliate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades linear or lanceolate, 6–12 cm long, 8–12 mm wide, fleshy. Leaf-blade surface glabrous. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Eastern Asia**. Japan.

Pseudosasa pubicicatrix W.T. Lin. *J. Bamboo Res.,* 13(2): 22 (1994).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Hainan: Ledong, Jianfengling, 22 March 1964, *Q. Huang 0002* (HT: CANT).

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. Hainan.

Pseudosasa pubiflora (Keng) P. C. Keng. Keng, *Claves Gen. & Spec. Gramin. Sinic.* 154 (1957).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. **Basionym or Replaced Name**: *Arundinaria pubiflora* Keng, *Sinensia* 7(3): 414–416, f. 4 (1936). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Guangdong: top of hill at rear of Iu Village, Lung Tsu Shan, 30 May 1924, *K.P. Yo[To?] & W.T. Tsang CCC 12284* (HT: US).

Recent Synonyms: *Pseudosasa parilis* T.P. Yi & D.H. Hu, *J. Bamboo Res*., 14(1): 20 (1995). *Acidosasa paucifolia* W.T. Lin, *Bull. Bot. Res., Harbin* 12(4): 352, f. 3 (1992).

Pseudosasa pallidiflora (McClure) S.L. Chen & G.Y. Sheng, *Bull. Bot. Res. North-East. Forest. Inst.,* 11(4): 44 (1991).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 150).

Derivation (Clifford & Bostock 2007): L. *pubes*, hair of adulthood; *flos*, flower. With some or all parts of the inflorescence or spikelets densely hairy.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Butt sheaths absent. Culms 120 cm long, woody. Culm-internodes terete, 4–5.5 cm long. Lateral branches suffrutescent. Branch complement two to three. Culm-sheaths present. Leaves cauline, 1–2 per branch. Leaf-sheaths 3 cm long, puberulous, outer margin glabrous or hairy. Leaf-sheath oral hairs setose, 12 mm long. Ligule an eciliate membrane, 1 mm long, truncate. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.2–0.3 cm long. Leaf-blades oblong, 8–18 cm long, 11–15 mm wide. Leaf-blade venation with obscure cross veins. Leaf-blade surface glabrous or puberulous, hairy abaxially. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes, exserted or embraced at base by subtending leaf. Racemes 1, single, 3–9 cm long, bearing 3–5 fertile spikelets on each. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 5–9 mm long, puberulous.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 16–20 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes elongated between glumes. Rhachilla elongation 1 mm long. Rhachilla internodes 3–4 mm long, pubescent, hairy above. Floret callus pilose.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 7–10 mm long, chartaceous, without keels. Lower glume surface puberulous, hairy above. Lower glume apex acuminate. Upper glume lanceolate, 7–12 mm long, chartaceous, without keels. Upper glume surface puberulous, hairy above. Upper glume apex acuminate.

Florets. Fertile lemma ovate, 10–12 mm long, chartaceous, without keel, 9 -veined, more than 3-veined. Lemma surface pubescent. Lemma apex acuminate. Palea 7–8 mm long, chartaceous. Palea keels ciliate. Palea apex entire, obtuse. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, 2 mm long, veined, ciliate. Anthers 3, 5 mm long, brown. Stigmas 2. Ovary glabrous. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China Southeast.

Guangdong, Hunan, Jiangxi.

Pseudosasa subsolida S.L. Chen & G.Y. Sheng. *Acta Phytotax. Sin.,* 21(4): 405 (1983).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Hunan: Yiyang, low slopes of hills, 7 April 1978, *L.H. Liu 06909* (HT: JSB).

Recent Synonyms: *Pseudosasa yuelushanensis* B.M.Yang, *Nat. Sci. J. Hunan Norm. Univ.,* 9(3): 90 (1986).

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 250 cm long, 5–12 mm diam., woody, 14–16 -noded. Culm-internodes terete, solid, 18–20 cm long, mid-green. Culm-nodes flush with internodes. Lateral branches dendroid. Branch complement one or two or three. Culm-sheaths present, chartaceous, glabrous, hairy on margins, without auricles, setose on shoulders, shoulders with straight hairs. Culm-sheath blade triangular, erect or reflexed. Leaves cauline, 6–7 per branch. Leaf-sheaths 4–8 cm long, pubescent, outer margin hairy. Leaf-sheath oral hairs scanty. Leaf-sheath auricles absent. Ligule a ciliolate membrane. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.2 cm long. Leaf-blades lanceolate or oblong, 15–23 cm long, 12–23 mm wide, dark green and light green, discolorous with last colour beneath. Leaf-blade venation with 10–12 secondary veins, with obscure cross veins. Leaf-blade surface pubescent, densely hairy, hairy abaxially. Leaf-blade apex acuminate. Flowering specimens unknown.

Flower and Fruit. $2n = 48$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.
Country /Province /State. **China**. China Southeast.
Fujian, Hunan, Jiangxi.

Pseudosasa viridula S.L. Chen & G.Y. Sheng. *Bull. Bot. Res. North-East. Forest. Inst.*, 11(4): 46 (1991).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Zhejiang: Hangzhou, Hangzhou Botanic Garden, 22 May 1979, *S.L. Chen & G.Y. Sheng et al. 79459* (HT: JSBI).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 154).

Derivation (Clifford & Bostock 2007): L. *viridis*, green; *-ula*, diminutive. Plant in whole or in part pale-green, often glaucous.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 400 cm long, 10 mm diam., woody. Culm-internodes terete, thin-walled, 13–15 cm long, mid-green. Lateral branches dendroid, ascending. Branch complement one or two or three. Culm-sheaths present, chartaceous, pilose, with white hairs, hairy on margins, truncate at apex, auriculate, setose on shoulders, shoulders with straight hairs, shoulders with 5–10 mm long hairs. Culm-sheath ligule 1.5 mm high, ciliolate. Culm-sheath blade lanceolate, erect, acuminate. Leaves cauline, (2–)4–5 per branch. Leaf-sheaths hispid, outer margin hairy. Leaf-sheath oral hairs lacking. Leaf-sheath auricles absent. Ligule a ciliolate membrane, scaberulous on abaxial surface. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate or elliptic, 8–30 cm long, 20–30 mm wide. Leaf-blade venation with 14–20 secondary veins. Leaf-blade surface puberulous, densely hairy, hairy abaxially. Leaf-blade margins scabrous. Leaf-blade apex acute. Flowering specimens unknown.

Flower and Fruit. $2n = 48$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.
Country /Province /State. **China**. China Southeast.
Zhejiang.

Pseudosasa wuyiensis S.L. Chen & G.Y. Sheng. *Bull. Bot. Res. North-East. Forest. Inst.,* 11(4): 46 (1991).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Fujian: Wuyi Shan, valley slopes, 16 June 1974, *Z.P. Wang et al. 74120* (HT: NJU).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 152).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Wuyi Shan, Fijian, Japan.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 250–350 cm long, 8 mm diam., woody. Culm-internodes terete, thin-walled, 30–40 cm long, mid-green, distally mealy. Lateral branches dendroid. Branch complement three. Culm-sheaths present, coriaceous, glabrous, hairy on margins, without auricles, glabrous on shoulders. Culm-sheath ligule 3–4 mm high. Culm-sheath blade linear or lanceolate, reflexed, acute. Leaves cauline, 3–4 per branch. Leaf-sheaths glabrous on surface, outer margin hairy. Leaf-sheath oral hairs lacking. Leaf-sheath auricles absent. Ligule a ciliolate membrane, 3 mm long. Leaf-blade base cuneate, with a brief petiole-like connection to sheath, petiole 0.3 cm long. Leaf-blades lanceolate, 11–17 cm long, 7–16 mm wide. Leaf-blade surface puberulous, hairy abaxially. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.
Country /Province /State. **China**. China Southeast.
Fujian.

Pseudosasa yuelushanensis B. M. Yang,. *Nat. Sci. J. Hunan Norm. Univ.* 9(3): 90 (1986).

Accepted by: S-L Chen et al, *Flora of China 22* (Poaceae) (2006).
Illustrations: None found.
Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.
Distribution (TDWG). Continent. Temperate Asia.
Country /Province /State. **China**. China South Central.

Pseudosclerochloa kengiana (Ohwi) Tzvelev. *Bot. Zhurn. (Moscow & Leningrad)* 89(5): 841 (2004).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. **Basionym or Replaced Name**: *Puccinellia kengiana* Ohwi, *J. Jap. Bot.* 12(9): 654 (1936). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Jiangsu: "Tsehsia" Shan, *Chen & Teng 48* (HT: ?) based on *P. stricta* Keng (1934) not Blom (1930).

Recent Synonyms: *Pseudosclerochla kengiana* (Ohwi) Tzvelev, *Bot. Zhurn. (Moscow & Leningrad)* 89(5): 841 (2004).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 436).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Keng Yi-li (1894–1975) Chinese agrostologist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose, clumped loosely. Butt sheaths glabrous or sparsely hairy. Culms 10–60 cm long, 2 mm diam. Leaf-sheaths open for most of their length, 7–9 cm long, longer than adjacent culm internode, keeled, smooth. Ligule an eciliate membrane, 2–3.5 mm long. Leaf-blades flat or conduplicate, 8–15 cm long, 2.5–4 mm wide, flaccid. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle, exserted or embraced at base by subtending leaf. Panicle contracted, linear, 6–12 cm long, 0.5–0.9 cm wide. Primary panicle branches 2 -nate, 1–2.5 cm long. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 0.5–1 mm long.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long.

Glumes. Glumes persistent, shorter than spikelet. Lower glume ovate, 1.2–2 mm long, 0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2–3 mm long, 0.66 length of adjacent fertile lemma, membranous, without keels, 3–5 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 2–2.5 mm long, membranous, much thinner above, keeled, lightly keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma apex acute. Palea 2–2.5 mm long, 2 -veined. Palea keels scaberulous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.
Country /Province /State. **China**. China Southeast.
Anhui, Henan, Jiangsu, Jiangxi.

Pseudosclerochloa rupestris (With.) Tzvelev. *Bot. Žhurn. (Moscow & Leningrad* 89(5): 841 (2004).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online (as *Puccinellia*), W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Puccinellia*), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000) (as *Puccinellia*), T.G.Tutin et al, *Flora Europaea* 5 (1980) (as *Puccinellia*).

TYPE from UK. **Basionym or Replaced Name**: *Poa rupestris* With., *Arr. Brit. Pl. (ed. 3)* 2: 146 (1796). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: UK: England: Gatherd on St. Vincent's Rocks, near Bristol, *Milne*.

Recent Synonyms: *Pseudosclerochloa rupestris* (With.) Tzvelev, *Bot. Zhurn. (Moscow & Leningrad)* 89(5): 841 (2004). *Puccinellia rupestris* (With.) Fernald & Weatherby, *Rhodora,* 18: 10 (1916).

Illustrations (Books): C.E.Hubbard, *Grasses* (1968) (204 as *Puccinellia*), T. Cope & A. Gray, Grasses of the British Isles (34 as *Puccinellia*), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (464 as *Puccinellia*).

Derivation (Clifford & Bostock 2007): L. *rupes*, rock; *-estre*, place of growth; Growing amongst rocks.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms decumbent or prostrate, 4–40 cm long, 1–3 -noded. Leaf-sheaths open for most of their length, without keel, smooth. Ligule an eciliate membrane, 1–2.5 mm long. Leaf-blades 1–10 cm long, 2–6 mm wide. Leaf-blade surface scabrous, rough adaxially. Leaf-blade apex obtuse or abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle open, oblong or ovate, dense, secund, 2–8 cm long, 1–4.5 cm wide. Primary panicle branches ascending or spreading, bearing spikelets almost to the base. Panicle branches stiff, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume ovate, 1.5–2.5 mm long, 0.6–0.8 length of upper glume, membranous, much thinner on margins, without keels, 1–3 -veined. Lower glume apex obtuse. Upper glume ovate, 2.5–3 mm long, 0.75–0.8 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma elliptic, 3–4 mm long, membranous, much thinner above, much thinner on margins, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface puberulous, hairy below. Lemma apex erose, obtuse, muticous or mucronate. Palea 1 length of lemma, 2 -veined. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1 mm long. Ovary glabrous. Caryopsis with adherent pericarp, ellipsoid, 2 mm long. Embryo 0.6 length of caryopsis. Hilum punctiform.

Distribution (TDWG). Continent. Europe, Australasia, and North America.

Region. **Northern Europe**, **Middle Europe**, and **Southwestern Europe**.

Country /Province /State. : Great Britain. : Belgium, Netherlands. : France, Spain. **New Zealand** (*). Stewart Is. **Northeast USA**. Pennsylvania.

Pseudosorghum fasciculare (Roxb.) A.Camus. *Bull. Mus. Hist. Nat. Paris,* xxvi. 662. (1920).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. **Basionym or Replaced Name**: *Andropogon fascicularis* Roxb., *Fl. Ind.* 1: 269 (1820). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: India: Roxburgh.

Recent Synonyms: *Bothriochloa gracilis* W.Z. Fang, *Bull. Bot. Res. North-East. Forest. Inst.*, 6(1): 100 (1986). *Bothriochloa yunnanensis* W.Z. Fang, *Bull. Bot. Res. North-East. Forest. Inst.*, 6(1): 99 (1986).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (787, Fig. 55), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 809), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Fig. 102).

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Pl. 25).

Derivation (Clifford & Bostock 2007): L. *fascis*, bundle; *-ula*, diminutive; *-aris*, pertaining to. Spikelets or racemes clustered in the inflorescence.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Sorghinae.

Habit, Vegetative Morphology. Annual. Culms decumbent, 60–150 cm long. Ligule a ciliolate membrane. Leaf-blades 30–50 cm long, 4–8 mm wide.

Inflorescence. Inflorescence a panicle with branches tipped by a raceme. Panicle open, oblong, dense, 2.5–12 cm long. Primary panicle branches 0.1–1 cm long. Racemes 0.6–3 cm long, bearing few fertile spikelets, bearing 3–6 fertile spikelets on each. Rhachis fragile at the nodes, ciliate on margins. Rhachis

internodes filiform, 2–3 mm long. Rhachis internode tip transverse. Spikelets in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, filiform, 2–3 mm long, without a translucent median line, ciliate, tip rectangular.

Sterile Spikelets. Companion sterile spikelets well-developed, comprising 2 subequal glumes without lemmas, lanceolate, 3.5–4 mm long, shorter than fertile, separately deciduous. Companion sterile spikelet glumes herbaceous, 7 -veined, acuminate.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, dorsally compressed, 4–5 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus pilose, base obtuse, attached transversely.

Glumes. Glumes dissimilar, reaching apex of florets, firmer than fertile lemma, shiny. Lower glume lanceolate, 1 length of spikelet, cartilaginous, without keels, 7–9 -veined. Lower glume surface glabrous. Lower glume apex truncate. Upper glume elliptic, cartilaginous, without keels, keel-less except near apex, 5–7 -veined.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret lanceolate, 1 length of spikelet, hyaline, 2 -veined, ciliate on margins. Fertile lemma lanceolate, hyaline. Lemma margins ciliate. Lemma apex lobed, 2 -fid, incised 0.4 of lemma length, awned, 1 -awned. Principal lemma awn from a sinus, geniculate, 8–15 mm long overall, with twisted column. Column of lemma awn glabrous. Palea absent or minute.

Flower and Fruit. Lodicules 2, glabrous.

n = 10 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. China South Central. **Indian Subcontinent**, **Indo-China**, **Malesia**. Eastern Himalaya, India. Myanmar, Thailand, Vietnam. Philippines.

Yunnan. Sikkim. Assam, Nagaland. Bihar, Kerala. Madhya Pradesh, Maharashtra, Orissa, Tamilnadu, Uttah Pradesh, West Bengal.

Pseudosorghum zollingeri (Steud.) A.Camus. *Bull. Mus. Hist. Nat. Paris,* xxvi. 663. (1920).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Indonesia. **Basionym or Replaced Name**: *Andropogon zollingeri* Steud., *Syn. Pl. Glumac.* 1: 369 (1854). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Indonesia: Java:, *H. Zollinger 2802* (HT: P; IT: US-865429 (fragm. ex P)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Heinrich Zollinger (1818–1859) Swiss botanist.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Sorghinae.

Habit, Vegetative Morphology. Annual. Culms decumbent, 40–90 cm long, rooting from lower nodes. Ligule an eciliate membrane, 1.5–2 mm long. Leaf-blades 30–40 cm long, 6–10 mm wide. Leaf-blade surface pubescent. Leaf-blade margins spinulose. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle with branches tipped by a raceme. Panicle open, oblong, dense, 8–10 cm long. Racemes 3.5–4 cm long, bearing 10–14 fertile spikelets on each. Rhachis fragile at the nodes, ciliate on margins. Rhachis internodes filiform. Rhachis internode tip transverse. Spikelets in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, filiform, 3 mm long, without a translucent median line, ciliate, tip rectangular.

Sterile Spikelets. Companion sterile spikelets well-developed, male, linear or lanceolate, 4–5 mm long, as long as fertile, separately deciduous. Companion sterile spikelet glumes herbaceous, 9 -veined, glabrous, truncate. Companion sterile spikelet lemmas 2, enclosed by glumes.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, dorsally compressed, 4–5 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus pilose, base obtuse, attached transversely. Spikelet callus hairs white, 1–2 mm long.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma, shiny. Lower glume lanceolate, 1 length of spikelet, cartilaginous, without keels, 7–9 -veined. Lower glume surface flat,

glabrous. Lower glume apex truncate. Upper glume elliptic, cartilaginous, without keels, keel-less except near apex, 5 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret lanceolate, 3.5–4.5 mm long, 0.9 length of spikelet, hyaline, 0 -veined, without midvein, without lateral veins, eciliate on margins or ciliolate on margins, acute or acuminate. Fertile lemma oblong, 2–2.5 mm long, hyaline. Lemma apex lobed, 2 -fid, incised 0.5 of lemma length, awned, 1 -awned. Principal lemma awn from a sinus, geniculate, 15–24 mm long overall, with twisted column. Column of lemma awn glabrous. Palea absent or minute.

Flower and Fruit. Lodicules 2, glabrous. Anthers 3, 1.5 mm long.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indo-China**, **Malesia**. Thailand, Vietnam. Java, Philippines.

Pseudostachyum polymorphum Munro. *Trans. Linn. Soc.* 26: 142 (1868).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from India. **Basionym or Replaced Name**: *Pseudostachyum polymorphum* Munro, *Trans. Linn. Soc*. 26: 142 (1868). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: India, Sikkim, Balasier: Hooker & Thomson ; India, Darjeeling: Hooker & Thomson sn.

Recent Synonyms: Schizostachyum polymorphum (Munro) R.B. Majumdar, *Trans. Linn. Soc.* 26: 142 (1868).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (494, Fig. 3).

Derivation (Clifford & Bostock 2007): Gk. *polys*, many; *morphe*, shape. Producing spikelets of two kinds or otherwise variable.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, culms solitary. Rhizomes elongated, pachymorph. Butt sheaths absent. Culms erect or leaning, 1500–2000 cm long, 30–35 mm diam., woody. Culm-internodes terete, thin-walled, 20–23 cm long, dark green or glaucous. Lateral branches dendroid. Culm-sheaths present, pubescent, with appressed hairs, with dark brown hairs, truncate at apex, auriculate, ciliate on shoulders. Culm-sheath ligule dentate. Culm-sheath blade triangular, as wide as sheath at base, acuminate. Leaf-sheaths puberulous. Ligule an eciliate membrane. Leaf-blade base asymmetrical, with a brief petiole-like connection to sheath, petiole 0.7–1.3 cm long. Leaf-blades lanceolate or oblong, 10–20 cm long, 25–60 mm wide. Leaf-blade venation with 14–22 secondary veins, with distinct cross veins. Leaf-blade surface smooth. Leaf-blade apex attenuate.

Inflorescence. Synflorescence bractiferous, paniculate, lax, with glumaceous subtending bracts, with axillary buds at base of spikelet, prophyllate below lateral spikelets.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1–3 basal sterile florets, 1 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes one the lower absent or obscure, persistent, shorter than spikelet. Upper glume ovate, chartaceous, without keels, 7 -veined. Upper glume apex acute, mucronate.

Florets. Basal sterile florets 2 or more. Fertile lemma ovate, 5 mm long, chartaceous, without keel, more than 3-veined. Lemma margins ciliate. Lemma apex acute. Palea tightly convolute around flower, chartaceous. Palea keels ciliate.

Flower and Fruit. Lodicules 3 or many (3–5), ciliate. Anthers 6, anther tip apiculate. Stigmas 2, pubescent. Ovary with a steeple-like appendage, glabrous. Caryopsis with free brittle pericarp, orbicular.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. China South Central, China Southeast. **Indian Subcontinent**, **Indo-China**. Eastern Himalaya. Myanmar.

Guangdong, Guangxi. Yunnan.

Pseudoxytenanthera bourdillonii (Gamble) H.B. Naithani. *J. Bombay Nat. Hist. Soc.,* 87(3): 440 (1991).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from India. **Basionym or Replaced Name**: *Oxytenanthera bourdillonii* Gamble, *Ann. Bot. Gard. Calc*. 7: 76 (1896). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: India, Travancore: Bourdillon (K iso).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Thomas Fulton Bourdillon (1849–1930) who collected in India.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, pluricaespitose. Rhizomes short, pachymorph. Butt sheaths absent. Culms woody. Culm-internodes terete, thick-walled. Lateral branches dendroid. Culm-sheaths present, 15–30 cm long, 2 times as long as wide, coriaceous, hispid, hairy at the base, with black hairs, auriculate. Culm-sheath ligule 5 mm high, dentate. Culm-sheath blade triangular, 5–7.5 cm long. Ligule an eciliate membrane, erose. Collar with external ligule. Leaf-blade base asymmetrical, with a brief petiole-like connection to sheath, petiole 0.5 cm long. Leaf-blades lanceolate, 15–22.5 cm long, 25–35 mm wide. Leaf-blade venation with 14–16 secondary veins. Leaf-blade surface glabrous. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, clustered at the nodes, in globose clusters, 4–5 cm long, dense, 4 cm between clusters, with glumaceous subtending bracts, with axillary buds at base of spikelet, prophyllate below lateral spikelets, leafless between clusters.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 17–20 mm long, 2–5 mm wide, falling entire.

Glumes. Glumes two, similar, shorter than spikelet. Upper glume ovate, 5–10 mm long, chartaceous, without keels. Upper glume apex acuminate, mucronate.

Florets. Fertile lemma ovate, 15–18 mm long, chartaceous, without keel, more than 3-veined. Lemma apex acuminate, mucronate. Palea chartaceous, 5 -veined, 2-keeled but the uppermost without keels. Palea keels ciliate. Rhachilla extension pilose. Apical sterile florets 1 in number, barren, linear.

Flower and Fruit. Lodicules absent. Anthers 6, anther tip apiculate. Filaments united in a tube. Stigmas 3, pubescent. Ovary umbonate, pubescent on apex. Caryopsis with adherent pericarp, oblong, 10 mm long, hairy at apex. Hilum linear.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indian Subcontinent**. India.

Pseudoxytenanthera monadelpha (Thwaites) T.R. Soderstrom & R.P. Ellis. *Smithsonian Contrib. Bot.,* 72: 52: (1988).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Sri Lanka. **Basionym or Replaced Name**: *Dendrocalamus monadelphus* Thwaites, *Enum. Pl. Zeyl.* 5: 376 (1864). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Thwaites C.P. 3359*, Dec 1854, Sri Lanka: Ambagamuwa (PDA). LT designated by Soderstrom & Ellis, Smithsonian Contr. Bot. 72: 52 (1988).

Illustrations: None found.

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012)
(*Smith. Contr. Bot.* No. 72 : 55 (1988)).

Derivation (Clifford & Bostock 2007): Gk *monos*, one; *adelphos,* close kinsman. Stamens united.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, pluricaespitose. Rhizomes short, pachymorph. Butt sheaths absent. Culms scandent, pendulous at the tip, 400–800 cm long, 10–15 mm diam., woody. Culm-internodes terete, thick-walled. Lateral branches dendroid, extravaginal. Buds or branches present on lower part of culm. Bud complement 1. Branch complement many, in a clump, with

subequal branches or 1 branch dominant, as thick as stem (when 1 dominant) or thinner than stem. Culm-sheaths present, deciduous but leaving a persistent girdle, yellow or purple, pilose, auriculate, setose on shoulders, shoulders with 10–20 mm long hairs. Culm-sheath blade lanceolate, deciduous, spreading or reflexed, 10–15 cm long, 15–20 mm wide, glabrous on surface, acuminate. Leaves 7–12 per branch. Ligule an eciliate membrane, 1.3–1.7 mm long, erose. Collar with external ligule, ciliate. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades linear or lanceolate, 12–20 cm long, 20–30 mm wide, dark green. Leaf-blade venation without cross veins. Leaf-blade surface glabrous. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, clustered at the nodes, in globose clusters, dense, with glumaceous subtending bracts, with axillary buds at base of spikelet, prophyllate below lateral spikelets, leafless between clusters.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1–3 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 13–16 mm long, falling entire. Rhachilla internodes suppressed between florets.

Glumes. Glumes several, comprising 2 gemmiferous bracts, 2 empty glumes, similar, shorter than spikelet. Lower glume ovate, 6–7 mm long, chartaceous, without keels, 10–11 -veined. Lower glume margins ciliate. Lower glume apex acuminate. Upper glume ovate, 7–9 mm long, chartaceous, without keels, 10–11 -veined. Upper glume margins ciliate. Upper glume apex acuminate.

Florets. Fertile lemma ovate, 10 mm long, chartaceous, without keel, 13–16 -veined, more than 3-veined. Lemma lateral veins with cross-veins. Lemma apex apiculate. Palea chartaceous, 7 -veined, 2-keeled. Palea keels ciliate. Palea apex ciliate.

Flower and Fruit. Lodicules absent. Anthers 6, 3 mm long, orange, anther tip penicillate. Filaments united in a tube. Stigmas 1–3, pubescent. Ovary umbonate, glabrous. Caryopsis with tardily free pericarp (below), fusiform, 5 mm long. Embryo 0.15 length of caryopsis. Hilum linear, 1 length of caryopsis.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indian Subcontinent**. India, Sri Lanka.

Pseudoxytenanthera ritcheyi (Munro) H.B. Naithani. *J. Bombay Nat. Hist. Soc.*, 87(3): 440 (1990).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from India. **Basionym or Replaced Name**: *Bambusa ritcheyi* Munro, *Trans. Linn. Soc. London* 26(1): 113 (1868). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Hab. in Ind. or. Bombay, Kala Nuddi, *Ritchie 820*.

Illustrations (Books): G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Fig. 219).

Derivation (Clifford & Bostock 2007): In honor of David Ritchie (1809– 1866) physician and plant collector in India.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes short, pachymorph. Butt sheaths absent. Culms 300–450 cm long, 25–35 mm diam., woody. Culm-internodes terete, solid, 37–45 cm long, distally pubescent. Lateral branches dendroid. Culm-sheaths present, 15–22 cm long, 2 times as long as wide, hispid, with appressed hairs, with white hairs, concave at apex. Culm-sheath ligule fimbriate. Culm-sheath blade lanceolate, 7.5 cm long. Leaf-sheaths striately veined, glabrous on surface or pubescent. Ligule an eciliate membrane, 5 mm long, obtuse or acute. Collar with external ligule. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.5 cm long. Leaf-blades lanceolate, 15–20 cm long, 20–40 mm wide, light green. Leaf-blade venation with 14–24 secondary veins. Leaf-blade surface pubescent, sparsely hairy, hairy abaxially. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, clustered at the nodes, in globose clusters, 5–6.5 cm long, dense, with glumaceous subtending bracts, with axillary buds at base of spikelet, prophyllate below lateral spikelets, leafless between clusters.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 20–25 mm long, falling entire.

Glumes. Glumes several, 2–3 empty glumes, similar, shorter than spikelet. Upper glume ovate, chartaceous, without keels. Upper glume apex acuminate, mucronate.

Florets. Fertile lemma linear, 15 mm long, chartaceous, without keel, more than 3-veined. Lemma margins convolute. Lemma apex acuminate, mucronate. Palea chartaceous, without keels.

