

Uniola condensata Hitchcock. *Contrib. U. S. Nat. Herb.* xxiv. 345 (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 Ecuador. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Ecuador, Huigra: Hitchcock 20333 (US holo, F, GH, K, NY).

Illustrations (Books): G.Harling & C.Persson, *Flora of Ecuador* (2006) (68: 9, Fig. 2 (2001)).

Derivation (Clifford & Bostock 2007): *L. condenso*, press close together. Spikelets crowded in the inflorescence.

Classification. Subfamily Chloridoideae. Tribe: Eragrostideae.

Habit, Vegetative Morphology. Perennial, caespitose. Rootstock evident. Rhizomes absent. Culms erect, 100–150 cm long. Leaves without demarcation between sheath and blade. Leaf-sheaths glabrous on surface or pilose. Leaf-sheath oral hairs lacking. Ligule absent. Leaf-blades 30–60 cm long, 3–8 mm wide, coriaceous, stiff. Leaf-blade surface ribbed.

Inflorescence. Inflorescence composed of racemes. Racemes numerous, borne along a central axis, closely spaced, unilateral, 1–3 cm long, simple or secondarily branched. Central inflorescence axis 25–40 cm long. Spikelet packing broadside to rhachis, crowded, regular, 2 -rowed. Spikelets in pairs. Fertile spikelets pedicelled, 2 in the cluster. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 1–3 basal sterile florets, 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, compressed strongly, 4–5 mm long, 2.5–4 mm wide, falling entire. Rhachilla internodes obscured by lemmas.

Glumes. Glumes similar, shorter than spikelet, thinner than fertile lemma. 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 acuminate. Upper glume lanceolate, 1–2.5 mm long, 0.3–0.8 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume primary vein scabrous. Upper glume apex acuminate.

Florets. Basal sterile florets 1 or 2 or more, similar, barren, without significant palea. Lemma of lower sterile floret similar to fertile lemma, elliptic, 3 mm long, coriaceous, 1-keeled, 5–7 -veined, acute. Fertile lemma elliptic, 3 mm long, coriaceous, keeled, 5–7 -veined, more than 3-veined. Lemma midvein scabrous. Lemma apex acuminate, mucronate. Palea 0.75 length of lemma, 2 -veined. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1–1.5 mm long. Caryopsis with adherent pericarp, ellipsoid, 1 mm long.

Distribution (TDWG). **Continent.** South America.

Country /Province /State. Western South America. Ecuador.

Uniola paniculata L. *Sp. Pl.* 71. (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).

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: LT: Anon.; ; USA (LINN-89.1) LT designated by Hitchcock, *Contr. U.S. Natl. Herb.* 12: 121 (1908); also by Yates, *Southw. Nat.* 11: 377 (1966) ST: van Royen s.n.; ; (L).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 25 *Poaceae*, part 2 (2003) (23), A.S.Hitchcock, *Manual of the Grasses of the West Indies* (1936) (48, Fig. 25).

Images: R.Darke, *The Encyclopaedia of Grasses for Liveable Landscapes* (2007);.

Derivation (Clifford & Bostock 2007): *L. panus*, thread; *-ula*, diminutive; *-ata*, possessing. Inflorescence open with thread-like pedicels.

Classification. Subfamily Chloridoideae. Tribe: Eragrostideae.

Habit, Vegetative Morphology. Perennial, culms solitary or caespitose. Rhizomes elongated. Culms erect, 120–200 cm long. Leaf-sheaths glabrous on surface. Ligule a fringe of hairs, 1.5–3 mm long. Leaf-blades involute, 60–90 cm long, 5–10 mm wide, coriaceous, stiff. Leaf-blade surface ribbed. Leaf-blade apex filiform.

Inflorescence. Inflorescence composed of racemes. Racemes numerous, borne along a central axis, closely spaced, paucilateral, 3–15 cm long. Central inflorescence axis 20–50 cm long. Spikelet packing broadside to rachis, crowded, irregular. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2–6 basal sterile florets, 12–20 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 ovate, laterally compressed, compressed strongly, 15–35 mm long, falling entire. Rhachilla internodes obscured by lemmas.

Glumes. Glumes similar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 1 length of upper glume, chartaceous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume apex acute, muticous or mucronate. Upper glume lanceolate, 0.66–1 length of adjacent fertile lemma, chartaceous, 1-keeled, 5 -veined. Upper glume primary vein scabrous. Upper glume apex acute, muticous or mucronate.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea. Lemma of lower sterile floret similar to fertile lemma, ovate, 7–11 mm long, coriaceous, 1-keeled, 3–9 -veined, acute. Fertile lemma ovate, 7–11 mm long, coriaceous, keeled, 3–9 -veined, 0–3 -veined or more than 3-veined. Lemma midvein scabrous. Lemma margins eciliate or ciliolate. Lemma apex acute, muticous or mucronate. Palea 1 length of lemma, 2 -veined. Palea keels winged, scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp, ellipsoid, 3–5 mm long.

Distribution (TDWG). Continent. Australasia, North America, South America.

Country /Province /State. Australia (+). **South-central USA, Southeastern USA, Mexico.** Texas. Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina. Northeast Mexico, Gulf (Mexico), Southeast Mexico. **Caribbean.** Bahamas, Cuba.

Tamaulipas. Veracruz. Chiapas, Tabasco.

Uniola peruviana S. Laegaard & I. Sanchez Vega. *Nordic J. Bot.*, 10(4): 439 (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 Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Peru, Pedro Ruiz to Bagua: Sanchez Vega 2642 (CPUN holo, AAU, K, USM).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating location. From Peru.

Classification. Subfamily Chloridoideae. Tribe: Eragrostideae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes short. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Culms erect, 100–135 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths longer than adjacent culm internode. Ligule a fringe of hairs. Leaf-blades 30–60 cm long, 5–10 mm wide. Leaf-blade surface glabrous. Leaf-blade apex attenuate, filiform.

Inflorescence. Inflorescence composed of racemes. Racemes numerous, borne along a central axis, closely spaced, unilateral, 8–10 cm long, with branchlets at base of longer racemes. Central inflorescence axis 30–50 cm long. Rachis angular, puberulous on surface. Spikelet packing broadside to rachis, crowded, 2 -rowed. Raceme-bases pilose. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1–3 basal sterile florets, 10–12 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 ovate, laterally compressed, compressed strongly, 8–10 mm long, 4–6 mm wide, falling entire. Rhachilla internodes obscured by lemmas. Floret callus 0.2 mm long.

Glumes. Glumes similar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 2 mm long, 0.66–0.75 length of upper glume, chartaceous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2.5–3 mm long, 0.5–0.66 length of adjacent fertile lemma, chartaceous, 1-keeled, 1 -veined. Upper glume primary vein scabrous. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea. Lemma of lower sterile floret similar to fertile lemma, lanceolate or ovate, 3.5–4 mm long, coriaceous, 1-keeled, winged on keel, 5 -veined, acute. Fertile lemma elliptic or ovate, 4.5 mm long, coriaceous, much thinner on margins,

keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma lateral veins distinct. Lemma apex acute. Palea 4 mm long, 2 -veined. Palea keels winged, narrowly winged, ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, cuneate, 0.3 mm long. Anthers 3, 1.5–1.7 mm long, yellow. Caryopsis with adherent pericarp, oblong or ovoid, isodiametric, 1.5 mm long, light brown. Embryo 0.5 length of caryopsis.

Distribution (TDWG). Continent. South America.

Country /Province /State. Western South America. Peru.

Uniola pittieri Hack. *Oesterr. Bot. Zeitschr.* 1902, 309. (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 Costa Rica. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Costa Rica, Baie de Salinas: Pittier 2688 (W lecto, BM, US).

Illustrations (Books): W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (582, Fig. 218), G.Harling & C.Persson, *Flora of Ecuador* (2006) (68: 9, Fig. 2 (2001)).

Illustrations (Journals): *Ruizia* (13:253, Fig 29f-g (1993)).

Derivation (Clifford & Bostock 2007): in honor of Henry Francois de Fabrega Pittier (1857–1950) Swiss botanist and civil engineer.

Classification. Subfamily Chloridoideae. Tribe: Eragrostideae.

Habit, Vegetative Morphology. Perennial. Stolons present. Culms erect, 75–150 cm long, 3–4 mm diam. Leaf-sheaths longer than adjacent culm internode. Ligule a fringe of hairs. Leaf-blades 30–70 cm long, 8–15 mm wide, coriaceous, stiff. Leaf-blade surface ribbed.

Inflorescence. Inflorescence composed of racemes. Racemes numerous, borne along a central axis, closely spaced, unilateral, 2–6 cm long. Central inflorescence axis 20–40 cm long. Rhachis angular, scabrous on margins. Spikelet packing broadside to rhachis, crowded, 2 -rowed. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 2–6 basal sterile florets, 10–15 fertile florets, with diminished florets at 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, 8–25 mm long, falling entire. Rhachilla internodes obscured by lemmas.

Glumes. Glumes similar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 3–6 mm long, 1 length of upper glume, chartaceous, 1-keeled, winged on keel, winged above, 3 -veined. Lower glume apex acute. Upper glume lanceolate, 3–6 mm long, 0.66–1 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, similar, barren, without significant palea. Lemma of lower sterile floret similar to fertile lemma, ovate, 4.5–5.5 mm long, coriaceous, 1-keeled, winged on keel, 5 -veined, acute. Fertile lemma ovate, 4.5–5.5 mm long, coriaceous, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma margins ciliolate. Lemma apex acute. Palea 2 -veined. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 2–3 mm long.

$2n = 40$ (1 ref TROPICOS).

Distribution (TDWG). Continent. North America, South America.

Country /Province /State. Mexico. Northwest Mexico, Southwest Mexico, Southeast Mexico. Mesoamerica, Western South America. Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama. Colombia, Ecuador, Galapagos, Peru.

Baja California, Sinaloa. Colima, Jalisco, Nayarit, Oaxaca. Chiapas.

Uniola virgata (Poir.) Griseb. *Fl. Brit. W. Ind.* 531 (1864).

Accepted by: R.J.Soreng et al., *Catalogue of 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 West Indies. **Basionym or Replaced Name:** *Poa virgata* Poir., *Encycl.* 5: 78 (1804). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: West Indies: Saint-Dominique, (HT: P-LAM).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. virga*, broom; *-ata*, possessing. Inflorescence arms or culms held erect.

Classification. Subfamily Chloridoideae. Tribe: Eragrostideae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms erect, 100–200 cm long. Leaf-sheaths glabrous on surface, outer margin hairy. Leaf-sheath oral hairs ciliate. Ligule a fringe of hairs. Leaf-blades curled, involute, 3–10 mm wide, coriaceous, stiff. Leaf-blade margins scabrous.

Inflorescence. Inflorescence composed of racemes. Racemes numerous, borne along a central axis, closely spaced, in a multilateral false spike, unilateral, 1–3 cm long, simple. Central inflorescence axis (10–)20–50(–80) cm long. Spikelet packing broadside to rhachis, crowded. Spikelets in pairs. Fertile spikelets sessile. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 1–5 basal sterile florets, (1–)2–5(–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, compressed strongly, 4–5 mm long, 1.5–3 mm wide, falling entire. Rhachilla internodes obscured by lemmas.

Glumes. Glumes similar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 1–2 mm long, 1 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface glabrous or puberulous. Lower glume apex acute. Upper glume ovate, 1–2 mm long, 0.4–0.66 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume surface glabrous or puberulous. Upper glume apex acute.

Florets. Basal sterile florets 1 or 2 or more, similar, barren, without significant palea. Lemma of lower sterile floret similar to fertile lemma, ovate. Fertile lemma ovate, 2.5–3 mm long, cartilaginous, keeled, 3–5 -veined, 0–3 -veined or more than 3-veined. Lemma lateral veins obscure. Lemma surface glabrous or puberulous. Lemma apex truncate or obtuse, muticous or mucronate. Palea 0.9–1.1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1–2 mm long. Caryopsis with adherent pericarp, ovoid, 1 mm long.

Distribution (TDWG). **Continent.** South America.

Country /Province /State. **Caribbean** (as *Leptochloopsis*). Bahamas, Cuba, Dominican Republic, Haiti, Jamaica, Leeward Is, Puerto Rico.

Uniola sp. Forster 23666

Illustrations: None found.

Classification. Subfamily Chloridoideae. Tribe: Eragrostideae.

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

Country /Province /State. **Australia.** Queensland.
Inland.

Uranthoecium truncatum (Maiden & Betche) Stapf. *Hook. Ic. Pl.* t. 3073 (1916).

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:** *Rottboellia truncata* Maiden & Betche, *Proc. Linn. Soc. New South Wales* 21: 741, t. 69 (1906). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Australia, Yandama: *Mullen* (K iso).

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (491, Fig. 424), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler., *Grasses of New South Wales*, 4th edn (2008) (392), J.C.Tothill, & J.B.Hacker. *The grasses of southern Queensland* (1983) (424), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Illustrations (Journals): *Hooker's Icones Plantarum* (t.3073 (1916)).

Derivation (Clifford & Bostock 2007): *L. trunco*, shorten by cutting off. Truncate with respect to apices of lemmas or glumes.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Cenchrinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 30–40 cm long. Ligule a ciliate membrane. Leaf-blades 5–15 cm long, 2–4 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes borne along a central axis, in a bilateral false spike, appressed, oblong, unilateral, 0.8–1.5 cm long, bearing few fertile spikelets, bearing 2–4 fertile spikelets on each. Central inflorescence axis 7–15 cm long, flattened, disarticulating at nodes. Rhachis angular, terminating in a barren extension, extension subulate. Spikelet packing abaxial, crowded. 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 lanceolate, dorsally compressed, 10 mm long, falling entire, deciduous with accessory branch structures.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume oblong, 3–4 mm long, 0.25 length of spikelet, chartaceous, without keels, 7 -veined. Lower glume apex truncate. Upper glume ovate, 5 mm long, chartaceous, 2-keeled, keeled above, 7 -veined. Upper glume apex truncate.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret lanceolate, 1 length of spikelet, coriaceous, much thinner on margins, 2-keeled (above), 7–9 -veined, sulcate, caudate. Palea of lower sterile floret becoming indurate on keels at maturity, winged on keels. Fertile lemma ovate, 4–5 mm long, indurate, without keel, 5 -veined, more than 3-veined. Lemma margins involute. Lemma apex rostrate. Palea indurate, 2 -veined.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. Australia. Northern Territory, South Australia, Queensland, New South Wales.

Victoria R & Barkly Tableland, Central Australia. NW & Lake Eyre. North, Inland. Western Plains.

Urelytrum agropyroides (Hack.) Hack. *DC. Monog. Phan.* vi. 272 (1889).

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 agropyroides* Hack., *Bol. Soc. Brot.* 3: 135 (1885). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: Newton s.n.; ; Angola: Lobango (COI).

Recent Synonyms: *Urelytrum squarrosus* Hack. n DC. *Monog. Phan.* 6: 272 t. 1, fig. 5. (1889). *Urelytrum humbertianum* A.Camus, *Bull. Soc. Bot. France* 95: 301 (1949).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (518, Fig. 413 & Plt. 26 as *U. squarrosus*), G.E.Gibbs Russell et al, *Grasses of Southern Africa* (1990) (349, Fig. 229), J.Bosser, *Graminees des Paturage et des Cultures a Madagascar* (1969) (199 & 201, Fig. 70 & 71 as *U. squarrosus* & *U. humbertianum*), R.Pilger, *Die Natürlichen Pflanzenfamilien* 14e (1940) (131, Fig. 73 as *U. squarrosus*).

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

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resembling. Similar to *Agropyron* with respect to the inflorescence.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Rottboelliinae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 50–200 cm long. Leaf-sheaths glabrous on surface. Leaf-sheath auricles absent or erect. Ligule an eciliate membrane, (2–)3–6 mm long, lacerate, acute. Leaf-blades 10–40 cm long, 1–6 mm wide, stiff. Leaf-blade surface ribbed. Leaf-blade margins spinulose.

Inflorescence. Inflorescence composed of racemes. Racemes 1(–2), single or paired, smoothly terete, 8–25 cm long. Rhachis fragile at the nodes, semiterete, glabrous on surface or pubescent on surface. Rhachis internodes cuneate. Rhachis internode tip oblique, crateriform, with scarious rim. Spikelets in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, cuneate, glabrous or pubescent, tip cupuliform.

Sterile Spikelets. Companion sterile spikelets well-developed, comprising 2 subequal glumes without lemmas or containing empty lemmas or male, elliptic, 2–7 mm long, shorter than fertile, persistent. Companion sterile spikelet glumes coriaceous, awned, one glume awned, with (1–)3–7(–12) mm long awn. 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 elliptic, dorsally compressed, 7–10 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus oblong, pubescent, base obtuse, inserted.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume elliptic, 1 length of spikelet, coriaceous, without keels, keel-less except near apex. Lower glume surface smooth or spinose or muricate, rough on flanks, glabrous or pubescent. Lower glume apex acute. Upper glume ovate, chartaceous, 1-keeled, 3 -veined. Upper glume primary vein ciliate.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret linear, hyaline, 2 -veined. Fertile lemma lanceolate, hyaline, without keel, 3 -veined, 0–3 -veined. Lemma apex acute. Palea hyaline.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West Tropical Africa, West-Central Tropical Africa, East Tropical Africa, South Tropical Africa, Southern Africa, Western Indian Ocean. Ghana. DRC. Tanzania. Angola, Malawi, Mozambique, Zambia, Zimbabwe. Namibia, Botswana, Limpopo, North-West, Gauteng, Mpumalanga, Free State, Kwazulu-Natal, Northern Cape, Eastern Cape. Madagascar.

Urelytrum annuum Stapf. *Bull. Soc. Bot. France*, lv. Mem. VIII. 99 (1908).

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

TYPE from Guinea. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Guinee, Koulikoro: Chevalier 2387.

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (276, Fig. 210).

Derivation (Clifford & Bostock 2007): L. annual. Annuals.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Rottboelliinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect, 90–120 cm long, 3–5 -noded. Leaf-sheaths glabrous on surface. Leaf-sheath auricles erect. Ligule an eciliate membrane, 3 mm long. Leaf-blades flat or convolute, 15–30 cm long, 2–3 mm wide. Leaf-blade surface scabrous, rough on both sides. Leaf-blade margins scabrous. Leaf-blade apex attenuate, filiform.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, 10–15 cm long. Rhachis fragile at the nodes, semiterete, glabrous on surface or pubescent on surface. Rhachis internodes linear, 4–5 mm long. Rhachis internode tip oblique, crateriform, with scarious rim. Spikelets in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, linear, glabrous or pubescent, tip cupuliform.

Sterile Spikelets. Companion sterile spikelets rudimentary or well-developed, containing empty lemmas or male, elliptic, 1–7 mm long, shorter than fertile, persistent. Companion sterile spikelet glumes coriaceous, awned, one glume awned, with 25–35 mm long awn.

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, 5–7 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus oblong, pubescent, base obtuse, inserted.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume elliptic, 1 length of spikelet, coriaceous, without keels, keel-less except near apex. Lower glume surface smooth. Lower glume apex acute. Upper glume ovate, chartaceous, 1-keeled, 3 -veined. Upper glume primary vein ciliate.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret lanceolate, hyaline, 2 -veined, ciliate on margins. Fertile lemma lanceolate, hyaline, without keel, 3 -veined, 0–3 -veined. Lemma margins ciliate. Lemma apex acute. Palea hyaline.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West Tropical Africa. Burkina, Ghana, Guinea, Senegal, Togo.

Urelytrum auriculatum C.E.Hubb. *Kew Bull.* 1949, 368 (1949).

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

TYPE from Nigeria. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Nigeria, Vodni: Saunders 36a (K holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. auris*, ear; *-ula*, diminutive; *-ata*, possessing. Leaf-blades rounded at the base or with auricles.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Rottboelliinae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Basal innovations intravaginal. Culms erect, 90–150 cm long, 2–4 mm diam., 4–6 -noded. Leaf-sheath auricles erect, 7–16 mm long. Ligule an eciliate membrane, 7–16 mm long. Leaf-blades flat or revolute, 15–70 cm long, 2.5–5 mm wide, stiff, glaucous. Leaf-blade surface scaberulous. Leaf-blade margins scabrous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence composed of racemes. Racemes 1–3, single or paired or digitate, straight or arcuate, smoothly terete, 10–15 cm long. Rhachis fragile at the nodes, semiterete, glabrous on surface, scaberulous on margins. Rhachis internodes oblong, 9–11 mm long. Rhachis internode tip oblique, crateriform, with scarious rim. Raceme-bases linear, 1–3 mm long. Spikelets in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, oblong, glabrous, tip cupuliform.