Flower and Fruit. Lodicules absent. Anthers 6, 5–7 mm long, anther tip apiculate or pubescent. Filaments united in a tube. Stigmas 1, plumose. Ovary umbonate, glabrous. Caryopsis with adherent pericarp, linear, sulcate on hilar side. Hilum linear.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indian Subcontinent**. India.

Pseudoxytenanthera stocksii (Munro) Nguyen To Quyen. *Bot. Zhurn.*, 76(7): 993: (1991).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from India. **Basionym or Replaced Name**: *Oxytenanthera stocksii* Munro, *Trans. Linn. Soc. London* 26(1): 130 (1868). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Hab. in Ind. or. Concan, *Stocks s.n.*.

Illustrations: None found.

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Pl. 25).

Derivation (Clifford & Bostock 2007): in honor of John Ellerton Stocks (1822–1854) English-born physician and plant collector in India.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes short, pachymorph. Butt sheaths absent. Culms 600–900 cm long, 25–40 mm diam., woody. Culm-internodes terete, solid, 15–30 cm long, grey, distally glabrous or pubescent. Lateral branches dendroid. Culm-sheaths present, 15–22 cm long, 1.3–2 times as long as wide, pubescent, with appressed hairs, with red hairs, hairy on margins, concave at apex, auriculate, setose on shoulders. Culm-sheath ligule 7 mm high, fimbriate. Culm-sheath blade linear, acuminate. Leaf-sheaths striately veined, glabrous on surface or pubescent. Ligule an eciliate membrane, erose. Collar with external ligule. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.2 cm long. Leaf-blades lanceolate, 10–20 cm long, 10–20 mm wide. Leaf-blade venation with 10–12 secondary veins. Leaf-blade surface glabrous. Leaf-blade margins scabrous. Leaf-blade apex attenuate.

Inflorescence. Synflorescence bractiferous, clustered at the nodes, in globose clusters, 2.5 cm long, dense, 2.5–5 cm between clusters, with glumaceous subtending bracts, with axillary buds at base of spikelet, prophyllate below lateral spikelets, leafless between clusters.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 10–12 mm long, falling entire.

Glumes. Glumes two, similar, shorter than spikelet. Upper glume ovate, chartaceous, without keels, 5–7 -veined. Upper glume apex acuminate, mucronate.

Florets. Fertile lemma ovate, 9 mm long, chartaceous, without keel, more than 3-veined. Lemma apex acuminate, mucronate. Palea chartaceous, 7 -veined, 2-keeled but the uppermost without keels. Palea keels ciliate.

Flower and Fruit. Lodicules absent. Anthers 6. Filaments united in a tube. Stigmas 1, plumose. Ovary umbonate, pubescent all over. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. **Indian Subcontinent**. India.

Pseudozoysia sessilis Chiov. *Pl. Nov. Aethiop.* 21 (1928).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Somalia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Somalia media: Sultanato do Obbia, duna presso Obbia, 16 Apr 1924, *Puccioni & Stefanini 355 [405]*.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. sessile. Spikelets sessile.

Classification. Subfamily Chloridoideae. Tribe: Chlordoideae incertae sedis.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 8–15 cm long. Ligule a fringe of hairs. Leaf-blades convolute, 1.5–2.5 cm long, 2–2.7 mm wide. Leaf-blade apex obtuse.

Inflorescence. Inflorescence composed of racemes, subtended by an inflated leaf-sheath, embraced at base by subtending leaf. Racemes numerous, borne along a central axis, closely spaced, in a multilateral false spike, oblong, 2.5 cm long, bearing few fertile spikelets, bearing 2 fertile spikelets on each. Central inflorescence axis 1.3–5 cm long. Rhachis obsolete, deciduous from axis. Spikelets in pairs. Fertile spikelets sessile, 2 in the cluster, heteromorphic, the upper smaller.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2.5 mm long, falling entire, deciduous with accessory branch structures.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume ovate, 1 length of upper glume, 1 length of spikelet, indurate, without keels. Lower glume surface muricate, rough on flanks. Lower glume apex acute. Upper glume oblong, gibbous, 2.5 mm long, indurate, without keels. Upper glume surface tuberculate, rough above. Upper glume apex acute.

Florets. Fertile lemma oblong, 2 mm long, hyaline, without keel, 1 -veined, 0–3 -veined, one-veined. Lemma apex obtuse. Palea 0.5 length of lemma, hyaline. Palea keels ciliolate.

Flower and Fruit. Anthers 3.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Northeast Tropical Africa**. Somalia.

Psilolemma jaegeri (Pilg.) S.M. Phillips. *Kew Bull.* 29(2): 267 (1974).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Tanzania. **Basionym or Replaced Name**: *Diplachne jaegeri* Pilg., *Bot. Jahrb. Syst.* 43(1): 94 (1909). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Jaeger 320*, Tanzania: Lake Eyasi (B).

Illustrations (Books): R.M.Polhill, F.T.E.A., *Gramineae* (2(1974):180, Fig.56).

Derivation (Clifford & Bostock 2007): in honor of Fritz and Oehler Eduard Jaeger (fl 1906–1907) who collected in East Africa.

Classification. Subfamily Chloridoideae. Tribe: Eragrostideae.

Habit, Vegetative Morphology. Perennial, mat forming. Cataphylls evident. Stolons present. Butt sheaths thickened and forming a bulb, yellow, glossy, glabrous. Culms erect, 7–35 cm long, wiry. Culm-nodes brown. Lateral branches sparse. Leaves cauline, distichous. Leaf-sheaths longer than adjacent culm internode, wider than blade at the collar, smooth, glabrous on surface. Ligule a fringe of hairs, 0.3–0.75 mm long. Leaf-blades convolute, 0.5–7 cm long, 1.5–2 mm wide, stiff. Leaf-blade surface ribbed, papillose. Leaf-blade apex acute, pungent, smooth.

Inflorescence. Inflorescence composed of racemes. Racemes 1–6, single (when depauperate) or borne along a central axis, appressed, 1–4 cm long, bearing few fertile spikelets, bearing 1–5 fertile spikelets on each. Central inflorescence axis 3.5–12 cm long. Rhachis subterete. Spikelet packing broadside to rhachis, lax, irregular. Spikelets ascending, solitary. Fertile spikelets pedicelled or sessile. Pedicels absent or present, linear, 0–3 mm long.

Fertile Spikelets. Spikelets comprising 4–14 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, compressed slightly, 5–15 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes definite, eventually visible between lemmas. Floret callus evident, 0.1 mm long.

Glumes. Glumes persistent, similar, subequal in width, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate to ovate, 1.2–3 mm long, 0.6–0.8 length of upper glume, hyaline, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2.3–3 mm long,

0.6–0.8 length of adjacent fertile lemma, hyaline, without keels, 1 -veined. Upper glume lateral veins absent. Upper glume apex obtuse or acute.

Florets. Fertile florets free at tip. Fertile lemma oblong, laterally compressed, 3–3.8 mm long, membranous, without keel, 3 -veined, 0–3 -veined. Lemma lateral veins midway between midvein and margin, stopping well short of apex. Lemma apex emarginate (rarely) or obtuse. Palea oblong, 0.9 length of lemma, 2 -veined. Palea apex entire, obtuse. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, linear, 1.7–2 mm long. Stigmas 2. Caryopsis with tardily free pericarp, ellipsoid, isodiametric, biconvex, without sulcus, 1.1–1.2 mm long. Embryo 0.4 length of caryopsis. Disseminule comprising a floret.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **West-Central Tropical Africa**, **East Tropical Africa**. DRC. Kenya, Tanzania, Uganda.

Psilurus incurvus (Gouan) Schinz & Thellung. *Vierteljahrsschr. Nort. Ges. Zurich*, lviii. 40 (1913).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

Basionym or Replaced Name: *Nardus incurva* Gouan, *Hortus Monsp.* 33 (1762). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *J. Scheutzer, Agrostograpia t. 1, fig. 7K (1719)*, LT designated by Stace & Jarvis, *Bot. J. Linn. Soc.* 91: 441 (1985).

Illustrations (Books): N.N.Tsvelev, *Grasses of the Soviet Union* (1983) (633 (421), Pl.8), N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 316), N.L.Bor, *Gramineae* in *Flora of Iraq* (1968) (105, Pl. 35), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (161, Fig 114), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (413, Fig 82), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (359), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (345, Fig 46), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. bowed. Inflorescences curved spikes.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms erect, 20–40 cm long. Ligule an eciliate membrane, 0.5–1 mm long. Leaf-blades filiform, convolute, 2–5 cm long, 2–3 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, flexuous, smoothly terete, unilateral, 3–25 cm long. Rhachis fragile at the nodes (tardily), subcylindrical and excavated, glabrous on surface or pubescent on surface. Spikelet packing broadside to rhachis, distant. Spikelets sunken, solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with a barren rhachilla extension or with diminished florets at the apex. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 3.5–5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes one the lower absent or obscure, lateral, persistent, shorter than spikelet, thinner than fertile lemma. Upper glume ovate, 0.5–1.3 mm long, 0.1–0.25 length of adjacent fertile lemma, membranous, without keels, 1 -veined. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 3.5–5 mm long, coriaceous, keeled, 3 -veined, 0–3 -veined. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 3–5 mm long overall. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 1, 0.3–0.9(–1.7) mm long. Caryopsis with adherent pericarp, lanceolate, 3–4.5 mm long. Hilum linear, 0.33–0.66 length of caryopsis.

n = 14 (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Tropical Asia, Australasia (*).

Region. **Northern Europe** (*), **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : GB Aliens (Ryves et al). : Baleares, Corsica, France, Portugal, Sardinia, Spain. : Albania, Bulgaria, Greece, Italy, Crete, Romania, Sicily, Turkey Europe, Yugoslavia. Krym. **Northern Africa**. Algeria, Libya, Morocco, Tunisia. **Middle Asia**, **Caucasus**, **Western Asia**.

Turkmenistan, Tadzhikistan, Uzbekistan. Afghanistan, Iran, Iraq. **Indian Subcontinent**. Pakistan. **Australia** (*). South Australia (*), New South Wales (*), A.C.T. (*), Victoria (*).

Southern. Coast, Tablelands.

Ptilagrostis dichotoma Keng ex Tsvelev. *Rast. Tsentr. Azii* 4: 43 (1968).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Stipa*).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Gansu/Qinghai border:, *Y.C. Wu 478* (IT: LE (fragm.)).

Recent Synonyms: *Ptilagrostis dichotoma* var. *roshevitsiana* Tsvelev, *Pl. Asiae. Centr.* 4:43 (1968).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 15–45 cm long. Ligule an eciliate membrane, 1–2.5 mm long, scaberulous on abaxial surface. Leaf-blades filiform, conduplicate, 0.3–0.6 mm wide. Leaf-blade surface scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, effuse, 4–10 cm long. Panicle branches flexuous, smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 4–5.3 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume lanceolate, 4–5.3 mm long, 1 length of upper glume, membranous, 1-keeled. Lower glume apex acute. Upper glume lanceolate, 4–5.3 mm long, membranous, 1-keeled. Upper glume apex acute.

Florets. Fertile lemma lanceolate, subterete, 2.5–4.5 mm long, membranous, without keel. Lemma surface scabrous, rough above, pilose, hairy below. Lemma margins convolute, covering most of palea. Lemma apex dentate, 2 -fid, awned, 1 -awned. Principal lemma awn from a sinus, geniculate, 10–18 mm long overall, with twisted column, limb pubescent, with 0.6–1.2 mm long hairs. Column of lemma awn hirsute, with 1.8–2.5 mm long hairs. Palea without keels.

Flower and Fruit. Anthers 3, 1.3–2 mm long, anther tip penicillate. Stigmas 2. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. China South Central, Inner Mongolia, China North-Central, Qinghai, Tibet. **Indian Subcontinent**. Eastern Himalaya, India, Nepal.

Gansu, Shaanxi. Nei Mongol. Sichuan, Yunnan. Bhutan.

Ptilagrostis junatovii Grubov. *Bot. Mater. Gerb. Inst. Bot. Akad. Nauk Kazahsk. SSR* 17: 3 (1955).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Stipa*), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Mongolia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: T: *Junatov A.A. s.n.*, 8 Aug 1951, Mongolia: Arachangai ajmak: Zachir somon: mts Tarbagatai: Tsagustin daba Pass (LE). Orig. label: " MNR, arachangajskij ajmak, Tsakhir somon, khr. Tarbagatai, pereval Tszagastuin daba, vysokogornyi poyas, zarosly Betula rotundifolia, po protalinam zanyatym osokovo-kobresievym lugom.".

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 279 as *Ptilagrostis*).

Derivation (Clifford & Bostock 2007): in honor of Alexander Afanasievich Junatov (1909-) Russian botanist.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 15–20 cm long. Culm-internodes distally glabrous. Leaf-sheaths 2–2.5 cm long. Ligule an eciliate membrane, 2 mm long, obtuse. Leaf-blades curved or flexuous, filiform, convolute, 0.5 mm wide. Leaf-blade surface ribbed.

Inflorescence. Inflorescence a panicle, comprising 10–15 fertile spikelets. Panicle open, linear, 4–5 cm long. Primary panicle branches 0.5–1.5 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, subterete, 5–6.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, 1 mm long, pilose, acute.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 1 length of upper glume, membranous, much thinner on margins, light brown, without keels. Lower glume apex acuminate. Upper glume lanceolate, 5–6.5 mm long, membranous, with hyaline margins, light brown, without keels. Upper glume apex acuminate.

Florets. Fertile lemma lanceolate, subterete, 4–5 mm long, coriaceous, dark brown, without keel, 5 -veined, more than 3-veined. Lemma margins convolute, covering most of palea. Lemma apex dentate, 2 -fid, awned, 1 -awned. Principal lemma awn from a sinus, geniculate, 15–17 mm long overall, with twisted column, limb pubescent. Column of lemma awn 5–6 mm long, hirsute. Palea without keels. Palea surface pilose, hairy below.

Flower and Fruit. Anthers 3. Stigmas 2. Ovary glabrous. Caryopsis with adherent pericarp, fusiform. Hilum linear.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia, **Middle Asia**, **China**, **Mongolia**, **Russia**. Altay, Buryatiya, Chita, Irkutsk, Tuva. Kazakhstan. Tibet, Xinjiang. Mongolia.

Ptilagrostis kingii (Bolander) M.E. Barkworth. *Syst. Bot.,* 8(4): 417: (1983).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Stipa*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. **Basionym or Replaced Name**: *Stipa kingii Bol., Proc. Calif. Acad. Sci.* 4: 170 (1872). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *H.N. Bolander 6097*, 188-, USA: California: Tuolumne Co. (US-819910). Coll. no. erroneously cited as 6076.

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (144).

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, slender, 20–40 cm long. Leaves mostly basal. Ligule an eciliate membrane, 1 mm long. Leaf-blades flexuous, filiform, involute, 1 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, linear, 4–9 cm long. Primary panicle branches appressed or ascending. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, subterete, 4 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume oblong, 3.5 mm long, 0.9 length of upper glume, chartaceous, without keels, 0 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume oblong, 4 mm long, 1.1 length of adjacent fertile lemma, chartaceous, without keels, 0 -veined. Upper glume primary vein absent. Upper glume lateral veins absent. Upper glume apex obtuse.

Florets. Fertile lemma elliptic, subterete, 3–3.5 mm long, coriaceous, without keel. Lemma surface pubescent. Lemma margins convolute, covering most of palea. Lemma apex awned, 1 -awned. Principal lemma awn curved, 12 mm long overall, tardily deciduous, limb puberulous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. $2n = 22$ (FNA).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Southwestern USA**. California.

Ptilagrostis luquensis Peterson, Soreng & Wu. *Sida* 21:1356 (2005).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China, Chengdu to Langhou: Soreng, Peterson & Sun 5383 (US holo, HNWP, K, KUN, MO, PE).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Luqu County, Gansu Province, China.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Basal innovations intravaginal. Culms erect, 5–23 cm long, 0.5–0.8 mm diam., 1 -noded. Culm-internodes smooth, distally glabrous. Leaf-sheaths 0.5–8 cm long, mostly shorter than adjacent culm internode, smooth, glabrous on surface. Ligule an eciliate membrane or a ciliolate membrane, 0.4–1.2 mm long, brown or purple, truncate or obtuse. Leaf-blades filiform, involute, 2–6 cm long, 0.2–0.5 mm wide, 1–2 cm long at summit of culm. Leaf-blade surface glabrous. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle, comprising 10–15 fertile spikelets, bracteate at branch bases (1–5mm long, on lower branches). Panicle open, oblong, effuse, 2–5.2 cm long, 1–3 cm wide. Primary panicle branches ascending, (1–)2 -nate, 0.7–2.8 cm long. Panicle axis with lower internodes 0.9–1.7 cm long. Panicle branches capillary, sinuous, smooth, glabrous, with prominent pulvini. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 3–12 mm long, bearing a few hairs or glabrous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 2.6–3.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pilose, obtuse. Floret callus hairs 0.5–1 mm long.

Glumes. Glumes persistent, similar, exceeding apex of florets. Lower glume elliptic or oblong, 2.6–3.5 mm long, 1 length of upper glume, membranous, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume surface glabrous or pubescent, hairy at apex. Lower glume apex erose, obtuse. Upper glume elliptic or oblong, 2.6–3.5 mm long, membranous, 3–5 -veined. Upper glume lateral veins obscure. Upper glume surface glabrous or pubescent, hairy at apex. Upper glume apex erose, obtuse.

Florets. Fertile lemma lanceolate, subterete, 2.2–2.7 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma surface scaberulous, rough above, pilose, hairy below. Lemma margins convolute, covering most of palea. Lemma hairs 0.2–0.6 mm long. Lemma apex dentate, 2 -fid, with lobes 0.6 mm long, awned, 1 -awned. Principal lemma awn from a sinus, geniculate, 6–10 mm long overall, with twisted column, limb hirsute, with 1.2–2 mm long hairs. Column of lemma awn hirsute, with 1.2–2 mm long hairs. Palea 2.2–2.7 mm long, 2 -veined, without keels.

Flower and Fruit. Lodicules 3, obovate, 0.7–1 mm long. Anthers 3, 1–1.4 mm long, yellow, anther tip smooth. Stigmas 2. Caryopsis with adherent pericarp, fusiform, 1.6–1.9 mm long. Embryo 0.25 length of caryopsis. Hilum linear, 1 length of caryopsis.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China South Central, China North-Central, Qinghai, Tibet.

Gansu. Sichuan.

Ptilagrostis macrospicula L.B.Cai. *Acta Bot. Boreal.-Occid. Sin.* 23(11): 2018 . (2003).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Stipa*).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Xizang, Yadong Xian, Near Chuntang, in pratis clivorum, at 4200 m, 14 Sept. 1974, *Qinghai-Xizang Exped. 74–2496* (HT: HNWP).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk *macros*, large; L. *spica*, a point; hence, in particular, an ear or spike of grain; *-ula,* diminutive. Spikelets larger than those of related species.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. Tibet.

Ptilagrostis malyschevii Tsvelev. *Novosti Sist. Vyssh. Rast.* 11: 7 (1974).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Stipa*), N.Tsvelev, *Grasses of the Soviet Union* (1983).

Basionym or Replaced Name: *Ptilagrostis mongholica* var. *barbellata* (Roshev.) Roshev., *Fl. SSSR* 2:75 (1934).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Leonid Ivanovich Malyschev (1931-) Russian botanist.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms erect, 15–35 cm long. Culm-internodes distally glabrous. Leaves basal and cauline. Leaf-sheaths mostly shorter than adjacent culm internode, scaberulous, glabrous on surface. Ligule an eciliate membrane, obtuse. Leaf-blades filiform, convolute, 0.4–0.6 mm wide. Leaf-blade venation with 5–7 secondary veins. Leaf-blade surface scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 5–15 cm long, bearing few spikelets. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, subterete, 4.7–5.8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus brief, 0.2–0.8 mm long, pubescent, acute.

Glumes. Glumes persistent, similar, subequal in width, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 1 length of upper glume, hyaline. Lower glume apex acute. Upper glume lanceolate, 4.7–5.8 mm long, hyaline, without keels. Upper glume apex acute.

Florets. Fertile lemma linear to lanceolate, subterete, 4.6–5.7 mm long, coriaceous, dark brown, without keel, 3 -veined, 0–3 -veined. Lemma surface puberulous, hairy below, hairy on veins. Lemma margins convolute, covering most of palea. Lemma apex dentate, 2 -fid, awned, 1 -awned. Principal lemma awn from a sinus, bigeniculate, 23–42 mm long overall, with twisted column, limb plumose. Middle segment of lemma awn plumose. Column of lemma awn plumose. Palea 2 -veined, without keels.

Flower and Fruit. Lodicules 3. Anthers 3, anther tip penicillate. Stigmas 2. Ovary glabrous. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Middle Asia**. Kazakhstan, Kirgizistan, Turkmenistan.

Ptilagrostis mongholica (Turcz. ex Trin.)Griseb. *Flora Rossica* 4(13): 447. (1852).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Mongolia. **Basionym or Replaced Name**: *Stipa mongholica* Turcz. ex Trin., *Bull. Sc. Acad. Petersb*. i. 67 (1836). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Mongolia, Dschizini R.: Turczaninov (LE holo, K).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (522, Fig.10 as *Stipa*).

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Mongolia.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms erect, 15–60 cm long. Culm-internodes mid-green or purple, distally glabrous. Leaves basal and cauline. Leaf-sheaths mostly shorter than adjacent culm internode, scaberulous, glabrous on surface. Ligule an eciliate membrane, obtuse. Leaf-blades filiform, 1–2 mm wide. Leaf-blade venation with 3–7 secondary veins. Leaf-blade surface scabrous.

Inflorescence. Inflorescence a panicle, comprising 8–20 fertile spikelets. Panicle open, ovate, 5–15 cm long, bearing few spikelets. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, subterete, 4.5–6.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus brief, 0.2–0.8 mm long, pubescent, acute.

Glumes. Glumes persistent, similar, subequal in width, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 1 length of upper glume, hyaline, pallid and purple. Lower glume apex acute. Upper glume lanceolate, 4.5–6.5 mm long, hyaline, pallid and purple, without keels. Upper glume apex acute.

Florets. Fertile lemma linear to lanceolate, subterete, 3.3–5.3 mm long, coriaceous, dark brown, without keel, 3 -veined, 0–3 -veined. Lemma surface puberulous, hairy below, hairy on veins. Lemma

margins convolute, covering most of palea. Lemma apex dentate, 2 -fid, awned, 1 -awned. Principal lemma awn from a sinus, bigeniculate, 15–30 mm long overall, with twisted column, limb plumose. Middle segment of lemma awn plumose. Column of lemma awn plumose. Palea 2 -veined, without keels.

Flower and Fruit. Lodicules 3. Anthers 3, anther tip smooth or pubescent. Stigmas 2. Ovary glabrous. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. Siberia, **Middle Asia**, **China**, **Mongolia**, and **Eastern Asia**. Altay, Buryatiya, Chita, Irkutsk, Krasnoyarsk, Tuva. Kazakhstan, Kirgizistan, Turkmenistan. China South Central, Inner Mongolia, Manchuria, China North-Central, Qinghai, Xinjiang. Mongolia. **Indian Subcontinent**. Eastern Himalaya, Nepal, Pakistan, West Himalaya.

Gansu, Hebei, Shaanxi, Shanxi. Nei Mongol. Heilongjiang, or Jilin, or Liaoning. Sichuan, Yunnan. Bhutan, Sikkim. Jammu Kashmir.

Ptilagrostis porteri (Rydb.) W. A. Weber. *Univ. Colorado Stud., Ser. Biol.*, No. 23, 2 (1966).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Stipa*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. **Basionym or Replaced Name**: *Stipa porteri* Rydb., *Bull. Torrey Bot. Club* 32(11): 599 (1905). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *E. Hall & J.P. Harbour 646*, 1862, USA: Colorado (US-992164).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (144).

Derivation (Clifford & Bostock 2007): in honor of Thomas Conrad Porter (1822–1901) United States botanist.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial. Culms erect, 20–35 cm long, 1 -noded. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 2–3 mm long, glabrous on abaxial surface or pubescent on abaxial surface, bilobed. Leaf-blades filiform, terete, 2–12 cm long, 0.5 mm wide. Leaf-blade surface grooved along midline, scaberulous.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 5–8 cm long. Primary panicle branches 2 -nate, simple or sparsely divided, rebranched at middle, 1–3 cm long. Panicle branches capillary, flexuous, smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, ciliate, hairy at tip.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, subterete, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, 0.5 mm long, pubescent, obtuse.

Glumes. Glumes persistent, similar, reaching apex of florets, thinner than fertile lemma. Lower glume elliptic, 1 length of upper glume, membranous, purple, without keels, 5 -veined. Lower glume surface asperulous, rough at apex. Lower glume margins ciliate. Lower glume apex emarginate or obtuse. Upper glume elliptic, 25–40 mm long, membranous, purple, without keels, 5 -veined. Upper glume surface asperulous, rough at apex. Upper glume margins ciliate. Upper glume apex emarginate or obtuse.

Florets. Fertile lemma lanceolate, subterete, 5 mm long, coriaceous, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface scaberulous, rough above, pubescent, hairy below. Lemma margins convolute, covering most of palea. Lemma apex emarginate, pubescent, awned, 1 -awned. Principal lemma awn bigeniculate, 12–15 mm long overall, with 8–10 mm long limb, with a straight or slightly twisted column, limb puberulous. Column of lemma awn 4–5 mm long, ciliate, with 1–2 mm long hairs. Palea 1 length of lemma, 2 -veined, without keels.

Flower and Fruit. Lodicules 3. Anthers 3. Stigmas 2. Ovary glabrous. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Northwest USA**. Colorado.

Ptilagrostis roshevitsiana (Tzvelev) L.B. Cai. *Acta Phytotax. Sin.* 43(1): 65–67. 2005.

TYPE from China. **Basionym or Replaced Name**: *Ptilagrostis dichotoma* var. *roshevitsiana* Tzvelev, *Rast. Centr. Azii, Mater. Bot. Inst. Komarov* 4: 43 (1968). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: (LE). Tzvelev indicates Yuzhno-Tetungsk Mt. range [apparently a small range between 80 and 90 km due E of Xining]. ST: *Tzvelev?*, China: Qinghai: Nanshan, 2800 m.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *ana*, indicating connection. In honor of Romain Julievic Roshevitz (1882–1949) Russian agrostologist.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China South Central, China North-Central, Qinghai, Tibet. Gansu. Sichuan.

Puccinellia acroxantha C.A.Smith & C.E.Hubb. *Kew Bull.* 1929, 86. (1929).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from South Africa. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: South Africa: Orange Free State: Fauresmith Div. Knoffelfontein, by side of eroded ditch below the Goedemansberg, ca 1390 m, Jan 1928, *Smith 5415* (ST: K, PRE).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *akros*, at the tip; *xanthos*, yellow. Lemma green with yellow apex.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Basal innovations extravaginal and intravaginal. Culms erect or geniculately ascending, 30–60 cm long, 2 -noded. Culm-internodes terete, smooth, distally glabrous. Lateral branches lacking. Leaf-sheaths loose, striately veined, smooth, glabrous on surface. Ligule an eciliate membrane, 2–3.5 mm long, obtuse. Leaf-blades convolute, 9–18 cm long, 1–2 mm wide. Leaf-blade surface scaberulous, rough adaxially, glabrous.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 12–20 cm long, 1.5 cm wide. Primary panicle branches appressed, simple, 1–5 cm long. Panicle axis with lower internodes 2–4.5 cm long, scaberulous, with scattered hairs. Panicle branches flexuous, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 1–2.5 mm long.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5 mm long, 1.5 mm wide, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1–1.3 mm long, 0.5–0.66 length of upper glume, membranous, much thinner above, much thinner on margins, without keels, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume apex obtuse. Upper glume ovate, 2 mm long, 0.75 length of adjacent fertile lemma, membranous, much thinner above, with hyaline margins, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 2.5–2.8 mm long, membranous, much thinner above, much thinner on margins, mid-green and yellow, tipped with last colour, without keel, 5 -veined, more than 3-veined. Lemma midvein pubescent, hairy below. Lemma lateral veins stopping well short of apex. Lemma margins pubescent, hairy below. Lemma apex obtuse. Palea 1 length of lemma, 2 -veined. Palea keels ciliate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

n = 21 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa** and **Western Indian Ocean**. Namibia, Free State, Northern Cape.

Puccinellia altaica Tsvelev. *Akad. Nauk SSSR Bot. Inst. Komarova, Rast. Tsentral. Azii, Fasc.* 4, 15 (1968).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Russia: Siberia:, (HT: LE).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 350).

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From the Altai Mts., Mongolia.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Cataphylls evident. Basal innovations extravaginal. Culms 20–45 cm long. Leaf-sheaths open for most of their length, smooth. Ligule an eciliate membrane, 0.6–2 mm long. Leaf-blades flat or conduplicate, 0.6–1.5 mm wide. Leaf-blade surface scabrous, rough adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 5–15 cm long. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume lanceolate, 1.5 mm long, 0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume lanceolate, 2 mm long, 0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 2.3–3 mm long, membranous, much thinner above, purple, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface glabrous or puberulous, hairy at base. Lemma apex obtuse. Palea 2 -veined. Palea keels scaberulous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.1–1.6 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 14$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia, **China**, **Mongolia**. Altay. Xinjiang. Mongolia.

Puccinellia andersonii Swallen. *Journ. Wash. Acad. Sci.* iv. 21 (1944).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.P. Anderson 4399A*, 5 Aug 1938, USA: Alaska (US-2209342 (ex NA); IT: CAN (a mixed coll. of P. andersonii [-a] and P. langeana [-b]), US-1819614 (ex LD)).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (474).

Derivation (Clifford & Bostock 2007): in honor of Edgar Shannon Anderson (1897–1969) United States botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending or decumbent, 15–50 cm long. Ligule an eciliate membrane, 1.7–3.2 mm long, glabrous on abaxial surface or pubescent on abaxial surface. Leaf-blades flat or conduplicate, 3–7 cm long, 0.5–3 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate or ovate, 5–14 cm long. Primary panicle branches ascending or spreading. Panicle branches smooth or scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the

upper sterile. Spikelets oblong, laterally compressed, 5.3–10 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.6–2.2 mm long, 0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex entire or erose, acute. Upper glume ovate, 2.5–3 mm long, 0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex entire or erose, obtuse.

Florets. Fertile lemma oblong, 3–4 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pubescent, hairy at base. Lemma apex entire or erose, obtuse or acute. Palea 0.9–1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.9–1.3 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Subarctic America**. Greenland.

Puccinellia angusta (Nees) C.A.Smith & C.E.Hubb. *Kew Bull.* 1929, 85. (1929).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. narrow. Narrow, with respect to leaf- blades or spicate panicles.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths glossy. Culms erect or geniculately ascending, 30–60 cm long, 1 -noded. Lateral branches lacking. Leaf-sheaths 6–25 cm long, longer than adjacent culm internode. Ligule an eciliate membrane. Leaf-blades 5–10 cm long, 1–2 mm wide. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Panicle contracted, linear, 5–10 cm long. Primary panicle branches appressed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–5.5 mm long, 1–1.5 mm wide, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume ovate, 1.25 mm long, 0.66 length of upper glume, membranous, without keels, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume ovate, 2 mm long, 0.9–1 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate or orbicular, 2–2.8 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins stopping well short of apex. Lemma apex obtuse. Palea 1 length of lemma, 2 -veined. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

n = 7 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. **Southern Africa**. Free State, Western Cape, Eastern Cape.

Puccinellia angustata (R.Br.) Rand. & Redf. *Fl. Mount Desert Is. Maine* :181 (1894).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Melville Island. **Basionym or Replaced Name**: *Poa angustata* R. Br., *Chlor. Melvill.* 29 (1823). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *Parry*, (LE (fragm.)).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (470).

Derivation (Clifford & Bostock 2007): L. *angusta*, narrow; *-ata*, possessing. Leaf-blades narrow.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths pallid. Culms geniculately ascending, 15–30 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane, 2.5–4 mm long, acute. Leaf-blades 3–6 cm long, 1.5–2.5 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 6–10 cm long. Primary panicle branches appressed, bearing 3–4 fertile spikelets on each lower branch. Panicle branches scaberulous, rough distally. Spikelets solitary. Fertile spikelets sessile or pedicelled. Pedicels absent or present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 6–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent.

Glumes. Glumes persistent, shorter than spikelet. Lower glume lanceolate, 1.6–2.2 mm long, 0.5–0.66 length of upper glume, membranous, purple, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume oblong, 2.8–3.2 mm long, 0.75 length of adjacent fertile lemma, membranous, purple, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.5–4 mm long, membranous, much thinner above, purple, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pilose, hairy below, hairy on veins. Lemma apex acute. Palea 2 -veined. Palea keels scabrous, ciliate, adorned with hairs below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.6–0.8 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Europe, Temperate Asia, North America.

Region. **Northern Europe**, **Eastern Europe**.

Country /Province /State. : Svarlbad. North European Russia. Siberia, Russian Far East, **China**. Krasnoyarsk. Kamchatka. Xinjiang. **Subarctic America**. Alaska, Yukon, Northwest Territories, Nunavut, Greenland.

Puccinellia arctica (Hook.) Fernald & Weatherby. *Rhodora,* xviii. 5 (1916).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

Basionym or Replaced Name: *Glyceria arctica* Hook., *Fl. Bor.-Amer.* 2: 248, pl. 229 (1840). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Dr. Richardson*, Arctic sea-coast (K; IT: US- (fragm. ex K)).

Recent Synonyms: *Puccinellia agrostidea* T. Serensen, *Bull. Nat. Mus. Canada* No. 135: 78 (1955).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (472).

Derivation (Clifford & Bostock 2007): Gk. *arktos*, north; L. *-ica*, belonging to. Occurring in and often extending beyond the Arctic.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 10–55 cm long. Ligule an eciliate membrane, 1–2.5 mm long, glabrous on abaxial surface or scaberulous on abaxial surface. Leaf-blades flat or conduplicate or involute, 4–9 cm long, 0.5–2.5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate or elliptic, 5–15 cm long. Primary panicle branches ascending or spreading. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.6–7 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 0.8–1.5 mm long, 0.5–0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume oblong, 1.5–2 mm long, 0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 1.9–2.7 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins stopping well short of apex. Lemma surface pubescent, hairy at base. Lemma apex erose, obtuse. Palea 0.9 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.5–1.1 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Subarctic America**. Nunavut.

Puccinellia argentinensis (Hack.) L. Parodi. *Not. Mus. La Plata, Bot.,* ii. 13 (1937).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. **Basionym or Replaced Name**: *Atropis argentinensis* Hack., *Ark. Bot.* 8(8): 45 (1908). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Argentina: Prov. Jujuy: in ora fl. Río Grande pr. Tilcara, *Fr. Claren* (HT: [Kurtz Herb. argent. 11733]; IT: BAA).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (348).

Derivation (Clifford & Bostock 2007): L. *-ensis,* denoting origin. From Argentina.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 10–25 cm long, 2 -noded. Culm-internodes distally glabrous. Leaf-sheaths open for most of their length, longer than adjacent culm internode. Ligule an eciliate membrane, 2–3 mm long, obtuse. Leaf-blades filiform, convolute, 3–6 cm long, 0.5–0.7 mm wide. Leaf-blade surface glabrous. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate or oblong, 10–12 cm long. Primary panicle branches appressed or ascending. Panicle branches capillary, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2.5–3 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.7 mm long, glabrous.

Glumes. Glumes persistent, shorter than spikelet. Lower glume ovate, 1–1.5 mm long, 0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex erose, obtuse. Upper glume ovate, 1.5–2 mm long, 0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex erose, obtuse.

Florets. Fertile lemma ovate, 2–2.5 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma apex obtuse. Palea 1 length of lemma, 2 -veined. Palea keels smooth. Palea apex truncate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northwest, Chile North.

Catamarca, Jujuy, La Rioja, Mendoza, Salta, San Juan. Atacama.

Puccinellia arjinshanensis D.F. Cui. *Fl. Xinjiangensis* 6: 119, 601, pl. 46, f. 1–7. 1996.

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Xinjiang: Arjingshan, Ruoqiang Xian ad aquosa, 3500 m, 15 July 1983, *N.R. Cui C830201* (HT: XJA-1AC).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 349).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Arginsan, Xianjiang Province, China.

Classification. Subfamily Pooideae. Tribe: Poeae.

Distribution (TDWG). Continent. Temperate Asia.
Country /Province /State. **China**. Xinjiang.

Puccinellia banksiensis Consaul. *Novon* 18: 17 (2008).

TYPE from Canada. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Northwest Territories: Banks Island, 19 July 2003, *L.L.Cosaul 2810, L.J.Gillespie & H.Bickerton* (holotype CAN; isotypes ALA, MO, MTMG, O).

Illustrations (Journals): *Novon* (18: 18, Fig. 1 (2008)).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 5–20 cm long, with 0.5 of their length below uppermost node. Ligule an eciliate membrane, 0.5–2 mm long. Leaf-blades involute, 4–8 cm long, 0.7–1.2 mm wide, 0.5–1.2 cm long at summit of culm.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 2–8 cm long. Primary panicle branches appressed, 0.6–4 cm long. Panicle axis with lower internodes 0.5–2.6 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–4(–5) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2.2–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–1.5 mm long. Floret callus pubescent. Floret callus hairs 0.1–0.2 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 0.8–1.8 mm long, 0.6–0.9 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume elliptic or ovate, 1.3–2 mm long, 0.75 length of adjacent fertile lemma, membranous, without keels. Upper glume margins scaberulous. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 1.7–2.3(–2.7) mm long, 0.8–1 mm wide, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins stopping well short of apex. Lemma surface pubescent, hairy at base. Lemma margins scaberulous. Lemma apex truncate or obtuse or acute. Palea 1.5–2.3 mm long, 0.9–1 length of lemma, 2 -veined. Palea keels scaberulous (above), ciliate, adorned below, with 0.5 of their length adorned. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.4–0.8 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.
Country /Province /State. **Subarctic America**. Northwest Territories.

Puccinellia beringensis Tsvelev. *Novosti Sist. Vyssh. Rast.* 10: 86 (1973).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Bering Island or Straits, Russian Far East.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Cataphylls inconspicuous. Culms geniculately ascending or decumbent or prostrate, 5–30 cm long. Ligule an eciliate membrane, 1–3 mm long, truncate or obtuse. Leaf-blades flat or involute, 4–7 cm long, 1–2 mm wide. Leaf-blade venation without layer of subepidermal sclerenchyma masking vein striation. Leaf-blade surface smooth.

Inflorescence. Inflorescence a panicle. Panicle open or contracted, oblong or ovate, 3–12 cm long. Primary panicle branches ascending or spreading or reflexed, 2–6 -nate. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–7 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume lanceolate or oblong, 0.4–0.7 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex erose, obtuse or acute. Upper glume ovate, 0.66 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong or ovate or obovate, 2–3 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface puberulous, hairy at base. Lemma apex erose, truncate or obtuse. Palea 1 length of lemma, 2 -veined. Palea keels smooth, eciliate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1–1.4 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East. Kamchatka.

Puccinellia biflora (Steud.) L. Parodi. *Not. Mus. La Plata, Bot.,* ii. 14 (1937).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. **Basionym or Replaced Name**: *Festuca biflora* Steud., *Syn. Pl. Glumac.* 1: 428 (1854). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *W. Lechler 1218*, Febr. m., [Argentina]: Ad margines lacuum salsos Patagoniae (LE, US-2875381, US-2875382). IT (CT) Pl. magellan. Ed. R.F.Hohenacker.

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (348), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (129, Fig 78).

Illustrations (Journals): *Darwiniana* (37: 308, Fig.3 (1999)).

Derivation (Clifford & Bostock 2007): L. *bis*, twice; *flos*, flower. Florets two per spikelet.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms 10–30 cm long. Leaf-sheaths open for most of their length, glabrous on surface. Ligule an eciliate membrane, 2–2.5 mm long, acute. Leaf-blades 0.3–1.5 mm wide. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 5–10 cm long. Spikelets solitary. Fertile spikelets sessile or pedicelled. Pedicels absent or present, smooth.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, compressed slightly, 9–12 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 2 mm long, smooth.

Glumes. Glumes persistent, shorter than spikelet. Lower glume oblong, 3–4 mm long, 0.75 length of upper glume, membranous, without keels, 1–2 -veined. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume ovate, 4–5 mm long, 0.8–1 length of adjacent fertile lemma, membranous, without keels, 3–5 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 4–6 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pubescent, hairy below, hairy on veins. Lemma apex acute. Palea 2 -veined. Palea keels ciliate, adorned in the middle. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1–1.2 mm long. Ovary glabrous. Caryopsis with adherent pericarp, ovoid, 1.7–2.3 mm long. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South, Chile South.

Santa Cruz, Tierra del Fuego. Chiloe, Aisen, Magellanes. Magellanes.

Puccinellia bilykiana Klokov. *Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS*, xii. 46 (1950).

Accepted by: N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: RSS Ucr., dit Charcov., distr. Koselczansk., propre pagum Solonytzi, in pratis salsugineis, 3–4 Jul 1932, *Czernjak s.n.* (HT: Insttuti botanicae Ac. Sc. RSS Ucr. conservature.).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of G. Bilyk (fl. 1952).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths thickened and forming a bulb. Culms erect or geniculately ascending, 12–60 cm long, 2–3 -noded. Leaf-sheaths open for most of their length. Ligule an eciliate membrane, 1.75–3 mm long, acuminate. Leaf-blades filiform, convolute, 2–9 cm long, 0.75–1.5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate or ovate, 3–13.5 cm long. Primary panicle branches spreading or reflexed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume lanceolate, 1.25–1.5 mm long, 0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2–2.25 mm long, 1 length of adjacent fertile lemma, membranous, without keels, 1–3 -veined. Upper glume lateral veins absent or obscure. Upper glume apex acute.

Florets. Fertile lemma oblong, 1.75–2.25 mm long, membranous, much thinner above, purple, without keel, 5 -veined, more than 3-veined. Lemma midvein falling short of apex. Lemma lateral veins obscure, stopping well short of apex. Lemma apex obtuse. Palea 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.3–1.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp, 1.5 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Europe.

Region. **Eastern Europe**.

Country /Province /State. North European Russia.

Puccinellia bruggemannii T. Sorensen. *Bull. Nat. Mus. Canada,* No. 135 : 80 (1955).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Canada. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Canada: Prince Patrick Isl: Mould Bay: 76?4' N x 118?7' W: around lemming burrows on mound of damp sand: 8 Aug 1952, *Bruggemann 470* (HT: DAO; IT: C).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (470).

Derivation (Clifford & Bostock 2007): in honor of Paul F. Bruggemann (1890–1974) German-born Canadian naturalist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 50–110 cm long. Ligule an eciliate membrane, 1–1.8 mm long. Leaf-blades involute, 2–4 cm long, 1 mm wide, stiff. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 1.5–2.3 cm long. Primary panicle branches appressed, 2 -nate, bearing 1–2 fertile spikelets on each lower branch. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, smooth or scaberulous.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume oblong, 1.4–1.7 mm long, 0.66–0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex entire or erose, acute. Upper glume ovate, 2–2.5 mm long, 0.8–0.9 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex entire or erose, acute.

Florets. Fertile lemma ovate, 2.2–3.5 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface

pilose, hairy below. Lemma apex erose, obtuse. Palea 1 length of lemma, 2 -veined. Palea keels scaberulous, ciliate, adorned as to hairs below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.6–0.8 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Subarctic America**. Nunavut.

Puccinellia bulbosa (Grossh.) Grossheim. *Fl. Kavkaza,* i. 114 (1928).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Transcaucasus. **Basionym or Replaced Name**: *Atropis bulbosa* Grossh., *Vestn. Tiflissk. Bot. Sada* 46: 36, pl. 2 (1919). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: TT: *D. Sosnowsky s. n.*, 23 May 1910, Transcaucasus, Georgia, Tiflis (LE). Orig. label: Tiflis, mons Machati..

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *bulbus*, onion; *-osa*, abundance. Culm-bases swollen.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths thickened and forming a bulb. Culms erect, 20–40 cm long. Leaves mostly basal. Leaf-sheaths open for most of their length. Ligule an eciliate membrane. Leaf-blades involute, 3–6 cm long, 0.5 mm wide. Leaf-blade surface scaberulous, rough adaxially or on both sides. Leaf-blade margins scaberulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, 8–14 cm long. Primary panicle branches spreading, 4–7 -nate. Panicle branches capillary, smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear or oblong, laterally compressed, 4–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume elliptic or ovate, 1–1.5 mm long, 0.66–0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume elliptic or ovate, 1.5–2 mm long, 0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile florets divergent. Fertile lemma elliptic or oblong, 2–2.75 mm long, membranous, much thinner above, much thinner on margins, mid-green or purple, suffused with last colour, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface glabrous or puberulous, hairy on veins. Lemma apex truncate. Palea 1 length of lemma, 2 -veined. Palea keels scabrous, adorned all along or above, with 0.5–1 of their length adorned. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Caucasus**, **Western Asia**, **China**. Afghanistan, Iran. Xinjiang.

Puccinellia byrrangensis Tsvelev. *Novosti Sist. Vyssh. Rast.,* 8: 80 (1971).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Byrrang, that is Bering Peninsular, Russian Far East.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 6–25 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane, 1–2 mm long. Leaf-blades flat or conduplicate, 0.6–2 mm wide. Leaf-blade surface smooth, glabrous.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 2–6 cm long. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 3.5–6 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume elliptic, 1.5–3 mm long, 1 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume elliptic, 1.5–3 mm long, 0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 2.7–4 mm long, membranous, much thinner above, purple, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pubescent, hairy at base. Lemma apex acute. Palea 2 -veined. Palea keels smooth, eciliate or ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.3–1.7 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia. Krasnoyarsk.

Puccinellia candida Enustsch. & Gnutikov. *Bot. Zhurn.* 94: 1557 (2009).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Czita, distr. Uletovskyi, Ablatuiskyi Bor: Gnutikov & Enustschchenko (LE holo, IRKU).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Culms erect or geniculately ascending, 40–90 cm long. Ligule an eciliate membrane, 1 mm long, obtuse. Leaf-blades convolute. Leaf-blade surface scabrous, rough adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, ovate or pyramidal, (10–)15–35 cm long. Primary panicle branches ascending or spreading, 10–15 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising (3–)4–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 4–7 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume ovate, 1–2.5 mm long, 0.4–0.8 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume margins ciliate. Lower glume apex acute. Upper glume lanceolate, (1.75–)2.5–3 mm long, 1 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume margins ciliate. Upper glume apex acute.

Florets. Fertile lemma oblong, 2.5–3 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma lateral veins distinct, stopping well short of apex. Lemma surface puberulous, hairy below, hairy on veins. Lemma margins ciliolate. Lemma apex obtuse. Palea 2 -veined. Palea keels ciliate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.5–1.75 mm long.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia.

Puccinellia chinampoensis Ohwi. *Acta Phytotax. & Geobot* iv. 31. (1935).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from Korea. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Korea: Chinampo,.

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 347).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Chinampo, Korea.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 60–70 cm long. Leaf-sheaths open for most of their length, smooth. Ligule an eciliate membrane, 1 mm long, obtuse. Leaf-blades convolute, 3–7 cm long, 2 mm wide. Leaf-blade surface ribbed, grooved adaxially, scabrous, rough adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 7–15 cm long. Primary panicle branches 3–5 -nate. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume lanceolate, 0.7–1 mm long, 0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume lanceolate, 1–1.3 mm long, 0.66 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma obovate, 1.8–2 mm long, membranous, much thinner above, mid-green or light brown, suffused with last colour, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pubescent, hairy below, hairy on veins. Lemma apex obtuse. Palea 1 length of lemma, 2 -veined. Palea keels scaberulous, ciliolate, adorned with hairs below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1–1.2 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**, **Eastern Asia**. Manchuria, China North-Central. Korea.

Hebei.

Puccinellia choresmica (Krecz.) Krecz. ex Drobov. *Fl. Uzbekist*. i. 252 (1941).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. **Basionym or Replaced Name**: *Atropis choresmica* V.I. Krecz., *Fl. URSS* 2: 479, 761, t. 36, f. 14 (1934). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: USSR: Karakalpakia, in ostia fl. Oxus: in silulis spetentrionem versus a mont. Kran-tau: 16 Apr 1915, *Krascheninnikov*.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Choresm or Corasmiorum of Antiquity, now eastern Iran.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending, 10–30 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane. Leaf-blades involute, 1–2 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, linear or elliptic, 10 cm long. Primary panicle branches ascending or spreading. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or oblong, laterally compressed, compressed slightly, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume ovate, 1.5–1.8 mm long, 0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume surface puberulous. Lower glume apex obtuse. Upper glume ovate, 2–2.5 mm long, 1 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume surface puberulous. Upper glume apex obtuse.

Florets. Fertile lemma obovate, 2–2.5 mm long, membranous, much thinner above, keeled, lightly keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pilose, hairy at base. Lemma apex obtuse. Palea 1 length of lemma, 2 -veined. Palea keels ciliolate, adorned all along. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.6–0.8 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Eastern Europe**.

Country /Province /State. South European Russia. **Middle Asia**, **Caucasus**. Kazakhstan, Uzbekistan.

Puccinellia ciliata Bor. *Notes Roy. Bot. Gard. Edinb.* xxviii. 299 (1968).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Turkey. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Turkey: Bi Izmir: Kahic, 12 km from Menemen, N of Izmir, near the seaa, 1951, *Miles & Donald s.n.* (HT: E; IT: K).

Illustrations: None found.

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *cilium*, eyelid; -*ata*, possessing. Plant hairy overall or in part.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 40–80 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane, 2–4 mm long. Leaf-blades involute, 10–25 cm long, 0.5–1 mm wide. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 25 cm long, 20 cm wide. Primary panicle branches spreading, 3–6 -nate. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear.

Fertile Spikelets. Spikelets comprising 8–11 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 7–17 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume elliptic, 1.5–2 mm long, 0.5 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 3–3.5 mm long, 1 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 2.5–3 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface glabrous or pubescent, hairy below. Lemma apex obtuse or acute. Palea 1 length of lemma, 2 -veined. Palea keels ciliolate, adorned above, with 0.66 of their length adorned. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.5–2 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Australasia (*).

Country /Province /State. **Western Asia**. Cyprus, Turkey. **Australia** (*). Western Australia (*), South Australia (*), New South Wales (*).

South-West. Southern. Tablelands, Western Slopes.

Puccinellia convoluta (Hornem.) Fourr. *Ann. Soc. Linn. Lyon, N. S.* xvii. 184 (1869).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Europe. **Basionym or Replaced Name**: *Poa convoluta* Hornem., *Hort. Bot. Hafn.* 2: 953, add.. (1815). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Europe: Hort.: Copenhagen,.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. rolled up longitudinally. Leaf-blades rolled length-wise.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 20–45 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane, 2–4 mm long. Leaf-blades involute, 3–14 cm long, 0.5–1.5 mm wide. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade margins scaberulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open or contracted, elliptic, 8–15 cm long, 1–10 cm wide. Primary panicle branches 3–6 -nate. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear.

Fertile Spikelets. Spikelets comprising 4–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume lanceolate, 2–2.2 mm long, 0.8 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2.5–2.8 mm long, 0.8 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong or obovate, 3 mm long, membranous, much thinner above, without keel, rounded except near apex, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pubescent, hairy below. Lemma apex acute. Palea 1 length of lemma, 2 -veined. Palea keels ciliolate, adorned above, with 0.66 of their length adorned. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.3–1.6 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Middle Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. Central European Russia, South European Russia, Ukraine. **Western Asia**, **China**. China North-Central, Qinghai, Xinjiang.

Gansu.

Puccinellia coreensis Honda. *Journ. Fac. Sc. Tokyo, Sect.* III. *Bot.* iii. 57 (1930).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from Korea. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Taquet 3408*, 1909, Korea: in herbidis Mokpho ST: *Taquet 5119*, 1911, Ins. Quelpaert in agris.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. -*ensis*, denoting origin. From Korea.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, slender, 30–60 cm long. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 2–2.5 mm long. Leaf-blades 10–20 cm long, 2–3 mm wide. Leaf-blade surface smooth, glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 10–20 cm long. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, smooth.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 4 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume ovate, 1 mm long, 0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 1.5 mm long, 0.66 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 2.5 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins stopping well short of apex. Lemma apex obtuse. Palea 1 length of lemma, 2 -veined. Palea keels scabrous. Palea apex dentate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**, **Eastern Asia**. Manchuria. Korea.

Puccinellia decumbens A.R.Williams. *Fl. Australlia* 44A:386 (2009).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Australia, South Australia, Dog Is.: *Wace 81* (CANB holo).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose, clumped densely. Stolons absent or present. Basal innovations extravaginal. Culms erect or geniculately ascending, 7–13 cm long. Lateral branches ample. Leaf-sheaths tight. Ligule an eciliate membrane, 1.2–2 mm long. Leaf-blades involute, 1–2 cm long, 0.2–0.7 mm wide.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Panicle open, lanceolate, 3–6 cm long. Primary panicle branches 1.3–1.5 cm long, bearing spikelets almost to the base. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus sparsely hairy.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume ovate, 1–1.3 mm long, 0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 1.7–1.9 mm long, 0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 2–2.6 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma midvein extending to apex. Lemma lateral veins stopping well short of apex. Lemma surface puberulous, hairy at base. Lemma apex obtuse, muticous or mucronate. Palea 1.9–2.2 mm long, 2 -veined. Palea keels scabrous, adorned below, with 0.5 of their length adorned. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.5–0.6 mm long, pallid.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. South Australia.

Puccinellia degeensis L. Liou. *Fl. Reipubl. Popularis Sin.* 9(2): 405 (2002).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Sichuan: alpine riversides, marshes, meadows, ca. 3600 m, (HT: ?).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms geniculately ascending, 15–20 cm long, 1–1.5 mm diam. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 1 mm long, truncate. Leaf-blades flat or conduplicate, 3–5 cm long, 1–3 mm wide. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Panicle open, elliptic, 3–4 cm long, 3 cm wide. Primary panicle branches 2–4 -nate, 1–2 cm long. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–4 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 0.6–1 mm long, 0.66 length of upper glume, membranous, without keels, 0–1 -veined. Lower glume lateral veins absent. Upper glume elliptic, 1–1.5 mm long, 0.5 length of adjacent fertile lemma, membranous, without keels, 1–3 -veined. Upper glume lateral veins absent or obscure.

Florets. Fertile lemma oblong, 2–2.5 mm long, membranous, without keel, 5 -veined, more than 3-veined. Lemma surface glabrous. Lemma apex obtuse. Palea 2 -veined. Palea keels smooth. Palea apex dentate, 2 -fid, with excurrent keel veins. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.2–1.5 mm long.
Distribution (TDWG). Continent. Temperate Asia.
Country /Province /State. **China**. China South Central.
Sichuan.

Puccinellia diffusa (Krecz.) Krecz. ex Drobov. *Fl. Uzbekist.* i. 253 (1941).

Accepted by: S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. widely spreading. Inflorescence an open panicle.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths thickened and forming a bulb. Culms 30–60 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane. Leaf-blades flat or convolute, 0.8–1.3 mm wide. Leaf-blade surface scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, effuse, 10–20 cm long. Panicle axis smooth. Panicle branches capillary, scabrous, rough distally. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, compressed slightly, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume ovate, 1.2 mm long, 0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume ovate, 2 mm long, 0.9–1 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma obovate, 2–2.3 mm long, membranous, much thinner above, purple, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface puberulous, hairy at base. Lemma apex obtuse. Palea 2 -veined. Palea keels ciliolate, adorned below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1–1.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Middle Asia**, **China**. Kazakhstan, Kirgizistan, Tadzhikistan, Uzbekistan. Qinghai, Xinjiang.

Puccinellia distans (Jacq.) Parl. *Fl. Ital.* i. 367 (1848).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983) (& as *P. limosa, P. capillaris, P.coararcta*).