Sterile Spikelets. Companion sterile spikelets rudimentary, elliptic, 1–4 mm long, shorter than fertile, persistent. Companion sterile spikelet glumes coriaceous, awned, one glume awned, with 65–100 mm long awn.

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, dorsally compressed, subacute or acute, 8–11 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus oblong, pubescent, base obtuse, inserted.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume elliptic, 1 length of spikelet, coriaceous, without keels, keel-less except near apex, 5 -veined. Lower glume surface convex or flat, smooth, glabrous. Lower glume apex acute. Upper glume ovate, scarious, 1-keeled, 3 -veined. Upper glume margins ciliolate. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret oblong, hyaline, 2 -veined, ciliolate on margins, obtuse. Fertile lemma oblong or ovate, hyaline, without keel, 3 -veined, 0–3 -veined. Lemma margins ciliolate. Lemma apex acute. Palea lanceolate, hyaline, 2 -veined.

Flower and Fruit. Anthers 3, 4 mm long.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West Tropical Africa. Nigeria.

Urelytrum digitatum K. Schum. *Engl. Pflanzenw. Ost-Afr. C* 97 (1895).

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 Synonymy Database: Tanzania, Kassel: Stuhlmann 3218 (B syn) ; Tanzania, Kassel: Stuhlmann 850 (B syn) ; Tanzania, Itiolo: Stuhlmann 929 (B syn).

Illustrations (Books): R.M.Phill, F.T.E.A., *Gramineae* (3(1982):834, Fig 194), G.V.Pope et al., *Flora Zambesiaca* 10.

Derivation (Clifford & Bostock 2007): *L. digitus*, finger; *-ata*, possessing. Inflorescence branches finger-like.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Rottboelliinae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 100–200 cm long. Leaf-sheaths pubescent. Ligule an eciliate membrane, 1–3(–5) mm long. Leaf-blades 10–40 cm long, 4–10 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes (1–)3–4(–10), digitate, smoothly terete, 15–30 cm long. Central inflorescence axis 2–7(–12) cm long. Rhachis fragile at the nodes, semiterete, glabrous on surface. Rhachis internodes cuneate. Rhachis internode tip oblique, crateriform, with scarious rim. Raceme-bases linear, 10–15 mm long. Spikelets in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, cuneate, glabrous, tip cupuliform.

Sterile Spikelets. Companion sterile spikelets well-developed, elliptic, 2–7 mm long, shorter than fertile, persistent. Companion sterile spikelet glumes coriaceous, awned, one glume awned, with 20–35(–50) mm long awn.

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, 6.5–11 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus oblong, 0.5 mm long, pubescent, base obtuse, inserted.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume elliptic, 1 length of spikelet, coriaceous, without keels, keel-less except near apex. Lower glume surface spinose, rough on flanks. Lower glume apex entire or dentate, 2 -veined, acute. Upper glume ovate, chartaceous, 1-keeled, 3 -veined.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret oblong, hyaline, 2 -veined. Fertile lemma lanceolate, hyaline, without keel, 3 -veined, 0–3 -veined. Lemma apex acute. Palea hyaline.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West Tropical Africa, West-Central Tropical Africa, East Tropical Africa, South Tropical Africa. Burundi, Cameroon, DRC. Tanzania, Uganda. Angola, Malawi, Zambia.

Urelytrum giganteum Pilger. *Engl. Jahrb.* iv. 125. (1904).

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

TYPE from Zaire. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: Poge 471; Jan 1876; Zaire: Mussumba des Muata Jamwo (B) ST: Poge s.n.; ; Zaire: Mukenge (B (destroyed)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. very large. Culms tall compared with those of related species.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Rottboelliinae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, robust, 120–400 cm long. Ligule an eciliate membrane, 2–3 mm long, truncate. Leaf-blades 30–100 cm long, 10–25 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes numerous, 20–50, borne along a central axis, in several whorls, 10–25 cm long. Central inflorescence axis 15–30 cm long. Rhachis fragile at the nodes, semiterete, glabrous on surface. Rhachis internodes cuneate. Rhachis internode tip oblique, crateriform, with scarious rim. Raceme-bases linear, 20–40 mm long. Spikelets in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, cuneate, glabrous, tip cupuliform.

Sterile Spikelets. Companion sterile spikelets well-developed, elliptic, 4–5 mm long, shorter than fertile, persistent. Companion sterile spikelet glumes coriaceous, muticous or awned, one glume awned, with 7–15 mm long awn.

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, 5.5–6.5 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus oblong, 0.5 mm long, pubescent, base obtuse, inserted.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume elliptic, 1 length of spikelet, coriaceous, without keels, keel-less except near apex. Lower glume surface spinose, rough on flanks. Lower glume apex acute. Upper glume ovate, chartaceous, 1-keeled, 3 -veined.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret oblong, hyaline, 2 -veined. Fertile lemma lanceolate, hyaline, without keel, 3 -veined, 0–3 -veined. Lemma apex acute. Palea hyaline.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West Tropical Africa, West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa. Nigeria. Central African Republic, Cameroon, DRC. Sudan. Uganda.

Urelytrum henrardii Chippind. *Blumea*, Suppl. 3, 25 (1946).

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 Synonymy Database: Northern Rhodesia: Munshiwemba, common on roadside, Feb 1942, *F.O. Stohr* 759.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Jan Theodor Henrard (1881–1974) Dutch botanist.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Rottboelliinae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 60–90 cm long. Leaves mostly basal. Leaf-sheath oral hairs bearded. Ligule an eciliate membrane, 0.8–1.25 mm long. Leaf-blades flat or conduplicate, 20–40 cm long, 3–4 mm wide. Leaf-blade margins scabrous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, straight, smoothly terete, 10–30 cm long. Rhachis fragile at the nodes, semiterete, glabrous on surface, ciliate on margins. Rhachis internodes oblong. Rhachis internode tip oblique, crateriform, with scarious rim. Spikelets sunken, in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, oblong, flattened, glabrous, tip cupuliform.

Sterile Spikelets. Companion sterile spikelets rudimentary, ovate, 1.5–2.5 mm long, shorter than fertile, persistent. Companion sterile spikelet glumes coriaceous, 5 -veined, muticous or awned, one glume awned, with 0–12.5 mm long awn.

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, dorsally compressed, 7.5–8.2 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus square, pubescent, base obtuse, inserted.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume lanceolate, 1 length of spikelet, coriaceous, without keels, keel-less except near apex, 5 -veined. Lower glume surface convex, smooth, glabrous. Lower glume apex acute. Upper glume ovate, membranous, 1-keeled, 3 -veined.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret lanceolate or ovate, 6–6.5 mm long, hyaline, 2 -veined, ciliolate on margins, dentate, 2 -fid. Fertile lemma oblong or ovate, hyaline, without keel, 3 -veined, 0–3 -veined. Lemma apex acute. Palea lanceolate, hyaline.

Flower and Fruit. Anthers 3, 3 mm long.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West-Central Tropical Africa, South Tropical Africa, Southern Africa. DRC. Zambia.

Urelytrum muricatum C.E.Hubb. *Kew Bull.* 1949, 367 (1949).

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

TYPE from Nigeria. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Nigeria, Samaru: Ibadan Dept. Agric. 46-Samaru-21 (K holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. rough. Glumes bear short hard points.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Rottboelliinae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations intravaginal. Culms erect, 120–250 cm long, 3–5 mm diam. Leaf-sheath oral hairs bearded. Ligule a ciliolate membrane, 1–2 mm long. Leaf-blades flat or convolute, 45–90 cm long, 3–7 mm wide. Leaf-blade surface glabrous. Leaf-blade margins scabrous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence composed of racemes. Racemes 2–4, paired or digitate, straight, smoothly terete, 15–26 cm long. Rhachis fragile at the nodes, semiterete, glabrous on surface or pubescent on surface. Rhachis internodes oblong, 9–11 mm long. Rhachis internode tip oblique, crateriform, with scarious rim. Raceme-bases linear, 1–4 mm long. Spikelets in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, oblong, 8–10 mm long, puberulous, tip cupuliform.

Sterile Spikelets. Companion sterile spikelets well-developed, male, elliptic, 7–8.5 mm long, as long as fertile, persistent. Companion sterile spikelet glumes coriaceous, inconspicuously veined or distinctly veined, 5 -veined, attenuate, awned, one glume awned, with 50–80 mm long awn.

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, obtuse or acute, 7–10 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus brief, pubescent, base truncate, inserted.

Glumes. Glumes dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume elliptic, 1 length of spikelet, coriaceous, without keels, keel-less except near apex, 5 -veined. Lower glume surface convex or flat, spinose or muricate, rough on flanks, glabrous or pubescent. Lower glume apex acute. Upper glume ovate, coriaceous, 1-keeled, 3 -veined. Upper glume primary vein spinulose. Upper glume margins ciliolate.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret oblong, hyaline, 2 -veined, ciliolate on margins. Fertile lemma oblong or ovate, hyaline, without keel, 3 -veined, 0–3 -veined. Lemma margins ciliolate. Lemma apex obtuse. Palea lanceolate, hyaline.

Flower and Fruit. Anthers 3, 2.5–5 mm long.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West Tropical Africa. Burkina, Ghana, Ivory Coast, Mali, Nigeria, Senegal, Togo.

Urochloa adspersa (Trin.) R.D. Webster. *Syst. Bot.*, 13(4): 607: (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) (as *Brachiaria*).

TYPE from Dominican Republic. **Basionym or Replaced Name:** *Panicum aspersum* Trin., *Gram. Panic.* 146 (1826). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: Sprengel s.n.; 8th; [Dominican Republic] Domingense (LE-TRIN-0565.01a; IT: K, US-2903022 (fragm. ex LE)) IT: K.P.J. Sprengel 728 AND 4769; no date; Dominican Republic: Hispaniola I. (K, US-2903022 (fragm. ex LE)).

Recent Synonyms: *Brachiaria adspersa* (Trin.) L. Parodi, *Darwiniana* 15 96 (1969). *Brachiaria echinulata* (Mez) L. Parodi, *Darwiniana*, 15: 94 (1969).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, Aristidoideae a Pharoideae (2012) (480), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 25 *Poaceae*, part 2 (2003) (498), A.S.Hitchcock, *Manual of the Grasses of the West Indies* (1936) (252, Fig. 202 as *Panicum adpersum*), S.A.Renvoize, *Gramineas de Bolivia* (1998) (435, Fig 94 as *Brachiaria* and 431, Fig 92 as *B. echinulata*), S.A.Renvoize, *The Grasses of Bahia*, 1984 (130, Fig.45 as *Panicum adpersum*), E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (455, Fig.161 as *Brachiaria echinulata*), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (1077 & 1081, Fig.209 & 210 as *Brachiaria adpersum*).

Derivation (Clifford & Bostock 2007): L. *ad-*, towards; *spargo*, sprinkle. Upper glume and fertile lemma sparsely hairy towards their apices.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms geniculately ascending or decumbent, 30–100 cm long, rooting from lower nodes. Ligule a fringe of hairs. Leaf-blades linear or lanceolate, 5–15 cm long, 8–20 mm wide. Leaf-blade margins cartilaginous, crenate.

Inflorescence. Inflorescence composed of racemes. Racemes 3–8, borne along a central axis, unilateral, 3–10 cm long. Central inflorescence axis 6–15 cm long. Rhachis wingless, angular, glabrous on surface, scabrous on margins. Spikelet packing adaxial, irregular. Spikelets solitary or in pairs. Fertile spikelets pedicelled. Pedicels present, linear.

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, compressed slightly, acuminate, 3.2–4 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.25–0.33 length of spikelet, membranous, without keels, 3 -veined. Lower glume apex obtuse. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume lateral veins without cross-veins or with cross-veins. Upper glume surface pubescent. Upper glume apex acuminate.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, elliptic, 1 length of spikelet, membranous, 5 -veined, without cross-veins or with cross-veins, pubescent, acuminate. Fertile lemma elliptic, 2.5–3.5 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate, without keels. Palea surface rugose.

Distribution (TDWG). **Continent.** North America, South America.

Country /Province /State. **Southeastern USA, Mexico.** Florida. Southeast Mexico. **Caribbean** (as *Panicum adspersum*), **Western South America, Brazil, Southern South America.** Bahamas, Cuba, Dominican Republic, Haiti, Jamaica, Leeward Is, Puerto Rico. Bolivia. Brazil West Central, Brazil Northeast, Brazil South. Argentina Northwest, Argentina Northeast.

Mato Grosso, Bahia. Mato Grosso. Bahia. Paraná. Jujuy, Salta, Santiago del Estero, Tucuman. Chaco, Corrientes, Formosa, Santa Fe. Yucatan.

Urochloa advena (Vick.) R.D. Webster. *Australian Paniceae* (Poac.): 231: (1987).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Brachiaria*), D.Sharp, D. & B.K.Simon, *AusGrass* (2002) (as *Brachiaria*).

TYPE from Australia. **Basionym or Replaced Name:** *Brachiaria advena* Vickery, *Contr. New South Wales Natl. Herb.* 1(6): 329–330 (1950) [1951]. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *A. Noble s.n.*, Australia: Glen Innes (NSW).

Illustrations (Books): S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler., *Grasses of New South Wales*, 4th edn (2008) (394).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002); (as *Brachiaria*).

Derivation (Clifford & Bostock 2007): L. a stranger. Adventive species described from individuals found growing in countries in which they are not native.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose, clumped loosely. Stolons absent or present. Culms decumbent, 40–120 cm long, 3–5 -noded, rooting from lower nodes. Culm-nodes pubescent. Leaf-sheaths loose, striately veined. Ligule a fringe of hairs. Leaf-blades 5–15 cm long, 2–5 mm wide. Leaf-blade surface glabrous. Leaf-blade margins scaberulous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence composed of racemes. Racemes 3–6, borne along a central axis, unilateral, 1.5–2.5 cm long. Central inflorescence axis 1–7 cm long, pubescent or pilose. Rhachis wingless, angular, pubescent on surface. Spikelet packing adaxial, crowded, regular, 2 -rowed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, subequal.

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, compressed slightly, turgidly plano-convex, obtuse, 3–3.5 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.25 length of spikelet, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse or acute. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface pubescent. Upper glume apex obtuse.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 3 -veined, pubescent, obtuse. Fertile lemma oblong, 2.25 mm long, indurate, without keel, 3 -veined, 0–3 -veined. Lemma lateral veins obscure. Lemma surface papillose. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate, without keels.

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

Country /Province /State. **Southern Africa** (*). North-West, Gauteng, Mpumalanga, Free State, Lesotho, Eastern Cape. **Australia** (*). Queensland, New South Wales.

South East. Tablelands, Western Slopes.

Urochloa albicoma (Swallen & Garcia-Barr.) O. Morrone & F.O. Zuloaga. *Darwiniana*, 31: 68: (1992).

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

TYPE from Colombia. **Basionym or Replaced Name:** *Panicum albicomum* Swallen & García-Barr., *Caldasia* 2: 303, f. C. (1943). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: F.W. Pennell & E.P. Killip 8129; 3 Jul 1922; Colombia: Cauca: El Ramal, to Río Sucio, W of Popayán, Cauca Valley, prairie, 1600–1900 m (US-1140497; IT: GH, NY).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. albus*, white; *coma*, the hair of the head. Spikelets densely hairy.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms erect, 160–200 cm long. Culm-internodes terete, thin-walled, distally hispid. Culm-nodes pubescent or bearded. Lateral branches lacking or sparse. Leaf-sheaths 12–19 cm long, longer than adjacent culm internode, hispid, outer margin hairy. Ligule a ciliate membrane, 1–1.6 mm long. Collar pubescent. Leaf-blade base broadly rounded. Leaf-blades linear or lanceolate, 18–24 cm long, 14–18 mm wide. Leaf-blade midrib conspicuous. Leaf-blade surface hispid. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes borne along a central axis, ascending, unilateral. Central inflorescence axis 22–30 cm long. Rhachis wingless, angular, hirsute on surface. Rhachis hairs 3–5 mm long. Spikelet packing irregular. Spikelets in pairs or in threes. Fertile spikelets pedicelled. Pedicels present, ciliate, with 3–5 mm long hairs.

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, compressed slightly, 4.5–5.1 mm long, 1.6–1.8 mm wide, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 1.9–2.5 mm long, 0.33–0.5 length of spikelet, membranous, without keels, 3 -veined. Lower glume surface scabrous, rough at apex. Lower glume apex obtuse or acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume surface scabrous, rough at apex. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 3.7–3.8 mm long, 1 length of spikelet, membranous, 7 -veined, scabrous, rough at apex, glabrous. Fertile lemma ovate, 3.3–3.7 mm long, indurate, yellow or light brown, without keel, 5 -veined, more than 3-veined. Lemma surface papillose. Lemma margins involute. Lemma apex apiculate. Palea involute, indurate, without keels. Palea surface rugose.

Flower and Fruit. Anthers 3.

Distribution (TDWG). Continent. South America.

Country /Province /State. Western South America. Colombia.

Brachiaria ambigens (Urochloa) Chiov. *Webbia*, 8: 62 (1951).

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

TYPE from Ethiopia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Ethiopia, Vacille: Corradi 967.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. ambigo*, be uncertain. Part of a species complex whose members are difficult to delineate.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 25–50 cm long. Lateral branches ample or fastigiate. Ligule a fringe of hairs. Leaf-blades 3–14 cm long, 2–9 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 4–15, borne along a central axis, closely spaced, unilateral, 1–4 cm long. Central inflorescence axis 1–8 cm long. Rhachis wingless, angular, glabrous on surface. Spikelet packing adaxial, regular, 2 -rowed. 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 elliptic, dorsally compressed, compressed slightly, acuminate, 2.5–3.5 mm long, falling entire. Spikelet callus brief.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.33–0.5 length of spikelet, membranous, without keels, 3 -veined. Lower glume surface puberulous. Lower glume apex acute. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface pubescent. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, pubescent, ciliate on margins, acute. Fertile lemma elliptic, 2–3 mm long, indurate, without keel. Lemma surface rugose. Lemma margins involute. Lemma apex acute, mucronate. Principal lemma awn 0.2–0.4 mm long overall. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Africa.

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

Brachiaria antsirabensis (Urochloa) A. Camus. *Bull. Soc. Bot. France*, 77: 640 (1930).

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

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Madagascar, Antsirabo: Perrier 10758.

Illustrations (Books): J.Bosser, *Graminees des Paturage et des Cultures a Madagascar* (1969) (411, Fig 156).

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

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms decumbent, slender, 40–120 cm long. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane or a ciliate membrane, truncate. Leaf-blades flat or involute, 3–7 cm long, 3–6 mm wide. Leaf-blade surface glabrous or pilose, sparsely hairy, hairy on both sides. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Peduncle pubescent above. Racemes 2–6, borne along a central axis, unilateral, 1–2.5 cm long. Central inflorescence axis 2–7 cm long, pubescent or pilose. Rhachis wingless, angular, pubescent on surface or pilose on surface. Spikelet packing adaxial, irregular. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, 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, compressed slightly, acute, 2.7–3 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.66–0.75 length of spikelet, membranous, without keels, 7 -veined. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume primary vein depressed. Upper glume margins ciliate. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 7 -veined, ciliate on margins, acute. Fertile lemma lanceolate, 2.5 mm long, chartaceous or indurate, without keel. Lemma surface smooth. Lemma margins involute. Lemma apex apiculate. Palea involute, chartaceous or indurate, without keels.

Distribution (TDWG). Continent. Africa.

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

Urochloa argentea (R.Br.) Hughes. *Kew Bull.* 1923:315 (1923).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Brachiaria*), D.Sharp, D. & B.K.Simon, *AusGrass* (2002) (as *Brachiaria*).

TYPE from Australia. **Basionym or Replaced Name:** *Panicum argenteum* R. Br., *Prodr.* 190 (1810). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *R. Brown* 6095, 1803, Australia: Northern Territory: Gulf of Carpentaria (BM; IT: BRI, US-80467 (fragm.)).

Illustrations (Books): D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002) (as *Brachiaria*).

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

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 20–40 cm long, 4–8 -noded. Leaf-sheaths pubescent, outer margin hairy. Ligule a fringe of hairs. Leaf-blades 1.5–4 cm long, 1.5–4.5 mm wide. Leaf-blade surface pubescent, hairy on both sides. Leaf-blade margins cartilaginous, serrulate. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence composed of racemes. Racemes 3–6, borne along a central axis, unilateral, 1–3 cm long. Central inflorescence axis 4–8 cm long. Rhachis wingless, subterete. Spikelet packing adaxial, distant, regular, 1 -rowed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, terete, 0.7–1.8 mm long, pubescent, tip oblique.

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 obovate, dorsally compressed, compressed slightly, obtuse, 2 mm long, with hairs extending 0 mm beyond apex, falling entire. Spikelet callus linear, 0.5–0.7 mm long, base pungent.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume lanceolate, 1.5 mm long, 0.33–0.5 length of spikelet, membranous, without keels, 5 -veined. Lower glume surface pubescent. Lower glume apex acute. Upper glume obovate, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume surface pubescent, with a transverse fringe of hair. Upper glume hairs 0.5 mm long. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, obovate, 1 length of spikelet, membranous, 5 -veined, pubescent, with a transverse fringe of hair, bearing hairs 0.5 mm long, obtuse. Fertile lemma elliptic, 2 mm long, indurate, without keel. Lemma surface striate. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. Australia. Northern Territory. Darwin & Gulf.

Brachiaria arida (Urochloa) (Mez) Stapf. *Fl. Trop. Afr.* 9: 540 (1919).

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

TYPE from Socotra, Somalia. **Basionym or Replaced Name:** *Panicum aridum* Mez, *Engl. Jahrb.* 34: 139 (1904). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Socotra: Schweinfurth 509 (K isosyn) ; Somalia: Hildebrandt 148.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. dry. Growing in arid places.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms erect or rambling, 25–50 cm long. Ligule a fringe of hairs. Leaf-blade base simple. Leaf-blades linear, 8–20 cm long, 2–4 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 4–5, borne along a central axis, distant, unilateral, 2.5–4 cm long. Central inflorescence axis 8–14 cm long. Rhachis wingless, angular. Spikelets in pairs. 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 elliptic, dorsally compressed, subacute or acute, 4–4.5 mm long, falling entire. Spikelet callus oblong, 0.2–0.3 mm long. Rhachilla internodes elongated between glumes.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.33 length of spikelet, membranous, without keels. Lower glume apex obtuse. Upper glume ovate, 1 length of spikelet, membranous, without keels. 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, acute. Fertile lemma elliptic, 4–4.5 mm long, indurate, without

keel. Lemma surface rugose. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Africa.

Country /Province /State. Northeast Tropical Africa. Socotra, Somalia.

Urochloa arizonica (Scribn. & Merr.) O. Morrone & F.O. Zuloaga. *Darwiniana*, 32: 61 (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) (as *Brachiaria*).

TYPE from USA. **Basionym or Replaced Name:** *Panicum arizonicum* Scribn. & Merr., *Circ. Div. Agrostol. U.S.D.A.* 32: 2–3 (1901). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: C.G. Pringle 465; 27 Jul 1881; USA: Arizona: mesas near Camp Lowell, Santa Cruz Valley (US-80472; IT: US-741962).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 25 *Poaceae*, part 2 (2003) (498), F.W.Gould, *The Grasses of Texas* (1975) (443, Fig. 235 as *Panicum arizonicum*).

Derivation (Clifford & Bostock 2007): L. -ica, belonging to. From Arizona, USA.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms geniculately ascending or decumbent, 15–60 cm long. Culm-nodes glabrous or bearded. Lateral branches ample. Leaf-sheaths glabrous on surface or hispid, with tubercle-based hairs. Ligule a ciliate membrane, 0.5–1 mm long. Leaf-blade base broadly rounded, asymmetrical. Leaf-blades lanceolate, 5–18 cm long, 3–10 mm wide. Leaf-blade surface glabrous or hispid, sparsely hairy, hairy abaxially. Leaf-blade margins tuberculate-ciliate, hairy at base.

Inflorescence. Inflorescence composed of racemes. Peduncle pubescent above. Racemes 4–6, borne along a central axis, unilateral, 1.5–3 cm long. Central inflorescence axis 7–15 cm long. Rhachis wingless, angular, pilose on surface. Spikelet packing adaxial, lax, irregular. Spikelets solitary or in pairs. Fertile spikelets pedicelled. Pedicels present, linear, 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 elliptic, dorsally compressed, compressed slightly, acute, 3.3–4 mm long, falling entire. Spikelet callus square, incorporating lowest rhachilla internode with adnate lower glume, 0.3 mm long.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.25–0.5 length of spikelet, membranous, without keels, 5 -veined. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface pubescent. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, pubescent, acute. Fertile lemma elliptic, 3 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex apiculate. Palea involute, indurate, without keels. Palea surface rugose.

Distribution (TDWG). Continent. North America.

Country /Province /State. Southwestern USA, South-central USA, Mexico. Arizona. New Mexico, Texas. Northeast Mexico, Northwest Mexico, Southwest Mexico.

Coahuila, Chihuahua, Durango, Neuvo Leon, Tamaulipas. Baja California, Baja California Sur, Sinaloa, Sonora. Guerrero, Jalisco, Michoacan, Nayarit, Oaxaca.

Urochloa arrecta (Hack. ex T. Durand & Schinz) O. Morrone & F.O. Zuloaga. *Darwiniana*, 31: 69: (1992).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Brachiaria*).

TYPE from South Africa. **Basionym or Replaced Name:** *Panicum arrectum* Hack. ex T. Durand & Schinz, *Consp. Fl. Afr.* 5: 741 (1894). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: IST: Drège s.n.; ; South Africa: Cape (L) ST: Drège s.n.; ; South Africa: Assegai Bosch to Botram (W; IST: K) ST: Drège s.n.; ; South Africa: Great Kei (W; IST: K).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, Aristidoideae a Pharoideae (2012) (480), J.Bosser, *Graminees des Paturage et des Cultures a Madagascar* (1969) (419, Fig. 419 as *Brachiaria*), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 25 *Poaceae*, part 2 (2003) (506), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (1077 & 1092, Fig. 209 & 214 as *Brachiaria*).

Derivation (Clifford & Bostock 2007): L. pointing upwards. Panicle branches held erect.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial. Culms rambling, 30–130 cm long, rooting from lower nodes. Ligule a fringe of hairs. Leaf-blades 5–25 cm long, 5–15 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 4–15, borne along a central axis, unilateral, 1–10 cm long. Central inflorescence axis 5–25 cm long. Rhachis broadly winged, 0.5–1.5 mm wide, scabrous on margins, glabrous on margins. Spikelet packing adaxial, regular, 2 -rowed. 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 elliptic, dorsally compressed, compressed slightly, acute, 3–4.3 mm long, falling entire. Rhachilla internodes brief up to lowest fertile floret.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.33–0.5 length of spikelet, membranous, without keels, 3–5 -veined. Lower glume apex acute. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5–7 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, acute. Fertile lemma elliptic, 2.5–4 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex obtuse, muticous or mucronate. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Africa, 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. Rwanda. Ethiopia (inc. Eritrea). Kenya, Tanzania, Uganda. Angola, Malawi, Zambia, Zimbabwe. Namibia, Botswana, Limpopo, Kwazulu-Natal, Eastern Cape. Madagascar. **Southeastern USA, Mexico.** Florida. Southeast Mexico. **Mesoamerica, Caribbean, Northern South America, Western South America, Brazil.** Costa Rica, Honduras. French Guiana, Guyana, Surinam, Venezuela. Colombia. Brazil Northeast, Brazil Southeast.

Bahia. Sao Paulo. Misiones. Tabasco.

Urochloa atrisola R.D. Webster. *Australian Paniceae (Poac.)*: 232 (1987).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Brachiaria*), D.Sharp, D. & B.K.Simon, *AusGrass* (2002) (as *Brachiaria*).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *S. T. Blake* 17776, 14 May 1947, Australia: Northern Territory: Barkly Tableland, 17:20'S 135:45'E, undulating *Astrebla* grassland, grey pedocalcic soil, 221 m, rich green tufts, more or less oblique culms up to 30 cm long (BRI-186629; IT: BRI-065747, CANB, DNA, K, MO-4616119, NT).

Illustrations (Books): D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002) (as *Brachiaria*).

Illustrations (Journals): *Austrobaileya* (3:590, Fig.2 (1992)).

Derivation (Clifford & Bostock 2007): L. *ater*, dark; *solum*, earth. Growing on black soils.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms geniculately ascending, 10–60 cm long, 1–6 -noded. Culm-nodes glabrous. Lateral branches ample. Leaf-sheaths keeled, glabrous on surface or pubescent, outer margin glabrous or hairy. Ligule a fringe of hairs, 0.8–1.4 mm long. Collar glabrous. Leaf-blades linear or lanceolate, 3–15 cm long, 4–102 mm wide. Leaf-blade surface glabrous. Leaf-blade margins scabrous.

Inflorescence. Inflorescence composed of racemes. Racemes 2–4, borne along a central axis, unilateral, 1.5–6 cm long, bearing 6–16 fertile spikelets on each. Central inflorescence axis 4–15 cm long. Rhachis narrowly winged, flattened, 1–1.5 mm wide, scabrous on margins. Spikelet packing adaxial. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, reduced to a stump.

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, compressed slightly, obtuse, 3.6–4.5 mm long, 1.9–2.3 mm wide, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume oblate, clasping, 0.8–1.6 mm long, 0.25–0.33 length of spikelet, hyaline, without keels, 7–11 -veined. Lower glume apex truncate. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 9 -veined. Upper glume apex obtuse.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret similar to upper glume, elliptic, 1 length of spikelet, membranous, 5 -veined, obtuse. Fertile lemma elliptic, 3.4–4.3 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex obtuse, mucronate. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. Australia. Northern Territory, Queensland.

Brachiaria bemarivensis (Urochloa) A. Camus. *Bull. Soc. Bot. France*, 72: 369 (1925).

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

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: *Pierre de la Bathie 11135*, Madagascar centr: Bemarivo, bois ST: *Perrier de la Bathie 11295*, Madagascar centr.: Bemarivo, boi.

Illustrations (Books): J.Bosser, *Graminees des Paturage et des Cultures a Madagascar* (1969) (413, Fig 157).

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

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms decumbent or prostrate, 10–40 cm long, rooting from lower nodes. Culm-nodes pubescent. Leaf-sheaths glabrous on surface or pilose, with tubercle-based hairs, outer margin hairy. Ligule a fringe of hairs. Leaf-blade base asymmetrical. Leaf-blades linear or lanceolate, 1–5 cm long, 4–10 mm wide. Leaf-blade surface glabrous or pilose.

Inflorescence. Inflorescence composed of racemes. Racemes 3–8, borne along a central axis, unilateral, 3–6 cm long. Central inflorescence axis 4–15 cm long. Rhachis wingless, subterete, 0.2–0.3 mm wide. Spikelet packing distant, irregular. Spikelets in pairs. Fertile spikelets pedicelled. Pedicels present, filiform, 1.5–3 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, dorsally compressed, compressed slightly, turgidly plano-convex, obtuse, 2–2.5 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.5 length of spikelet, membranous, without keels, 3 -veined. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, male or barren, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, acute. Fertile lemma elliptic, 2 mm long, chartaceous, without keel. Lemma surface smooth. Lemma margins involute. Lemma apex obtuse. Palea involute, chartaceous, without keels.

Distribution (TDWG). Continent. Africa.

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

Urochloa bovonei (Chiov.) A.M.Torres & C.M.Morton. *Molec. Phylogenet. Evol.* 37: 42 (2005).

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

TYPE from DRC. **Basionym or Replaced Name:** *Panicum bovonei* Chiov., *Ann. Bot., Roma*, 13: 42 (1914). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Zaire, Bianos: Bovone 89 (TO holo).

Recent Synonyms: *Brachiaria bovonei* (Chiov.) Robyns, *Bull. Jard. Bot. Brux.* 9: 174 (1932).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Ettore Bovone (1880–1922) Italian veterinarian and plant collector in Zaire.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 25–100 cm long. Ligule a fringe of hairs. Leaf-blades linear, flat or convolute, 3–30 cm long, 2–6 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes (1–)3–5, borne along a central axis, unilateral, 1–5 cm long. Central inflorescence axis 3–10 cm long. Rhachis wingless, subterete, ciliate on margins. Rhachis hairs white or yellow, 1–2 mm long. Spikelet packing adaxial, regular, 2 -rowed. 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 elliptic, dorsally compressed, compressed slightly, subacute, 3.2–4.5 mm long, falling entire.

Glumes. Glumes similar, reaching apex of florets, thinner than fertile lemma. Lower glume oblong, 0.66–1 length of spikelet, membranous, without keels, 5–11 -veined. Lower glume surface pubescent. Lower glume apex obtuse. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5–7 -veined. Upper glume lateral veins with cross-veins. Upper glume surface pubescent. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, with cross-veins, dentate, 2 -fid, obtuse. Fertile lemma elliptic, 3–4 mm long, indurate, without keel. Lemma surface granulose. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Flower and Fruit. *n* = 18 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Southern Africa. Rwanda, DRC. Ethiopia (inc. Eritrea). Kenya, Tanzania, Uganda. Angola, Malawi, Mozambique, Zambia, Zimbabwe. Limpopo, Mpumalanga, Swaziland, Kwazulu-Natal.

Urochloa brachyura (Hack.) Stapf. Prain, *Fl. Trop. Afr.* ix. 592 (1920).

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 Synonymy Database: IT: J.H.R. Schenck s.n.; no date; Namibia: Olukanda (US-80490) Collector possibly Schinz.

Illustrations: None found.

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

Derivation (Clifford & Bostock 2007): Gk. *brachys*, short; *oura*, tail. Inflorescence of short racemes.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose. Butt sheaths pubescent. Culms geniculately ascending, 20–120 cm long. Ligule a fringe of hairs. Leaf-blades 3–30 cm long, 3–16 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 2–10, borne along a central axis, unilateral, 1–6 cm long. Central inflorescence axis 2–8 cm long. Rhachis angular. Spikelet packing irregular, 2–4 -rowed. Spikelets in pairs. Fertile spikelets sessile and 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 ovate, dorsally compressed, compressed strongly, plano-convex, cuspidate, 3.5–6 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume lanceolate, 0.66–0.75 length of spikelet, herbaceous, without keels, (3–)5 -veined. Lower glume surface glabrous or pubescent. Lower glume apex obtuse or acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5–7 -veined. Upper glume surface glabrous or pubescent. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5–7 -veined, glabrous or pubescent, ciliate on margins or setose on margins, acute. Fertile lemma orbicular, dorsally compressed, 2–2.5 mm long, indurate, without keel.

Lemma surface papillose, unwrinkled or rugulose. Lemma margins involute. Lemma apex obtuse, mucronate. Principal lemma awn 1 mm long overall. Palea indurate.

Flower and Fruit. $2n = 30$ (1 ref TROPICOS).

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

Country /Province /State. **Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Southern Africa.** Ethiopia (inc. Eritrea), Sudan. Kenya, Tanzania. Angola, Zimbabwe. Botswana, Limpopo, North-West, Gauteng, Free State.

Brachiaria breviglumis (Urochloa) W.D. Clayton. *Kew Bull.*, 34(3): 557 (1980).

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

TYPE from Kenya. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Kenya: 50 km SW of Wajir, *Bally & Smith 14513* (HT: K).

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 Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms geniculately ascending, 15–25 cm long. Ligule a fringe of hairs. Leaf-blades lanceolate, 1–6 cm long, 2–4 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 3–5, borne along a central axis, appressed, unilateral, 0.5–1.5 cm long. Central inflorescence axis 1–6 cm long. Rhachis wingless, angular. Spikelet packing adaxial, regular, 2-rowed. 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 elliptic, dorsally compressed, compressed slightly, acute, 2 mm long, with hairs extending 0.5–1 mm beyond apex, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume orbicular, 0.2 mm long, 0.1 length of spikelet, membranous, without keels, 0-veined. Lower glume lateral veins absent. Lower glume surface villous. Lower glume apex obtuse. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5-veined. Upper glume surface villous. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5-veined, villous, acute. Fertile lemma elliptic, 1.5 mm long, indurate, without keel. Lemma surface granulose. Lemma margins involute. Lemma apex apiculate. Palea involute, indurate, without keels.

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

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

Brachiaria brevispicata (Urochloa) (Rendle) Stapf. *Prain, Fl. Trop. Afr.* 9: 521 (1919).

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

TYPE from Angola. **Basionym or Replaced Name:** *Panicum brevispicatum* Rendle, *Cat. Welw. Afr. Pl.* 2: 168 (1899). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Angola, Pungo Andongo: Welwitsch 2726 ; Angola, Condo to Quisonde: Welwitsch 2829 (K iso).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. brevis*, short; *spica*, thorn; *-ata*, possessing. Inflorescence a single or pair of secund spikes.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms decumbent, 15–45 cm long, rooting from lower nodes. Leaf-sheaths outer margin hairy. Ligule a fringe of hairs. Leaf-blades linear or lanceolate, flat or involute, 3–5 cm long, 6–8 mm wide. Leaf-blade surface hirsute, hairy adaxially, with tubercle-based hairs. Leaf-blade margins crenate, scabrous or spinulose.

Inflorescence. Inflorescence composed of racemes. Racemes 1–4, borne along a central axis, unilateral, 1–3 cm long. Central inflorescence axis 1.5–2.5 cm long. Rhachis narrowly winged, angular, 0.5 mm wide, ciliate on margins. Spikelet packing adaxial, regular, 1-rowed. 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 elliptic, dorsally compressed, compressed slightly, obtuse, 3–4 mm long, falling entire.

Glumes. Glumes similar, reaching apex of florets, thinner than fertile lemma. Lower glume elliptic, clasping, 1 length of spikelet, membranous, without keels, 9–15 -veined. Lower glume surface glabrous or pubescent. Lower glume apex obtuse. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume lateral veins with cross-veins. Upper glume surface glabrous or pubescent. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, with cross-veins, glabrous or pubescent, acute. Fertile lemma elliptic, 2.5–3.5 mm long, indurate, without keel. Lemma surface unwrinkled or rugulose. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate, without keels.

Flower and Fruit. Anthers 3, 2 mm long.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West-Central Tropical Africa, South Tropical Africa. DRC. Angola, Zambia.

Urochloa brizantha (A. Rich.) R.D. Webster. *Australian Paniceae* (Poac.): 233: (1987).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Brachiaria*), D.Sharp, D. & B.K.Simon, *AusGrass* (2002) (as *Brachiaria*), J.F.Veldkamp, *Poaceae ms (Flora Malesiana)*, N.L.Bor, *Grasses of Burma, Ceylon, India and Pakistan* (1960) (as *Brachiaria*), W.D.Clayton & N.Snow, *Key to Pacific Grasses* (2010).

TYPE from Ethiopia. **Basionym or Replaced Name:** *Panicum brizanthum* Hochst. ex A. Rich., *Tent. Fl. Abyss.* 2: 363 (1850). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: LT: *G.H.W. Schimper* 89, 3 Oct 1837, Ethiopia: Tigre: in declivibus meridionalis partis mediae et superioris monte Sellenda prope Adouba (P; ILT: B, K, L, M, MO, US-945063 (fragm. ex M & photo), TUB). LT designated by ?; cited by Veldkamp, *Blumea* 41: 417 (1996); CS.