TYPE from Austria. **Basionym or Replaced Name**: *Poa distans* Jacq., *Observ. Bot.* 1: 42 (1764). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Herb. Jacquin fil. s.n.*, Austria: crescit in fossis aquosis et locis humidis per Austriam (W). LT designated by Cope in Cafferty et al., Taxon 49(2): 255 (2000).

Recent Synonyms: *Puccinellia sevangensis* Grossheim, *Fl. Kavkaza,*1: 114 (1928). *Puccinellia hauptiana* (Krecz.) Kitag., *Rep. Inst. Sci. Res. Manchoukuo* 1:255 (1937).

Puccinellia kobayashii Ohwi, *Acta Phytotax. & Geobot.* 4: 31. (1936).

Illustrations (Books): C.E.Hubbard, *Grasses* (1968) (198 also as *P. capillaris*), T. Cope & A. Gray, Grasses of the British Isles (36a as subsp. *distans* & 36b as subp. *borealis*), N.N.Tsvelev, *Grasses of the Soviet Union* (1983) (633 (421), Pl.8), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (163, Fig 115), N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 325), M.E.Barkworth

et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (474), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 357).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *disto*, be apart. Spikelets widely separated in inflorescence.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or decumbent or prostrate, 10–60 cm long, 2–4 -noded. Leaf-sheaths open for most of their length, without keel, smooth. Ligule an eciliate membrane, 1–2 mm long. Leaf-blades 2–10 cm long, 1.5–4 mm wide. Leaf-blade surface scabrous, rough adaxially. Leaf-blade apex obtuse or abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 3–18 cm long, 2–14 cm wide. Primary panicle branches reflexed, naked below. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear.

Fertile Spikelets. Spikelets comprising 3–9 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume ovate, 1–1.5 mm long, 0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume elliptic, 1.5–2 mm long, 0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 2–2.5 mm long, membranous, much thinner above, mid-green or purple, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface puberulous, hairy below. Lemma apex erose, obtuse. Palea 1 length of lemma, 2 -veined. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.8–1 mm long. Ovary glabrous. Caryopsis with adherent pericarp, ellipsoid, 1.5 mm long. Embryo 0.25 length of caryopsis. Hilum punctiform.

$2n = 14$ (3 refs TROPICOS), or 42 (6 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Tropical Asia, Australasia (*), North America.

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Denmark, Great Britain, Svarlbad. : Austria, Liechstenstein, Belgium, Luxembourg, Czechoslovakia, Germany, Hungary, Netherlands, Poland, Switzerland. : Baleares, Channel Islands, France, Monaco, Portugal, Andorra, Gibralter, Spain. : Bulgaria, Greece, Italy, San Marino, Vatican, Romania, Malta, Turkey Europe, Yugoslavia. Belarus, Estonia, Kalingrad, Latvia, Lithuania, Baltic States, Krym, Central European Russia, East European Russia, North European Russia, South European Russia, Northwest European Russia, Moldova, Ukraine. **Northern Africa**, **Southern Africa** (*). Algeria, Morocco, Tunisia. Northern Cape, Western Cape, Eastern Cape. Siberia, Russian Far East, **Middle Asia**, **Caucasus**, **Western Asia**, **China**, **Mongolia**, **Eastern Asia**. Altay, Buryatiya, Chita, Irkutsk, Krasnoyarsk, Tuva. Amur, Kamchatka, Khabarovsk, Kuril Is, Magadan, Primorye, Sakhalin. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Afghanistan, Iran. China South Central, Inner Mongolia, Manchuria, China North-Central, Qinghai, China Southeast, Xinjiang. Mongolia. Japan, Korea. **Indian Subcontinent**. Pakistan, West Himalaya. **Australia** (*), **New Zealand** (*). South Australia (*), Tasmania (*). New Zealand North I, New Zealand South I. **Subarctic America**, **Western Canada**, **Eastern Canada**, **Northwest USA**, **North-central USA**, **Southwestern USA**, **South-central USA**. Yukon. Alberta, British Columbia, Manitoba, Saskatchewan. Nova Scotia. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. Iowa, North Dakota, Nebraska, South Dakota, Wisconsin. Arizona, California, Nevada, Utah. New Mexico.

Gansu, Hebei, Shaanxi, Shandong, Shanxi. Henan, Jiangsu. Sichuan. Southern.

Puccinellia dolicholepis (Krecz.) Pavlov. *Fl. Kazakh.* 1:243 (1956).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *dolichos*, narrow; *lepis*, scale. Glumes narrow-lanceolate.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Culms geniculately ascending, 30–60 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane. Leaf-blades filiform, convolute, 10–25 cm long, 1–1.5 mm wide, glaucous. Leaf-blade surface smooth, glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 10–20 cm long. Primary panicle branches ascending. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear or lanceolate, laterally compressed, compressed slightly, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, shorter than spikelet. Lower glume linear, 1.5–2.5 mm long, 0.66–0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse or acute. Upper glume elliptic, 2.5–3 mm long, 0.8–0.9 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 3–3.5 mm long, membranous, much thinner above, purple, without keel, rounded except near apex, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pilose, hairy below. Lemma apex acuminate. Palea 1 length of lemma, 2 -veined. Palea keels scabrous, ciliolate, adorned with hairs below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1–1.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Eastern Europe**.

Country /Province /State. Central European Russia, East European Russia, South European Russia, Ukraine. Siberia, **Middle Asia**, **Caucasus**, **China**. Kazakhstan, Kirgizistan. Qinghai, Xinjiang.

Puccinellia fasciculata (Torr.) E.P.Bickn. *Bull. Torr. Bot. Club,* v. 197 (1908).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from USA. **Basionym or Replaced Name**: *Poa fasciculata* Torr., *Fl. N. Middle United States* 1: 107 (1823). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J. Torrey*, USA: New York: salt marsh near New York (NY-TORR; IT: US- (fragm. ex NY-TORR & photo)).

Illustrations (Books): C.E.Hubbard, *Grasses* (1968) (196), T. Cope & A. Gray, Grasses of the British Isles (35), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (50, Fig 19), G.E.Gibbs Russell el al, *Grasses of Southern Africa* (1990) (280, Fig 177), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (165, Fig 117), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (464).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): L. *fascis,* bundle; *-ulus*, diminutive. *-ata*, possessing. With spikelets or branches clustered in the inflorescence.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 6–60 cm long, 1–3 -noded. Leaf-sheaths open for most of their length, without keel, smooth. Ligule an eciliate membrane, 1–2.5 mm long. Leaf-blades 2–16 cm long, 1.5–5 mm wide. Leaf-blade surface scabrous, rough adaxially. Leaf-blade apex obtuse or abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle open or contracted, lanceolate or oblong or ovate, secund, 2.5–18 cm long. Primary panicle branches ascending, bearing spikelets almost to the base. Panicle branches stiff, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 3–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the

upper sterile. Spikelets oblong, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume ovate, 1–1.5 mm long, 0.6–0.8 length of upper glume, membranous, much thinner on margins, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume ovate, 1.5–1.8 mm long, 0.75–0.8 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma elliptic, 1.8–2.3 mm long, membranous, much thinner above, much thinner on margins, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface puberulous, hairy below. Lemma apex erose, obtuse, mucronate. Palea 1 length of lemma, 2 -veined. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.6–1 mm long. Ovary glabrous. Caryopsis with adherent pericarp, ellipsoid, 1.5 mm long. Embryo 0.2 length of caryopsis. Hilum punctiform.

n = 14 (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Australasia (*), North America.

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**.

Country /Province /State. : Great Britain, Ireland. : Belgium, Netherlands. : France, Portugal, Sardinia, Spain. : Italy, Sicily, Yugoslavia. **Southern Africa** (*). Northern Cape, Western Cape, Eastern Cape. **Australia** (*), **New Zealand** (*). South Australia (*), Victoria (*). New Zealand North I, New Zealand South I, Stewart Is. **Eastern Canada**, **Northeast USA**, **Southwestern USA**, **Southeastern USA**. Nova Scotia. Connecticut, New York, Rhode Island. Arizona, Nevada, Utah. Delaware.

Southern.

Puccinellia festuciformis (Host) Parl. *Fl. Ital.* i. 368 (1848).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from Yugoslavia. **Basionym or Replaced Name**: *Poa festuciformis* Host, *Icon. Descr. Gram. Austriac.* 3: 12, t. 17 (1805). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Yugoslavia: In Dalmatia in palustribus insulae Ugliano, non multum a Civitate Zara dissitae, *I. Host s.n.*.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *forma*, appearance. Resembling *Festuca* in habit or inflorescence.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary or caespitose. Culms erect, 35–90 cm long. Culm-internodes glaucous. Leaf-sheaths open for most of their length. Ligule an eciliate membrane, 2–4 mm long. Leaf-blades conduplicate, 7–22 cm long, 1–2.5 mm wide. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong, secund, 12–21 cm long, 3–8 cm wide. Primary panicle branches 4–6 -nate. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear.

Fertile Spikelets. Spikelets comprising 6–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 8–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume lanceolate or ovate, 2.7–3 mm long, 0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate or ovate, 3.5–4 mm long, 1 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong or obovate, 3.5–4 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pubescent, hairy below. Lemma apex erose, truncate. Palea 1 length of lemma, 2 -veined. Palea keels ciliolate, adorned above, with 0.66 of their length adorned. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 2–2.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Northern Europe** (*), **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : GB Aliens (Ryves et al). : Austria, Hungary. : Corsica, France, Portugal, Sardinia, Spain. : Bulgaria, Greece, Italy, Romania, Sicily, Turkey Europe, Yugoslavia. Krym, East European Russia, Northwest European Russia. **Western Asia**, **China**. Xinjiang.

Puccinellia filifolia (Trin.) Tzvelev. *Novit. Syst. Pl. Vasc., Acad. Sci. URSS,* 1964, 18 (1964).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from Mongolia. **Basionym or Replaced Name**: *Colpodium filifolium* Trin., *Mem. Acad. Imp. Sci. Saint-Petersbourg, Ser. 6, Sci. Math., Seconde Pt. Sci. Nat.* 4,2(1): 70 (1836). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Mongolia: V. spp. Monghol.,.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *filum*, thread; *folium*, leaf. Leaf-blades very narrow.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Culms erect or geniculately ascending, 15–40 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane, 1.2–2 mm long, glabrous on abaxial surface. Leaf-blades filiform, conduplicate, 3–11 cm long, 0.2–0.6 mm wide, mid-green or grey-green. Leaf-blade surface scaberulous, rough adaxially.

Inflorescence. Inflorescence a panicle. Panicle open or contracted, oblong, 5–20 cm long, 1–5 cm wide. Panicle branches capillary, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, scabrous.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume lanceolate, 0.5–1.2 mm long, 0.5–0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume lanceolate, 1–1.8 mm long, 0.66–0.9 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong or obovate, 1.5–2 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma midvein extending to apex. Lemma lateral veins obscure, stopping well short of apex. Lemma margins ciliolate, hairy above. Lemma apex truncate. Palea 1 length of lemma, 2 -veined. Palea keels smooth or scabrous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.9–1.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**, **Mongolia**. Inner Mongolia. Mongolia.

Puccinellia florida D.F. Cui. *Fl. Xinjiangensis* 6: 600, 117, pl. 44, f. 1–4 (1996).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Xinjiang: Wulumugi, ad aquosa, ca. 1100 m, 21 May 1957, *C.Z. Guan 491* (HT: XJBI).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 355).

Derivation (Clifford & Bostock 2007): L. *floreo*, bloom; *-idus*, becoming. Profusely flowering.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 15–40 cm long. Leaf-sheaths smooth. Ligule an eciliate membrane, 2–3 mm long, acuminate. Leaf-blades flat or conduplicate, 3–6 cm long, 1.2–3 mm wide. Leaf-blade surface scabrous, rough adaxially. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Panicle contracted, lanceolate, 8–12 cm long, 2–3 cm wide. Primary panicle branches 2–5 -nate. Panicle axis scaberulous. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 6–9 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–7 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1–1.5 mm long, 0.66–0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Upper glume elliptic, 1.5–2 mm long, 0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined.

Florets. Fertile lemma oblong, 2–2.2 mm long, membranous, much thinner on margins, mid-green and purple, suffused with last colour, without keel, rounded except near apex, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma surface glabrous. Lemma apex truncate or obtuse. Palea 2 -veined. Palea keels smooth, ciliate, adorned above, with 0.5 of their length adorned. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.5–0.7 mm long.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. Xinjiang.

Puccinellia frigida (Phil.) I. M. Johnston. {Physis (Buenos Aires) 9 (34): 300 (1929).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Chile. **Basionym or Replaced Name**: *Catabrosa frigida* Phil., *Fl. Atacam.* 55 (1860). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: Chile: riachuelo del valle río Frío (SGO-PHIL-363; IT: SG0–37544, SG0–63510, SGO-62666, US-1939360 (fragm. ex SG0–37544 & photo)).

Recent Synonyms: *Poa taltalensis* Pilger, *Notizbl. Bot. Gart. Berlin* 10: 762 (1929).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (347), S.A.Renvoize, *Gramineas de Bolivia* (1998) (Fig. 36).

Derivation (Clifford & Bostock 2007): L. cold. Growing at high altitudes.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 7–30 cm long. Ligule an eciliate membrane, 1.5–2 mm long. Leaf-blades conduplicate, 1–5 cm long, 1–1.5 mm wide. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 2–10 cm long. Primary panicle branches spreading, bearing spikelets almost to the base. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2.5–3 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume oblong, 0.7 mm long, 0.5 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume elliptic, 1–1.2 mm long, 0.66 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex truncate.

Florets. Fertile lemma oblong, 1.5–1.7 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma apex obtuse. Palea 1 length of lemma, 2 -veined. Palea keels smooth. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**, **Southern South America**. Bolivia. Argentina Northwest, Chile North, Chile Central.

Catamarca, Jujuy, La Rioja, Mendoza, Salta, San Juan, Tucuman. Tarapaca, Antofagasta, Atacama, Coquimbo. Tarapaca, Antofagasta, Atacama. Coquimbo.

Puccinellia gigantea (Grossh.) Grossheim. *Fl. Caucas.* v. 1. 114 (1928).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. **Basionym or Replaced Name**: *Atropis gigantea* Grossh., *Vestn. Tiflissk. Bot. Sada* 46: 35, pl. 2 (1919). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: TT: *A. Grossheim s. n*, 16 Jul 1917, see sp. # 1 (LE). Orig. label: Prov. Baku, distr. Lenkoran (Talush), Kumbashi,in salsis maritimis.. HT: *A. Grossheim s. n.*, 17 May 1916, Transcaucasus, Lenkoran (LE). Orig. label: Prov. Baku, distr. Lenkoran (Talysh), Kumbashi, in pratis..

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 345 & Fig. 350).

Derivation (Clifford & Bostock 2007): L. very large. Culms tall compared with those of related species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 30–100 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane, 3 mm long. Leaf-blades conduplicate, 10–20 cm long, 1–3 mm wide, mid-green or glaucous. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade margins scaberulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Peduncle scaberulous above. Panicle open, lanceolate or ovate, dense or loose, 10–25 cm long, 6–12 cm wide. Primary panicle branches ascending or spreading or reflexed, 4–8 -nate, 2–5 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 8–11 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 8–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume lanceolate or ovate, 0.8–1 mm long, 0.5 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate or ovate, 1.5–2 mm long, 0.66–0.75 length of adjacent fertile lemma, membranous, without keels, 1–3 -veined. Upper glume lateral veins absent or obscure. Upper glume apex acute.

Florets. Fertile lemma oblong or obovate, 2.2–2.75 mm long, membranous, much thinner above, mid-green or purple or yellow, bordered with last colour or tipped with last colour, without keel, 5 -veined, more than 3-veined. Lemma midvein falling short of apex. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pubescent, hairy below, hairy on veins. Lemma apex truncate, awned. Palea 1 length of lemma, 2 -veined. Palea keels scabrous, adorned above, with 0.5 of their length adorned. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.3–1.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Europe, Temperate Asia, Tropical Asia.

Region. **Eastern Europe**.

Country /Province /State. Krym, Central European Russia, East European Russia, South European Russia, Northwest European Russia, Ukraine. Siberia, **Middle Asia**, **Caucasus**, **Western Asia**, **China**, **Mongolia**, **Russia**. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Afghanistan, Iran. Qinghai, Xinjiang. Mongolia. **Indian Subcontinent**. Pakistan.

Puccinellia glaucescens (R. Phil.) L. Parodi. *Not. Mus. La Plata, Bot.,* ii. 14 (1937).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Chile. **Basionym or Replaced Name**: *Catabrosa glaucescens* Phil., *Anales Univ. Chile* 43: 569 (1873). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Coll. Ukn. s.n.*,

Chile: Provincia de Santiago, la vega entre Quilicura y Batuco (SGO-PHIL-361; IT: BAA-4489, K, SGO-37545, SGO-63501, US-81731 ex W, ex hrb. Musei. Palat. Vindob., US- (photo SGO-37545)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (348), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (85, Fig. 21 as var. *osteniana*), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (129, Fig 79 as var. *osteniana*), B.Rosengurtt, *Gramineas UruguayasI* (1970) (140, Fig. 53 as *P. osteniana*).

Illustrations (Journals): *Darwiniana* (37: 306, Fig.2 (1999)).

Derivation (Clifford & Bostock 2007): L. *glaucesco*, become glaucous. Foliage and/or other parts bluish-green.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending, 15–70 cm long. Leaf-sheaths open for most of their length, glabrous on surface. Ligule an eciliate membrane, 2–3 mm long, acute. Leaf-blades conduplicate, 0.5–1 mm wide. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Panicle open, linear, 10–30 cm long. Primary panicle branches appressed. Panicle axis scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–12 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 5–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long, smooth.

Glumes. Glumes persistent, shorter than spikelet. Lower glume elliptic, 1.5–2 mm long, 0.75 length of upper glume, membranous, much thinner on margins, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 2–2.8 mm long, 0.75–0.9 length of adjacent fertile lemma, membranous, with hyaline margins, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 2.8–3 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pubescent, hairy below, hairy on back or on veins. Lemma apex obtuse or acute. Palea 1 length of lemma, 2 -veined. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp, ellipsoid, 1.8–2 mm long. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina Northeast, Chile Central, Chile South, Uruguay. Falkland Is (Malvinas).

Mendoza, San Juan. Buenos Aires, Distrito Federal, Entre Rios, La Pampa, Santa Fe. Chubut, Río Negro, Santa Cruz, Tierra del Fuego. Rest of Chile- Biobio, La Auracania, Maule, O'Higgins, Santado, Valpariso, Chiloe, Aisen, Magellanes. Coquimbo, Valparaiso, Santiago, Biobio. Los Lagos, Magellanes.

Puccinellia gorodkovii Tzvelev. *Fl. Arct. URSS, Fasc*. 2, 199 (1964).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Russia, Taimyr: *Gorodkov 20* (LE holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Boris Nikolaevich Gorodkov (1890–1953) Russian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms geniculately ascending, 10–40 cm long, 2–3 -noded. Leaf-sheaths open for most of their length. Ligule an eciliate membrane, 1.5–2.5 mm long. Leaf-blades flat or convolute, 0.7–2.5 mm wide, grey-green. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, effuse, 3–8 cm long. Primary panicle branches 2 -nate, bearing 2–8 fertile spikelets on each lower branch. Panicle branches capillary, smooth or scaberulous, rough distally. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the

upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 4–6.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent.

Glumes. Glumes persistent, shorter than spikelet. Lower glume elliptic, 1 mm long, 0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume elliptic, 1.5 mm long, 0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 2–2.8 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pubescent, hairy at base, hairy on veins. Lemma apex obtuse. Palea 1 length of lemma, 2 -veined. Palea keels scabrous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1–1.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp, ovoid, 1.4–2 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia. West Siberia.

Puccinellia groenlandica T. Sorensen. *Meddel. Grenl.* c vi. No. 3, 37 (1953).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Greenland. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *J.Vahl*, Aug. 1832, [Greenland]: in locis argillosis humidis ad littus sinus Ikkatoka, fl.Kolstensb. (C: LE).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (468).

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Groenland, that is Greenland.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending, 40–65 cm long. Ligule an eciliate membrane, 3 mm long, truncate. Leaf-blades 2–3 mm wide. Leaf-blade surface scabrous, rough adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 20–30 cm long. Primary panicle branches ascending, 2–3 -nate. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 7–12 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume ovate, 1.5–2 mm long, 0.66–0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume oblong, 2–3 mm long, 0.66–0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex erose, obtuse.

Florets. Fertile lemma oblong, 3–3.5 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma apex erose, obtuse. Palea 1 length of lemma, 2 -veined. Palea keels scaberulous, ciliate, adorned as to hairs below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.1–1.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp, 2 mm long. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Subarctic America**. Greenland.

Puccinellia grossheimiana Krecz., nom altern. *Komarov, Fl. URSS,* ii. 477 (1934).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. **Basionym or Replaced Name**: *Atropis grossheimiana* V.I. Krecz., *Fl. URSS* 2: 477, 761, t. 35, f. 9 (1934). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: USSR,.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Alexander Alfonsovich Grossheim (1888–1948).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 30–40 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane, 1.5–2.8 mm long. Leaf-blades filiform, involute, 3–7 cm long, 0.5–1 mm wide. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade margins scaberulous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, 10–12 cm long, 3–5 cm wide. Primary panicle branches spreading, 2–5 -nate. Panicle branches flexuous, with occasional prickles, rough proximally. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume ovate, 1.2–1.6 mm long, 0.6–0.7 length of upper glume, membranous, purple, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume ovate, 2–2.3 mm long, 0.75 length of adjacent fertile lemma, membranous, purple, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong or ovate, 2.8–3 mm long, membranous, much thinner above, light green or purple, suffused with last colour, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma apex obtuse. Palea 1 length of lemma, 2 -veined. Palea keels scabrous, adorned above, with 0.5–0.66 of their length adorned. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.4–1.7 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Caucasus**, **Western Asia**. Iran.

Puccinellia gyirongensis L. Liou. *Fl. Xizangica*, 5: 125 (1987).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Xizang: dry grasslands, dampish grassy places, 1500–3500 m,.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Gyirong, Qinghai-Xizang Plateau, S.W. China.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 10–18 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane. Leaf-blades conduplicate or convolute, 1–2 cm long, 0.7–2 mm wide. Leaf-blade surface smooth or scaberulous, rough adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate or oblong, 5 cm long, 1–2.5 cm wide. Primary panicle branches ascending or spreading, 1–2 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2.5–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume ovate, 0.9–1.5 mm long, 0.5–0.6 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 1.2–2 mm long, 0.5–0.9 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong or ovate, 1.5–2.1 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma midvein extending to apex. Lemma lateral veins obscure, stopping well short of apex. Lemma apex emarginate or acute, muticous or mucronate. Palea 1 length of lemma, 2 -veined. Palea keels smooth or scabrous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Middle Asia**, **China**. Kazakhstan, Kirgizistan, Tadzhikistan, Uzbekistan. Qinghai, Tibet, Xinjiang.

Puccinellia hackeliana (Krecz.) Krecz. ex Drobov. *Fl. Uzbekist.* i. 250 (1941).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. **Basionym or Replaced Name**: *Atropis hackeliana* V.I. Krecz., *Fl. URSS* 2: 762, 484, pl. 35, f. 20 (1934). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Pamir,.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Eduard Hackel (1850–1926) Bohemian born Austrian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms decumbent, 15–35 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane. Leaf-blades conduplicate or convolute, 1–3 cm long, 1–1.5 mm wide, glaucous. Leaf-blade surface smooth, glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle open, linear or elliptic, dense, 2–4 cm long. Primary panicle branches appressed. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 8–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, shorter than spikelet. Lower glume linear, 1.5–2 mm long, 0.75 length of upper glume, membranous, much thinner above, much thinner on margins, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2–2.5 mm long, 0.75 length of adjacent fertile lemma, membranous, much thinner above, with hyaline margins, without keels, 3 -veined. Upper glume lateral veins obscure. Upper glume apex acute.

Florets. Fertile lemma elliptic, 2.5–3.5 mm long, membranous, much thinner above, much thinner on margins, purple, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pilose, hairy below. Lemma apex acute. Palea 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 28$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **Middle Asia**, **Western Asia**, **China**, **Mongolia**. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan. Afghanistan. Qinghai, Tibet, Xinjiang. Mongolia. **Indian Subcontinent**. Pakistan.

Puccinellia harcusiana A.R. Williams. *Fl. Australia* 44A: 386 (2009).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Stolons absent or present. Basal innovations intravaginal. Culms erect, slender, 24–30 cm long. Lateral branches ample. Ligule an eciliate membrane, 1–3 mm long. Leaf-blades involute, 8–12 cm long, 1–1.3 mm wide.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Panicle open, lanceolate, 7–14 cm long. Primary panicle branches 3–5 cm long, bearing spikelets almost to the base. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 7–11 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the

upper sterile. Spikelets oblong, laterally compressed, 6–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume ovate, 2–3.3 mm long, 0.4–0.5 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 4.2–8 mm long, 1.4–2 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 3–4 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma midvein falling short of apex. Lemma lateral veins stopping well short of apex. Lemma apex erose, obtuse. Palea 3–4 mm long, 2 -veined. Palea keels scabrous, adorned below, with 0.5 of their length adorned. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.5–1.1 mm long, pallid.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. Tasmania.

Puccinellia himalaica Tzvelev. *Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS,* xvii. 66 (1955).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Kashmir: Soo Morari Peldo, Rupshu, in wet sand, 3000 m, 8 July 1931, *W. Koelz 2216* (HT: LE; IT: K, MO (GST), US-1819464).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 359).

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From the Himalayas.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 5–20 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane. Leaf-blades conduplicate or convolute, 2–6 cm long, 0.7–2 mm wide, light green or grey-green. Leaf-blade surface smooth or scaberulous, rough adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, linear, 4–9 cm long. Primary panicle branches ascending or spreading. Panicle branches smooth or with occasional prickles. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4(–5) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.5–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume ovate, 0.9–1.5 mm long, 0.5–0.6 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 1.2–2 mm long, 0.8–0.9 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong or ovate, 1.5–2.1 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma midvein extending to apex. Lemma lateral veins obscure, stopping well short of apex. Lemma apex emarginate or acute, muticous or mucronate. Palea 1 length of lemma, 2 -veined. Palea keels smooth or scabrous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.5–0.7 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **Western Asia**, **China**. Afghanistan, Iran. Tibet, Xinjiang. **Indian Subcontinent**. India, Pakistan, West Himalaya.

Jammu Kashmir.

Puccinellia hispanica M.A. Julia Berruezo & J.M. Montserrat Marti. *Fontqueria,* 53: 3 (1999).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Huesca, Sariñena, zona oeste de la Laguna, 180 m, 30TYM3431I, 20 Apr 1980, *G. Montserrat s.n.* (HT: JACA-5259–80).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Hispania, now Spain.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Stolons absent or present. Culms erect, 10–70 cm long, 2–3 -noded. Ligule an eciliate membrane, 1–3.5 mm long, 0.8–2.6 mm long on basal shoots, obtuse. Leaf-blades conduplicate, elliptic in section, 5–20 cm long, 0.6–1.1 mm wide. Leaf-blade midrib keeled beneath. Leaf-blade venation with 2–3 inner ridges.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic or pyramidal, straight, 3–25 cm long, 1.1–8.7 cm wide. Primary panicle branches spreading, 3–4 -nate, whorled at most nodes. Panicle axis 8–16 noded, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or rhomboid, laterally compressed, compressed slightly, 3–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–6.5 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate or elliptic, 1.4–2 mm long, membranous, without keels, 3 -veined. Lower glume lateral veins prominent. Lower glume apex acute. Upper glume elliptic.

Florets. Fertile lemma elliptic, 2.4–3 mm long, membranous, mid-green or purple, suffused with last colour, without keel, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy below. Lemma lateral veins prominent. Lemma margins scabrous. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.55–1 mm long, purple. Caryopsis with adherent pericarp, ellipsoid, 1.2 mm long.

Distribution (TDWG). Continent. Europe.

Region. **Southwestern Europe**.

Country /Province /State. : Spain.