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, *Aristidoideae* a *Pharoideae* (2012) (481), W. Robyns (1929 and 1934). *Flora Agrostologique du Congo Belge et du Ruanda-Urundi*, I. Maydees et *Andropogonees* and II. *Panicees*. Bruxelles, Goemaere (105, Pl. 28, as *Brachiaria*), F.N.Hepper, *F.W.T.A.* 3(2) (1972) (441, Fig.442), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (372, 318 as *Brachiaria*), M.A.N.Muller, *Grasses of South West Africa/Namibia* (1984) (as *Brachiaria*), S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (223, Fig 91), N.L.Bor, *The grasses of Burma, Ceylon, India and Pakistan* (1960) (282, Fig. 32 as *Brachiaria*), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989) (219, Fig. 35 as *Brachiaria*), D.Sharp & B.K.Simon, *AusGrass*. *Grasses of Australia*. CD-Rom Version 1.0. (2002) (as *Brachiaria*), M.E.Barkworth et al, *Flora of North America north of Mexico Vol 25 Poaceae*, part 2 (2003) (502), S.A.Renvoize, *Gramineas de Bolivia* (1998) (435, Fig. 94 as *Brachiaria*), S.A.Renvoize, *The Grasses of Bahia*, 1984 (236, Fig. 88 as *Brachiaria*), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (1077, Fig. 209 & 1083, Fig. 211 as *Brachiaria*), H.J.Noltie, *The Grasses of Bhutan* (2000) (711, Fig. 41), R.Pilger, *Die Natürlichen Pflanzenfamilien* 14e (1940) (27, Fig. 14 as *Brachiaria*).

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

Derivation (Clifford & Bostock 2007): Gk. *brizo*, nod; *anthos*, flower. The spikelets hang from the horizontal rhachis.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 30–200 cm long. Ligule a fringe of hairs. Leaf-blades linear or lanceolate, 10–100 cm long, 3–20 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes (1–)2–16, borne along a central axis, unilateral, 4–20 cm long. Central inflorescence axis 3–20 cm long. Rhachis narrowly winged, semiterete, 1 mm wide, ciliate on margins. Spikelet packing adaxial, regular, 1 -rowed. 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 elliptic, dorsally compressed, compressed slightly, subacute or acute, 4–6 mm long, falling entire. Spikelet callus square. Rhachilla internodes elongated between glumes.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.33 length of spikelet, membranous, without keels, 7–11 -veined. Lower glume apex obtuse or acute. Upper glume oblong, 1 length of spikelet, cartilaginous, without keels, 7–9 -veined. Upper glume surface glabrous or pubescent. Upper glume apex obtuse or acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, cartilaginous, 5 -veined, glabrous or pubescent, obtuse or acute. Fertile lemma elliptic, 3.5–5.5 mm long, indurate, without keel. Lemma surface granulose. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Flower and Fruit. $n = 18$ (4 refs TROPICOS), or 27 (1 ref TROPICOS). $2n = 36$ (3 refs TROPICOS).

Distribution (TDWG). **Continent.** Africa, Temperate Asia, Tropical Asia, Australasia (*), Pacific, 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, Nigeria, Sierra Leone. Cameroon, Gabon, Rwanda, DRC. Eritrea, Ethiopia (inc. Eritrea), Somalia, Sudan. Kenya, Tanzania, Uganda. Angola, Mozambique, Zambia, Zimbabwe. Namibia, Botswana, Limpopo, North-West, Gauteng, Mpumalanga, Swaziland, Free State, Kwazulu-Natal, Northern Cape. Madagascar (*), Seychelles. **Arabian Peninsula.** Yemen. **Indian Subcontinent, Malesia, Papuasias.** Eastern Himalaya, India. Java, Cocos (Keeling) Is. New Guinea West Papua (Irian Jaya). New Guinea. **Australia** (*). Queensland (*). **Southwestern Pacific, South-central Pacific, North-central Pacific.** Fiji (*), Samoa (*), Tonga (*). Society Is (*). Hawaii (*). **South-central USA, Mexico.** Texas. Central Mexico, Gulf (Mexico), Southwest Mexico, Southeast Mexico. **Northern South America, Western South America, Brazil.** Colombia. Brazil West Central, Brazil Northeast, Brazil Southeast, Brazil South.

Bhutan. Bihar. Distrito Federal (*), Mato Grosso, Goiás, Mato Grosso do Sul. Bahia, Pernambuco. Minas Gerais, Sao Paulo. Santa Catarina. Corrientes, Formosa, Misiones. Mexico State, Puebla. Veracruz. Sinaloa. Colima, Guerrero, Jalisco, Oaxaca. Campeche, Chiapas, Tabasco, Yucatan.

Urochloa burmanica (Bor) Veldkamp. *Reinwardtia* 12:139 (2004).

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

TYPE from Myanmar. **Basionym or Replaced Name:** *Brachiaria burmanica* Bor, *Kew Bull.* 1950: 232 (1950). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Burma: Rangoon, beside Godwin Road, 20 Jun 1948, *U. Thein Lwin* 526 (HT: K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. -ica*, belonging to. From Burma, now Myanmar.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms decumbent, 20–40 cm long. Culm-nodes bearded. Leaf-sheaths hirsute, with tubercle-based hairs. Ligule a fringe of hairs. Leaf-blade base broadly rounded. Leaf-blades lanceolate, 3–5 cm long, 8–10 mm wide. Leaf-blade surface pilose, hairy on both sides, with tubercle-based hairs. Leaf-blade margins cartilaginous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Peduncle glabrous or pubescent above. Racemes 3–5, borne along a central axis, unilateral, 2–5 cm long. Central inflorescence axis 0.5–5 cm long. Rhachis broadly winged, with sharp-edged midrib. Spikelet packing adaxial, regular, 1 -rowed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 1 mm long, bearing a few hairs.

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, compressed slightly, acute, 3.5 mm long, 1.5–1.75 mm wide, falling entire. Rhachilla internodes elongated between glumes.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 2 mm long, 0.5 length of spikelet, membranous, without keels, 7 -veined. Lower glume surface pubescent, hairy generally. Lower glume apex acute. Upper glume elliptic, 3.5 mm long, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume surface pilose, hairy generally, with tubercle-based hairs. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret similar to upper glume, elliptic, 1 length of spikelet, membranous, 5 -veined, pilose, hairy generally, with tubercle-based hairs, acute. Fertile lemma elliptic, 3 mm long, indurate, without keel, 3 -veined, 0–3 -veined. Lemma surface rugulose. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate, without keels.

Flower and Fruit. Anthers 3, 1.5 mm long.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. Indo-China. Myanmar.

Brachiaria chusqueoides (Urochloa) (Hack.) W.D. Clayton. *Kew Bull.*, 34(3): 558 (1980).

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

TYPE from South Africa. **Basionym or Replaced Name:** *Panicum obumbratum*, *Panicum chusqueoides* Hack., *Bull. Herb. Boiss.* 3: 377 (1895). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: South Africa, Durban: Rehmann 8648 (K iso).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (326, Fig 284).

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial. Culms scandent or rambling, slender, 30–75 cm long, wiry. Ligule a fringe of hairs. Leaf-blade base cordate. Leaf-blades lanceolate, 3–12 cm long, 3–10 mm wide. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence composed of racemes. Racemes 2–7, borne along a central axis, distant, unilateral, 1.5–7 cm long. Central inflorescence axis 2–13 cm long. Rhachis wingless, angular. Spikelet packing adaxial, lax, irregular. Spikelets solitary or in pairs. 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 elliptic, dorsally compressed, compressed slightly, acute, 3–5 mm long, falling entire. Spikelet callus square, 0.2–0.5 mm long.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.33–0.5 length of spikelet, membranous, without keels, 3 -veined. Lower glume apex obtuse. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, acute. Fertile lemma elliptic, 2.5–4 mm long, indurate, without keel. Lemma surface rugose. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

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

Country /Province /State. Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Southern Africa. Ethiopia (inc. Eritrea), Somalia. Kenya, Tanzania, Uganda. Mozambique. Kwazulu-Natal, Western Cape, Eastern Cape. **Arabian Peninsula.**

Urochloa ciliatissima (Buckley) R.D. Webster. *Syst. Bot.*, 13(4): 606: (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) (as *Brachiaria*).

TYPE from USA. **Basionym or Replaced Name:** *Panicum ciliatissimum* Buckley, *Prelim. Rep. Surv. Texas App.* 4 (1866). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: S.B. Buckley s.n.; ; USA: Texas: northern Texas (PH; IT: US-80572 (fragm. & photo ex PH)).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 25 *Poaceae*, part 2 (2003) (506), F.W.Gould, *The Grasses of Texas* (1975) (425, Fig. 227 as *Brachiaria*).

Derivation (Clifford & Bostock 2007): *L. cilium*, hair; -*ata*, possessing; -*issima*, most. Sterile lemma densely silky pubescent.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial. Stolons present. Culms erect, 15–40 cm long, rooting from lower nodes. Leaf-sheaths hirsute. Ligule a fringe of hairs. Leaf-blades 3–8 cm long, 2–7 mm wide. Leaf-

blade surface scabrous. Leaf-blade margins cartilaginous, ciliate, hairy at base. Leaf-blade apex acute or acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 3–4, borne along a central axis, unilateral, 1–2 cm long. Central inflorescence axis 3–7 cm long. Rhachis wingless, angular. Spikelet packing adaxial, irregular. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear.

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, compressed slightly, acute, 3.5–4.5 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume lanceolate, 0.75 length of spikelet, membranous, without keels, 5 -veined. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface pubescent. Upper glume margins villous. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, pubescent, villous on margins, acute. Fertile lemma elliptic, 3 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Flower and Fruit. Embryo 0.75 length of caryopsis.

Distribution (TDWG). Continent. North America.

Country /Province /State. Hawaii (*). **South-central USA, Southeastern USA, Mexico.** New Mexico, Texas. Arkansas. Northeast Mexico.

Neuvo Leon, Tamaulipas.

Brachiaria clavipila (Urochloa) (Chiov.) Robyns. *Bull. Jard. Bot. Brux.* 9: 179 (1932).

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

TYPE from Zaire. **Basionym or Replaced Name:** *Panicum clavipilum* Chiov., *Ann. Bot., Roma*, 13: 43 (1914). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Zaire, Kayoyo: Bovone 71.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. clava*, club; *pilus*, hair. Hairs swollen at the base.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 30–70 cm long. Ligule a fringe of hairs. Leaf-blades 4–8 cm long, 1–3 mm wide. Leaf-blade surface glabrous or pilose.

Inflorescence. Inflorescence composed of racemes. Racemes 2–6, borne along a central axis, unilateral, 1–4 cm long. Central inflorescence axis 2–4 cm long. Rhachis wingless, angular, pilose on surface (with clavate hairs). Spikelet packing adaxial, regular, 1–2 -rowed. 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 elliptic, dorsally compressed, compressed slightly, acute, 3–4.5 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.5 length of spikelet, membranous, without keels, 5 -veined. Lower glume lateral veins ribbed. Lower glume surface pubescent, with clavate hairs. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume lateral veins ribbed. Upper glume surface pubescent, with clavate hairs. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 7 -veined, ribbed, pilose, with clavate hairs, acute. Palea of lower sterile floret pubescent. Fertile lemma elliptic, 2.5–4 mm long, coriaceous, without keel. Lemma surface striate. Lemma margins involute. Lemma apex apiculate, pubescent. Palea involute, coriaceous, without keels.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West-Central Tropical Africa, South Tropical Africa. DRC. Angola, Zambia.

Urochloa comata (A. Rich.) M.S.M. Sosef. *Fl. Gabon*, 5 bis: 64 : (1999).

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

TYPE from Ethiopia. **Basionym or Replaced Name:** *Brachiaria kotschyana*, *Panicum comatum* Hochst. ex A. Rich., *Tent. Fl. Abyss.* . . . 2: 376 (1850). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: *Quartin Dillon s.n.*, Ethiopia: Crescit in pratis circa Kouaieta in provincia Chir?(P). ST: *Schimper 1196*, 15 Sep 1838, Ethiopia: Tigray, Gafta (K, P, US-1063881, US-1061572, WAG).

Illustrations (Books): W. Robyns (1929 and 1934). *Flora Agrostologique du Congo Belge et du Ruanda-Urundi*, I. Maydees et Andropgonees and II. Panicees. Bruxelles, Goemaere (117, Pl. 29, as *brachiaria kotschyana*), R.M.Phill, F.T.E.A., *Gramineae* (3(1982): 595, Fig. 140 as *Brachiaria*).

Derivation (Clifford & Bostock 2007): *L. coma*, hair of the head; *-ata*, possessing. With long hairs imparting a silky appearance to the spikelets.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms decumbent or rambling, weak, 20–100 cm long. Ligule a fringe of hairs. Leaf-blades lanceolate, 1–15 cm long, 3–15 mm wide. Leaf-blade margins cartilaginous.

Inflorescence. Inflorescence composed of racemes. Racemes 6–15, borne along a central axis, unilateral, 1–10 cm long, secondarily branched, secondary branches racemulose or glomerate. Central inflorescence axis 5–20 cm long. Rhachis wingless, angular, pubescent on surface. Spikelet packing adaxial, irregular. Spikelets solitary or in pairs. 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 elliptic, dorsally compressed, compressed slightly, obtuse or subacute or acute, 1.5–2.5 mm long, with hairs extending 0–0.5 mm beyond apex, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.33–0.5(–0.75) length of spikelet, membranous, without keels, 3–5 -veined. Lower glume apex acute or acuminate. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface glabrous or pubescent, without hair tufts or with a transverse fringe of hair. Upper glume apex acute.

Florets. Basal sterile florets 1, male or barren, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, glabrous or pubescent, without hair tufts or with a transverse fringe of hair, acute. Fertile lemma elliptic, 1.5–2.5 mm long, indurate, without keel. Lemma surface granulose or striate. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

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

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

Brachiaria coronifera (Urochloa) Pilger. *Notizbl. Bot. Gart. Berlin*, 13: 262 (1936).

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

TYPE from Tanzania. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Tanzania, Likanga: Schlieben 439 (K iso).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. corona*, crown; *fero*, bear. The upper glume bears white or violet hairs towards its apex.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms geniculately ascending, 10–50 cm long. Ligule a fringe of hairs. Leaf-blades lanceolate, 1–6 cm long, 3–8 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 5–15, borne along a central axis, unilateral, 0.5–3 cm long. Central inflorescence axis 3–10 cm long. Rhachis wingless, angular. Spikelet packing adaxial, regular, 1–2 -rowed. 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 elliptic, dorsally compressed, compressed slightly, acute, 1.5–1.7 mm long, with hairs extending 0.5 mm beyond apex, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume orbicular, 0.33 length of spikelet, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface with a transverse fringe of hair. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, with a transverse fringe of hair, acute. Fertile lemma elliptic, 1.5 mm long, indurate, without keel. Lemma surface granulate or striate. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Africa.

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

Urochloa decumbens (Stapf) R.D. Webster. *Australian Paniceae* (Poac.): 234: (1987).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Brachiaria*), D.Sharp, D. & B.K.Simon, *AusGrass* (2002) (as *Brachiaria*), N.L.Bor, *Grasses of Burma, Ceylon, India and Pakistan* (1960) (as *Brachiaria*), W.D.Clayton & N.Snow, *Key to Pacific Grasses* (2010).

TYPE from Tanzania. **Basionym or Replaced Name:** *Brachiaria decumbens* Stapf, *Fl. Trop. Afr.* 9: 528 (1919). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: *Speke & Grant* 488, Tanzania: Bukoba Distr.: Karagwe (K). ST: *Dmmer 1070*, Uganda: Mengo Distr.: M'pumu, 400 ft (K).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, Aristidoideae a Pharoideae (2012) (482), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002) (as *Brachiaria*), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler., *Grasses of New South Wales*, 4th edn (2008) (394), J.C.Tothill, & J.B.Hacker. *The grasses of southern Queensland* (1983) (132 as *Brachiaria*), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989) (219, Fig. 35 as *Brachiaria*), S.A.Renvoize, *Gramineae de Bolivia* (1998) (431, Fig 92 as *Brachiaria*).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002); (as *Brachiaria*).

Derivation (Clifford & Bostock 2007): *L. decumbo*, fall down. Culms prostrate.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidineae.

Habit, Vegetative Morphology. Perennial. Stolons present. Culms decumbent, 50–150 cm long, wiry. Ligule a fringe of hairs. Leaf-blades linear or lanceolate, 5–20 cm long, 7–15 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 2–7, borne along a central axis, unilateral, 1–5 cm long. Central inflorescence axis 1–8 cm long. Rhachis broadly winged, 1–1.7 mm wide, ciliate on margins. Spikelet packing adaxial, regular, 2 -rowed. 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 elliptic, dorsally compressed, compressed slightly, subacute or acute, 4–5 mm long, falling entire. Spikelet callus square. Rhachilla internodes elongated between glumes.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.33–0.5 length of spikelet, membranous, without keels, 9 -veined. Lower glume apex obtuse or acute. Upper glume oblong, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume surface pubescent. Upper glume apex obtuse or acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, pubescent, obtuse or acute. Fertile lemma elliptic, 3.5–4.5 mm long, indurate, without keel. Lemma surface granulate. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Flower and Fruit. $n = 18$ (1 ref TROPICOS). $2n = 36$ (2 refs TROPICOS), or 40 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa, Tropical Asia, Australasia (*), South America.

Country /Province /State. West Tropical Africa, West-Central Tropical Africa, East Tropical Africa, South Tropical Africa. Burundi, Rwanda, DRC. Kenya, Tanzania, Uganda. **Indian Subcontinent, Malesia, Papuasias.** India, Sri Lanka. Borneo, Java, Cocos (Keeling) Is, Malaya, Philippines. New Guinea

PNG, or West Papua (Irian Jaya). New Guinea, Solomon Is (*). **Australia** (*). Western Australia (*), Queensland (*), New South Wales (*). New Caledonia (*). Hawaii (*). **Mesoamerica, Northern South America, Western South America, Brazil.** Costa Rica, Honduras, Nicaragua, Panama. French Guiana, Surinam, Venezuela. Bolivia, Colombia. Brazil West Central, Brazil Northeast, Brazil North, Brazil Southeast, Brazil South.

Distrito Federal (*), Mato Grosso, Goiás, Mato Grosso do Sul. Bahia. Roraima, Rondonia, Tocantins. Minas Gerais, Sao Paulo. Paraná. Corrientes, Misiones.

Urochloa deflexa (Schumach.) H. Scholz. *Bull. Mus. Nation. Hist. Nat., B, Adansonia, Ser. 4*, 11(4): 443 (1989).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Brachiaria*), N.L.Bor, *Grasses of Burma, Ceylon, India and Pakistan* (1960) (as *Brachiaria*).

TYPE from Ghana. **Basionym or Replaced Name:** *Pseudobrachiaria deflexa*, *Panicum deflexum* Schumach., *Beskr. Guin. Pl.* 63–64 (1827). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Ghana: in shade of forests, *Thonning s.n.* (HT: C).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (378, Fig 323 as *Brachiaria*), M.A.N.Muller, *Grasses of South West Africa/Namibia* (1984) (as *Pseudobrachiaria*), G.E.Gibbs Russell et al, *Grasses of Southern Africa* (1990) (68, Fig 30), J.Bosser, *Graminees des Paturage et des Cultures a Madagascar* (1969) (29, 36, & 419 Fig. 6–9 & 159 as *Brachiaria*), S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (266, Fig. 92 as *Brachiaria*), L.Boulos, *Flora of Egypt* 4 (2005) (296, Pl. 87 as *Brachiaria*), E.Hafliger & E.Schultz, *Grass Weeds*, CIBA-GEIGY (1:13(1980) as *Brachiaria*).

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

Derivation (Clifford & Bostock 2007): L. bent abruptly downwards. Inflorescence branches drooping.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms geniculately ascending, weak, 15–70 cm long. Ligule a fringe of hairs. Leaf-blades 4–25 cm long, 4–22 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 7–15, borne along a central axis, unilateral, 2–10 cm long, simple or secondarily branched. Central inflorescence axis 6–15 cm long. Rhachis wingless, angular. Spikelet packing adaxial, distant, irregular. Spikelets spreading, in pairs. Fertile spikelets pedicelled. Pedicels present, filiform, unequal, 3–15 mm long, 1.1–4 length of fertile spikelet.

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, compressed slightly, acute, 2.5–3.5 mm long, falling entire. Spikelet callus square, 0.2–0.5 mm long.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.33–0.5 length of spikelet, membranous, without keels, 5–7 -veined. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume surface glabrous or pubescent. Upper glume apex acute.

Florets. Basal sterile florets 1, male or barren, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, glabrous or pubescent, acute. Fertile lemma ovate, 2–3 mm long, indurate, without keel. Lemma surface rugose. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Flower and Fruit. $n = 9$ (2 refs TROPICOS), or 18 (1 ref TROPICOS). $2n = 18$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Europe (*), Africa, Temperate Asia, Tropical Asia.

Region. Northern Europe (*).

Country /Province /State. : GB Aliens (Ryves et al). **Northern Africa, Macaronesia, West Tropical Africa, West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Southern Africa, Western Indian Ocean.** Egypt (as *Brachiaria*). Cape Verde. Benin, Burkina, Gambia, Ghana, Guinea-Bissau, Ivory Coast, Mali, Nigeria, Togo. DRC. Eritrea, Ethiopia (inc. Eritrea), Socotra, Somalia, Sudan. Kenya, Tanzania, Uganda. Angola, Malawi, Mozambique, Zambia, Zimbabwe. Namibia, Botswana, Limpopo, North-West, Gauteng, Mpumalanga, Swaziland, Kwazulu-Natal. Madagascar. **Arabian Peninsula.** Oman, Saudi Arabia, Yemen. **Indian Subcontinent.** Bangladesh, India, Pakistan.

Urochloa dictyoneura (Fig. & De Not.) J.F. Veldkamp. *Blumea*, 41(2): 418: (1996).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Brachiaria*), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Sudan. **Basionym or Replaced Name:** *Panicum dictyoneurum* Fig. & De Not., *Mem. Reale Accad. Sci. Torino, ser. 2*, 14: 329, t. 8 (1854). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: Figari s.n.; ; (FI).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (711, Fig. 41).

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

Derivation (Clifford & Bostock 2007): Gk. *diktyon*, net; *neuron*, nerve. Upper glume with prominent cross veins.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, caespitose. Stolons absent. Culms 40–100 cm long, without nodal roots. Ligule a fringe of hairs. Leaf-blades linear or lanceolate, 5–30 cm long, 3–10(–30) mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 3–8(–12), borne along a central axis, unilateral, 1–8 cm long. Central inflorescence axis 5–25 cm long. Rhachis narrowly winged, angular. Spikelet packing adaxial, regular, 2-rowed. 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 elliptic, dorsally compressed, compressed slightly, subacute, 4–6 mm long, falling entire. Rhachilla internodes elongated between glumes.

Glumes. Glumes similar, reaching apex of florets, thinner than fertile lemma. Lower glume oblong, 0.75–1 length of spikelet, membranous, without keels, 11 -veined. Lower glume surface pubescent. Lower glume apex obtuse or acute. Upper glume oblong, 1 length of spikelet, membranous, without keels, 7–9 -veined. Upper glume lateral veins with cross-veins. Upper glume surface pubescent. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, with cross-veins, pubescent, obtuse. Fertile lemma elliptic, 3.5–5.5 mm long, indurate, without keel. Lemma surface papillose. Lemma margins involute. Lemma apex obtuse or apiculate. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Africa, Tropical Asia, South America.

Country /Province /State. **West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Southern Africa.** DRC. Ethiopia (inc. Eritrea), Sudan. Kenya, Tanzania, Uganda. Mozambique, Zambia. Namibia, Botswana, Mpumalanga, Swaziland, Kwazulu-Natal. **Indian Subcontinent, Papuasia.** Eastern Himalaya. New Guinea PNG. New Guinea. Fiji (*), Niue (*), New Caledonia (*). **Caribbean, Western South America, Brazil.** Colombia, Ecuador. Bhutan.

Brachiaria dimorpha (Urochloa) A.Camus. *Bull. Soc. Bot. France* 72:621 (1925).

Illustrations: None found.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Distribution (TDWG). Continent. Africa.

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

Urochloa distachya (L.) Nguyen. *Novit. Syst. Pl. Vasc., Acad. Sci. URSS*, 1966, 13 (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) (as *Brachiaria*), D.Sharp, D. & B.K.Simon, *AusGrass* (2002) (as *Brachiaria*), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*), W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).

TYPE from India. **Basionym or Replaced Name:** *Panicum distachyon* L., *Mant. Pl.* 2: 183–184 (1771). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Koenig s.n.*, India (LINN-80.41; IT: L-908.92–1790).

Illustrations (Books): J.Bosser, *Graminees des Paturage et des Cultures a Madagascar* (1969) (413, Fig 157 as *Brachiaria*), K.M.Matthew, *Further Illustrations on the Flora of Tamilnadu Carnatic* (1988) (Pl. 724as *Brachiaria*), H.B.Gilliland, *Grasses of Malaya* (1971) (Fig.36 as *Brachiaria*), W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (107, Fig 32 as *Brachiaria*), J.Th.Henrard, *Monograph of the genus Digitaria* (1950) (as *Panicum*), E.Hafliger & E.Schultz, *Grass Weeds*, CIBA-GEIGY (1:14(1980) as *Brachiaria*), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (Fig. 186).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002); (as *Brachiaria*), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (Pl. 28).

Derivation (Clifford & Bostock 2007): Gk. *dis*, twice; *stachys*, an ear of corn. Inflorescences with two branches or with regularly bifurcating branches.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, mat forming. Culms prostrate, 5–20 cm long. Ligule a fringe of hairs. Leaf-blades linear or lanceolate, 2–8 cm long, 3–7 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 2–3, borne along a central axis, unilateral, 1–3 cm long. Central inflorescence axis 0.5–2 cm long. Rhachis narrowly winged, glabrous on margins. Spikelet packing adaxial, regular, 2-rowed. 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 elliptic, dorsally compressed, compressed slightly, acute, 2.4–3 mm long, falling entire. Rhachilla internodes elongated between glumes.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.33–0.5 length of spikelet, membranous, without keels, 5–7 -veined. Lower glume apex obtuse. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5–7 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, acute. Fertile lemma elliptic, 2–2.5 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels. Palea surface rugose.

Flower and Fruit. $n = 10$ (2 refs TROPICOS), or 18 (3 ref TROPICOS), or 24 (1 ref TROPICOS), or 36 (1 ref TROPICOS). $2n = 36$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa, Tropical Asia, Australasia, Pacific, North America, South America.

Country /Province /State. West Tropical Africa, East Tropical Africa, Western Indian Ocean. Tanzania. Mauritius, Madagascar. **Indian Subcontinent, Indo-China, Malesia, Papuasia.** Assam, India, Pakistan, Sri Lanka, West Himalaya. Andaman Is, Myanmar, Thailand. Borneo, Java, Lesser Sunda Is, Moluccas, Sumatra, Sulawesi, Malaya, Philippines. Solomon Is. **Australia.** Northern Territory, Queensland. **Southwestern Pacific.** Fiji, Gilbert Is. Cook Is. Caroline Is, Marianas, Marshall Is. Hawaii (*). **Mexico.** Northeast Mexico, Gulf (Mexico), Southwest Mexico, Southeast Mexico. **Mesoamerica, Caribbean, Northern South America, Western South America, Brazil.** Costa Rica, Honduras. Venezuela. Colombia.

Assam, Meghalaya, Tripura. Andhra Pradesh, Bihar, Kerala. Madhya Pradesh, Orissa, Punjab, Rajasthan, Tamilnadu, Uttar Pradesh, West Bengal. Neuvo Leon, Tamaulipas. Veracruz. Jalisco, Nayarit, Oaxaca. Chiapas, Tabasco, Yucatan.

***Brachiaria distachyoides* (Urochloa) Stapf.** *Prain, Fl. Trop. Afr.* 9: 530 (1919).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Brachiaria*), N.L.Bor, *Grasses of Burma, Ceylon, India and Pakistan* (1960).

TYPE from Nigeria. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Nigeria, Lagos: Dawodu 163 (K holo).

Illustrations (Books): H.B.Gilliland, *Grasses of Malaya* (1971) (177, Fig 36).

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resemblance. Resembling *Brachiaria distachya*.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms geniculately ascending or decumbent, slender, 30–45 cm long, 4–6 -noded, rooting from lower nodes. Ligule a fringe of hairs. Leaf-blades 5–12 cm long, 2–6 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 2–4, borne along a central axis, unilateral, 2–6 cm long. Central inflorescence axis 3–8 cm long, tip filiform. Rhachis broadly winged, with sharp-edged midrib, 1–1.5 mm wide, scaberulous on margins, glabrous on margins. Spikelet packing adaxial, regular, 1 -rowed. 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, dorsally compressed, compressed slightly, subacute, 3–3.5 mm long, falling entire. Rhachilla internodes brief up to lowest fertile floret.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.5 length of spikelet, membranous, without keels, 5–7 -veined. Lower glume apex obtuse or acute. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5–7 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, obtuse. Fertile lemma elliptic, 2.5 mm long, indurate, without keel, 5 -veined, more than 3-veined. Lemma surface rugulose. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Flower and Fruit. Anthers 3, 1–1.5 mm long.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West Tropical Africa, West-Central Tropical Africa. Ghana, Ivory Coast, Nigeria, Sierra Leone. DRC.

Urochloa dura (Stapf) A.M.Torres & C.M.Morton. *Molec. Phylogenet. Evol.* 37: 42 (2005).

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

TYPE from Angola. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Angola, Country of Ganguellas & ambuellas: Gossweiler 2665 (K holo).

Recent Synonyms: *Brachiaria dura* Stapf, *Prain, Fl. Trop. Afr.* 9: 531 (1919).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. hard. Lemmas hard or tough.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Basal innovations intravaginal. Culms erect, 40–100 cm long, wiry. Ligule a fringe of hairs. Leaf-blades convolute, 15–30 cm long, 1–2 mm wide, coriaceous, stiff.

Inflorescence. Inflorescence composed of racemes. Racemes 1–2, single or borne along a central axis, unilateral, 4–15 cm long. Central inflorescence axis 2–3 cm long. Rhachis wingless, semiterete, 1 mm wide, ciliate on margins. Spikelet packing adaxial, regular, 1 -rowed. 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, dorsally compressed, compressed slightly, obtuse, 3.5–5 mm long, falling entire. Spikelet callus square. Rhachilla internodes brief up to lowest fertile floret.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.5–0.66 length of spikelet, membranous, without keels, 5 -veined. Lower glume apex obtuse. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, obtuse. Fertile lemma oblong, 3–4.5 mm long, indurate, dark brown, without keel. Lemma surface granulose. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Flower and Fruit. Anthers 3, 2 mm long.

Distribution (TDWG). Continent. Africa.

Country /Province /State. South Tropical Africa, Southern Africa. Angola, Zambia, Zimbabwe. Namibia, Botswana, Northern Cape.

Urochloa echinolaenoides Stapf. Prain, *Fl. Trop. Afr.* ix. 595 (1920).

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

TYPE from DRC. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: South Central Belgian Congo, Katanga, Kundelungu Mountains, under trees, *Kassner 2602*.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resembling. Similar to *Echinolaena*.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 30–100 cm long. Ligule a fringe of hairs. Leaf-blades 3–20 cm long, 2–12 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 2–7, borne along a central axis, unilateral, 2–6 cm long. Central inflorescence axis 1–7 cm long. Rhachis angular, setose on margins. Rhachis hairs dark brown, 3–7 mm long. Spikelet packing abaxial, regular, 3–4 -rowed. Spikelets pectinate, solitary or in pairs. Fertile spikelets sessile and pedicelled. Pedicels present, setose.

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, compressed strongly, plano-convex, acuminate, 3.5–5.5 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.25–0.5 length of spikelet, membranous, without keels, 3–5 -veined. Lower glume surface glabrous or pilose, with tubercle-based hairs. Lower glume apex acute or acuminate. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 5–7 -veined. Upper glume surface glabrous or pubescent. Upper glume margins setose. Upper glume apex acuminate.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, elliptic, 1 length of spikelet, membranous, 5–7 -veined, setose, hairy on veins, bearing dark brown hairs, acute. Fertile lemma oblong, dorsally compressed, 3–4 mm long, indurate, without keel. Lemma surface papillose. Lemma margins involute. Lemma apex obtuse, mucronate. Principal lemma awn 0.5 mm long overall. Palea indurate.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West-Central Tropical Africa, East Tropical Africa, South Tropical Africa. DRC. Tanzania. Malawi, Zambia.

Urochloa eminii (Mez) G. Davidse. *Monogr. Syst. Bot. Missouri Bot. Gard.*, 45: 1258: (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) (as *Brachiaria*).

TYPE from Tanzania. **Basionym or Replaced Name:** *Panicum eminii* Mez, *Bot. Jahrb. Syst.* 34(1): 135 (1904). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: LT: F. Stuhlmann 4663; May 1892; Tanzania: Mwanza [Muansa] (B; ILT: K) LT designated by Robyns, *Bull. Jard. Bot. d'Etat Brux.* 9: 177 (1932); Ruanda-Urundi according to Robyns (1932) ST: Stuhlmann 1815; ; Tanzania: Bukoba Distr.: Kafuro (B?; IST: K (fragm. ex B)).

Illustrations (Books): L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (1077, Fig. 209 as *Brachiaria*).

Derivation (Clifford & Bostock 2007): in honor of Emin Pasha the adopted name of Eduard Sennritzer (1840–1892) German physician and traveller in service of the Egyptian Government.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 40–100 cm long. Ligule a fringe of hairs. Leaf-blades 5–30 cm long, 5–17 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 3–10, borne along a central axis, unilateral, 3–7 cm long. Central inflorescence axis 4–15 cm long. Rhachis broadly winged, ciliate on margins. Spikelet packing adaxial, regular, 2 -rowed. 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 elliptic, dorsally compressed, compressed slightly, cuspidate, 3.5–4.5 mm long, falling entire. Rhachilla internodes elongated between glumes.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.5–0.66 length of spikelet, membranous, without keels. Lower glume surface pubescent. Lower glume apex acuminate. Upper glume oblong, 1 length of spikelet, membranous, without keels. Upper glume surface pubescent. Upper glume apex acuminate.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, pubescent, acuminate. Fertile lemma elliptic, 3–4 mm long, indurate, without keel. Lemma surface papillose, unwrinkled or rugulose. Lemma margins involute. Lemma apex acute, mucronate. Palea involute, indurate, without keels.

Flower and Fruit. *n* = 9 (1 ref TROPICOS).

Distribution (TDWG). **Continent.** Africa, South America.

Country /Province /State. West-Central Tropical Africa, East Tropical Africa, South Tropical Africa. Rwanda, DRC. Tanzania. Malawi, Zambia. Western South America. Peru. Santa Catarina.

Brachiaria epacridifolia (Urochloa) (Stapf) A. Camus. *Bull. Mus. Hist. Nat. Paris, Ser. 2*, 22: 297 (1950).

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

TYPE from Madagascar. **Basionym or Replaced Name:** *Panicum epacridifolium* Stapf, *Kew Bull.* 1919, 266. (1919)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: *Perrier de la Bathie s.n.*, Madagascar: on rocks near Antsirabe, 2000 m (K). ST: *BAron 4318*, Central Madagascar, without precise locality (K).

Illustrations (Books): J.Bosser, *Graminees des Paturage et des Cultures a Madagascar* (1969) (407, Fig 154).

Derivation (Clifford & Bostock 2007): *L. folium*, leaf. The leaf-blades resemble the leaves of certain species of Epacridaceae.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, mat forming. Stolons present. Culms prostrate, 4–10 cm long, rooting from lower nodes. Leaves distichous. Leaf-sheaths longer than adjacent culm internode, hirsute. Ligule an eciliate membrane. Leaf-blades lanceolate or ovate, 0.5–1.5 cm long, 1–4.5 mm wide. Leaf-blade surface pilose, hairy on both sides. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Racemes 2–6, borne along a central axis, deflexed, unilateral, 0.5–1 cm long, bearing few fertile spikelets, bearing 2–6 fertile spikelets on each. Central inflorescence axis 1–5 cm long. Rhachis wingless, angular. Spikelet packing adaxial, lax, irregular. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, 0.5–3 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 or ovate, dorsally compressed, compressed slightly, acute, 2 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.5–0.6 length of spikelet, membranous, without keels, 3 -veined. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, acute. Fertile lemma elliptic, 1.5–2 mm long, chartaceous, without keel. Lemma surface smooth. Lemma margins involute. Lemma apex acute. Palea involute, chartaceous, without keels.

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

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

Brachiaria falcifera (Urochloa) (Trin.) Stapf. *Fl. Trop. Afr.* 9: 517 (1919).

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

TYPE from Ghana. **Basionym or Replaced Name:** *Panicum falciferum* Trin., *Gram. Panic.* 127 (1826). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: "V. sp. ad Accra Afric. l.", *Sabine s.n.*.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. falx*, sickle; *fero*, bear. Racemes sickle-shaped.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, slender, 30–45 cm long, 1-noded. Ligule a fringe of hairs. Leaf-blades filiform, convolute, 7–25 cm long, 1–4 mm wide, glaucous.

Inflorescence. Inflorescence composed of racemes. Racemes 1–3, borne along a central axis, straight or arcuate, unilateral, 1.5–3 cm long. Central inflorescence axis 1–2 cm long. Rhachis broadly winged, with sharp-edged midrib, 0.6–0.8 mm wide, setose on margins. Rhachis hairs yellow, 1–2 mm long. Spikelet packing adaxial, regular, 2-rowed. Spikelets pectinate, 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 elliptic, dorsally compressed, compressed slightly, obtuse, 2.5–3.5 mm long, falling entire.

Glumes. Glumes similar, reaching apex of florets, thinner than fertile lemma. Lower glume oblong, 0.7–0.8 length of spikelet, membranous, without keels, 9-veined. Lower glume apex obtuse. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5-veined. Upper glume lateral veins with cross-veins. Upper glume surface pilose. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5-veined, with cross-veins, pilose, obtuse. Fertile lemma elliptic, 2–3 mm long, indurate, shiny, without keel. Lemma surface striate. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West Tropical Africa. Ghana.

Urochloa foliosa (R. Br.) R.D. Webster. *Australian Paniceae* (Poac.): 236: (1987).

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

TYPE from Australia. **Basionym or Replaced Name:** *Panicum foliosum* R. Br., *Prodr.* 191 (1810). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *R. Brown 6110*, Australia: Queensland: Keppel Bay (BM).

Illustrations (Books): S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler., *Grasses of New South Wales*, 4th edn (2008) (394), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989) (219, Fig. 35 as *Brachiaria foliosa*), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002) (219, Fig. 35 as *Brachiaria*).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002); (as *Brachiaria*).

Derivation (Clifford & Bostock 2007): *L. folium*, leaf; *-osa*, abundance. Culms with many leaves often separated by long evenly spaced internodes.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial. Rootstock evident. Culms geniculately ascending or decumbent, 25–70 cm long, 3–6-noded. Culm-internodes distally hirsute. Culm-nodes bearded. Leaf-sheaths hirsute, with tubercle-based hairs. Ligule a fringe of hairs. Leaf-blade base cordate. Leaf-blades lanceolate or oblong, 4–15 cm long, 4–18 mm wide. Leaf-blade surface pilose, with tubercle-based hairs. Leaf-blade margins cartilaginous, entire or crenate. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Peduncle glabrous or hirsute above. Racemes 5–10, borne along a central axis, unilateral, 4–9 cm long, simple or with branchlets at base of longer racemes. Central inflorescence axis 3–12 cm long, pilose. Rhachis wingless, angular, scabrous on margins. Spikelet packing adaxial, lax, irregular. Spikelets solitary or in pairs. Fertile spikelets pedicelled. Pedicels present, linear, 0.5–3 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 lanceolate or elliptic, dorsally compressed, compressed slightly, acute, 5–6.5 mm long, falling entire. Spikelet callus oblong, incorporating lowest rhachilla internode with adnate lower glume, 0.5 mm long. Rhachilla internodes elongated between glumes

or elongated below proximal fertile floret. Rhachilla elongation stout (wider than long below fertile floret), 0.5 mm long.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.5–0.6 length of spikelet, membranous, without keels, 7–11 -veined. Lower glume surface pubescent. Lower glume apex acute. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 7–9 -veined. Upper glume surface pubescent. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to upper glume, elliptic, 1 length of spikelet, membranous, 5 -veined, pubescent, acute. Fertile lemma elliptic or oblong, 4 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex rostrate. Palea involute, indurate, without keels. Palea surface rugose.