Puccinellia howellii J.I. Davis. *Madrono,* 37(1): 55 (1990).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *J.I. Davis 526*, 26 Jul 1988, USA: California: Shasta Co., Whiskeytown-Shasta-Trinity Nat. Rec. Area, Whiskeytown Unit, ca. 0.8 mi W of junction of Cal. Hwy 299 with Crystal Creek road (US-3063984).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (474).

Derivation (Clifford & Bostock 2007): in honor of John Thomas Howell (fl. 1932–1954) United States botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 7–40 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane, 1.5–2.7 mm long, entire or erose, obtuse. Leaf-blades involute, 1.4–2.2 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 7–12 cm long. Primary panicle branches appressed or ascending. Panicle branches smooth, glabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, glabrous.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–7.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 0.8–1.9 mm long, 0.5–0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse or acute. Upper glume oblong, 1.7–2.5 mm long, 0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume lateral veins obscure. Upper glume apex obtuse or acute.

Florets. Fertile lemma elliptic or ovate, 2.4–3.3 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma

margins scabrous (above). Lemma apex obtuse or acute. Palea 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.5–2 mm long. Caryopsis with adherent pericarp, ovoid, 1.5–2 mm long, green or light brown. Embryo 0.25–0.33 length of caryopsis. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Southwestern USA**. California.

Puccinellia humilis (Krecz.) Bor. *Nytt Mag. Bot., Oslo,* 1: 19 (1952).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from Russia. **Basionym or Replaced Name**: *Atropis humilis* Krecz., Komarov, *Fl. URSS,* 2: 473, 759 (1934). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Russia, Alai range, Taldyk Pass: Korzhinsky 6892 (LE holo, K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. low growing. Short-statured in comparison with related species and often prostrate.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms erect, 4–15 cm long. Ligule an eciliate membrane. Leaf-blades conduplicate or involute, 1–3 cm long, 1 mm wide, glaucous. Leaf-blade surface smooth, glabrous.

Inflorescence. Inflorescence a panicle. Panicle spiciform, linear or lanceolate, 2–5 cm long, 0.5–1 cm wide. Primary panicle branches appressed, bearing 1–3 fertile spikelets on each lower branch. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–7 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume linear, 2.2 mm long, 0.75–0.9 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2.5–3 mm long, 0.9 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma elliptic, 2.5–3.5 mm long, membranous, purple, without keel, 5 -veined, more than 3-veined. Lemma lateral veins stopping well short of apex. Lemma surface pilose, hairy at base. Lemma apex obtuse. Palea 1 length of lemma, 2 -veined. Palea keels scabrous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.7–1.2 mm long.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **Middle Asia**, **Western Asia**, **China**. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Afghanistan. Tibet, Xinjiang. **Indian Subcontinent**. Pakistan.

Puccinellia iberica (Wolley-Dod) Tsvelev. *Fl. Arctica* 2:188 (1964).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from Spain. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Spain: Palmones River, near Algecieras [Gibralter], *2062*.

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 60 cm long. Ligule an eciliate membrane, 5 mm long, acuminate. Leaf-blades conduplicate, 2.5–3 mm wide. Leaf-blade venation with 6–8 secondary veins.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, nodding, 16–24 cm long. Primary panicle branches spreading, 2–3 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 1–2 mm long.

Fertile Spikelets. Spikelets comprising 5–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the

upper sterile. Spikelets oblong, laterally compressed, 8–10 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1 mm long, 0.5 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Upper glume lanceolate, 2–5 mm long, 0.5 length of adjacent fertile lemma, membranous, without keels, 3 -veined.

Florets. Fertile lemma oblong, 5 mm long, membranous, much thinner above, much thinner on margins, without keel, 5 -veined, more than 3-veined. Lemma lateral veins stopping well short of apex. Lemma surface glabrous or pubescent, hairy below. Lemma apex acute. Palea 1 length of lemma, 2 -veined. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 3 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Europe.

Region. **Southwestern Europe**.

Country /Province /State. : Spain.

Puccinellia iliensis (Krecz.) Serg. Krylov, *Fl. Zap. Sibiri* 12:3116 (1961).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from Russia. **Basionym or Replaced Name**: *Atropis iliensis* Krecz., Komarov, *Fl. URSS,* 2: 485, 763 (1934). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Russia, Ili-Balkhash Volost: Sokolov 641 (LE holo).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms (5–)10–25(–30) cm long. Ligule an eciliate membrane, 1 mm long. Leaf-blades 1–6 cm long, 0.5–2 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open or contracted, lanceolate or ovate, 5–8 cm long. Primary panicle branches 2–4 -nate, bearing 3–5 fertile spikelets on each lower branch. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4(–5) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2.5–3 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume elliptic, 0.5 mm long, 0.5 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume elliptic, 1 mm long, 0.66 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 1.4–1.6 mm long, membranous, without keel, 5 -veined, more than 3-veined. Lemma lateral veins stopping well short of apex. Lemma apex obtuse. Palea 2 -veined. Palea keels scaberulous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.3–0.5 mm long.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Middle Asia**, **China**. Kazakhstan, Kirgizistan, Uzbekistan.

Puccinellia intermedia (Schur) Janchen. *Wiener Bot. Zeitschr*. 93:84 (1944).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Austria. **Basionym or Replaced Name**: *Atropis intermedia* Schur, *Enum. Pl. Transsilv.* 779 (1866). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Austria: auf Salzthonschlamm auf allen Salzlokalitaten: Salzbur, Torda, Udvarhely, Kolos, Maros-Uyvar., syntypes.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. intermediate. Having affinities with but distinct from other species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 30–60 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane, 2–3 mm long. Leaf-blades flat or involute, 6–15 cm long, 2.5–5 mm wide. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 13–17 cm long, 3–8 cm wide. Primary panicle branches spreading, 3–5 -nate. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear.

Fertile Spikelets. Spikelets comprising 5–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 7–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume ovate, 1.5–2 mm long, 0.7–0.8 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse or acute. Upper glume ovate, 2–2.5 mm long, 0.9 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse or acute.

Florets. Fertile lemma oblong or obovate, 2.5–2.8 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface puberulous, hairy below. Lemma apex erose, truncate. Palea 1 length of lemma, 2 -veined. Palea keels ciliolate, adorned all along or above, with 0.66–1 of their length adorned. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.5–1.6 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Middle Europe**, **Southeastern Europe**.

Country /Province /State. : Austria, Hungary. : Romania. **Western Asia**, **China**. East Aegean Is, Turkey. Xinjiang.

Puccinellia jeholensis Kitagawa. *Rep. First Sc. Exped. Manchoukuo, Sect.* IV. iv. 10 (1936).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from Manchuria. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Manchuria,.

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 346).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Jehol, China.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms geniculately ascending, 30–60 cm long. Culm-internodes distally glabrous. Leaf-sheaths open for most of their length, smooth. Ligule an eciliate membrane, 1 mm long, scaberulous on abaxial surface, obtuse. Leaf-blades convolute, 4–8.5 cm long, 2–3 mm wide, glaucous. Leaf-blade surface ribbed, grooved adaxially, scabrous, rough adaxially. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, effuse, 8–17.5 cm long, 7–13 cm wide. Primary panicle branches reflexed, 1–4 -nate, 3–7 cm long. Panicle branches scabrous, rough distally. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume lanceolate, 0.7–1.4 mm long, 0.5–0.66 length of upper glume, membranous, purple, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume margins ciliolate. Lower glume apex acute. Upper glume elliptic, 1.5–2.2 mm long, 0.66 length of adjacent fertile lemma, membranous, purple, without keels, 5 -veined. Upper glume surface smooth or asperulous, rough on veins. Upper glume margins ciliolate. Upper glume apex obtuse or acute.

Florets. Fertile lemma elliptic, 2.5–3 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface smooth or scaberulous, rough above or on veins, puberulous, hairy below, hairy on veins. Lemma margins

ciliolate, hairy above. Lemma apex obtuse. Palea 1 length of lemma, 2 -veined. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.4–1.8 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**, **Mongolia**. Inner Mongolia, Manchuria, China North-Central, China Southeast. Mongolia.

Hebei. Jiangsu.

Puccinellia jenisseiensis (Roshev.) Tsvelev. *Fl. Arct. URSS, Fasc*. 2, 195 (1964).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. **Basionym or Replaced Name**: *Atropis jenissciensis* Roshev., *Izv. Bot. Sada Akad. Nauk SSSR* 30: 300 (1932). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: USSR,.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From River Jenisseisk that is the Yenisey River, Siberia.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending, 25–40 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane. Leaf-blades 2–2.5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 8–15 cm long. Panicle branches capillary, flexuous, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 8–10 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume ovate, 2 mm long, 0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume ovate, 2.5–3 mm long, 0.66 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex erose, obtuse.

Florets. Fertile lemma obovate, 4–4.5 mm long, membranous, much thinner above, purple, keeled, distinctly keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pubescent, hairy at base. Lemma margins ciliolate. Lemma apex acute. Palea 2 -veined. Palea keels ciliate, adorned all along. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 2 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia. Krasnoyarsk.

Puccinellia kamtschatica O. R. Holmberg. *Bot. Notiser,* 1927, 208. (1927).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Kamtschatka, (T: S) (no collections identified for the typical element).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Kamchatka, Eastern Siberia.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms erect or geniculately ascending, 12–25 cm long. Leaf-sheaths open for most of their length, longer than adjacent culm internode, smooth. Ligule an eciliate membrane, 2 mm long. Leaf-blades flat or involute, 1–2 mm wide. Leaf-blade surface smooth.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 4–10 cm long. Primary panicle branches ascending. Panicle branches with occasional prickles. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 3–7 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume elliptic, 1 mm long, 0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 1.5 mm long, 0.75 length of adjacent fertile lemma, membranous, much thinner above, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 2 mm long, membranous, much thinner above, shiny, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma apex obtuse. Palea 1.1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.6–0.8 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 56$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East, **China**. Kamchatka. Manchuria.

Puccinellia kashmiriana Bor. *Kew Bull.* 1953, 270 (1953).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Kashmir: Kamri Valley near Kalapani, 3500–3700 m, 25 Aug. 1893, *J.F. Duthie 12543* (HT: K) 3400–5300 m.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating location. From Kashmir.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm. Culms erect or geniculately ascending, 6–23 cm long, 2 -noded. Culm-nodes glabrous. Leaf-sheaths loose, open for most of their length, smooth. Ligule an eciliate membrane, 1–1.5 mm long, lacerate. Leaf-blades flat or conduplicate, 1–5 cm long, 1–1.5 mm wide. Leaf-blade surface scabrous, rough adaxially. Leaf-blade margins scabrous. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Peduncle scaberulous above. Panicle contracted, linear, 1.3–3.5 cm long, 0.5 cm wide. Primary panicle branches reflexed, 2 -nate, 0.5–1.3 cm long, bearing 1–2 fertile spikelets on each lower branch. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or oblong, laterally compressed, 4.5–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume elliptic or oblong, 1.2–1.8 mm long, 0.6–0.7 length of upper glume, membranous, much thinner on margins, purple, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic or oblong, 2–2.5 mm long, 0.6–0.7 length of adjacent fertile lemma, membranous, with hyaline margins, purple, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma elliptic or oblong, 3.2–3.5 mm long, 2 mm wide, membranous, much thinner above, much thinner on margins, purple, without keel, 5 -veined, more than 3-veined. Lemma midvein extending to apex. Lemma lateral veins obscure, stopping well short of apex. Lemma surface glabrous. Lemma apex apiculate. Palea 1 length of lemma, 2 -veined. Palea keels smooth, eciliate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.6–1 mm long. Ovary glabrous. Caryopsis with adherent pericarp, 2 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **Western Asia**, **China**. Afghanistan. Tibet, Xinjiang. **Indian Subcontinent**. Pakistan, West Himalaya.

Himachal Pradesh, Jammu Kashmir.

Puccinellia koeieana Melderis. *K. Danske Vid. Selsk., Biol. Skrift.*, xiv. No. 4 :7 (1965).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Mogens Ergell Kxie (1911–2000) Danish botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary or caespitose, clumped loosely. Basal innovations intravaginal. Culms erect, 15–35 cm long. Culm-internodes glaucous. Leaf-sheaths open for most of their length. Ligule an eciliate membrane, 2–3.5 mm long. Leaf-blades involute, 3–9 cm long, 0.5–2 mm wide, glaucous. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle contracted, elliptic, 5–10 cm long, 2 cm wide. Primary panicle branches 3–6 -nate, 2–3.5 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume lanceolate or ovate, 1.3–1.6 mm long, 0.6–0.8 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume lanceolate or ovate, 1.6–2.5 mm long, 0.75–1 length of adjacent fertile lemma, membranous, without keels, 1–3 -veined. Upper glume lateral veins absent or obscure. Upper glume margins ciliolate. Upper glume apex erose, obtuse.

Florets. Fertile lemma oblong or ovate, 2–2.5 mm long, membranous, much thinner above, purple or yellow, bordered with last colour or tipped with last colour, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pubescent, hairy below. Lemma apex obtuse, muticous or mucronate. Palea 1 length of lemma, 2 -veined. Palea keels scabrous, adorned above, with 0.33 of their length adorned. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.3–1.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Western Asia**, **China**. Afghanistan, Iran. Tibet.

Puccinellia kuenlunica Tzvelev. *Bot. Mater. Gerb. Bot. Inst. Komarova Acad. Nauk SSSR* 17: 62 (1955).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Kuen-Lun, Inner Mongolica.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Basal innovations extravaginal or intravaginal. Culms erect, 20–30 cm long. Ligule an eciliate membrane, 2 mm long. Leaf-blades 3–8 cm long, 1–2.5 mm wide. Leaf-blade surface scabrous, rough adaxially. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 8–18 cm long. Primary panicle branches appressed. Panicle branches smooth or with occasional prickles. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the

upper sterile. Spikelets oblong, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1–1.5 mm long, 0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Upper glume elliptic, 1.5–2 mm long, 0.66 length of adjacent fertile lemma, membranous, without keels, 3 -veined.

Florets. Fertile lemma lanceolate or ovate, 2.5–3.2 mm long, membranous, without keel, 5 -veined, more than 3-veined. Lemma surface glabrous. Lemma apex acuminate. Palea 2 -veined. Palea keels scabrous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.7–1.2 mm long.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China North-Central, Qinghai, Tibet, Xinjiang.

Gansu.

Puccinellia kulundensis L.I. Sergievskaya. *Sist. Zam. Mater. Gerb. Tomsk Gos. Univ.,* 82: 5 (1961).

Accepted by: N.Tsvelev, *Grasses of the Soviet Union* (1983).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Cataphylls inconspicuous. Culms 30–50 cm long, 1–2 mm diam. Leaf-sheaths open for most of their length. Ligule an eciliate membrane, 1–2 mm long. Leaf-blades flat or convolute, 1.2–3 mm wide. Leaf-blade surface scaberulous.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 10–25 cm long. Primary panicle branches 7–13 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume ovate, 1 mm long, 0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume ovate, 1.5 mm long, 1 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 1.5 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pubescent, hairy at base. Lemma apex obtuse. Palea 2 -veined. Palea keels scabrous, ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1–1.3 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia, Russian Far East, **China**, **Mongolia**. Inner Mongolia, Manchuria, China North-Central, China Southeast.

Beijing, Gansu, Shanxi, Tianjin. Jiangsu.

Puccinellia ladakhensis (H. Hartmann) Dickori. *Stapfia* 39: 182 (1995).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from India. **Basionym or Replaced Name**: *Poa ladakhensis* H. Hartmann, *Candollea* 39(2): 510 (1984). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: India: Kashmir:,.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From the Ladakh Range, India.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Culms geniculately ascending, 8–20 cm long, 3–4 -noded. Ligule an eciliate membrane, 1 mm long. Leaf-blades 2–5 cm long, 0.2–0.5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 5–10 cm long, 1–2 cm wide. Primary panicle branches 2–3(–5) cm long. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1.5–1.8 mm long, 0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Upper glume elliptic, 2.5 mm long, 0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined.

Florets. Fertile lemma oblong, 3.2–3.5 mm long, membranous, purple, without keel, rounded except near apex, 5 -veined, more than 3-veined. Lemma surface glabrous. Lemma apex acuminate. Palea 2 -veined. Palea keels smooth, eciliate. Palea apex with excurrent keel veins. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.2–1.6 mm long.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. Tibet. **Indian Subcontinent**. Nepal, Pakistan, West Himalaya.

Puccinellia ladyginii Ivanova ex Tzvelev. *Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS,* xvii. 65 (1955).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Qinghai: Kunlun?, alpine sandy river beaches,.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of V. Ladygin (fl. 1901) Russian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths withering. Basal innovations intravaginal. Culms erect or geniculately ascending, 15–32 cm long, 2 -noded. Culm-internodes smooth. Leaf-sheaths open for most of their length, smooth. Ligule an eciliate membrane, 1–2 mm long, obtuse. Leaf-blades flat, 1–6 cm long, 1–2 mm wide. Leaf-blade surface smooth or scaberulous, rough adaxially, glabrous. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 5–8 cm long. Primary panicle branches spreading, 2 -nate. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent.

Glumes. Glumes persistent, shorter than spikelet. Lower glume lanceolate or ovate, 1.5–1.9 mm long, 0.66–0.9 length of upper glume, membranous, much thinner on margins, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse or acute. Upper glume lanceolate or ovate, 1.9–2.6 mm long, 0.75 length of adjacent fertile lemma, membranous, with hyaline margins, without keels, 3 -veined. Upper glume apex obtuse or acute.

Florets. Fertile lemma lanceolate, 2.6–3.4 mm long, membranous, much thinner above, much thinner on margins, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma margins ciliolate. Lemma apex obtuse or acute. Palea 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.3–2 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. Qinghai.

Puccinellia langeana (Berlin) T. Serensen. *Fl. Alaska & Yukon,* x:1709 (1950).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from Greenland. **Basionym or Replaced Name**: *Glyceria langeana* Berlin, *Ofvers. Forh. Kongl. Svenska Vetensk.-Akad.* 7: 79 (1884). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *A. Berlin*, 30 Jun 1883, Western Greenland: Kangaitsiak (S, UPS).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Johann Martin Christian Lange (1818–1898) Danish botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Subarctic America**. Greenland.

Puccinellia leiolepis L. Liou. *Fl. Xizangica,* 5: 126 (1987).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Xizang: wet ravines, alpine meadows, 3000–4500 m,.

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or decumbent or prostrate, 10–20 cm long. Leaf-sheaths open for most of their length, without keel, smooth. Ligule an eciliate membrane, 1–2 mm long. Leaf-blades 2–4 cm long, 1.5–2 mm wide. Leaf-blade apex obtuse or abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, 5–8 cm long. Primary panicle branches 1 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear.

Fertile Spikelets. Spikelets comprising 3–9 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume ovate, 1–1.5 mm long, 0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume elliptic, 1.5–2 mm long, 0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 2–2.5 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface smooth, glabrous. Lemma apex erose, obtuse. Palea 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.8–1 mm long. Ovary glabrous. Caryopsis with adherent pericarp, ellipsoid. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. China South Central, Qinghai, Tibet.

Sichuan.

Puccinellia lemmonii (Vasey) Scribn. *U.S. Dept. Agric. Bull. Agrost.* xvii. 276 (1899).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. **Basionym or Replaced Name**: *Poa lemmonii* Vasey, *Bot. Gaz.* 3(2): 13 (1878). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: (US-82054). ; USA: California: Sierra Co., *J.G.Lemmon s.n.* (T: US).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (472).

Derivation (Clifford & Bostock 2007): in honor of John Gill Lemmon (1832–1908) United States forester and botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms (10–)20–40(–50) cm long. Leaves mostly basal. Ligule an eciliate membrane, 1–2 mm long, entire or erose, obtuse or acute. Leaf-blades erect, filiform, involute, 4–8 cm long, 2–10 mm wide, stiff.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, (3–)5–10(–13) cm long. Primary panicle branches spreading, whorled at most nodes. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising (3–)5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas, sparsely hairy. Floret callus glabrous or pubescent.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume lanceolate, 1 mm long, 0.5 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2 mm long, 0.5–0.66 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 3.5–4 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma apex acute. Palea 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, 0.5 mm long. Anthers 3, 1.3–2 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Western Canada**, **Northwest USA**, **Southwestern USA**. Saskatchewan. Idaho, Montana, Oregon, Washington. California, Nevada.

Puccinellia lenensis (Holmb.) Tsvelev. *Novosti Sist. Vyssh. Rast.*, 8: 80 (1971).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ense*, denoting origin. From Lena River Basin, Siberia.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms erect or geniculately ascending, 10–15 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane, 1–1.5 mm long, white, erose, truncate. Leaf-blades curved, conduplicate, 2–3 cm long, 1.5–2 mm wide. Leaf-blade surface glabrous. Leaf-blade apex abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 3–4 cm long. Primary panicle branches spreading, 2 -nate, 1–2 cm long, bearing 2–5 fertile spikelets on each lower branch. Panicle branches flexuous, smooth. Spikelets solitary. Fertile spikelets sessile or pedicelled. Pedicels absent or present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume ovate, 1.2–1.6 mm long, 0.66 length of upper glume, membranous, much thinner on margins, purple, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex entire or erose, obtuse. Upper glume obovate, 2–2.6 mm long, 0.75 length of adjacent fertile lemma, membranous, with hyaline margins, purple, without keels, 3 -veined. Upper glume lateral veins prominent. Upper glume apex entire or erose, obtuse.

Florets. Fertile lemma oblong, 2.8–3.2 mm long, membranous, much thinner above, purple or yellow, bordered with last colour, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pubescent, hairy below. Lemma apex truncate. Palea 1 length of lemma, 2 -veined. Palea keels scabrous, ciliate, adorned with hairs below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.8–1 mm long. Ovary glabrous. Caryopsis with adherent pericarp, 2 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia. Krasnoyarsk.

Puccinellia longior A.R.Williams. *Nuytsia* 16:458–460, Fig 8 (2007).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual or perennial, short-lived, caespitose. Culms 25–75 cm long. Ligule an eciliate membrane, 3.3–4.8 mm long. Leaf-blades involute, 7.5–35 cm long, 0.5–1.5 mm wide.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Panicle contracted, linear, 8.5–29 cm long. Primary panicle branches 2–5 -nate, 1.1–12 cm long, bearing 8–137 fertile spikelets on each lower branch. Panicle axis scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–9 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 4–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pilose.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume ovate, 1.2–2.2 mm long, 0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume apex acute. Upper glume ovate, 2–3.3 mm long, 0.8–0.9 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 2.4–3.7 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma midvein falling short of apex. Lemma lateral veins obscure, stopping well short of apex. Lemma surface glabrous or pubescent, hairy at base. Lemma apex erose, obtuse. Palea 2.3–3.4 mm long, 0.9 length of lemma, 2 -veined. Palea keels scabrous, adorned below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.1–1.7 mm long, pallid.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. Western Australia.

South-West.

Puccinellia macquariensis (Cheesem.) Allan & Jansen. *Trans. & Proc. Roy. Soc. N. Z.* lxix. 268 (1939).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. **Basionym or Replaced Name**: *Triodia macquariensis* Cheeseman, *Aust. Antart. Exped. 1911–1914, Sci. Rep., Ser. C* 7(3): 34 (1919). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *H. Hamilton s.n.*, New Zealand: MAcquarie Island, coastal form only found near sea (AK-1732). LT designated by Edgar, Fl. Austr. 50(Oceanic Islands) 2: 572 (1993).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis,* denoting origin. From Macquarie Island in the Southern Ocean.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths pallid. Basal innovations intravaginal. Culms erect or geniculately ascending, 4–25 cm long. Leaf-sheaths open for most of their length, longer than adjacent culm internode, wider than blade at the collar, without keel, smooth. Ligule an eciliate membrane, 0.7–1.5 mm long, erose. Leaf-blades 2–8 cm long, 1 mm wide. Leaf-blade surface smooth. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle, shorter than basal leaves. Panicle open, lanceolate, 1.5–6 cm long, 0.5–1 cm wide. Primary panicle branches appressed. Panicle branches angular, smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the

upper sterile. Spikelets oblong, laterally compressed, 4–6.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.7–1.2 mm long. Floret callus glabrous.

Glumes. Glumes persistent, shorter than spikelet. Lower glume elliptic, 1.6–2.6 mm long, 0.75 length of upper glume, membranous, without keels, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume apex obtuse. Upper glume elliptic, 2–3.5 mm long, 0.66–0.9 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma elliptic, 3–4 mm long, membranous, much thinner above, light green, without keel, 5 -veined, more than 3-veined. Lemma lateral veins stopping well short of apex. Lemma surface glabrous or puberulous, hairy at base. Lemma apex entire, obtuse. Palea 2 -veined. Palea keels scabrous, ciliate, adorned in the middle. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.4–0.9 mm long. Ovary glabrous. Caryopsis with adherent pericarp, 1.5–1.7 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia, Antarctica.

Country /Province /State. **New Zealand**. Macquarie Is. **Subantarctic islands**. Macquarie Is.

Puccinellia macranthera (Krecz.) Norlindh. *Fl. Mongol. Steppe* 1:102 (1949).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. **Basionym or Replaced Name**: *Atropis macranthera* V.I. Krecz., *Flora URSS* 2: 759, 471, pl. 35, f. 2 (1934). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Russia: Siberia:,.

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 350).

Derivation (Clifford & Bostock 2007): Gk. *makros*, large; *antheros*, blooming. Panicle large.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending, 30–50 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane. Leaf-blades flat or involute, 4–5 mm wide, glaucous. Leaf-blade surface scabrous, rough adaxially. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate or pyramidal, 10–20 cm long. Primary panicle branches spreading. Panicle axis scabrous. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, compressed slightly, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume ovate, 1–1.5 mm long, 0.5–0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume surface puberulous. Lower glume apex obtuse. Upper glume ovate, 2 mm long, 0.66–0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume surface puberulous. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 2.3–3 mm long, membranous, much thinner above, keeled, lightly keeled, 5 -veined, more than 3-veined. Lemma lateral veins distinct, stopping well short of apex. Lemma margins ciliolate, hairy above. Lemma apex obtuse. Palea 2 -veined. Palea keels ciliate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.6–2 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia, **China**, **Mongolia**, **Russia**. Buryatiya, Chita, Irkutsk, Tuva. Inner Mongolia, China North-Central, Xinjiang. Mongolia.

Gansu.

Puccinellia macropus Krecz. *Komarov, Fl. URSS,* ii. 489 (1934).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. **Basionym or Replaced Name**: *Atropis macropus* Krecz., *Flora URSS* 2: 489, 765, t. 38, f. 29 (1934). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: USSR,.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *makros*, large; *pous*, foot. Inflorescence borne on a long peduncle.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Culms erect, 40–50 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane. Leaf-blades erect, involute, 1.9–2 mm wide, stiff, grey-green.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 3–10 cm long. Primary panicle branches appressed. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, compressed slightly, 2–5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume linear, 1 mm long, 0.5 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume linear, 2 mm long, 0.75–1 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 2–2.5 mm long, membranous, much thinner above, purple or yellow, bordered with last colour, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma apex acute. Palea 2 -veined. Palea keels scaberulous, adorned all along. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.2–1.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Middle Asia**. Kazakhstan.

Puccinellia magellanica (Hook. f.) L. Parodi. *Not. Mus. La Plata, Bot.,* ii. 15 (1937).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Chile. **Basionym or Replaced Name**: *Catabrosa magellanica* Hook. f., *Fl. Antarct.* 2: 387 (1847). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Capt. King s.n.*, no date, Chile: Magallanes (K; IT: US-865748 (fragm. ex K)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (348), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (133, Fig 81).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 15–50 cm long. Leaf-sheaths open for most of their length, glabrous on surface. Ligule an eciliate membrane, 2.5–3.6 mm long, acute. Leaf-blades involute, 3–4 mm wide. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade margins scaberulous. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, loose, 15–20 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, compressed slightly, 5–15 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1–1.5 mm long, smooth.

Glumes. Glumes persistent, shorter than spikelet. Lower glume oblong, 1–1.5 mm long, 0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume oblong, 3–3.5 mm long, 0.66–0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma elliptic, 4.4–4.6 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma apex obtuse.