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

Country /Province /State. Australia. Queensland, New South Wales.

Brachiaria fragrans (Urochloa) A.Camus. *Bull. Soc. Bot. France*, 82: 22 (1935).

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

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Madagascar, Tulear: Humbert 14315 (P holo, K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. fragro*, smell sweet. Foliage possessing an agreeable odour.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial. Culms prostrate, 40–50 cm long, rooting from lower nodes. Culm-internodes distally glabrous. Leaf-sheaths outer margin hairy. Ligule an eciliate membrane, truncate. Leaf-blade base broadly rounded. Leaf-blades elliptic, 12–14 cm long, 15–20 mm wide, stiff. Leaf-blade venation prominent. Leaf-blade surface scaberulous, glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 4–5, borne along a central axis, unilateral, 1–2 cm long. Central inflorescence axis 4–6 cm long. Rhachis ciliate on margins. Spikelets in pairs. Fertile spikelets sessile and pedicelled. Pedicels present, linear, 0.5–2 mm long, puberulous.

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, 4 mm long, falling entire.

Glumes. Glumes similar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 2.4 mm long, 0.75 length of spikelet, membranous, without keels, 5 -veined. Lower glume surface pubescent. Lower glume apex obtuse. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface pubescent. Upper glume apex obtuse.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, sulcate, pubescent, obtuse. Fertile lemma oblong, 3 mm long or 5 mm long, indurate, pallid, without keel. Lemma surface unwrinkled. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

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

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

Brachiaria fruticulosa (Urochloa) A. Camus. *Bull. Mus. Hist. Nat., Paris*, Ser. 2, 29: 276 (1957).

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

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Est (Sud) de Madagascar: Mont Ankazovandamena, près de la baie des Galions (Ranofotsy) au SW de Fort-Dauphin, alt. 100–150 m.", *Humbert & Capuron 29066* (HT: P).

Illustrations: None found.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms erect, 30–60 cm long, 1.5 mm diam., woody (below). Culm-internodes distally glabrous. Lateral branches suffrutescent. Leaf-sheaths puberulous. Ligule an eciliate membrane. Leaf-blades lanceolate or oblong, 2.5–4.5 cm long, 3.5–4 mm wide. Leaf-blade venation distinct, with 6–8 secondary veins. Leaf-blade margins cartilaginous, smooth. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes borne along a central axis, unilateral, 3–4 cm long. Rhachis wingless, angular. Spikelets in pairs. Fertile spikelets pedicelled. Pedicels present, 2–3 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 lanceolate or orbicular, dorsally compressed, 2.6–2.7 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume orbicular, 0.7–0.8 mm long, 0.33 length of spikelet, membranous, without keels, 3 -veined. Lower glume lateral veins prominent. Lower glume apex obtuse. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume lateral veins prominent. 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, 5 -veined, prominently veined, acute. Fertile lemma lanceolate, 2.6–2.7 mm long, indurate, without keel. Lemma margins involute. Lemma apex acute, mucronate. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Africa.

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

Urochloa fusca (Sw.) B.F.Hansen, Wunderlin. *Novon* 11(3): 368 (2001).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Brachiaria*), D.Sharp, D. & B.K.Simon, *AusGrass* (2002) (as *Brachiaria*), J.F.Veldkamp, *Poaceae ms (Flora Malesiana)*.

TYPE from Jamaica. **Basionym or Replaced Name:** *Panicum fuscum* Sw., *Prodr.* 23 (1788). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: O.P. Swartz s.n.; ; Jamaica (S; IT: US-80609 (fragm. ex S)).

Recent Synonyms: *Brachiaria fasciculata* (Sw.) Parodi, *Darwiniana* 15: 96 (1969)

. *Urochloa fasciculata* (Roem. & Schult.) Kunth, *Rev. Gram.* 1: 31 (1829).

Illustrations (Books): S.A.Renvoize, *Gramineas de Bolivia* (1998) (435, Fig. 94 as *Brachiaria*), J.A.Steyermark et al, *Flora of the Venezuelan Guayana* Vol. 8 (2004) (65, Fig. 39 as *Brachiaria*), G.Harling & C.Persson, *Flora of Ecuador* (2006) (78: 51, Fig. 3 (2006) as *Brachiaria*), E.Hafliger & E.Schultz, *Grass Weeds, CIBA-GEIGY* (1:16(1980) as *Brachiaria*).

Illustrations (Journals): *Ruizia* (13:342, Fig 42a-d (1993) as *Brachiaria fasciculata*).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002); (as *Brachiaria*).

Derivation (Clifford & Bostock 2007): L., dark, swarthy. Glumes or lemmas dark-brown.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms decumbent, 30–120 cm long, rooting from lower nodes. Culm-internodes distally glabrous or pubescent. Culm-nodes pubescent. Leaf-sheaths glabrous on surface or hispid, with tubercle-based hairs. Ligule a fringe of hairs, 1 mm long. Leaf-blades lanceolate, 4–20(–30) cm long, 5–15 mm wide. Leaf-blade surface hispid, with tubercle-based hairs.

Inflorescence. Inflorescence composed of racemes. Peduncle glabrous or pubescent above. Racemes 3–20, borne along a central axis, unilateral, 1–8 cm long, secondarily branched, secondary branches racemulose. Central inflorescence axis 6–15 cm long. Rhachis wingless, angular, with scattered hairs or pubescent on surface. Spikelet packing irregular. Spikelets in pairs. Fertile spikelets pedicelled. Pedicels present, linear.

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 obovate, dorsally compressed, compressed slightly, obtuse, 2.4–3 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.25–0.33 length of spikelet, membranous, without keels, 5 -veined. Lower glume apex acute. Upper glume obovate, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume lateral veins with cross-veins. Upper glume surface glabrous. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, obovate, 1 length of spikelet, membranous, 7 -veined, with cross-veins, glabrous, obtuse. Fertile lemma elliptic, 2.2–2.8 mm long, indurate, without keel. Lemma surface rugose. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate, without keels. Palea surface rugose.

Distribution (TDWG). **Continent.** Tropical Asia, Australasia (*), North America, South America.

Country /Province /State. **Indian Subcontinent.** Bangladesh. **Australia** (*). Queensland (*), New South Wales (*). **North-central USA, Southwestern USA, South-central USA, Southeastern USA, Mexico.** Oklahoma. Arizona. New Mexico, Texas. Florida, Mississippi. Central Mexico, Northeast Mexico, Gulf (Mexico), Northwest Mexico, Southwest Mexico, Southeast Mexico. **Mesoamerica, Caribbean, Northern South America, Western South America, Brazil, Southern South America.** Bahamas, Bermuda, Cuba, Dominican Republic, Haiti, Jamaica, Leeward Is, Windward Islands, Puerto Rico, Trinidad-Tobago. Bolivia, Colombia, Ecuador, Galapagos. Brazil West Central, Brazil Northeast, Brazil North, Brazil South.

Roraima, Para, Amapa, Mato Grosso, Bahia, Maranhao, Piaui, Ceara, Rio Grande do Norte, Paraiba, Penabuco, Alagoas, Sergipe, Minas Gerais, Rio de Janeiro, Espirito Santo. Mato Grosso, Goiás, Mato Grosso do Sul. Bahia, Ceará, Maranhão, Paraíba, Piauí. Amazonas, Pará, Roraima. Santa Catarina. Jujuy, Salta, Tucuman. Puebla. Chihuahua, Guanajuato, Neuvo Leon, Queretaro, San Luis Potosi, Tamaulipas, Zacatecas. Veracruz. Baja California, Baja California Sur, Sinaloa, Sonora. Colima, Guerrero, Jalisco, Michoacan, Nayarit, Oaxaca. Campeche, Chiapas, Quintana Roo, Yucatan.

Urochloa fusiformis (Reeder) J.F. Veldkamp. *Blumea*, 41(2): 420: (1996).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China* 22 (Poaceae) (2006) (as *Brachiaria*), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from The Philippines. **Basionym or Replaced Name:** *Brachiaria fusiformis* Reeder, *J. Arnold Arbor.* 29(3): 274, pl. 1 (1948). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: T: ; ; T: E.D. Merrill 11606; Oct 1922; Philippines: Calamian Group, Culion (L).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. spindle-shaped. Spikelets long-pointed.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms geniculately ascending or decumbent, 15–40 cm long, rooting from lower nodes. Culm-internodes distally glabrous or pubescent. Culm-nodes pubescent. Leaf-sheaths mostly shorter than adjacent culm internode, glabrous on surface to pubescent, outer margin hairy. Leaf-sheath oral hairs ciliate. Ligule a fringe of hairs, 0.6 mm long. Leaf-blade base cordate. Leaf-blades lanceolate or ovate, 1.5–3.5 cm long, 3–7 mm wide. Leaf-blade surface glabrous or puberulous. Leaf-blade margins undulate, scabrous.

Inflorescence. Inflorescence composed of racemes. Racemes 3–10, borne along a central axis, unilateral, 0.5–2 cm long. Rhachis wingless, angular, puberulous on surface, ciliate on margins. Spikelet packing adaxial. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.5–1 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, 3 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.5 length of spikelet, membranous, without keels, 3 -veined. Lower glume apex acute. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5 -veined. 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, oblong, 1 length of spikelet, membranous, 5 -veined, acuminate. Fertile lemma elliptic, 3 mm long, indurate, without keel. Lemma surface papillose. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Distribution (TDWG). **Continent.** Temperate Asia, Tropical Asia.

Country /Province /State. **China.** China South Central. **Malesia, Papuasias.** Lesser Sunda Is, Moluccas, Philippines. New Guinea PNG. New Guinea. Yunnan.

Urochloa gilesii (Benth.) D.K.Hughes. *Kew Bull.* 1923, 319 (1923).

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

TYPE from Australia. **Basionym or Replaced Name:** *Panicum gilesii* Benth., *Fl. Austral.* 7: 477 (1878). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Giles s.n.*, Australia: Northern Territory: Charlotte Waters (K).

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (428, Fig. 357 as *Brachiaria*), J.R.Wheeler et al, *Flora of the Kimberley Region* (1992) (1237, Fig. 350), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler., *Grasses of New South Wales*, 4th edn (2008) (395), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989) (219, Fig. 35 as *Brachiaria*), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002) (as *Brachiaria gilesii*).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002); (as *Brachiaria*), K.Domin, *Bibliotheca Botanica* 85 (1915) (305, Fig.67 as *Panicum gilesii* var. *hispidissimum*).

Derivation (Clifford & Bostock 2007): in honor of Ernest Giles (1835–97) English-born Australian explorer.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms decumbent, 15–40 cm long, 3–5 -noded. Culm-internodes elliptical in section or channelled. Culm-nodes bearded. Leaf-sheaths hirsute, with tubercle-based hairs. Ligule a ciliate membrane. Leaf-blade base broadly rounded. Leaf-blades lanceolate, 2–6 cm long, 3–10 mm wide. Leaf-blade surface pilose. Leaf-blade margins cartilaginous, tuberculate-ciliate. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes, embraced at base by subtending leaf. Racemes 3–5, borne along a central axis, unilateral, 1.5–2.5 cm long. Central inflorescence axis 1–3 cm long. Rhachis narrowly winged, angular, 1 mm wide. Spikelet packing adaxial, regular, 2 -rowed. 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 ovate, dorsally compressed, compressed strongly, plano-convex, cuspidate, 4–5 mm long, falling entire. Spikelet callus pilose.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.1–0.2 length of spikelet, hyaline, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 2 length of adjacent fertile lemma, 1 length of spikelet, membranous, without keels, 7–9 -veined. Upper glume surface pubescent, hairy below. 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, 7 -veined, with unevenly spaced veins (near margins), ciliate on margins, obtuse. Fertile lemma elliptic, 2–2.5 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex obtuse, mucronate. Principal lemma awn 0.5 mm long overall. Palea involute, indurate, without keels. Palea surface rugose.

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

Region. Northern Europe (*).

Country /Province /State. : GB Aliens (Ryves et al). **Australia.** Northern Territory, South Australia, Queensland, New South Wales.

Brachiaria glomerata (Urochloa) (Hackel) A. Camus. *Bull. Soc. Bot. France*, 77: 640 (1931).

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

TYPE from Namibia. **Basionym or Replaced Name:** *Panicum glomeratum* Hack. ex Schinz, *Verh. Bot. Vereins Prov. Brandenburg* 30: 141 (1888). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: *Luderitz s.n.*, Hereroland ST: *Hoepfner* 79, Corocafluss? (W). T: *H. Schinz s.n.*, 1885, Namibia: Cubub bei Aus, Gross-Namaland (US-80755).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (379, Fig 324 as *Brachiaria*), M.A.N.Muller, *Grasses of South West Africa/Namibia* (1984) (as *Brachiaria*).

Derivation (Clifford & Bostock 2007): *L. glomus*, ball of thread; *-ata*, possessing. Spikelets crowded and forming clusters in the inflorescence.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms erect or geniculately ascending, 15–60 cm long. Culm-internodes distally pubescent. Ligule a fringe of hairs. Leaf-blades linear or lanceolate, 4–9 cm long, 3–6 mm wide. Leaf-blade surface pubescent, hairy on both sides. Leaf-blade apex callose.

Inflorescence. Inflorescence composed of racemes. Racemes 4–12, borne along a central axis, distant or closely spaced, in a multilateral false spike or in an interrupted false spike, appressed, oblong or globose, unilateral, 1–2.5 cm long. Central inflorescence axis 5–10 cm long. Rhachis wingless, angular, villous on surface. Spikelet packing adaxial, crowded, irregular. Spikelets in pairs or clustered at each node. Fertile spikelets sessile, 2–4 in the cluster.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, with a barren 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, compressed slightly, acute, 2.5–3.5 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.5 length of spikelet, hyaline, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume surface pilose. Lower glume apex acute. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface pilose. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, pilose, acute. Fertile lemma elliptic, 2–2.5 mm long, indurate, without keel. Lemma surface granulose. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate, without keels.

Flower and Fruit. *n* = 9 (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. South Tropical Africa, Southern Africa. Angola. Namibia, Botswana, Free State, Northern Cape.

Urochloa glumaris (Trin.) J.F. Veldkamp. *Blumea*, 41(2): 420: (1996).

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*), T.Koyama, *Grasses of Japan and its neighboring regions* (1987) (as *Brachiaria paspaloides*), W.D.Clayton & N.Snow, *Key to Pacific Grasses* (2010).

TYPE from New Zealand. **Basionym or Replaced Name:** *Brachiaria paspaloides*, *Panicum glumare* Trin., *Gram. Panic.* 143 (1826). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: Herb. Lindley in herb. Trinius 0727.01; ; (LE; IT: CGE).

Illustrations (Books): T.Koyama, *Grasses of Japan and its neighbouring regions* (1987) (as *Brachiaria paspaloides*), H.Duistermaat, *Field Guide to the Grasses of Singapore* (2005) (139, Fig.147).

Derivation (Clifford & Bostock 2007): *L. gluma*, husk; *-aris*, pertaining to. Glumes well formed.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms erect or geniculately ascending, 15–40 cm long. Culm-nodes bearded. Leaf-sheaths outer margin hairy. Ligule a fringe of hairs. Leaf-blades 5–20 cm long, 3–8 mm wide. Leaf-blade surface scabrous, pilose. Leaf-blade margins scabrous.

Inflorescence. Inflorescence composed of racemes. Racemes 3–4, borne along a central axis, unilateral, 2.5–6 cm long. Central inflorescence axis 2–9 cm long. Rhachis wingless, angular, ciliate on margins. Spikelet packing abaxial, lax, irregular, 1–2 -rowed. Spikelets solitary or in pairs. Fertile spikelets sessile and pedicelled. Pedicels present, 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 ovate, dorsally compressed, compressed moderately, symmetrical, acute, 3.5–4 mm long, falling entire.

Glumes. Glumes similar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.75–0.8 length of spikelet, membranous, without keels, 5 -veined. Lower glume apex acute. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, with palea or without significant palea. Lemma of lower sterile floret similar to upper glume, elliptic, 1 length of spikelet, membranous, 5 -veined, acute. Fertile lemma elliptic, dorsally compressed, 3–3.5 mm long, indurate, without keel, 5 -veined, more than 3-veined. Lemma surface rugulose. Lemma margins involute. Lemma apex obtuse, mucronate. Principal lemma awn 0.5 mm long overall. Palea indurate.

Flower and Fruit. $2n = 36$.

Distribution (TDWG). **Continent.** Africa, Temperate Asia, Tropical Asia, Pacific.

Country /Province /State. **Western Indian Ocean.** Mauritius, Madagascar, Reunion, Seychelles. **China and Eastern Asia.** Nansei-Shoto, Ogosawara-shoto. **Indian Subcontinent, Indo-China, Malesia, Papuasias.** Myanmar, Thailand, Vietnam. Java, Lesser Sunda Is, Malaya, Singapore, Moluccas, Philippines, Sulawesi, Sumatra. New Guinea West Papua (Irian Jaya). New Guinea (*), Solomon Is (*). **Southwestern Pacific, South-central Pacific, and Northwestern Pacific.** Fiji (*), Niue (*), New Caledonia (*), Samoa (*), Tonga (*). Cook Is (*), Society Is (*). Caroline Is (*), Marianas (*), Marshall Is (*).

Brachiaria grossa (Urochloa) Stapf. *Fl. Trop. Afr.* 9: 547 (1919).

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

TYPE from Angola. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: *Gossweiler 191*, Africa: Lower Guinea ST: *Welwitsch 7362c in part*, Africa ST: *Welwitsch 7469*, Africa ST: *Gossweiler 1652*, Africa ST: *Gossweiler 1667*, Africa ST: *Pearson 2367*, Africa ST: *Pearson 2514*, Africa ST: *Pearson 2440*, Africa.

Illustrations (Books): G.V.Pope et al., *Flora Zambesiaca* 10 (3(1989):77, t. 18).

Derivation (Clifford & Bostock 2007): L. large. Spikelets large.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms 30–100 cm long. Ligule a fringe of hairs. Leaf-blade base broadly rounded or cordate. Leaf-blades 5–30 cm long, 4–15 mm wide. Leaf-blade margins entire, scaberulous.

Inflorescence. Inflorescence composed of racemes. Racemes 3–10, borne along a central axis, ascending or appressed, unilateral, 3–10 cm long. Central inflorescence axis 4–15 cm long. Rhachis wingless, angular. Spikelet packing lax, irregular. Spikelets in pairs. 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 obovate, dorsally compressed, compressed slightly, subacute or acute, 3–4.2 mm long, falling entire. Rhachilla internodes brief up to lowest fertile floret.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.25–0.5 length of spikelet, membranous, without keels, 5 -veined. Lower glume apex obtuse or acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 7 -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, 5 -veined, acute. Fertile lemma elliptic, 2.5–4 mm long, indurate, without keel. Lemma surface corrugate. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate.

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

Country /Province /State. **East Tropical Africa, South Tropical Africa, Southern Africa.** Tanzania. Angola, Malawi, Zambia, Zimbabwe. Namibia, Botswana, Limpopo.

Urochloa holosericea (R. Br.) R.D. Webster. *Australian Paniceae (Poac.)*: 239: (1987).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Brachiaria*), D.Sharp, D. & B.K.Simon, *AusGrass* (2002) (as *Brachiaria*), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Australia. **Basionym or Replaced Name:** *Panicum holosericeum* R. Br., *Prodr.* 190 (1810). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *R. Brown 6094*, Australia: Northern Territory: Gulf of Carpentaria (BM; IT: K, LE, P).

Illustrations (Books): D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002) (as *Brachiaria*).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002); (as *Brachiaria*).

Derivation (Clifford & Bostock 2007): Gk. *holos*, entire; *sericea*, silky. Plant or spikelets totally invested in dense hairs.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms erect, 15–23 cm long. Leaf-sheaths outer margin hairy. Ligule a fringe of hairs. Leaf-blades linear or lanceolate, flat or conduplicate, 1–4 cm long, 3–6 mm wide. Leaf-blade surface pilose, sparsely hairy. Leaf-blade margins cartilaginous, crenate. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Peduncle pubescent above. Racemes 4–6, borne along a central axis, unilateral, 1–2.25 cm long. Central inflorescence axis 3–7 cm long. Rhachis wingless, angular, scabrous on surface. Spikelet packing adaxial, regular, 2 -rowed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 1 mm long, scabrous, tip discoid.