Palea 4–4.2 mm long, 2 -veined. Palea keels ciliolate, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.5–0.8 mm long. Ovary glabrous. Caryopsis with adherent pericarp, ovoid, 0.8 mm long. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South, Chile South.

Chubut, Santa Cruz, Tierra del Fuego. Rest of Chile- Biobio, La Auracania, Maule, O'Higgins, Santado, Valpariso, Chiloe, Aisen, Magellanes. Magellanes.

Puccinellia manchuriensis Ohwi. *Acta Phytotax. & Geobot* 4: 31 (1935).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Manchuria, now comprising the Provinces of Lianoning, Jilin and Heilongjiang, in north-east China.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Cataphylls inconspicuous. Culms 30–50 cm long, 1–2 mm diam. Leaf-sheaths open for most of their length. Ligule an eciliate membrane, 1–2 mm long. Leaf-blades flat or convolute, 1.2–3 mm wide. Leaf-blade surface scaberulous.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 10–25 cm long. Primary panicle branches 7–13 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume ovate, 1 mm long, 0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume ovate, 1.5 mm long, 1 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 1.5 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pubescent, hairy at base. Lemma apex obtuse. Palea 2 -veined. Palea keels scabrous, ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1–1.3 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia, Russian Far East, **China**, **Mongolia**, and **Eastern Asia**. Buryatiya, Chita, Irkutsk, Tuva. Primorye. Inner Mongolia, Manchuria, China North-Central, China Southeast. Mongolia. Japan.

Beijing, Gansu, Shanxi, Tianjin. Jiangsu.

Puccinellia maritima (Huds.) Parl. *Fl. Ital.* i. 370 (1848).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from UK. **Basionym or Replaced Name**: *Poa maritima* Huds., *Fl. Angl.* 35 (1762). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: UK: England: in littoribus maritimis ubique,.

Recent Synonyms: *Puccinellia americana* T. Sorensen, *Meddel. Gronl.* c vi. No. 3. 67 (1953).

Illustrations (Books): C.E.Hubbard, *Grasses* (1968) (202), T. Cope & A. Gray, Grasses of the British Isles (33), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (466).

Derivation (Clifford & Bostock 2007): L. belonging to the sea. Growing by the seaside.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Stolons present. Culms erect or decumbent or prostrate, 10–80 cm long, 2–4 -noded. Leaf-sheaths open for most of their length, without keel, smooth. Ligule an eciliate membrane, 1–3 mm long. Leaf-blades 2–20 cm long, 1–3 mm wide. Leaf-blade surface scabrous, rough adaxially. Leaf-blade apex obtuse or abruptly acute, hooded.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear or lanceolate or ovate, 3–25 cm long, 0.4–8 cm wide. Primary panicle branches appressed or ascending, bearing spikelets almost to the base. Panicle branches stiff, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 3–10 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–13 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate or ovate, 2–3.5 mm long, 0.8–1 length of upper glume, membranous, without keels, 1–3 -veined. Lower glume apex obtuse. Upper glume ovate, 2–4 mm long, 0.6–0.8 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 3–5 mm long, membranous, much thinner above, much thinner on margins, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pubescent, hairy below. Lemma apex obtuse. Palea 1 length of lemma, 2 -veined. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 2–2.8 mm long. Ovary glabrous. Caryopsis with adherent pericarp, ellipsoid, 2–3 mm long. Embryo 0.2 length of caryopsis. Hilum punctiform.

Distribution (TDWG). Continent. Europe, Africa, North America.

Region. **Northern Europe**, **Middle Europe**, **Southwestern Europe**, **Southeastern Europe**, **Eastern Europe**.

Country /Province /State. : Denmark, Foroyar, Great Britain, Iceland, Norway, Sweden. : Belgium, Germany, Netherlands, Poland. : Corsica, France, Portugal, Sardinia, Spain. : Italy. Estonia, Latvia, Lithuania, Baltic States, North European Russia. **Northern Africa**, **Macaronesia**. Morocco. Canary Is. **Subarctic America**, **Eastern Canada**, **Northeast USA**. Greenland. Nova Scotia.

Puccinellia mendozina (Hack.) L. Parodi. *Rev. Argent. Agron.* xxviii. 105 (1962).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. **Basionym or Replaced Name**: *Atropis convoluta* var. *mendozina* Hack., *Anales Mus. Nac. Buenos Aires* 13: 519 (1906). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *K. Kurtz 7481*, 5 Dec 1893, Argentina: Mendoza: Laguna Piedras Negras, Cordillera (Stuckert Herb. 15958; IT: BAA (fragm.)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (349), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (129, Fig 80).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 10–50 cm long. Leaf-sheaths open for most of their length, glabrous on surface. Ligule an eciliate membrane, 2–3 mm long, acute. Leaf-blades convolute, 0.5–1.5 mm wide. Leaf-blade surface glabrous. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Panicle open, linear or lanceolate, 5–15 cm long. Primary panicle branches appressed, whorled at lower nodes. Panicle axis scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 3.5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.6–0.8 mm long, smooth.

Glumes. Glumes persistent, shorter than spikelet. Lower glume elliptic, 1.3–1.5 mm long, 0.6 length of upper glume, membranous, without keels, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume apex obtuse. Upper glume elliptic, 2–2.4 mm long, 0.66–0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 2.6–3 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface glabrous or pubescent, hairy below, hairy on veins. Lemma apex obtuse. Palea 2.4–2.8 mm long, 2 -veined. Palea keels smooth, eciliate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.5–1 mm long. Ovary glabrous. Caryopsis with adherent pericarp, ovoid, 1.6–1.8 mm long. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South.

Mendoza, Salta. Buenos Aires, Cordoba, La Pampa. Chubut, Santa Cruz.

Puccinellia micrandra (Keng) Keng & S. L. Chen.

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 358).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Culms geniculately ascending, 10–20 cm long, 1 mm diam. Ligule an eciliate membrane, 1 mm long, truncate or acute. Leaf-blades 2–4 cm long, 1–2 mm wide, grey-green. Leaf-blade surface scabrous, rough adaxially. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 5–8 cm long, 3–5 cm wide. Primary panicle branches 2 -nate, 2–4 cm long. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.5 mm long, scabrous.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 2.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus sparsely hairy.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 0.6–1 mm long, 0.5 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Upper glume elliptic, 1.2 mm long, 0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined.

Florets. Fertile lemma oblong, 1.5 mm long, membranous, yellow and purple, suffused with last colour, without keel, 5 -veined, more than 3-veined. Lemma surface glabrous. Lemma apex truncate. Palea 2 -veined. Palea keels smooth. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.3–0.5 mm long.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. Inner Mongolia, Manchuria, China North-Central, China Southeast.

Puccinellia micranthera D.F. Cui. *Fl. Xinjiangensis* 6: 122, 600–601, pl. 47, f. 1–4 (1996).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Xinjian: Fuwen, Tacheng et Wuqia Zian, ad paluides et aquosa, 1300–2000 m, 15 July 1977, *sine coll. 11569* (HT: XJBI).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 354).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 25–40 cm long, 2–3 -noded, with 0.33 of their length below uppermost node. Leaf-sheaths smooth. Ligule an eciliate membrane, 1.5–2 mm long, obtuse. Leaf-blades 3–8 cm long, 1.5–3 mm wide. Leaf-blade surface scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, effuse, 12–20 cm long, 5–7 cm wide, 0.5 of culm length. Primary panicle branches 5–10 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 5–8 mm long, scabrous.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–7 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1–1.5 mm long, 0.5–0.75 length of upper glume, membranous, much thinner on margins, without keels, 1 -veined. Lower glume lateral veins absent. Upper glume elliptic, 2 mm long, 0.5–0.66 length of adjacent fertile lemma, membranous, with hyaline margins, without keels, 3 -veined.

Florets. Fertile lemma oblong, 3–4 mm long, membranous, without keel, 5 -veined, more than 3-veined. Lemma surface glabrous. Lemma apex acuminate. Palea 2 -veined. Palea keels scabrous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.3–0.5 mm long.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. Tibet, Xinjiang.

Puccinellia minuta Bor. *Nytt Mag. Bot., Oslo,* i. 19 (1952).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from Pakistan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Pakistan: Chitral distr.: Barum Gol, S. Barum Glacier, ca. 4500 m, 27 July 1950, *P. Wendelbo s.n.* (HT: K) dwarf species, known only from the type.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. very small. Smaller than usual in some respect.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Culms erect, 2–5 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane. Leaf-blades filiform, convolute, 0.5–4.5 cm long, 1 mm wide. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 1–2 cm long, 0.3–0.5 cm wide. Primary panicle branches ascending. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, subacute to acute, 3–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume elliptic or oblong, 0.75–1 mm long, 0.66–0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume elliptic, 1–1.5 mm long, 0.5–0.6 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex obtuse.

Florets. Fertile lemma elliptic or oblong, 2.2–2.5 mm long, membranous, much thinner above, mid-green or purple, bordered with last colour or tipped with last colour, without keel, 3 -veined, 0–3 -veined. Lemma midvein extending to apex. Lemma lateral veins obscure, stopping well short of apex. Lemma apex emarginate, mucronate. Palea 1 length of lemma, 2 -veined. Palea keels scabrous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.75–1 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. Qinghai, Tibet. **Indian Subcontinent**. Pakistan.

Puccinellia multiflora L. Liou. *Fl. Xizangica*, 5: 123 (1987).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Xizang: sandy saline lake shores, alluvial fans, 2900–4200 m,.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *multus*, many; *flos*, flower. Spikelets with more florets than those of related species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 25–50 cm long. Culm-internodes smooth, distally glabrous. Leaf-sheaths open for most of their length, smooth. Ligule an eciliate membrane, 1 mm long, obtuse. Leaf-blades flat or conduplicate, 8–11 cm long, 2–3 mm wide. Leaf-blade surface scabrous, rough adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 15 cm long. Primary panicle branches 4–10 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–9 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear or oblong, laterally compressed, 8–11 mm long, 2–3 mm wide, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume lanceolate, 1.5 mm long, 0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume lanceolate, 2–2.5 mm long, 0.66 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 3–3.5 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma apex obtuse. Palea 2 -veined. Palea keels scabrous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. Qinghai, Tibet.

Puccinellia nipponica Ohwi. *Bot. Mag., Tokyo*,xlv. 379. (1931).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from Japan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Japan, Matsushima: *Faurie 1184* .

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to; Nippon, according to many nationals the Latin spelling most closely corresponding to the local pronunciation of the name of their country. From Japan.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Culms erect or geniculately ascending, 30–100 cm long, 2–3 -noded. Culm-internodes 3–20 cm long. Leaves mostly basal. Ligule an eciliate membrane, 2–3 mm long, white. Leaf-blades flat or involute, 10–20 cm long, 2–3 mm wide, glaucous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle, exserted or embraced at base by subtending leaf. Panicle open, lanceolate or ovate, 7–20 cm long, 3.5–6 cm wide. Primary panicle branches ascending, 3–6 -nate, 4–8 cm long, bearing spikelets almost to the base. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 4–6 mm long, 2–2.5 mm wide, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume lanceolate, 2–2.5 mm long, 0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2.7–3.2 mm long, 0.9 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma elliptic or oblong, 3–3.5 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins stopping well short of apex. Lemma surface pubescent, hairy at base. Lemma apex acute. Palea 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.7 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

2*n* = 28 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East, **China**, **Eastern Asia**. Primorye. Inner Mongolia, Manchuria. Japan Honshu. Japan, Korea.

Puccinellia nudiflora (Hack.) Tsvelev. *Bot. Mat. (Tashkent)* 17:75 (1962).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Turkmenistan. **Basionym or Replaced Name**: *Poa nudiflora* Hack., *Oesterr. Bot. Z.* 52(11): 453 (1902). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Turkmenistan: Tian Shan in valle Caende 2400–3000 m, 25–27 July 1900, *Brocherel 225* (HT: G(W?); IT: US).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Butt sheaths withering. Basal innovations extravaginal. Culms geniculately ascending or decumbent, 7–15 cm long, 2 -noded, with 0.25 of their length below uppermost node. Leaf-sheaths loose, open for most of their length, longer than adjacent culm internode, smooth, glabrous on surface. Ligule an eciliate membrane, 1.5–2 mm long, obtuse. Leaf-blades flat or convolute, 1–6 cm long, 2–3 mm wide, flaccid. Leaf-blade surface glabrous. Leaf-blade margins scabrous. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, 3–5 cm long. Primary panicle branches appressed, 2 -nate. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long, smooth.

Glumes. Glumes persistent, shorter than spikelet. Lower glume ovate, 1 mm long, 0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 1 mm long, 0.5 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 3 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma midvein eciliate or ciliolate, hairy below. Lemma lateral veins obscure, stopping well short of apex. Lemma apex obtuse or acute. Palea 1 length of lemma, 2 -veined. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Middle Asia**, **China**, **Mongolia**. Kirgizistan, Tadzhikistan. Qinghai, Tibet, Xinjiang.

Puccinellia nutkaensis (Presl) Fernald & Weatherby. *Rhodora,* xviii. 22 (1916).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Canada. **Basionym or Replaced Name**: *Poa nutkaensis* J. Presl, *Reliq. Haenk.* 1(4–5): 272 (1830). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *cl. Presl mis. 1833*, Nootka-Sund (LE-TRIN-2762.01 (& fig.)). HT: *T. Haenke s.n.*, no date, Canada: British Columbia: Vancouver Island (PR; IT: US-91371 (fragm.)).

Puccinellia lucida Fernald & Weatherby, *Rhodora,* 18:. 16. (1916).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (474).

Derivation (Clifford & Bostock 2007): L. -*ensis*, denoting origin. Of Nootka Sound, Western Canada.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Stolons absent or present. Culms 20–60 cm long. Ligule an eciliate membrane, 1.5–3.5 mm long, obtuse. Leaf-blades flat or involute, 1–2 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 8–15 cm long. Primary panicle branches ascending or spreading, 1–3 cm long. Panicle branches smooth or with occasional prickles. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 1.5 mm long, 0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex entire or erose, obtuse. Upper glume oblong, 2.2–2.5 mm long, 0.66 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex entire or erose, obtuse.

Florets. Fertile lemma oblong, 3–3.6 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins stopping well short of apex. Lemma surface puberulous, hairy at base. Lemma apex erose, obtuse. Palea 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.7–1.2 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 56$ (1 ref TROPICOS).

Distribution (TDWG). Continent. North America.

Country /Province /State. **Subarctic America**, **Western Canada**, **Eastern Canada**, **Northwest USA**, **North-central USA**, **Southwestern USA**. Aleutian Is, Alaska, Yukon, Northwest Territories, Nunavut, Greenland. British Columbia, Manitoba. Newfoundland, Nova Scotia, Ontario, Quebec. Oregon, Washington. Nebraska. California.

Puccinellia nuttalliana (Schult.) Hitchcock. *Jepson, Fl. Calif.* i. 162 (1912).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. **Basionym or Replaced Name**: *Poa nuttalliana* Schult., *Mant.* 2: 303 (1824). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Around the Mandan village on the Missouri River,.

Recent Synonyms: *Puccinellia borealis* Swallen, *Journ. Wash. Acad. Sci.* 4: 19 (1944). *Puccinellia deschampsioides* T. Sorensen, *Meddel. Gronl.* c vi. No. 3, 31 (1953).

Illustrations (Books): K.F.Best, et al, *Prairie Grasses* (1971) (201), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (474).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Thomas Nuttall (1786–1859). United States naturalist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 40–80 cm long. Ligule an eciliate membrane, 1–3 mm long, scaberulous on abaxial surface, obtuse. Leaf-blades flat or involute, 1–2.5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 6–20 cm long. Primary panicle branches spreading, whorled at most nodes, 5–10 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 4–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–7 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 1.3–2 mm long, 0.8 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume oblong, 1.5–2.5 mm long, 0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 2.5–3.2 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins stopping well short of apex. Lemma apex erose, obtuse. Palea 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.7–1 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

2*n* = 42 (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, North America.

Country /Province /State. Siberia, Russian Far East, **Caucasus**, **China**, **Mongolia**. Krasnoyarsk. Kamchatka. **Subarctic America**, **Western Canada**, **Eastern Canada**, **Northwest USA**, **North-central USA**, **Southwestern USA**, **South-central USA**. Alaska, Yukon, Northwest Territories, Nunavut, Greenland. Alberta, British Columbia, Manitoba, Saskatchewan. Labrador. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. North Dakota, South Dakota. Arizona, California, Nevada, Utah. New Mexico.

Puccinellia oresigena (Phil.) Hitchcock. *Contrib. U. S. Nat. Herb.* xxiv. 326 (1927).

TYPE from Chile. **Basionym or Replaced Name**: *Poa oresigena* Phil., *Verz. Antofagasta Pfl.* 87 (1891). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *[Philippi s.n.]*, Chile: Tarapac? (SGO-PHIL-401; IT: BAA-4502, SGO-37330, SGO-63506, SGO-71538, US-88753 (fragm. ex SGO-PHIL-401 & photo), US- (photo SGO-37330)).

Illustrations (Books): E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (306, Fig. 102).

Derivation (Clifford & Bostock 2007): Gk. *oros*, mountain; *genea*, birthplace. Mountain species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial. Culms decumbent, 10–20 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane, 3–4 mm long. Leaf-blades flat or involute, 1 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 5–10 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume ovate, 1 mm long, 0.5 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex emarginate. Upper glume ovate, 2 mm long, 0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 2.5 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma apex acute. Palea 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**, **Southern South America**. Bolivia, Ecuador. Argentina Northwest.

Jujuy, San Juan.

Puccinellia pamirica (Roshev.) Krecz. ex Ovczinn. & Czukav. *Fl. Tadjikist.* i. 224 (1957).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 352).

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From the Pamir Mountains, Tadzhikistan, former Soviet Union.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths glossy, persistent and investing base of culm, with compacted dead sheaths. Culms geniculately ascending, 20–40 cm long. Leaf-sheaths

open for most of their length, antrorsely scabrous. Ligule an eciliate membrane. Leaf-blades conduplicate or involute or convolute, 2–4 cm long, 1–1.5 mm wide. Leaf-blade surface smooth, glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 5–10 cm long. Primary panicle branches ascending. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate or oblong or cuneate, laterally compressed, compressed slightly, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, shorter than spikelet. Lower glume lanceolate, 1–1.5 mm long, 0.75 length of upper glume, membranous, much thinner above, much thinner on margins, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 1.75–2 mm long, 0.66 length of adjacent fertile lemma, membranous, much thinner above, with hyaline margins, without keels, 3 -veined. Upper glume lateral veins obscure. Upper glume apex acute.

Florets. Fertile lemma oblong, 2.5–3 mm long, membranous, much thinner above, much thinner on margins, purple, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma apex erose, acute or acuminate. Palea 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.8–2 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 14$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Middle Asia**, **Western Asia**, **China**. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Afghanistan. Qinghai, Tibet, Xinjiang.

Puccinellia parishii Hitchcock. *Proc. Biol. Soc. Wash.* xli. 157. (1928).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *S.B. Parish 9799*, 24 Apr 1915, USA: California: San Bernardino Co.: Rabbit Springs (US-906851).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (466).

Derivation (Clifford & Bostock 2007): in honor of Samuel Bonsall Parish (1838–1928) United States botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms geniculately ascending, 3–10 cm long. Ligule an eciliate membrane, 0.5–1 mm long, erose, obtuse. Leaf-blades flat or involute, 0.5–1 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, linear, 1–4 cm long, bearing few spikelets. Primary panicle branches appressed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes smooth.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1.5–2 mm long, 1 length of upper glume, membranous, much thinner on margins, without keels, 3 -veined. Lower glume apex acute. Upper glume ovate, 1.5–2 mm long, 0.75–1 length of adjacent fertile lemma, membranous, with hyaline margins, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 2 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins stopping well short of apex. Lemma surface pubescent, hairy below, hairy on veins. Lemma apex erose, truncate or obtuse. Palea 1 length of lemma, 2 -veined. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp, obovoid, 0.6 mm long. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Southwestern USA**, **South-central USA**. Arizona, California. New Mexico.

Puccinellia parviflora (Hack.) I. Parodi. *Not. Mus. La Plata, Bot.*, ii. 15 (1937).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Tierra del Fuego. **Basionym or Replaced Name**: *Atropis parviflora* Hack., *Svenska Exped. Magell.* 3(5): 226 (1900). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *P. Dusén 295*, 4 Jan 1896, Tierra del Fuego, San Sebastián (IST: B, BAA-4494 (fragm. ex B)).

Illustrations (Books): M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (133, Fig 88).

Derivation (Clifford & Bostock 2007): L. *parvus*, small; *flos*, flower. Spikelets small or with few florets.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 10–30 cm long. Leaf-sheaths open for most of their length, glabrous on surface. Ligule an eciliate membrane, 1.5–2.5 mm long, obtuse. Leaf-blades filiform, convolute, 0.8–1 mm wide. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 4–10 cm long. Primary panicle branches spreading or reflexed. Panicle axis scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, compressed slightly, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.5–1 mm long, smooth.

Glumes. Glumes persistent, shorter than spikelet. Lower glume oblong, 0.6–1 mm long, 0.5–0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume oblong, 1.1–1.4 mm long, 0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 1.5–2 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pubescent, hairy at base. Lemma apex obtuse. Palea 1 length of lemma, 2 -veined. Palea keels ciliolate, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.2–0.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp, ovoid, 1 mm long. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South.

Chubut, Santa Cruz, Tierra del Fuego.

Puccinellia parvula Hitchcock. *Contrib. U. S. Nat. Herb*. xxiv. 325 (1927).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Bolivia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Hitchcock 22878*, 9 Jan 1924, Bolivia: Potos? Atocha, ca. 3500 m (US-1164915; IT: BAA).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (350), S.A.Renvoize, *Gramineas de Bolivia* (1998) (153, Fig 36).

Illustrations (Journals): *Darwiniana* (37: 304, Fig.1 (1999)).

Derivation (Clifford & Bostock 2007): L. *parvus*, small; *-ula*, diminutive. Dwarf in habit.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 5–10 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane, 1 mm long, truncate. Leaf-blades flat or involute, 1–3 cm long, 1 mm wide.

Inflorescence. Inflorescence a panicle, subtended by an inflated leaf-sheath, enclosed. Panicle contracted, linear, 2–4 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 0.5 mm long.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the

upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 2 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume ovate, 0.5 mm long, 0.5 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 1 mm long, 0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma elliptic or oblong, 1.5 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma apex erose, obtuse. Palea 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Western South America**, **Southern South America**. Bolivia. Argentina Northwest, Chile North.

Tucuman.

Puccinellia pauciramea (Hack.) Krecz. ex Ovczinn. & Czukav. *Fl. Tadjikist.* i. 227 (1957).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *paucus*, few; *ramus*, branch. Inflorescence weakly branched.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths withering. Culms geniculately ascending, 15–30 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane. Leaf-blades convolute, 1–2 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 4–6 cm long. Primary panicle branches appressed. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, shorter than spikelet. Lower glume lanceolate, 1.2–1.5 mm long, 0.66–0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse or acute. Upper glume lanceolate, 1.8–2 mm long, 0.66 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse or acute.

Florets. Fertile lemma obovate, 3–3.2 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma margins ciliate. Lemma apex acute. Palea 1 length of lemma, 2 -veined. Palea keels smooth. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.5–1.8 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Middle Asia**, **Western Asia**, **China**, **Mongolia**. Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Afghanistan. Qinghai, Tibet, Xinjiang. Mongolia.

Puccinellia perlaxa (N.G.Walsh) N.G.Walsh & A.R.Williams. *Nuytsia* 16 (2): 464 (2007).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual or perennial, short-lived, caespitose. Culms erect, 25–50 cm long. Leaf-sheaths loose. Ligule an eciliate membrane, 1–2 mm long, obtuse. Leaf-blades conduplicate or involute, 15–30 cm long, 1 mm wide, light green or glaucous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 15–30 cm long, 15–25 cm wide. Primary panicle branches spreading or reflexed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 2–2.5 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1–2 mm long, 0.5 length of upper glume, membranous, without keels, 1 -veined. Lower glume apex acute. Upper glume ovate, 2.2–3 mm long, 0.9–1 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 2.5–3 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma midvein falling short of apex. Lemma lateral veins stopping well short of apex. Lemma surface puberulous, hairy at base. Lemma apex erose, obtuse. Palea 1 length of lemma. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. Western Australia, South Australia.

South-West.

Puccinellia phryganodes (Trin.) Scribn. & Merrill. *Contrib. U. S. Nat. Herb.* xiii. 78 (1910).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from USA. **Basionym or Replaced Name**: *Poa phryganodes* Trin., *Mem. Acad. Imp. Sci. St.-Petersbourg, Ser. 6, Sci. Math.* 1(4): 389 (1830). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: V: *Chamisso Hb. Cham.*, (LE (GST)).

IT: *Eschscholtz 46*, USA: Alaska: Kotzebu Sund (LE-TRIN-2773.04 (lower left spec.), LE (GST)). There are 4 fragms. on 2773.04, all seem to be this species..

Recent Synonyms: Puccinellia ambigua T. Serensen, *Meddel. Gronl.* c vi. No. 3. 64 (1953).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (464).

Derivation (Clifford & Bostock 2007): Gk. *phryganon*, dry stick; *-odes*, resemblance. Culms thin and leaf-blades short.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Culms 5–15 cm long. Ligule an eciliate membrane, 0.5–1 mm long. Leaf-blades involute, 2–7 cm long, 1–1.5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, dense, 1.5–3 cm long. Primary panicle branches ascending or spreading. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5.7–8.4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 2 mm long, smooth.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 1.5–2.5 mm long, 0.66 length of upper glume, chartaceous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume oblong, 2.5–4 mm long, 0.75 length of adjacent fertile lemma, chartaceous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 3.3–3.7 mm long, chartaceous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins stopping well short of apex. Lemma apex erose, obtuse. Palea 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.5–2 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 14$ (1 ref TROPICOS), or 21 (3 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia, North America.

Region. **Northern Europe**, **Eastern Europe**.

Country /Province /State. : Finland, Norway, Svarlbad. North European Russia. Siberia, Russian Far East, **China**. Kamchatka, Khabarovsk, Magadan, Sakhalin. Xinjiang. **Subarctic America**, **Western**

Canada, **Eastern Canada**. Aleutian Is, Alaska, Yukon, Northwest Territories, Nunavut, Greenland. Manitoba. Labrador, Newfoundland, Nova Scotia, Ontario, Quebec.

Puccinellia poecilantha (Koch) Grossheim. *Opred. Rast. Kavk.* :706 (1949).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 344).

Derivation (Clifford & Bostock 2007): Gk. *poikilos*, variable; *anthos*, flower. Spikelets variable with respect to their numbers of sterile and fertile florets.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending, 20–40 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane. Leaf-blades 3–6 cm long, 2–3 mm wide, stiff, glaucous. Leaf-blade surface smooth, glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, 10–15 cm long. Primary panicle branches ascending. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 6–9 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 6–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, shorter than spikelet. Lower glume elliptic, 1.5 mm long, 0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume margins ciliolate. Lower glume apex obtuse. Upper glume elliptic, 2 mm long, 0.66–0.8 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume margins ciliolate. Upper glume apex obtuse.

Florets. Fertile lemma obovate, 2.5–3 mm long, membranous, much thinner above, purple, without keel, rounded except near apex, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pilose, hairy below, hairy on veins. Lemma margins ciliate. Lemma apex obtuse, mucronate. Palea 1 length of lemma, 2 -veined. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.5–2 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Eastern Europe**.

Country /Province /State. East European Russia, South European Russia. **Middle Asia**, **Caucasus**, **Western Asia**, **China**, **Russia**. Kazakhstan, Turkmenistan, Tadzhikistan, Uzbekistan. Afghanistan, Iran. Qinghai, Xinjiang.