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, compressed slightly, acute, 2.5–3 mm long, with hairs extending 1–1.5 mm beyond apex, falling entire. Spikelet callus pubescent.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume lanceolate, 1.5–2 mm long, 0.6–0.7 length of spikelet, membranous, without keels, 3 -veined. Lower glume surface pubescent. Lower glume apex acuminate. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface pubescent, with a transverse fringe of hair. Upper glume hairs 2.5 mm long. Upper glume apex acuminate.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, sulcate, pubescent, with a transverse fringe of hair, bearing hairs 2.5 mm long, acute, awned. Awn of lower sterile floret 2–2.5 mm long. Fertile lemma ovate, 2–2.5 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex apiculate. Palea involute, indurate, without keels. Palea surface rugose.

Flower and Fruit. Caryopsis orbicular, 1.25–1.5 mm long, obtuse.

Distribution (TDWG). Continent. Tropical Asia, Australasia.

Country /Province /State. Papuasias. New Guinea PNG, or West Papua (Irian Jaya). New Guinea. **Australia.** Western Australia, Northern Territory, Queensland.

Brachiaria humbertiana (Urochloa) A. Camus. *Bull. Soc. Bot. France*, 79: 844 (1933).

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

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: *Humbert & Swingle 5487*, Madagascar: bassin de la Linta, plateau Calcaire a L'Est du Delta ST: *Humbert & Swingle 5645*, Madagascar: enviros d'Ambovombe.

Illustrations (Books): J.Bosser, *Graminees des Paturage et des Cultures a Madagascar* (1969) (417, Fig 158).

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

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short, woody. Culms geniculately ascending, 20–60 cm long. Culm-nodes glabrous. Ligule a ciliolate membrane. Leaf-blades flat or involute, 3–10 cm long, 1–5 mm wide. Leaf-blade surface glabrous or pilose. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Racemes 3–8, borne along a central axis, unilateral, 2–6 cm long. Central inflorescence axis 5–12 cm long. Rhachis wingless, angular. Spikelet packing adaxial, distant, irregular. Spikelets solitary or in pairs. Fertile spikelets pedicelled. Pedicels present, filiform or linear, 1–4 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 oblong, dorsally compressed, compressed slightly, subacute, 2.5–3 mm long, 0.8–1 mm wide, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.33–0.5 length of spikelet, membranous, without keels, 3 -veined. Lower glume apex obtuse. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume apex obtuse.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, obtuse. Fertile lemma elliptic, 2 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate, without keels. Palea surface rugose.

Distribution (TDWG). Continent. Africa.

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

Urochloa humidicola (Rendle) O. Morrone & F.O. Zuloaga. *Darwiniana*, 31: 80: (1992).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Brachiaria*), D.Sharp, D. & B.K.Simon, *AusGrass* (2002) (as *Brachiaria*), W.D.Clayton & N.Snow, *Key to Pacific Grasses* (2010).

TYPE from Angola. **Basionym or Replaced Name:** *Panicum humidicola* Rendle, *Cat. Afr. Pl.* 2(1): 169 (1899). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *F. Welwitsch* 2678, Apr 1868, Angola: Huila: in rather damp wooded meadows near the river Monino (BM; IT: K, LISU).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, Aristidoideae a Pharoideae (2012) (483), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (373, Fig. 319 as *Brachiaria*), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002) (as *Brachiaria*), S.A.Renvoize, *Gramineas de Bolivia* (1998) (431, Fig. 92 as *Brachiaria*), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (1077 & 1098, Fig. 209 & 216 as *Brachiaria*).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002); (as *Brachiaria*).

Derivation (Clifford & Bostock 2007): *L. humidus*, moist; *-cola*, dweller. Growing in damp meadows.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial. Stolons present. Culms geniculately ascending or decumbent, 40–100 cm long, without nodal roots or rooting from lower nodes. Ligule a fringe of hairs. Leaf-blades linear or lanceolate, 4–20 cm long, 3–10 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 2–3(–4), borne along a central axis, unilateral, 2–7 cm long. Central inflorescence axis 2–13 cm long. Rhachis wingless or narrowly winged, angular. Spikelet packing adaxial, regular, 2 -rowed. 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 elliptic, dorsally compressed, compressed slightly, subacute, 4–6 mm long, falling entire. Rhachilla internodes elongated between glumes.

Glumes. Glumes similar, reaching apex of florets, thinner than fertile lemma. Lower glume oblong, 0.75–1 length of spikelet, membranous, without keels, 11 -veined. Lower glume surface glabrous or pubescent. Lower glume apex obtuse. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5–9 -veined. Upper glume lateral veins with cross-veins. Upper glume surface glabrous or pubescent. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, with cross-veins, glabrous or pubescent, obtuse. Fertile lemma elliptic, 3.5–5.5 mm long, indurate, without keel. Lemma surface papillose. Lemma margins involute. Lemma apex obtuse or acute. Palea involute, indurate, without keels.

Flower and Fruit. $2n = 54$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa, Tropical Asia (*), Australasia (*), Pacific, 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. Nigeria. Rwanda, DRC.

Ethiopia (inc. Eritrea), Sudan. Kenya, Tanzania. Angola, Malawi, Mozambique, Zambia, Zimbabwe. Namibia, Botswana, Limpopo, Mpumalanga, Swaziland, Kwazulu-Natal. **Papuasiasia**. New Guinea PNG. Solomon Is (*). **Australia** (*). Queensland (*). **Southwestern Pacific**. Fiji (*), New Caledonia (*). Hawaii (*). **Mexico**. Northeast Mexico, Gulf (Mexico), Southwest Mexico, Southeast Mexico. **Mesoamerica, Caribbean, Northern South America, Western South America, Brazil**. Panama. French Guiana. Bolivia, Colombia, Ecuador. Brazil West Central, Brazil Northeast, Brazil North, Brazil Southeast, Brazil South.

Distrito Federal (*), Goiás. Bahia, Maranhão. Amazonas, Pará. Minas Gerais, Sao Paulo. Santa Catarina. Corrientes. Guanajuato. Veracruz. Guerrero. Campeche, Chiapas, Tabasco.

Urochloa jaliscana (J. Santana) Espejo & López-Ferrari. *Acta Botánica Mexicana* 51: 62 (2000)

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

TYPE from Mexico. **Basionym or Replaced Name:** *Brachiaria jaliscana* J. Santana, *Bol. Inst. Bot. (Guadalajara)*, 1(3): 184 (1992). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *F.J. Santana-Michel 1375*, 5 Aug 1985, Mexico: Jalisco: Mun. de Zapopan: Predio Las Agujas, 15 km al W de Zapopan, por la brecha a Nextipac, ruderal y campos abiertos, alt. 1600 m (IBUG; IT: ENCB, MEXU, WIS, ZEA, US-3278462).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. From Jalisco, Mexico.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms geniculately ascending, 30–120 cm long, rooting from lower nodes. Culm-internodes thin-walled. Culm-nodes glabrous. Lateral branches ample. Leaf-sheaths glabrous on surface, outer margin glabrous or hairy. Ligule a ciliate membrane, 1.5–2 mm long. Leaf-blades lanceolate, 6–30 cm long, 5–20 mm wide. Leaf-blade surface glabrous. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence composed of racemes. Racemes 5–12, borne along a central axis, unilateral, 3–8 cm long. Central inflorescence axis 7–20 cm long. Rhachis broadly winged, with sharp-edged midrib, 1.5–2.7 mm wide, with scattered hairs, scabrous on margins. Spikelet packing adaxial, regular, 2 -rowed. Raceme-bases glabrous. Spikelets solitary or in pairs. Fertile spikelets sessile and pedicelled, 1 in the cluster or 2 in the cluster. Pedicels present, oblong.

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 elliptic, dorsally compressed, compressed slightly, acute, 4–5.5 mm long, falling entire. Rhachilla internodes elongated between glumes.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.33 length of spikelet, membranous, without keels, 3 -veined. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, acute. Fertile lemma lanceolate or elliptic, 3.5–5 mm long, indurate, without keel. Lemma surface unwrinkled or rugulose. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate, without keels.

Flower and Fruit. Caryopsis with adherent pericarp, ellipsoid, 2–2.5 mm long.

Distribution (TDWG). **Continent.** North America.

Country /Province /State. Mexico. Southwest Mexico. Jalisco.

Urochloa jubata (Fig. & De Not.) M.S.M. Sosef. *Fl. Gabon*, 5 bis: 64 : (1999).

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

TYPE from Sudan. **Basionym or Replaced Name:** *Brachiaria soluta*, *Panicum jubatum* Fig. & De Not., *Mem. Reale Accad. Sci. Torino*, ser. 2, 14: 331, f. 9 (1854). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: Figari s.n.; ; Sudan (FT).

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (249, Fig. 178 as *Brachiaria fulva*), R.M.Phillips, F.T.E.A., *Gramineae* (3(1982): 581, Fig. 139 as *Brachiaria*), S.Phillips,

Poaceae (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (223, Fig. 91 as *Brachiaria*).

Derivation (Clifford & Bostock 2007): *L. jubum*, mane; -*ata*, possessing. The inflorescence or awn resembles a fox tail.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 25–120 cm long. Ligule a fringe of hairs. Leaf-blades 5–30 cm long, 3–17 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes (3–)5–10(–15), borne along a central axis, straight or arcuate, unilateral, 1–6 cm long. Central inflorescence axis 3–20 cm long. Rhachis broadly winged, with sharp-edged midrib, 1–2 mm wide, setose on margins. Rhachis hairs yellow, 2–6 mm long. Spikelet packing adaxial, regular, 2-rowed. Spikelets pectinate, 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 elliptic, dorsally compressed, compressed slightly, obtuse, 2.5–3.8 mm long, falling entire.

Glumes. Glumes similar, reaching apex of florets, thinner than fertile lemma. Lower glume oblong, 0.7–0.8 length of spikelet, membranous, without keels, 7–11 -veined. Lower glume apex obtuse. Upper glume oblong, membranous, without keels, 5 -veined. Upper glume lateral veins with cross-veins. Upper glume surface pilose. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, with cross-veins, pilose, obtuse. Fertile lemma elliptic, 2.5–3.5 mm long, indurate, shiny, without keel, 5 -veined, more than 3-veined. Lemma surface striate. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Africa, South America.

Country /Province /State. West Tropical Africa, West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Western Indian Ocean. Burkina, Gambia, Guinea-Bissau, Guinea, Mali, Nigeria, Senegal, Togo. Rwanda, DRC. Ethiopia (inc. Eritrea), Sudan. Kenya, Tanzania, Uganda. Angola, Malawi, Zambia, Zimbabwe. Madagascar. **Brazil.** Brazil West Central.

Distrito Federal.

Urochloa kurzii (Hook. f.) Nguyen. *Novit. Syst. Pl. Vasc., Acad. Sci. URSS*, 1966, 13 (1966).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Brachiaria*), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006) (as *Brachiaria*), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960) (as *Brachiaria*).

TYPE from India. **Basionym or Replaced Name:** *Panicum kurzii* Hook. f., *Fl. Brit. India* 7(21): 38 (1897) [1896]. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: India: lower Bengal: Seebore, *Kurz s.n.* (LT: K).

Illustrations (Books): 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 Wilhelm Sulpiz Kurz (1834–1878) German botanist.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms decumbent, 15–60 cm long, rooting from lower nodes. Leaf-sheaths outer margin hairy. Ligule a fringe of hairs. Leaf-blade base cordate. Leaf-blades lanceolate, 5–8 cm long, 8–18 mm wide. Leaf-blade surface pilose, sparsely hairy. Leaf-blade margins cartilaginous, crenate. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 3–7, borne along a central axis, unilateral, 5–7.5 cm long. Central inflorescence axis 5–8 cm long. Rhachis wingless, angular, scabrous on margins. Spikelet packing adaxial, distant, irregular. Spikelets solitary or in pairs. Fertile spikelets pedicelled. Pedicels present, filiform, scabrous.

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, compressed slightly, acute, 2.5–3.5 mm long, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, clasping, 0.8–1 mm long, 0.33 length of spikelet, membranous, without keels, 3–5 -veined. Lower glume apex obtuse. Upper glume ovate, 1.25 mm long, 0.5 length of spikelet, membranous, without keels, 7 -veined. Upper glume apex acuminate.

Florets. Basal sterile florets 1, male or barren, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5–7 -veined, acute. Fertile lemma oblong, 2.25 mm long, indurate, without keel. Lemma surface rugose. Lemma margins involute. Lemma apex apiculate. Palea involute, indurate, without keels.

Flower and Fruit. $n = 16$ (1 ref TROPICOS), or 32 (1 ref TROPICOS). $2n = 64$ (1 ref TROPICOS).

Distribution (TDWG). **Continent.** Temperate Asia, Tropical Asia, Australasia.

Country /Province /State. **China.** China South Central. **Indian Subcontinent, Indo-China, Malesia.** Assam, Bangladesh, India. Thailand, Vietnam. Java, Lesser Sunda Is, Moluccas. **Australia.** Western Australia, Queensland.

Yunnan. Andhra Pradesh, Bihar. Madhya Pradesh, Tamilnadu, Uttah Pradesh, West Bengal.

Urochloa lachnantha (Hochst.) A.M.Torres & C.M.Morton. *Molec. Phylogenet. Evol.* 37: 42 (2005).

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

TYPE from Ethiopia. **Basionym or Replaced Name:** *Panicum lachnanthum* Hochst., *Flora* 38: 195 (1855)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: T: W. Schimper, 1854, Africa: Ethiopia (US-1063879).

Recent Synonyms: *Brachiaria lachnantha* (Hochst.) Stapf, *Fl. Trop. Afr.* 9: 536 (1919).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *lachnos*, wool; *anthos*, flower. Spikelets wooly.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths pubescent or woolly. Culms 20–100 cm long. Ligule a fringe of hairs. Leaf-blades 5–40 cm long, 3–10 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 2–15, borne along a central axis, unilateral, 2–5 cm long. Central inflorescence axis 2–15 cm long. Rhachis wingless, angular, pubescent on surface or villous on surface. Spikelet packing adaxial, regular, 2 -rowed. Spikelets solitary (or paired at base). Fertile spikelets pedicelled. Pedicels present, 0.5–1 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 elliptic, dorsally compressed, compressed slightly, acute, 3–4.5 mm long, falling entire. Spikelet callus square (green).

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.25–0.33 length of spikelet, membranous, without keels, 3 -veined. Lower glume surface pubescent. Lower glume apex acute. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface pubescent or pilose or villous. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, pubescent or pilose or villous, acute. Fertile lemma elliptic, 2.5–4 mm long, indurate, without keel. Lemma surface striate. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

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

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

Urochloa lata (Schumacher) C.E.Hubb. *Kew Bull.* 1934, 112 (1934).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Brachiaria*), N.L.Bor, *Grasses of Burma, Ceylon, India and Pakistan* (1960) (as *Brachiaria*).

TYPE from Ghana. **Basionym or Replaced Name:** *Panicum latum* Schumach., *Beskr. Guin. Pl.* 61–62 (1827). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: Thonning 353; ; Ghana (C).

Illustrations (Books): S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (226, Fig. 92 as *Brachiaria*), E.Hafliger & E.Schultz, *Grass Weeds*, CIBA-GEIGY (1:17(1980) as *Brachiaria*).

Derivation (Clifford & Bostock 2007): L. broad. Leaf-blades broad.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms erect or geniculately ascending, robust, 30–150 cm long, 4–7 -noded, without nodal roots or rooting from lower nodes. Culm-nodes pubescent. Leaf-sheaths glabrous on surface or hirsute, outer margin hairy. Ligule a fringe of hairs. Leaf-blade base broadly rounded or cordate. Leaf-blades lanceolate, 6–12 cm long, 8–24 mm wide, membranous. Leaf-blade surface glabrous or hirsute. Leaf-blade margins cartilaginous, scabrous, tuberculate-ciliate, hairy at base.

Inflorescence. Inflorescence composed of racemes. Racemes 5–30, borne along a central axis, closely spaced, unilateral, 2–8 cm long, simple or secondarily branched. Central inflorescence axis 1–12 cm long. Rhachis wingless, angular, 0.25–0.5 mm wide, scabrous on margins, glabrous on margins. Spikelet packing crowded, irregular. Spikelets in pairs or clustered at each node. Fertile spikelets sessile and pedicelled, 2–4 in the cluster. Pedicels present, 0.3–0.8 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, dorsally compressed, compressed slightly, acute, 2.5–3 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.33–0.5 length of spikelet, membranous, without keels, 3–5 -veined. Lower glume apex acute. Upper glume oblong, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, male or barren, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, acute. Fertile lemma elliptic, 2.5 mm long, indurate, yellow, without keel. Lemma surface granulose, rugulose. Lemma margins involute. Lemma apex obtuse, mucronate. Palea involute, indurate.

Flower and Fruit. Anthers 3, 1 mm long.

$n = 27$ (1 ref TROPICOS). $2n = 48$ (1 ref TROPICOS).

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

Country /Province /State. West Tropical Africa, West-Central Tropical Africa, Northeast Tropical Africa. Benin, Burkina, Gambia, Ghana, Guinea, Mali, Mauritania, Nigeria, Senegal. Eritrea, Ethiopia (inc. Eritrea), Socotra, Sudan. **Arabian Peninsula.** Oman. **Indian Subcontinent.** India.

Brachiaria lateritica (Urochloa) A. Camus. *Bull. Soc. Bot. France*, 93: 89 (1946).

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

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Madagascar, Diego Suarez: Perrier 19296.

Illustrations: None found.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, mat forming. Culms prostrate. Culm-internodes striate, distally glabrous. Lateral branches ample. Leaf-sheaths loose, striately veined, hirsute. Ligule absent. Leaf-blades lanceolate, 0.5–0.8 cm long, 1.5–2 mm wide. Leaf-blade surface pilose, sparsely hairy. Leaf-blade apex acute.

Inflorescence. Inflorescence comprising only a few spikelets, comprising 1–2 fertile spikelets. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.2–0.4 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 ovate, dorsally compressed, 1.8 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.8 mm long, 0.5 length of spikelet, membranous, without keels, 3 -veined. Lower glume surface hirsute.

Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 3 -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, 3 -veined, hirsute, acute. Fertile lemma lanceolate, 1.4–1.5 mm long, indurate, pallid, without keel. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Africa.

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

Brachiaria leandriana (Urochloa) Bosser. *Adansonia*, n. s., vi. 111 (1966).

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

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Madagascar, Mahafaly: Bosser 14538 (P holotype).

Illustrations: None found.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial. Cataphylls evident. Rhizomes short. Stolons present. Culms geniculately ascending, 10–20 cm long, 1 mm diam. Culm-nodes pubescent. Leaf-sheaths mostly shorter than adjacent culm internode, keeled, outer margin hairy. Ligule absent. Leaf-blades linear or lanceolate, 11 cm long, 7 mm wide. Leaf-blade surface pubescent, hairy on both sides. Leaf-blade margins smooth or scaberulous.

Inflorescence. Inflorescence composed of racemes. Racemes 4–5, borne along a central axis, unilateral, 1.5–2 cm long. Rhachis wingless, angular. Spikelets in pairs. Fertile spikelets pedicelled. Pedicels present, 0.5–1.5 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 ovate, dorsally compressed, 2 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 1.5 mm long, 0.75 length of spikelet, membranous, without keels, 5 -veined. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume surface hirsute. Upper glume apex acute.

Florets. Basal sterile florets 1, male or barren, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, hirsute, hairy above, acute. Fertile lemma ovate, 2 mm long, indurate, yellow, shiny, without keel. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Africa.

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

Urochloa leersioides (Hochst.) A.M.Torres & C.M.Morton. *Molec. Phylogenet. Evol.* 37: 42 (2005).

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

TYPE from Ethiopia. **Basionym or Replaced Name:** *Panicum leersioides* Hochst., *Flora* 38: 196 (1855)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Schimper in Buchinger 1173*, 1853, Ethiopia: Dehli Dikeno (STR; IT: P).

Recent Synonyms: *Brachiaria leersioides* (Hochst.) Stapf, *Fl. Trop. Afr.* 9: 551 (1919).