Puccinellia porsildii T. Sorensen. *Meddel. Gronl.* c vi. No. 3. 35 (1953).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Greenland. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Morten P. Porsild s.n.*, 8 Sept. 1933, Groenland occ.: Disko, noer Arktisk Station 69'15"N. (C; IT: LE, US-1674344).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Alf Erling Porsild (1901–1977) Danish-born Canadian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms decumbent, 30–50 cm long. Ligule an eciliate membrane, 2–3 mm long. Leaf-blades involute, 5–8 cm long, 1–2 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 10–15 cm long. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 7–10 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume ovate, 2.7–4 mm long, 0.9 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex erose, obtuse. Upper glume oblong, 3.1–4.5 mm long, 1 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex erose, obtuse.

Florets. Fertile lemma oblong or ovate, 3–4.5 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pubescent, hairy below, hairy on veins. Lemma apex erose, obtuse. Palea 1 length of lemma, 2 -veined. Palea keels scaberulous, adorned above, adorned sparsely. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.3–1.6 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Subarctic America**. Greenland.

Puccinellia preslii (Hack.) Ponert. *Feddes Repert.,* 84(9-1 0): 740 (1974).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Chile. **Basionym or Replaced Name**: *Catabrosa tenuifolia* J. Presl, *Reliq. Haenk.* 1(4–5): 256 (1830); *Atropis preslii* Hack., *Svenska Exped. Magell.* 3(5): 227 (1900). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *T. Haenke 4138*, 1907, Chile: (IT: US-82089).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (350).

Derivation (Clifford & Bostock 2007): in honor of Karel Borivoj Presl (1794–1852) Bohemian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 10–15 cm long. Culm-internodes terete, distally glabrous. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane. Leaf-blade margins scaberulous. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Peduncle scaberulous above. Panicle contracted, linear, 6 cm long. Panicle axis glabrous. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets sessile or pedicelled. Pedicels absent or present.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 3 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume ovate, 0.5 length of upper glume, membranous, without keels. Lower glume apex obtuse. Upper glume ovate, 0.66 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 2 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pubescent, hairy below, hairy on back. Lemma apex erose, obtuse. Palea 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Chile Central, Chile South.

Mendoza, San Juan. Chubut, Santa Cruz. Atacama. Coquimbo.

Puccinellia przewalskii Tzvelev. *Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS,* xvii. 63 (1955).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Nikolai Michailowicz Przewalsky (1839–1888) Russian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Butt sheaths red. Basal innovations extravaginal or intravaginal. Culms erect or geniculately ascending, 25–40 cm long. Culm-internodes smooth. Leaf-sheaths open for most of their length, smooth. Ligule an eciliate membrane, 2 mm long, obtuse or acute. Leaf-blades convolute, 5–10 cm long, 1–3 mm wide, stiff, grey-green. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 8–14 cm long. Primary panicle branches appressed, 2–5 cm long. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous or sparsely hairy.

Glumes. Glumes persistent, shorter than spikelet. Lower glume lanceolate, 1.1–1.5 mm long, 0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume elliptic, 1.8–2.6 mm long, 0.66 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong or ovate, 2.8–3.9 mm long, membranous, much thinner above, much thinner on margins, light green, without keel, 5 -veined, more than 3-veined. Lemma midvein extending to apex. Lemma lateral veins obscure, stopping well short of apex. Lemma margins ciliolate. Lemma apex obtuse. Palea 1 length of lemma, 2 -veined. Palea keels spinulose, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.8–2.4 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**, **Mongolia**. China North-Central, Qinghai.

Gansu.

Puccinellia pumila (Vasey) Hitchcock. *Am. Journ. Bot.* 1934, xxi. 129 (1934).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from Canada. **Basionym or Replaced Name**: *Glyceria pumila* Vasey, *Bull. Torrey Bot. Club* 15(2): 48 (1888). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *J.M. Macoun 143*, 2 Aug 1887, Canada: British Columbia: Vancouver Island, salt marsh, Barclay Sound (US-948646).

Recent Synonyms: *Puccinellia kurilensis* (Takeda) Honda, *Journ. Fac. Sc. Tokyo, Sect.* 3. Bot.3 59 (1930).

Illustrations (Books): T.Koyama, *Grasses of Japan and its neighbouring regions* (1987) (87, Fig 26), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (472).

Derivation (Clifford & Bostock 2007): L. dwarf, low growing. Habit typically depauperate.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 10–30 cm long. Ligule an eciliate membrane, 0.8–2 mm long, obtuse. Leaf-blades flat or involute, 1–2.5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 3–10 cm long. Primary panicle branches appressed or ascending. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume oblong, 1.5–2 mm long, 0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume oblong, 2.5 mm long, 0.66 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 3–4 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins stopping well short of apex. Lemma surface puberulous, hairy at base. Lemma apex obtuse. Palea 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.7–1.2 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 28$.

Distribution (TDWG). Continent. Temperate Asia and North America.

Country /Province /State. Russian Far East, **China**, and **Eastern Asia**. Kamchatka, Khabarovsk, Kuril Is, Primorye, Sakhalin. Japan. **Subarctic America**, **Western Canada**, **Northwest USA**, and **Northeast USA**. British Columbia. Washington.

Puccinellia pusilla (Hack.) L. Parodi. *Not. Mus. La Plata, Bot.,* ii. 15 (1937).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Tierra del Fuego. **Basionym or Replaced Name**: *Atropis preslii* subsp. *pusilla* Hack., *Svenska Exped. Magell.* 3(5): 227 (1900). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *Dusen s.n.*, Tierra del Fuego: Porvenir.

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (350), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (133, Fig 84).

Derivation (Clifford & Bostock 2007): L. very small. Plants of small stature.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, mat forming. Culms erect or geniculately ascending, 3–12 cm long. Leaf-sheaths open for most of their length, glabrous on surface. Ligule an eciliate membrane, 0.6–1.5 mm long, obtuse. Leaf-blades involute or convolute, 0.6 mm wide.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Panicle open, ovate, 1–4 cm long. Primary panicle branches 1–3 -nate. Panicle axis scabrous. Spikelets solitary. Fertile spikelets sessile or pedicelled. Pedicels absent or present, scabrous.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 2–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.4 mm long, smooth.

Glumes. Glumes persistent, shorter than spikelet. Lower glume ovate, 0.5–0.9 mm long, 0.33–0.5 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume ovate, 1.5–1.9 mm long, 1 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 1.5–1.8 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma apex obtuse. Palea 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.3–0.7 mm long. Ovary glabrous. Caryopsis with adherent pericarp, ovoid, 1.2 mm long. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South, Chile South. Falkland Is (Malvinas).

Chubut, Neuquén, Santa Cruz, Tierra del Fuego. Chiloe, Aisen, Magellanes. Magellanes.

Puccinellia qinghaica Tzvelev. *Bot. Zhurn. (Moscow & Leningrad)* 89(5): 842 (2004).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Qinghai, Guinan Xian, Shatongtou, 25 km NE of Wangjia between Guomaying and Tongde, steppe, 3300 m, 19 Jul 1993, *B. Bartholomew & M. Gilbert N-27* (HT: CAS).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Qinghai, Guinon Xian, China.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 10–25 cm long. Ligule an eciliate membrane, 1–1.5 mm long. Leaf-blades convolute, 3–11 cm long, 1–1.5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, 5–10 cm long. Primary panicle branches 1–2 -nate. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume lanceolate, 0.5–1.2 mm long, 0.5–0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume lanceolate, 1–1.8 mm long, 0.66–0.9 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong or obovate, 1.5–2.2 mm long, membranous, much thinner above, purple, without keel, 5 -veined, more than 3-veined. Lemma lateral veins stopping well short of apex. Lemma surface pubescent, hairy at base, hairy on veins. Lemma apex truncate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.1–1.3 mm long.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. Qinghai.

Puccinellia raroflorens E.Edgar. *New Zealand J. Bot.,* 34(1): 22 (1996).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: New Zealand: Otago Land District: Alexandra, Conroys Road, salty soil patch on side of small valley in dry rolling country, 280 m, 19 Nov 1993, *B. Patrick 3* (HT: CHR-402693).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *rarus*, far apart; *floreo*, flower. Plants rarely flower.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, mat forming. Basal innovations extravaginal. Culms 2–4.5 cm long. Leaf-sheaths open for most of their length, longer than adjacent culm internode, wider than blade at the collar, without keel, smooth. Ligule an eciliate membrane, 0.2–0.6 mm long, truncate or obtuse. Leaf-blades filiform, involute, 1–3 cm long, 0.2–0.5 mm wide. Leaf-blade surface smooth. Leaf-blade margins scaberulous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle, comprising 4–12 fertile spikelets, shorter than basal leaves, embraced at base by subtending leaf. Panicle open, lanceolate, 1–1.6 cm long, 2–14 cm wide, bearing few spikelets. Panicle branches angular, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.4–0.5 mm long. Floret callus glabrous.

Glumes. Glumes persistent, shorter than spikelet. Lower glume ovate, 0.6–1 mm long, 0.5–0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume ovate, 1.1–1.4 mm long, 0.5–0.66 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 1.8–2.5 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma midvein extending to apex. Lemma lateral veins stopping well short of apex. Lemma surface glabrous. Lemma apex acute. Palea 2 -veined. Palea keels scaberulous, eciliate, adorned above, with 0.66 of their length adorned. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.4–0.6 mm long. Ovary glabrous. Caryopsis with adherent pericarp, 1.2–1.6 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. New Zealand South I, Stewart Is.

Puccinellia roborovskyi Tsvelev. *Akad. Nauk SSSR Bot. Inst. Komarova, Rast. Tsentral. Azii, Fasc*. 4, 15 (1968).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Xizang:, *W. Roborovsky s.n.* (HT: LE).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Vsevolod Ivanovi Roborowsky (1856–1910) Russian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Basal innovations intravaginal. Culms 20–40 cm long. Leaf-sheaths open for most of their length, smooth, glabrous on surface. Ligule an eciliate membrane, 0.8–2 mm long. Leaf-blades convolute, 0.5–1.2 mm wide, glaucous. Leaf-blade surface smooth, glabrous.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle open, ovate, effuse, 5–10 cm long, bearing few spikelets. Primary panicle branches 3–6 cm long, bearing 1–4 fertile spikelets on each lower branch. Panicle branches scabrous, rough distally. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3.5–6 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume linear, membranous, much thinner above, much thinner on margins, without keels. Lower glume apex obtuse or acute. Upper glume lanceolate, membranous, without keels. Upper glume apex obtuse or acute.

Florets. Fertile lemma lanceolate, 2.8–4.2 mm long, membranous, much thinner above, much thinner on margins, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pilose, hairy at base. Lemma apex acute. Palea 1 length of lemma, 2 -veined. Palea keels scabrous, eciliate or ciliolate, adorned with hairs above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1–1.3 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. Qinghai, Tibet.

Puccinellia roshevitsiana (Schischk.) Krecz. ex Tzvelev. *Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS,* xvii. 60 (1955).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

Basionym or Replaced Name: *Atropis roshevitsiana* Schischk., *Sist. Zametki Mater. Gerb. Krylova Tomsk. Gosud. Univ. Kuybysheva* 1929(3): 1 (1929). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Mongolia boreali-occidentalis,.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *-ana*, indicating connection. In honor of Romain Julievic Roshevitz (1882–1949) Russian agrostologist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths light brown or red. Culms 30–80 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane. Leaf-blades straight, involute, 2–4 mm wide, grey-green. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, linear, 10–15 cm long. Primary panicle branches ascending or spreading, 3–5 cm long. Panicle branches scabrous, rough distally. Spikelets solitary. Fertile spikelets sessile or pedicelled. Pedicels absent or present.

Fertile Spikelets. Spikelets comprising 4–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, compressed slightly, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume ovate, 1.5–2 mm long, 0.5–0.66 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume surface scabrous, rough above. Lower glume apex obtuse. Upper glume ovate, 3 mm long, 0.8–1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface scabrous, rough above. Upper glume apex obtuse.

Florets. Fertile lemma obovate, 3–3.5 mm long, membranous, much thinner above, without keel or keeled, lightly keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pubescent, hairy at base. Lemma apex obtuse. Palea 2 -veined. Palea keels ciliate, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1–1.2 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia, **Middle Asia**, **China**. Altay. Kazakhstan. Xinjiang.

Puccinellia schischkinii Tsvelev. *Not. Syst. Herb. Inst. Bot. Acad. Sci. URSS,* xvii. 57 (1955).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 350).

Derivation (Clifford & Bostock 2007): in honor of Boris Konstantinovich Shishkin (1886–1963) Russian botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped moderately or densely. Basal innovations intravaginal. Culms erect or geniculately ascending, 20–55 cm long. Leaf-sheaths open for most of their length, smooth. Ligule an eciliate membrane, 2–3 mm long, obtuse or acute. Leaf-blades flat or convolute, 1–3 mm wide, stiff, grey-green. Leaf-blade surface scaberulous, rough adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, linear, 8–27 cm long. Primary panicle branches appressed, 4–9 cm long, naked below or bearing spikelets almost to the base. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 5–10 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume linear, 0.9–1.5 mm long, 0.5–0.6 length of upper glume, membranous, without keels, keel-less except near apex, 1 -veined. Lower glume lateral veins absent. Lower glume margins ciliolate. Lower glume apex erose, acute. Upper glume linear, 1.6–2.6 mm long, 0.75 length of adjacent fertile lemma, membranous, without keels, keel-less except near apex, 3 -veined. Upper glume margins ciliolate. Upper glume apex erose, obtuse.

Florets. Fertile lemma ovate, 2.2–3.2 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pubescent, hairy at base. Lemma margins ciliolate, hairy above. Lemma apex erose, obtuse. Palea 2 -veined. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.7–1.2 mm long. Ovary glabrous. Caryopsis with adherent pericarp, 1.6–1.8 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia, **Middle Asia**, **China**, **Mongolia**, **Russia**. Altay, Irkutsk, Tuva. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan. Inner Mongolia, Xinjiang. Mongolia.

Puccinellia shuanghuensis L. Liou. *Fl. Xizangica,* 5: 125 (1987).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Xizang: saline grassland on mountain slopes, 4500–5100 m,.

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Culms erect, 8 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane. Leaf-blades filiform, convolute, 2 cm long, 1 mm wide. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong, 1–2 cm long, 1 cm wide. Primary panicle branches ascending, bearing 1–2 fertile spikelets on each lower branch. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2(–3) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, subacute to acute, 3–3.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume elliptic or oblong, 1.2–1.5 mm long, 0.66 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume elliptic, 2 mm long, 0.66 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex obtuse.

Florets. Fertile lemma elliptic or oblong, 2.8–3 mm long, membranous, much thinner above, without keel, 3 -veined, 0–3 -veined. Lemma midvein extending to apex. Lemma lateral veins obscure, stopping well short of apex. Lemma apex emarginate, mucronate. Palea 1 length of lemma, 2 -veined. Palea keels scabrous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. Tibet.

Puccinellia sibirica O. R. Holmberg. *Bot. Notiser,* 1927, 206. (1927).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Siberia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *H. W. Arnell*, 1876, Siberia, Jenissei: Tolstoinos, 70?0' N ST: *M. Brenner*, 1876, Siberia, Jenissei, Tolstoinos ST: *M. Brenner*, 1876, Siberia, Jenissei, Dudino ST: *A.N. Lundström*, 1876, Siberia, Jenissei, Mesenkin ST: *A.N. Lundström*, 1876, Siberia, Jenissei, Jenremov Kamen.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Siberia.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Cataphylls inconspicuous. Culms erect or geniculately ascending, 25–50 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane, 2–3 mm long, entire or lacerate, acute. Leaf-blades 3–6 cm long, 1.5–2.5 mm wide,

light green. Leaf-blade venation without layer of subepidermal sclerenchyma masking vein striation. Leaf-blade surface scaberulous, rough adaxially, glabrous. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate or pyramidal, loose, 8–15 cm long. Primary panicle branches spreading, bearing 5–20 fertile spikelets on each lower branch. Panicle branches flexuous, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume lanceolate, 1–1.2 mm long, 0.5–0.66 length of upper glume, membranous, purple, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex emarginate or obtuse. Upper glume oblong, 1.5–2 mm long, 0.5–0.66 length of adjacent fertile lemma, membranous, purple, without keels, 3 -veined. Upper glume margins ciliolate. Upper glume apex emarginate.

Florets. Fertile lemma ovate, 2.7–3 mm long, cartilaginous, much thinner above, light green or purple, suffused with last colour, shiny, without keel, 5 -veined, more than 3-veined. Lemma lateral veins prominent, stopping well short of apex. Lemma surface hirsute, hairy below, hairy on veins. Lemma margins ciliate. Lemma apex obtuse. Palea 1 length of lemma, 2 -veined. Palea keels scabrous, ciliate, adorned with hairs below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.6–0.7 mm long. Ovary glabrous. Caryopsis with adherent pericarp, lanceolate, 1.5 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Europe, Temperate Asia, North America.

Region. **Eastern Europe**.

Country /Province /State. North European Russia. Siberia, Russian Far East, **China**. Krasnoyarsk. Kamchatka. Xinjiang. **Subarctic America**, **Western Canada**. Yukon, Northwest Territories. Alberta.

Puccinellia simplex Scribn. *US Dept. Agric., Div. Agrost. Circ*. 16:1 (1899).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online.

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *L.A. Blankinship s.n.*, 6 May 1893, USA: California: Yolo Co.: Woodland (US-81370; IT: US-749563).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (466).

Derivation (Clifford & Bostock 2007): L. simple. Culms or inflorescences unbranched.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 7–20 cm long, 1–3 -noded. Leaf-sheaths open for most of their length. Ligule an eciliate membrane. Leaf-blades 2–4 cm long, 0.5–1.5 mm wide.

Inflorescence. Inflorescence a panicle or composed of racemes (when depauperate). Panicle contracted, linear, secund, 1–12 cm long. Primary panicle branches appressed, bearing spikelets almost to the base. Panicle branches stiff. Racemes 1, single, unilateral. Spikelets appressed, solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 4–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes definite, eventually visible between lemmas.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume lanceolate, 1–2 mm long, 0.5 length of upper glume, herbaceous, without keels, 3 -veined. Lower glume apex obtuse. Upper glume lanceolate, 2–3 mm long, 0.7–0.8 length of adjacent fertile lemma, herbaceous, without keels, 3 -veined. Upper glume lateral veins thickened. Upper glume apex obtuse.

Florets. Fertile lemma elliptic, 3.5 mm long, chartaceous, much thinner above, much thinner on margins, without keel, 5 -veined, more than 3-veined. Lemma lateral veins stopping well short of apex. Lemma surface pubescent. Lemma apex acute. Palea 1 length of lemma, 2 -veined. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. **Southwestern USA**. California, Utah.

Puccinellia skottsbergii (Pilger) L. Parodi. Not. Mus. La Plata, Bot., ii. 16 (1937).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Argentina. **Basionym or Replaced Name**: *Atropis skottsbergii* Pilg., *Repert. Spec. Nov. Regni Veg.* 12: 305 (1913). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *C. Skottsberg 652*, 12 Feb 1908, Argentina: Santa Cruz: Río Fénix (B; IT: BAA-4493 (fragm. ex B)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, Flora Argentina 3 – 2 Pooideae (2012) (351), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (133, Fig 83).

Derivation (Clifford & Bostock 2007): in honor of Carl Johan Fredrik Skottsberg (1880–1963) Swedish botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 10–40 cm long. Leaf-sheaths open for most of their length, glabrous on surface. Ligule an eciliate membrane, 3–5 mm long, acute. Leaf-blades involute, 1–1.2 mm wide. Leaf-blade apex obtuse.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 10–25 cm long. Primary panicle branches spreading or reflexed. Panicle axis scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 3.5–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.8–1 mm long, smooth.

Glumes. Glumes persistent, shorter than spikelet. Lower glume ovate, 0.7–1 mm long, 0.66–0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume ovate, 1–1.4 mm long, 0.66–0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 1.3–1.9 mm long, chartaceous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma apex obtuse. Palea 1.6–1.8 mm long, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.5–0.7 mm long. Ovary glabrous. Caryopsis with adherent pericarp, ovoid, 0.8–1 mm long. Hilum punctiform.

Distribution (TDWG). Continent. South America.

Country /Province /State. **Southern South America**. Argentina South, Chile South.

Chubut, Santa Cruz, Tierra del Fuego. Magellanes.

Puccinellia stapfiana R. R. Stewart. *Brittonia,* v. 418 (1945).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. **Basionym or Replaced Name**: *Glyceria poaeoides* Stapf, *Fl. Brit. India* 7(22): 348 (1897 [1896]). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Kashmir: Rupshu, head of Salt Lake, 15500 ft, 25 Sept. 1847, *T. Thomson s.n.* (HT: K) known only from 2 specimens.

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 351).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Otto Stapf (1857–1933) Austrian-born English botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 30–45 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane. Leaf-blades conduplicate, 5–10 cm long, 1–2.5 mm wide, glaucous. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, linear or lanceolate, 6–11 cm long, 1–1.5 cm wide. Primary panicle branches ascending, 2–3 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume elliptic, 1.5–2.2 mm long, 0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume margins ciliolate. Lower glume apex obtuse. Upper glume elliptic, 2–2.8 mm long, 0.66–0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume margins ciliolate. Upper glume apex obtuse.

Florets. Fertile lemma elliptic or oblong, 3–3.5 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma midvein extending to apex. Lemma lateral veins obscure, stopping well short of apex. Lemma margins ciliolate, hairy above. Lemma apex obtuse. Palea 1 length of lemma, 2 -veined. Palea keels scabrous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 2 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. Tibet. **Indian Subcontinent**. India, Pakistan, West Himalaya. Jammu Kashmir.

Puccinellia stricta Keng, non Blom. (1930). *Sinensia,* iv. 321 (1934).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from Australia. **Basionym or Replaced Name**: *Glyceria stricta* Hook. f., *Fl. Nov.-Zel.* 304 (1853). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *Gunn 1463*, 24 Dec 1844, Australia: Tasmania: Launceston, marsh (K). LT designated by Allan & Jansen, Trans. Roy. Soc. New Zealand 69: 265 (1939).

Recent Synonyms: *Glyceria tenuispica* Steud., *Syn. Pl. Gram.* 285 (1854).

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (as var. *stricta*), C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952) (101, Pl 28), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (413, Fig 82 as var. *stricata* and *perlaxa*), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (359), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (273, Fig 36), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Derivation (Clifford & Bostock 2007): L. erect. Inflorescence branches erect.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms erect, 10–40 cm long. Ligule an eciliate membrane. Leaf-blades involute, 4–10 cm long, 0.5–1 mm wide.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Panicle open, lanceolate, 5–15 cm long. Primary panicle branches ascending or spreading. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 8–10 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–10 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume ovate, 1.7–2.5 mm long, 0.8 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2–3 mm long, 1 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 2–3 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins stopping well short of apex. Lemma apex erose, obtuse. Palea 1 length of lemma, 2 -veined. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**, **New Zealand**. Western Australia, South Australia, New South Wales, Victoria, Tasmania. New Zealand North I, New Zealand South I, Stewart Is.

South-West. Southern. Tablelands, Western Plains.

Puccinellia strictura L. Liou. *Fl. Reipubl. Popularis Sin*. 9(2): 405 (2002).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: China: Xizang: Shuanghu, moist places in alpine ravines, ca. 3900 m, 2 Aug. 1976, *Qinghai-Xizang Exped. 12118* (HT: PE).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *strictus*, erect; *-ula*, tending to. Panicles erect, somewhat constricted.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending, 3–10 cm long, rooting from lower nodes. Leaf-sheaths smooth. Ligule an eciliate membrane, 1–1.5 mm long. Leaf-blades convolute, 2–3 cm long, 1–2 mm wide.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Panicle spiciform, linear, 3–5 cm long, 0.5 cm wide. Primary panicle branches 1 -nate, 2 cm long, bearing 4–5 fertile spikelets on each lower branch. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1.2–1.5 mm long, 0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume elliptic, 2 mm long, 1 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 2–2.2 mm long, membranous, without keel, 5 -veined, more than 3-veined. Lemma surface glabrous. Lemma apex acuminate. Palea 2 -veined. Palea keels smooth. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.8–1.2 mm long.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. Tibet.

Puccinellia sublaevis (Holmb.) Tsvelev. *Novosti Sist. Vyssh. Rast.,* 8: 80 (1971).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Kamtschatka. **Basionym or Replaced Name**: *Puccinellia kamtschatica* var. *sublaevis* Holmb., *Bot. Not.* 1927: 209 (1927). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *V. Komarov*, 1909, Kamtschatka: prope pagum Schtschapina (S).

ST: *V. Komarov*, 1909, Kamtschatka, ad fontem calidum Kipploje prope Schtschapina (S).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *sub*, approaching. Similar to other species with the epithet laeve or laevis.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Cataphylls inconspicuous. Culms erect or geniculately ascending, 12–25 cm long. Leaf-sheaths open for most of their length, smooth. Ligule an eciliate membrane, 2 mm long. Leaf-blades flat or involute, 1–2 mm wide. Leaf-blade surface smooth.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 4–10 cm long. Primary panicle branches ascending, simple. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 3–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent.

Glumes. Glumes persistent, shorter than spikelet. Lower glume elliptic, 0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 0.75 length of adjacent fertile lemma, membranous, much thinner above, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 2.7–3.5 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins stopping well short of apex. Lemma apex obtuse. Palea 2 -veined. Palea keels smooth. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.5–0.9 mm long, purple. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Russian Far East. Kamchatka.

Puccinellia subspicata (Krecz.) Krecz. ex Ovczinn. & Czukav. *Fl. Tadjikist.* i. 226 (1957).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

Basionym or Replaced Name: *Atropis subspicata* V.I. Krecz., *Fl. URSS* 2: 760, 474, pl. 35, f. 7 (1934). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Central Asia: Bokhara,.

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 353).

Derivation (Clifford & Bostock 2007): L. *sub*, approaching; *spica*, spike; *-ata*, possessing. Inflorescence a spike-like panicle.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 3–15 cm long. Leaf-sheaths tight, open for most of their length, smooth. Ligule an eciliate membrane. Leaf-blades curved, flat or conduplicate, 1–2 mm wide, light green or grey-green. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear or oblong, 1–5 cm long. Primary panicle branches appressed, 1–2 cm long, bearing 1–2 fertile spikelets on each lower branch. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 8–10 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume ovate, 1–1.5 mm long, 0.5–0.66 length of upper glume, membranous, purple, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume ovate, 2–2.5 mm long, 0.5 length of adjacent fertile lemma, membranous, purple, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma elliptic or ovate, 4–5 mm long, membranous, much thinner above, mid-green or purple, tipped with last colour, keeled, lightly keeled, 5 -veined, more than 3-veined. Lemma lateral veins distinct, stopping well short of apex. Lemma apex acute. Palea 2 -veined. Palea keels ciliolate, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 2 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 14$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Middle Asia**, **China**. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Xinjiang.

Puccinellia syvaschica Bilyk. *Ukrayin. Bot. Zhurn.* ix. No. 3, 77 (1952).

Accepted by: N.Tsvelev, *Grasses of the Soviet Union* (1983).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Sivash on the Black Sea.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Cataphylls inconspicuous. Culms erect or geniculately ascending, 3–30 cm long. Ligule an eciliate membrane. Leaf-blades flat or convolute, 1–2 mm wide. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, 2.5–8 cm long. Primary panicle branches appressed. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear.

Fertile Spikelets. Spikelets comprising 5–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 6–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, shorter than spikelet. Lower glume ovate, 1–1.5 mm long, 0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume elliptic, 2.5–3 mm long, 0.8–0.9 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 3–3.5 mm long, membranous, much thinner above, purple or yellow, bordered with last colour, without keel, 3 -veined, 0–3 -veined. Lemma lateral veins prominent, stopping well short of apex. Lemma surface puberulous, hairy below. Lemma apex erose, obtuse. Palea 1 length of lemma, 2 -veined. Palea keels scabrous, ciliolate, adorned below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.5–2.3 mm long, yellow. Ovary glabrous. Caryopsis with adherent pericarp, ovoid. Hilum punctiform.

Distribution (TDWG). Continent. Europe.

Region. **Eastern Europe**.

Country /Province /State. North European Russia.

Puccinellia tenella (Lange) O.R. Holmberg ex Porsild. *Meddel. Gronl.* lviii. 45 (1926).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. **Basionym or Replaced Name**: *Glyceria tenella* Lange, *Vega-exped. Vet. Iaktt* 1: 313, t. 6 (1882). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: NT: *O. Esktam*, 19 Aug 1907, Insula Waigatsch, Sinus Ljamtschina (S). NT designated by T. Sorensen, Meddel. Groen. 136(3): 81 (1953). Sorensen was unable to locate any original material that matched Lange's description. LT: *Kjellman & Lundstrom s.n.*, 30–31 Jul 1879 [1875?], Waigatsch, Cape Grebeni (UPS). LT indicated by Tzvelev, Zlaki SSSR, 511 (1976). ST: *Kjellman & Lundstrom s.n.*, Jul 1875, In sinu Rogatschew insularum Novaja-Semlja.

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007).

Derivation (Clifford & Bostock 2007): L. slender. Culms or inflorescence branches slender.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending or decumbent or prostrate, 5–30 cm long. Ligule an eciliate membrane, 1–3 mm long, truncate or obtuse. Leaf-blades flat or involute, 4–7 cm long, 1–2 mm wide.

Inflorescence. Inflorescence a panicle, subtended by an unspecialized leaf-sheath or an inflated leaf-sheath. Panicle open or contracted, oblong or ovate, 3–12 cm long. Primary panicle branches ascending or spreading or reflexed, 2–6 -nate. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, tip widened.

Fertile Spikelets. Spikelets comprising 3–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the

upper sterile. Spikelets oblong, laterally compressed, 3–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes elongated between glumes.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume lanceolate or oblong, 0.5–1.5 mm long, 0.4–0.7 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex erose, truncate or acute. Upper glume ovate, 1.2–2.1 mm long, 0.66 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong or ovate or obovate, 2–3 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pubescent, hairy below, hairy on veins. Lemma apex erose, truncate or obtuse. Palea 1 length of lemma, 2 -veined. Palea keels scabrous, eciliate, adorned below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.5–1 mm long. Ovary glabrous. Caryopsis with adherent pericarp, 1.4–1.6 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Europe, Temperate Asia, North America.

Region. **Northern Europe**, **Eastern Europe**.

Country /Province /State. : Svarlbad. North European Russia. Siberia, Russian Far East, **China**. Krasnoyarsk. Kamchatka. Tibet. **Subarctic America**, **Western Canada**, **Eastern Canada**. Aleutian Is, Alaska, Nunavut, Greenland. Manitoba. Labrador, New Brunswick, Newfoundland, Nova Scotia, Prince Edward I, Quebec.

Puccinellia tenuiflora (Griseb.) Scribn. & Merrill. *Contrib. U. S. Nat. Herb.* xiii. 78 (1910).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from China, Russia. **Basionym or Replaced Name**: *Atropis tenuiflora* Griseb., *Fl. Ross.* 4(13): 389 (1852). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: ST: *T. Thomson*, China: Xizang: (K).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 348).

Derivation (Clifford & Bostock 2007): L. *tenuis*, slender; *flos*, flower. With a delicate inflorescence.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 15–40 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane. Leaf-blades flat or convolute, 3–11 cm long, 1–1.5 mm wide, mid-green or grey-green. Leaf-blade surface scaberulous, rough adaxially.

Inflorescence. Inflorescence a panicle. Panicle open or contracted, oblong, 5–20 cm long, 1–5 cm wide. Panicle branches capillary, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, scabrous.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume lanceolate, 0.5–1.2 mm long, 0.5–0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume lanceolate, 1–1.8 mm long, 0.66–0.9 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong or obovate, 1.5–2 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma midvein extending to apex. Lemma lateral veins obscure, stopping well short of apex. Lemma margins ciliolate, hairy above. Lemma apex truncate. Palea 1 length of lemma, 2 -veined. Palea keels smooth or scabrous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.9–1.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

$2n = 28$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. Siberia, **Middle Asia**, **Western Asia**, **China**, **Mongolia**, **Eastern Asia**, **Russia**. Altay, Buryatiya, Chita, Irkutsk, Tuva. Kazakhstan, Kirgizistan, Turkmenistan. Iran. Inner

Mongolia, Manchuria, China North-Central, Qinghai, China Southeast, Xinjiang. Mongolia. Japan. **Indian Subcontinent**. Pakistan, West Himalaya.

Gansu, Hebei, Shanxi. Anhui.

Puccinellia tenuissima (Krecz.) Pavlov. *Fl. Kazakh.* 1:242 (1956).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

Basionym or Replaced Name: *Atropis tenuissima* Litv. ex Krecz., *Fl. URSS* 2: 489, 765, pl. 38, f. 32 (1934).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 350).

Derivation (Clifford & Bostock 2007): L. slender; -*issima*, most. Inflorescence slender.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, slender, 20–50 cm long, 0.2–0.5 mm diam. Leaf-sheaths open for most of their length, smooth. Ligule an eciliate membrane. Leaf-blades filiform, 0.5–1 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 5–15 cm long. Panicle branches capillary, smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, compressed slightly, 3–4 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume ovate, 0.7–1 mm long, 0.5 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume ovate, 1.5–1.7 mm long, 0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma oblong, 2 mm long, membranous, much thinner above, purple, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma apex obtuse. Palea 2 -veined. Palea keels ciliolate, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.2–1.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Europe, Temperate Asia.

Region. **Eastern Europe**.

Country /Province /State. Central European Russia, East European Russia, South European Russia. Siberia, **Middle Asia**, **China**, **Russia**. Irkutsk, Tuva. Kazakhstan, Tadzhikistan. Qinghai, Xinjiang.

Puccinellia thomsonii (Stapf) R. R. Stewart. *Brittonia,* v. 418 (1945).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China 22* (Poaceae) (2006), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. **Basionym or Replaced Name**: *Glyceria thomsonii* Stapf, *Fl. Brit. India* 7(22): 347–348 (1897). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Kashmir: Rupchu above Pugha, open basins, 4000–5200 m, *T. Thomson s.n.* (HT: K) known from only 3 specimens collected at Pugha.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Thomas Thomson (1817–1888) Scots-born physician and plant collector in India.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 30–50 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane. Leaf-blades flat or conduplicate or convolute, 6–10 cm long, 1–3.5 mm wide, glaucous. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open or contracted, linear or oblong, 7–19 cm long, 0.5–3 cm wide. Primary panicle branches ascending, 1–9 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume oblong, 1.5–2.5 mm long, 0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume oblong, 2–3.2 mm long, 0.6–0.7 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma elliptic, 3.5–4.5 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma midvein extending to apex. Lemma lateral veins obscure, stopping well short of apex. Lemma apex acute. Palea 1 length of lemma, 2 -veined. Palea keels scabrous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 2–3 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, Tropical Asia.

Country /Province /State. **China**. Tibet. **Indian Subcontinent**. Pakistan, West Himalaya.
Jammu Kashmir.

Puccinellia tianschanica (Tsvelev) S.S. Ikonnikov. *Opred. Vyssh. Rast. Badakhshana*: 80 (1979).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **China**. Qinghai, Tibet, Xinjiang.

Puccinellia vachanica Ovczinn. & Czukav. *Fl. Tadjikist.* 1: 505 (1957).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China 22* (Poaceae) (2006).

TYPE from Russia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Russia, Dashai R.: Ovchinnikov & Afanasiev 1599 (LE holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. -*ica*, belonging to. From Vachan in the Western Pamirs, on the border of Kyrgyzstan and Tajikistan.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, slender, 20–40 cm long. Ligule an eciliate membrane, 1–2 mm long. Leaf-blades conduplicate or involute, 3–5 cm long, 0.5–1.5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 5–10 cm long. Primary panicle branches 1–3 -nate. Panicle branches capillary, smooth or scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate or oblong, laterally compressed, 3–5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume lanceolate, 1–1.5 mm long, 0.5–0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Upper glume lanceolate, 1–1.5 mm long, 0.9 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 2.2–2.8 mm long, membranous, without keel, 5 -veined, more than 3-veined. Lemma lateral veins stopping well short of apex. Lemma apex acute. Palea 1 length of lemma, 2 -veined. Palea keels smooth or scaberulous, adorned above. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.9–1.2 mm long.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Middle Asia**, **China**. Turkmenistan, Tadzhikistan. Qinghai, Tibet, Xinjiang.

Puccinellia vaginata (Lange) Fernald & Weatherby. *Rhodora,* 1916, xviii. 14 (1917).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Greenland. **Basionym or Replaced Name**: *Glyceria vaginata* Lange, *Fl. Dan.* 15: 3, t. 2583 (1858). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Greenland: ad littora Groenlandiae borealis v.c. ad Tessermuit, Omenak, *J. Vahl*.

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (474).

Derivation (Clifford & Bostock 2007): L. *vagina*, sheath; *-ata*, possessing. Leaf-sheaths conspicuous.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending, 12–20 cm long. Ligule an eciliate membrane, 0.8–2 mm long, truncate or obtuse. Leaf-blades 4–6 cm long, 1–2 mm wide. Leaf-blade surface smooth or scaberulous, rough adaxially. Leaf-blade margins smooth or scaberulous.

Inflorescence. Inflorescence a panicle, subtended by an inflated leaf-sheath. Panicle open, pyramidal, 3–12 cm long. Primary panicle branches appressed or ascending. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, tip rectangular.

Fertile Spikelets. Spikelets comprising 4–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 4.5–8 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume orbicular or obovate, 0.7–2 mm long, 0.5–0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex erose, obtuse. Upper glume orbicular or obovate, 1.4–2.6 mm long, 0.6–0.8 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex erose, obtuse.

Florets. Fertile lemma ovate, 2.4–3 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pubescent, hairy below, hairy on veins. Lemma apex erose, truncate or obtuse. Palea 1 length of lemma, 2 -veined. Palea keels scabrous, eciliate, adorned below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.6–0.8 mm long. Ovary glabrous. Caryopsis with adherent pericarp, 1.7–2.3 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, North America.

Country /Province /State. Siberia, Russian Far East. Kamchatka, Sakhalin. **Subarctic America**. Alaska, Yukon, Northwest Territories, Greenland.

Puccinellia vahliana (Liebm.) Scribn. & Merrill. *Contrib. U. S. Nat. Herb.* xiii. 78 (1910).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Greenland. **Basionym or Replaced Name**: *Poa vahliana* Liebm., *Fl. Dan.* t. 2401 (1845). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: IT: *J. Vahl*, Juli 1836, Greenland: Niakornak pr. Umanak (LE). A Museo botanico Hauniensi.

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (468).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Martin Vahl (1749–1804) Danish botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending or decumbent, 6–12 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane, 2.5–4 mm long, erose, acute. Leaf-blades 3–5 cm long, 2–2.5 mm wide, yellowish green. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 3–5 cm long. Primary panicle branches ascending, 2 -nate. Panicle axis smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, compressed slightly, 6–7.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes clavate.

Glumes. Glumes persistent, shorter than spikelet. Lower glume lanceolate, 3–3.5 mm long, 0.9 length of upper glume, membranous, purple, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume lanceolate, 3.5–4 mm long, 1 length of adjacent fertile lemma, membranous, purple, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma lanceolate, 3.5–4 mm long, membranous, much thinner above, purple, shiny, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure, stopping well short of apex. Lemma surface pubescent, hairy below. Lemma apex acute. Palea 3–3.5 mm long, 2 -veined. Palea keels scabrous, ciliate, adorned with hairs below. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1–1.2 mm long. Ovary glabrous. Caryopsis with adherent pericarp, 2 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Europe, North America.

Region. **Northern Europe**, **Eastern Europe**.

Country /Province /State. : Svarlbad. North European Russia. **Subarctic America**. Alaska, Yukon, Northwest Territories, Nunavut, Greenland.

Puccinellia vassica A.R. Williams. *Nuytsia* 16 (2): 460 (2007).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual or perennial, short-lived, caespitose. Culms 41–54 cm long. Ligule an eciliate membrane, 2.5–5 mm long. Leaf-blades erect, involute, 12–21 cm long, 0.8–2.5 mm wide.

Inflorescence. Inflorescence a panicle, exserted or embraced at base by subtending leaf. Panicle contracted, linear, 15–18 cm long. Primary panicle branches ascending or spreading, 2–15 -nate, 1–7 cm long, bearing 20–75 fertile spikelets on each lower branch, bearing spikelets almost to the base. Panicle axis smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–10 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 6.5–10.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet or reaching apex of florets. Lower glume ovate, 1.9–2.8 mm long, 0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume apex acute. Upper glume ovate, 3.1–4 mm long, 0.9–1 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 3.1–4.5 mm long, membranous, much thinner above, without keel, 5 -veined, more than 3-veined. Lemma midvein falling short of apex. Lemma lateral veins obscure, stopping well short of apex. Lemma surface glabrous. Lemma apex erose, obtuse. Palea 2.9–3.4 mm long, 0.75–0.9 length of lemma, 2 -veined. Palea keels smooth. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.8–1 mm long, pallid.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **Australia**. Western Australia.

South-West.

Puccinellia vitalii

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Puccinellia walkeri (Cheesem.) Allan. *Introd. Grasses N. Z.* 40, *in ic.*,157, *indice* (1936).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000).

TYPE from New Zealand. **Basionym or Replaced Name**: *Poa walkeri* Kirk, *Trans. & Proc. Roy. Soc. New Zealand* 17: 224 (1885). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: LT: *T. Kirk s.n.*, 31 Dec 1883, New Zealand: The Old Neck, Stewart Island (WELT-66495; ILT: US-947493 (fragm.)). LT designated by Edgar, New Zealand J. Bot. 34: 25 (1996).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Butt sheaths yellow or grey or light brown or purple. Basal innovations intravaginal. Culms erect, 10–50 cm long. Leaf-sheaths open for most of their length, longer than adjacent culm internode, without keel, smooth. Ligule an eciliate membrane, 0.6–3 mm long, entire, truncate or obtuse. Leaf-blades conduplicate, 5–25 cm long, 5–10 mm wide. Leaf-blade surface ribbed, grooved adaxially, scaberulous, rough adaxially. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 2–17 cm long, 2–14 cm wide. Primary panicle branches appressed. Panicle branches angular, smooth or scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.8–1.5 mm long. Floret callus glabrous.

Glumes. Glumes persistent, shorter than spikelet. Lower glume lanceolate or oblong, 1.5–3.6 mm long, 0.75 length of upper glume, membranous, without keels, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume lanceolate or oblong, 2–4.5 mm long, 0.66–0.9 length of adjacent fertile lemma, membranous, without keels, 3–5 -veined. Upper glume apex acuminate.

Florets. Fertile lemma elliptic or oblong, 3–4.8 mm long, membranous, much thinner above, glaucous, without keel, 5–7 -veined, more than 3-veined. Lemma midvein extending to apex. Lemma lateral veins stopping well short of apex. Lemma surface glabrous or puberulous, hairy below or at base, hairy on veins. Palea 2 -veined. Palea keels scabrous, eciliate, adorned above, with 0.33–0.66 of their length adorned. Palea apex muticous or with excurrent keel veins. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.8–1.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp, 1.8–2.6 mm long. Hilum punctiform.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. **New Zealand**. Antipodes Is, Chatham Is, New Zealand South I, Stewart Is, Campbell Is, Auckland Is.

Puccinellia wrightii (Scribn. & Merrill) Tzvelev. *Fl. Arct. URSS, Fasc.* 2, 193 (1964).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Russia. **Basionym or Replaced Name**: *Colpodium wrightii* Scribn. & Merr., *Contr. U.S. Natl. Herb.* 13: 74 (1910). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *C.H. Wright s.n., U.S. North Pacific Exploring Expedition (under Commanders Ringgold & Rodgers)*, 1853–1856, USSR: Russia: Siberia: on Arakmtchetchene, or Kayne Island (US-592344).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (468).

Derivation (Clifford & Bostock 2007): in honor of Charles Wright (1811–1885) United States botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 30–50 cm long. Leaf-sheaths open for most of their length. Ligule an eciliate membrane, 3 mm long, acute. Leaf-blades involute, 3–5 cm long, 1 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, oblong or ovate, 4–9 cm long. Primary panicle branches ascending or spreading, 2 -nate, 3–4 cm long. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed slightly, 6–8 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, shorter than spikelet. Lower glume ovate, 1.5–2.5 mm long, 0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume ovate, 2.5–3.5 mm long, 0.5–0.75 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma lanceolate, 4.5–5 mm long, membranous, much thinner above, purple, without keel, 5 -veined, more than 3-veined. Lemma lateral veins distinct, stopping well short of apex. Lemma surface pubescent, hairy at base. Lemma apex obtuse. Palea 1 length of lemma, 2 -veined. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3. Ovary glabrous. Caryopsis with adherent pericarp. Hilum punctiform.

Distribution (TDWG). Continent. Temperate Asia, North America.

Country /Province /State. Russian Far East. Kamchatka. **Subarctic America**. Alaska.

xPucciphippsia vacillans (Th. Fries) Tsvelev. *Novosti Sist. Vyssh. Rast.*, 8: 76 (1971).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980).

Basionym or Replaced Name: *Catabrosa vacillans* Th. Fr., *Ofvers. Forh. Kongl. Svenska Vetensk.-Akad.* 26: 142 (1869).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (479).

Derivation (Clifford & Bostock 2007): L. *vacillo*, wave to and fro. Inflorescence branches slender so readily waving in the breeze.

Classification. Subfamily Pooideae. Tribe: Poeae.

Puelia ciliata Franch. *Bull. Soc. Linn. Paris,* 1. 674 (1887).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Cameroon. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Preuss 277*, Cameroun (P).

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (116, Fig. 41).

Derivation (Clifford & Bostock 2007): L. *cilium*, eyelid; -*ata*, possessing. Plant hairy overall or in part.

Classification. Subfamily Puelioideae. Tribe: Puelieae.

Habit, Vegetative Morphology. Perennial. Rhizomes short, pachymorph, knotty. Butt sheaths absent. Culms erect, 30–70 cm long, firm. Lateral branches lacking. Culm-sheaths present. Leaves cauline, 4–14 per branch. Leaf-sheaths pubescent. Leaf-sheath oral hairs pubescent. Ligule a ciliate membrane. Collar with external ligule. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades elliptic, 9–20 cm long, 20–35 mm wide. Leaf-blade venation with distinct cross veins. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle, bracteate at branch bases. Panicle contracted, elliptic, secund, 1.5–3.5 cm long. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 5–6 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 9–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus subtended by a fleshy frill.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 3–4 mm long, 0.7–0.9 length of upper glume, chartaceous, 1-keeled, 9–11 -veined. Lower glume margins ciliolate. Upper glume ovate, 3–4 mm long, 0.5 length of adjacent fertile lemma, chartaceous, 1-keeled, 9–11 -veined. Upper glume apex acute.

Florets. Basal sterile florets 2 or more, similar, male, with palea, attached to and deciduous with the fertile. Lemma of lower sterile floret ovate, 5–6 mm long, chartaceous, 11 -veined, ciliolate on margins, acute. Fertile florets female. Fertile lemma elliptic, 9 mm long, coriaceous (softly), pallid, without keel, 11 -veined, more than 3-veined. Lemma apex truncate. Palea 1 length of lemma, coriaceous, without keels.

Flower and Fruit. Lodicules 3, oblanceolate, membranous. Anthers 6. Filaments united in a tube. Stigmas 3, papillose. Styles connate below. Ovary umbonate. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **West-Central Tropical Africa**. Cameroon, Congo, Gabon, DRC.

Puelia coriacea Clayton. *Kew Bull.* xx. 271 (1966).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Congo Rep. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Congo Republic: Yangambi, 12 Nov 1935, *Jean Luis 602* (HT: K)

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Illustrations (Journals): *Hooker's Icones Plantarum* (t.3642 (1967)).

Derivation (Clifford & Bostock 2007): corium, leather; *-acea*, indicating resemblance. Lemmas or glumes leathery in texture.

Classification. Subfamily Puelioideae. Tribe: Puelieae.

Habit, Vegetative Morphology. Perennial. Roots bearing tubers. Rhizomes short, pachymorph, knotty. Butt sheaths absent. Culms erect, 20–40 cm long, firm. Lateral branches lacking. Culm-sheaths present. Leaves cauline. Leaf-sheaths pubescent. Ligule an eciliate membrane, 1–2 mm long, lacerate. Collar with external ligule. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades elliptic, 8–26 cm long, 20–45 mm wide. Leaf-blade venation with distinct cross veins. Leaf-blade surface glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, secund, 7–10 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 2–4 mm long.

Fertile Spikelets. Spikelets comprising 3–4 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 8–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus subtended by a fleshy frill, with this appendage 1.5 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet, firmer than fertile lemma, shiny. Lower glume cuneate, 0.75 mm long, 0.3 length of upper glume, herbaceous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume margins ciliolate. Lower glume apex acute. Upper glume ovate, 2.5 mm long, 0.25 length of adjacent fertile lemma, coriaceous, without keels, 5 -veined. Upper glume margins ciliolate. Upper glume apex acute.

Florets. Basal sterile florets 2 or more, similar, male, with palea, attached to and deciduous with the fertile. Lemma of lower sterile floret ovate, 8 mm long, coriaceous, 9 -veined, distinctly veined, ciliolate on margins, obtuse. Palea of lower sterile floret winged on keels, pilose. Fertile florets female. Fertile lemma ovate, 9 mm long, coriaceous (softly), pallid, without keel, 9 -veined, more than 3-veined. Lemma lateral veins with cross-veins. Lemma surface pubescent. Lemma margins ciliolate. Lemma apex truncate. Palea ovate, 1 length of lemma, coriaceous, 8 -veined, without keels. Palea surface pubescent. Palea apex truncate.

Flower and Fruit. Lodicules 3, oblanceolate, 1 mm long, membranous, ciliate. Anthers 6, 3 mm long. Filaments united in a tube. Stigmas 3, papillose. Styles connate below. Ovary umbonate. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **West-Central Tropical Africa**. DRC.

Puelia dewevrei Wildem. & Th. Dur. *Ann. Mus. Congo, Ser.* II. i. II. 77. (1900).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from DRC. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: Zaire: Dewevre 1121.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Alfred Dewhvre (1886–1897) Belgian botanist.

Classification. Subfamily Puelioideae. Tribe: Puelieae.

Habit, Vegetative Morphology. Perennial. Rhizomes short, pachymorph, knotty. Butt sheaths absent. Culms erect, 60–90 cm long, firm. Lateral branches lacking. Culm-sheaths present. Leaves cauline, 3–7 per branch. Leaf-sheaths glabrous on surface or pubescent. Ligule an eciliate membrane. Collar with external ligule. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades elliptic, 32–38 cm long, 60–70 mm wide. Leaf-blade venation with distinct cross veins. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 10–20 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–6 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 17–19 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus subtended by a fleshy frill, with this appendage 1.5 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 2 mm long, 0.5 length of upper glume, herbaceous, without keels, 3 -veined. Lower glume margins ciliolate. Upper glume ovate, 4 mm long, 0.3–0.4 length of adjacent fertile lemma, herbaceous, without keels, 7 -veined. Upper glume margins ciliolate. Upper glume apex acute.

Florets. Basal sterile florets 2 or more, similar, male, with palea, attached to and deciduous with the fertile. Lemma of lower sterile floret ovate, 12–13 mm long, herbaceous, 11 -veined, obtuse or acute. Fertile florets female. Fertile lemma elliptic, 14–15 mm long, coriaceous (softly), pallid, without keel, 11 -veined, more than 3-veined. Lemma apex truncate. Palea 1 length of lemma, coriaceous, without keels.

Flower and Fruit. Lodicules 3, oblanceolate, membranous. Anthers 6. Filaments united in a tube. Stigmas 3, papillose. Styles connate below. Ovary umbonate. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **West-Central Tropical Africa**. Gabon, DRC.

Puelia olyriformis (Franch.) Clayton. *Kew Bull.* xx. 273 (1966).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from DRC. **Basionym or Replaced Name**: *Atractocarpa olyriformis* Franch., *Bull. Mens. Soc. Linn. Paris* 1: 675 (1887). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Thollon 596*, Congo (P).

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (as *Atractocarpa*), R.M.Polhill, F.T.E.A., *Gramineae* (1(1970):16, Fig.5).

Derivation (Clifford & Bostock 2007): L. *forma*, appearance. Resembling *Olyra*.

Classification. Subfamily Puelioideae. Tribe: Puelieae.

Habit, Vegetative Morphology. Perennial. Rhizomes short, pachymorph, knotty. Butt sheaths absent. Culms erect, 40–100 cm long, firm. Lateral branches lacking. Culm-sheaths present. Leaves cauline. Leaf-sheaths glabrous on surface. Ligule a ciliolate membrane. Collar with external ligule. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 12–30 cm long, 20–60 mm wide. Leaf-blade venation with distinct cross veins. Leaf-blade surface glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, linear, 10–20 cm long, 1–3 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–4 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 10–

16 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus subtended by a fleshy frill, with this appendage 0.2 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 2–4 mm long, 0.5–0.8 length of upper glume, herbaceous, without keels, 5 -veined. Lower glume margins ciliolate. Lower glume apex acute. Upper glume ovate, 4–5 mm long, 0.5 length of adjacent fertile lemma, herbaceous, without keels, 9 -veined. Upper glume margins ciliolate. Upper glume apex acute.

Florets. Basal sterile florets 2 or more, similar, male, with palea, separately deciduous. Lemma of lower sterile floret ovate, 9–11 mm long, herbaceous, 11 -veined, ribbed, ciliolate on margins, obtuse. Palea of lower sterile floret pilose. Fertile florets female. Fertile lemma lanceolate, 10–11 mm long, coriaceous (softly), pallid, without keel, 9 -veined, more than 3-veined. Lemma lateral veins with cross-veins. Lemma surface pubescent. Lemma margins ciliolate. Lemma apex truncate. Palea ovate, 1 length of lemma, coriaceous, 8 -veined, without keels. Palea surface pubescent. Palea apex truncate.

Flower and Fruit. Lodicules 3, oblanceolate, membranous, ciliate. Anthers 6, 3.5 mm long. Filaments united in a tube. Stigmas 3, papillose. Styles connate below. Ovary umbonate. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **West Tropical Africa**, **West-Central Tropical Africa**, **East Tropical Africa**. Liberia, Sierre Leone. Congo, Gabon, DRC. Tanzania.

Puelia schumanniana Pilger. *Engl. Jahrb.* . 126. (1901).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Cameroon. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonomy Database: HT: *Zenker 2074*, Cameroun (B+; IT: K, P).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Karl Schumann (1851–1904) German botanist.

Classification. Subfamily Puelioideae. Tribe: Puelieae.

Habit, Vegetative Morphology. Perennial. Rhizomes short, pachymorph, knotty. Butt sheaths absent. Culms erect, 50–100 cm long, firm. Lateral branches lacking. Culm-sheaths present. Leaves cauline, 1 per branch. Leaf-sheaths glabrous on surface. Ligule absent. Collar with external ligule. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades elliptic, 25–30 cm long, 60–90 mm wide. Leaf-blade venation with distinct cross veins. Leaf-blade apex acuminate.

Inflorescence. Synflorescence on a separate leafless culm.

Inflorescence a panicle. Panicle contracted or capitate, oblong or globose, 3–4 cm long. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 4–5 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 15–17 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus subtended by a fleshy frill (horn shaped).

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 3–4 mm long, 0.7–0.8 length of upper glume, herbaceous, without keels, 5 -veined. Lower glume margins ciliolate. Upper glume ovate, 4–5 mm long, 0.5 length of adjacent fertile lemma, herbaceous, without keels, 7 -veined. Upper glume apex acute.

Florets. Basal sterile florets 2 or more, similar, male, with palea, attached to and deciduous with the fertile. Lemma of lower sterile floret ovate, 9–11 mm long, herbaceous, 11–15 -veined, acute. Fertile florets female. Fertile lemma elliptic, 9–11 mm long, coriaceous (softly), pallid, without keel, 11 -veined, more than 3-veined. Lemma apex truncate. Palea 1 length of lemma, coriaceous, without keels.

Flower and Fruit. Lodicules 3, oblanceolate, membranous. Anthers 6. Filaments united in a tube. Stigmas 3, papillose. Styles connate below. Ovary umbonate. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **West-Central Tropical Africa**. Cameroon, Gabon.