Illustrations (Books): S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (226, Fig. 92 as *Brachiaria*), L.Boulos, *Flora of Egypt* 4 (2005) (296, Pl. 87 as *Brachiaria*).

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resembling. Resembling *Leersia* in inflorescence form or habit.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms geniculately ascending, 10–100 cm long. Ligule a ciliate membrane. Leaf-blades 5–20 cm long, 1–10 mm wide. Leaf-blade apex attenuate, filiform.

Inflorescence. Inflorescence composed of racemes. Racemes 3–14, borne along a central axis, deflexed or spreading, unilateral, 1–7 cm long. Central inflorescence axis 3–20 cm long. Rhachis wingless, angular. Spikelet packing regular, 2 -rowed. Spikelets in pairs. Fertile spikelets sessile and 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 elliptic, dorsally compressed, compressed slightly, subacute, 2–3.5 mm long, falling entire. Rhachilla internodes elongated between glumes.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.33–0.5 length of spikelet, membranous, without keels, 3 -veined. Lower glume apex acute. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5–7 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, male or barren, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, acute. Fertile lemma elliptic, 2–2.5 mm long, indurate, without keel. Lemma surface corrugate. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

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

Country /Province /State. Northern Africa, West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa. Egypt. Rwanda, DRC. Chad, Eritrea, Ethiopia (inc. Eritrea), Somalia, Sudan. Kenya, Tanzania, Uganda. Mozambique. **Arabian Peninsula.** Oman, Saudi Arabia.

Brachiaria leucacrantha (Urochloa) (K. Schum.) Stapf. *Fl. Trop. Afr.* 9: 540 (1919).

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

TYPE from Tanzania. **Basionym or Replaced Name:** *Panicum leucacranthum* K. Schum., *Pflanzenw. Ost-Afrikas* 102 (1895). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: *Holst* 2077, Tanzania: Sansibar, --Tanga (B). ST: *Holst* 4163, Tanzania: Sansibar. --Tanga (B). ST: *Holst* 2805, Tanzania: Amboni (K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk *leukos*, white; *akros*, at the tip; *anthos*, flower. Anthoecium whitish in contrast to the glumes which are whitish with green veins.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West-Central Tropical Africa, Northeast Tropical Africa. DRC. Somalia.

Brachiaria lindiensis (Urochloa) (Pilger) W.D. Clayton. *Notizbl. Bot. Gart. Berlin*, 13: 261 (1936).

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

TYPE from Tanzania. **Basionym or Replaced Name:** *Panicum lindiense* Pilg., *Notizbl. Bot. Gart. Berlin-Dahlem* 13: 261 (1936). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Schlieben* 6243, Tanzania: Lindi (B).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ense*, denoting origin. From Lindi, a district in Tanzania.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending or decumbent, 30–60 cm long, wiry. Ligule a fringe of hairs. Leaf-blades ovate, 4–7 cm long, 7–13 mm wide, stiff. Leaf-blade margins serrulate (towards base).

Inflorescence. Inflorescence composed of racemes, terminal and axillary. Racemes 1–4, single or borne along a central axis, unilateral, 1–3 cm long. Central inflorescence axis 1–3 cm long. Rhachis wingless, angular. Spikelet packing adaxial, distant, irregular. Spikelets solitary or in pairs. 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 elliptic, dorsally compressed, compressed slightly, acute, 4–6 mm long, falling entire. Spikelet callus oblong, incorporating lowest rhachilla internode with adnate lower glume, 0.7 mm long. Rhachilla internodes elongated between glumes.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.5 length of spikelet, membranous, without keels, 3–5 -veined. Lower glume surface pubescent. Lower glume apex obtuse. Upper glume oblong, 1 length of spikelet, membranous, without keels, 9 -veined. Upper glume surface pubescent. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, pubescent, acute. Fertile lemma elliptic, 3.5–5 mm long, indurate, without keel. Lemma surface granulose. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Africa.

Country /Province /State. East Tropical Africa. Kenya, Tanzania.

Brachiaria longiflora (Urochloa) W.D. Clayton. *Kew Bull.*, 34(3): 558 (1980).

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

TYPE from Kenya. T: <Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Kenya: Tana River Dist.: Kurawa, Pohlhill & Paulo 674 (HT: K).

Illustrations (Books): T.A. Cope, in M. Thulin, *Poaceae* (Gramineae). *Flora of Somalia* (1995) (226, Fig 129).

Derivation (Clifford & Bostock 2007): *L. longus*, long; *flos*, flower. Having long spikelets.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, caespitose. Rootstock evident. Culms slender, 30–120 cm long. Ligule a fringe of hairs. Leaf-blades lanceolate, 5–15 cm long, 8–20 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 2–4, borne along a central axis, unilateral, 2–5 cm long. Central inflorescence axis 3–7 cm long. Rhachis wingless, angular, villous on surface. Spikelet packing lax, irregular. Spikelets in pairs. 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 elliptic, dorsally compressed, compressed slightly, acute, 7–8.5 mm long, falling entire. Spikelet callus oblong, incorporating lowest rhachilla internode with adnate lower glume, 0.5–1 mm long. Rhachilla internodes elongated between glumes.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.5 length of spikelet, membranous, without keels, 5 -veined. Lower glume surface pubescent. Lower glume apex obtuse. Upper glume oblong, 1 length of spikelet, chartaceous, without keels, 7 -veined. Upper glume surface pubescent. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, chartaceous, 5 -veined, pubescent, acute. Fertile lemma elliptic, 6–7 mm long, indurate, without keel. Lemma surface striate. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Africa.

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

Urochloa lorentziana (Mez) O. Morrone & F.O. Zuloaga. *Darwiniana*, 31: 82: (1992).

Accepted by: R.J. Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D. Clayton & K. Harman, *GrassBase* (2008) and online, U. Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Brachiaria*).

TYPE from Argentina. **Basionym or Replaced Name:** *Panicum lorentzianum* Mez, *Bot. Jahrb. Syst.* 56(Beibl. 125): 1 (1921). T: <Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: Lorentz & Hieronymus 340; ; Argentina (B; IT: BAA-1886 (fragm. ex B), BAA (fragm. ex CORD), CORD) ST: Schickendantz 258; ; Argentina (?; IST: CORD).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, Aristidoideae a Pharoideae (2012) (464), S.A.Renvoize, *Gramineas de Bolivia* (1998) (431, Fig 92 as *Brachiaria*), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina)*, Pt II, Gramineas (1969) (349, Fig. 146 as *Brachiaria*).

Illustrations (Journals): Ruizia (13:342, Fig 42e-g (1993) as *Brachiaria*).

Derivation (Clifford & Bostock 2007): L. -ana, indicating connection. In honor of Paul Gnther Lorentz (1835–1881) German-born Urugayan botanist.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms geniculately ascending or decumbent, 30–100 cm long. Ligule a fringe of hairs, 1 mm long. Leaf-blade base broadly rounded. Leaf-blades linear or lanceolate, 10–30 cm long, 7–25 mm wide. Leaf-blade surface glabrous or pubescent, hairy on both sides.

Inflorescence. Inflorescence composed of racemes. Racemes 4–20, borne along a central axis, unilateral, 1–8 cm long, simple or with branchlets at base of longer racemes, secondary branches glomerate. Central inflorescence axis 6–30 cm long, pilose. Rhachis wingless, angular, pilose on surface. Spikelet packing lax, irregular. Spikelets in pairs. Fertile spikelets pedicelled. Pedicels present, oblong, 0.5–1 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, compressed slightly, acute, 3–3.3 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.5 length of spikelet, membranous, without keels, 5 -veined. Lower glume apex acute. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume lateral veins transversely connected at apex. Upper glume surface glabrous or pubescent. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to upper glume, elliptic, 1 length of spikelet, membranous, 5 -veined, glabrous or pubescent, acute. Fertile lemma elliptic, 2.5–3 mm long, indurate, without keel. Lemma surface rugose. Lemma margins involute. Lemma apex apiculate. Palea involute, indurate, without keels. Palea surface rugose.

Distribution (TDWG). Continent. South America.

Country /Province /State. Western South America, Brazil, Southern South America. Bolivia. Brazil West Central. Argentina Northeast, Argentina Northwest, Paraguay.

Mato Grosso. Catamarca, Jujuy, La Rioja, Salta, Santiago del Estero, San Luis, Tucuman. Chaco, Cordoba, Entre Rios, Formosa.

Brachiaria malacodes (Urochloa) (Mez & K. Schumann) H. Scholz. *Willdenowia*, 8(2): 384 (1978).

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

TYPE from Angola. **Basionym or Replaced Name:** *Panicum malacodes* Mez & K. Schum., *Notizbl. Bot. Gart. Berlin-Dahlem* 7: 70 (1917). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Antunes* 202, Angola: Huilla (B).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (377, Fig 322 as *Brachiaria poaeoides*), M.A.N.Muller, *Grasses of South West Africa/Namibia* (1984) (as *Brachiaria poaeoides*).

Derivation (Clifford & Bostock 2007): Gk *malakos*, soft to the touch; -odes, resembling. Surface of plants in whole or in part with texture of velvet.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms decumbent, slender, 25–100 cm long. Ligule a fringe of hairs. Leaf-blades 7–10 cm long, 6–14 mm wide.

Inflorescence. Inflorescence a panicle with branches tipped by a raceme. Panicle open, ovate, 7–15 cm long. Primary panicle branches 2–6 cm long. Panicle branches capillary. Racemes unilateral, 0.5–1 cm long. Rhachis wingless, angular. Spikelet packing adaxial, crowded, regular, 2 -rowed. 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 elliptic, dorsally compressed, compressed slightly, obtuse, 2.5 mm long, falling entire, readily shedding fertile florets.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.2–0.5 mm long, 0.1–0.2 length of spikelet, hyaline, without keels, 0 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface pubescent. Upper glume apex acute.

Florets. Basal sterile florets 1, male or barren, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, pubescent, acute. Fertile lemma elliptic, 2–2.5 mm long, indurate, shiny, without keel. Lemma surface smooth. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Africa.

Country /Province /State. South Tropical Africa and Southern Africa. Angola.

Brachiaria marlothii (Urochloa) (Hackel) Stent. *Bothalia*, 1: 263 (1924).

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

TYPE from South Africa. **Basionym or Replaced Name:** *Panicum marlothii* Hack., *Bot. Jahrb. Syst.* 11: 398 (1889). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: IT: *H.W.R. Marloth 1147*, 1886, South Africa: Cape Province (US-80802 (fragm.)).

Illustrations (Books): M.A.N.Muller, *Grasses of South West Africa/Namibia* (1984).

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

Derivation (Clifford & Bostock 2007): in honor of Hermann Wilhelm Rudolf Marloth (1855–1931) German-born South African pharmacist, chemist and botanist.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, mat forming. Stolons absent or present. Culms decumbent, 5–50 cm long. Ligule a fringe of hairs. Leaf-blades 10–140 cm long, 1–5 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 2–5, borne along a central axis, simply spaced or closely spaced, in a head, unilateral, 0.5–4 cm long. Central inflorescence axis 0.3–7 cm long. Rhachis wingless, angular. Spikelet packing crowded, regular, 4 -rowed. Spikelets in pairs. Fertile spikelets sessile and 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 elliptic, dorsally compressed, compressed slightly, cuspidate, 2–2.5 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.25–0.5 length of spikelet, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface glabrous or pubescent, with transverse tufts of hair. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, glabrous or pubescent, with marginal tufts of hair, 2 hair tufts in all, acute. Fertile lemma elliptic, 1.5–2 mm long, indurate, without keel. Lemma surface striate. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate, without keels.

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

Region. Northern Europe (*).

Country /Province /State. : GB Aliens (Ryves et al). **Southern Africa.** Namibia, Botswana, North-West, Free State, Kwazulu-Natal, Lesotho, Northern Cape, Eastern Cape.

Urochloa megastachya (Nees ex Trin.) O. Morrone & F.O. Zuloaga. *Darwiniana*, 31: 84: (1992).

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

TYPE from Brazil. **Basionym or Replaced Name:** *Panicum megastachyum* Nees ex Trin., *Gram. Panic.* 205 (1826). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: Langsdorff s.n.; ; Brazil: Minas Gerais: in saxosis umbrosis Serra da Lapa [Serra do Cipó] (LE-TRIN-0819.01; IT: K, US-974713 (fragm. ex LE)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *megas*, large; *stachys*, spike as of an ear of wheat. Spikelets unusually large for the genus.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial. Culms 120–200 cm long. Culm-nodes glabrous. Leaf-sheaths glabrous on surface. Ligule a ciliate membrane, 1–1.5 mm long. Leaf-blade base broadly rounded. Leaf-blades lanceolate, 6–12 cm long, 8–10 mm wide. Leaf-blade surface pubescent, hairy adaxially. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 8–12, borne along a central axis, unilateral, 5–20 cm long. Central inflorescence axis 10–20 cm long, pilose. Rhachis wingless, angular, pubescent on surface. Spikelet packing distant, irregular. Spikelets solitary or in pairs or in threes. Fertile spikelets sessile and pedicelled. Pedicels present, filiform, 1–12 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, compressed slightly, acute, 3.8–3.9 mm long, 1.4–1.5 mm wide, falling entire. Spikelet callus square, incorporating lowest rhachilla internode with adnate lower glume, 0.5 mm long.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 1.8–2.2 mm long, 0.5–0.6 length of spikelet, membranous, without keels, 3–5 -veined. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5–7 -veined. Upper glume apex obtuse or acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, ciliate on margins, acute. Fertile lemma elliptic, 3.2–3.4 mm long, 1.1–1.3 mm wide, indurate, without keel. Lemma surface papillose. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. South America.

Country /Province /State. Brazil. Brazil Southeast.
Minas Gerais.

Urochloa meziana (Hitchc.) O. Morrone & F.O. Zuloaga. *Darwiniana*, 32:68: (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) (as *Brachiaria*).

TYPE from Mexico. **Basionym or Replaced Name:** *Brachiaria meziana* Hitchc., *Contr. U.S. Natl. Herb.* 12(3): 140 (1908). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: C.G. Pringle 9592, 19 Aug 1901, Mexico: Federal District: Cerro de Guadalupe, 7500 ft [2250 m] (US-156925; IT: MO-2876780, US-396645).

Illustrations (Books): R.McVaugh, *Flora Nova-Galiciana* Vol.14 *Gramineae* (1983) (as *Brachiaria*).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Carl Christian Mez (1866–1944), German botanist.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated, knotty. Culms geniculately ascending, 10–35 cm long, rooting from lower nodes. Leaf-sheaths glabrous on surface or pilose. Ligule a fringe of hairs, 1 mm long. Leaf-blades lanceolate, 5–10 cm long, 5–10 mm wide. Leaf-blade surface pilose, sparsely hairy, hairy on both sides. Leaf-blade margins tuberculate-ciliate, hairy at base.

Inflorescence. Inflorescence composed of racemes. Racemes 2–10, borne along a central axis, unilateral, 1–3 cm long. Central inflorescence axis 2–5 cm long. Rhachis narrowly winged, angular. Spikelet packing adaxial, irregular. Spikelets solitary or in pairs. Fertile spikelets pedicelled. Pedicels present, oblong, 0.5 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 ovate, dorsally compressed, compressed slightly, acute, 2.7–3.3 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 1.3–1.6 mm long, 0.5 length of spikelet, membranous, without keels, 3 -veined. Lower glume

apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5 -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, 5 -veined, acute. Fertile lemma ovate, 2–2.5 mm long, indurate, without keel. Lemma surface rugose. Lemma margins involute. Lemma apex acute, mucronate. Principal lemma awn 0.2–0.5 mm long overall. Palea involute, indurate, without keels. Palea surface rugose.

Flower and Fruit. $2n = 36$ (1 ref TROPICOS).

Distribution (TDWG). Continent. North America.

Country /Province /State. Mexico. Central Mexico, Northeast Mexico, Gulf (Mexico), Southwest Mexico, Southeast Mexico.

Distrito Federal, Mexico State, Puebla. Aguascalientes, Coahuila, Chihuahua, Durango, Guanajuato, Hidalgo, Neuvo Leon, Queretaro, San Luis Potosi, Tamaulipas, Zacatecas. Veracruz. Colima, Jalisco, Michoacan, Oaxaca. Yucatan.

Urochloa mollis (Sw.) O. Morrone & F.O. Zuloaga. *Darwiniana*, 31: 85: (1992).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Brachiaria*), W.D.Clayton & N.Snow, *Key to Pacific Grasses* (2010).

TYPE from Jamaica. **Basionym or Replaced Name:** *Panicum molle* Sw., *Prod. Veg. Ind. Occ.* 22. (1788). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: O.P. Swartz s.n.; ; Jamaica (S; IT: K (fragm.), US-80882 (fragm. ex S & photo)).

Recent Synonyms: *Brachiaria mollis* (Sw.) Parodi, *Darwiniana* 15 (1–2): 100 (1969)

Illustrations (Books): A.S.Hitchcock, *Manual of the Grasses of the West Indies* (1936) (as *Panicum molle*), S.A.Renvoize, *The Grasses of Bahia*, 1984 (130, Fig. 45 as *Panicum molle*).

Derivation (Clifford & Bostock 2007): L. soft. Softly hairy usually of leaf-blades.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms geniculately ascending or decumbent, 15–50 cm long, 1–2.5 mm diam., rooting from lower nodes. Culm-internodes distally pubescent. Culm-nodes bearded. Lateral branches ample, arising from lower culm or mid culm. Leaf-sheaths pubescent or pilose, with tubercle-based hairs. Ligule a ciliate membrane, 0.5–1 mm long. Leaf-blade base broadly rounded. Leaf-blades lanceolate, 6–14 cm long, 5–15 mm wide. Leaf-blade surface pubescent.

Inflorescence. Inflorescence composed of racemes. Peduncle 5–13 cm long. Racemes 4–8, borne along a central axis, unilateral, 1–3 cm long. Central inflorescence axis 3–7 cm long. Rhachis wingless, angular, pilose on surface. Spikelet packing adaxial, irregular, 2 -rowed. Spikelets solitary or in pairs. Fertile spikelets pedicelled. Pedicels present, oblong, 0.5 mm long, bearing a few hairs or 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 obovate, dorsally compressed, compressed slightly, rostrate, 3.4–4 mm long, falling entire. Spikelet callus square, incorporating lowest rhachilla internode with adnate lower glume, 0.5 mm long.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 2–2.7 mm long, 0.4–0.5 length of spikelet, membranous, without keels, 5 -veined. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume apex rostrate.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, pilose, rostrate. Fertile lemma obovate, 2.6–3.1 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex apiculate. Palea involute, indurate, without keels. Palea surface rugose.

Flower and Fruit. Anthers 3, 1–1.1 mm long. Caryopsis ellipsoid, 2 mm long. Embryo 0.75 length of caryopsis.

Distribution (TDWG). Continent. North America, South America.

Country /Province /State. New Caledonia (*). Hawaii (*). Mexico. Central Mexico, Gulf (Mexico), Northwest Mexico, Southwest Mexico, Southeast Mexico. **Mesoamerica, Caribbean** (as *Panicum molle*), **Northern South America, Western South America, Brazil.** Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama. Cuba, Haiti, Jamaica, Venezuelan and Netherlands Antilles. French Guiana, Guyana, Venezuela. Colombia, Ecuador, Peru. Brazil Northeast, Brazil North.

Para, Amapa, Bahia, Maranhao, Piaui, Ceara, Rio Grande do Norte, Paraiba, Penambuco, Alagoas, Sergipe, Minas Gerais, Rio de Janeiro, Espirito Santo. Ceará, Pernambuco, Paraíba, Piauí. Pará. Mexico State, Puebla. Veracruz. Sinaloa. Colima, Guerrero, Nayarit, Oaxaca. Chiapas, Yucatan.

Urochloa mosambicensis (Hack.) Dandy. *Journ. Bot.* lxi. 54 (1931).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, 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) (& as *U. pullulans*), W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).

TYPE from Mozambique. **Basionym or Replaced Name:** *Panicum mosambicense* Hack., *Bol. Soc. Brot.* 6: 140 (1888). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *M.R. de Carvalho* 19, 1886, Mozambique (W; IT: COI, K; US-80775 (fragm. ex W)).

Recent Synonyms: *Urochloa stolonifera* (Goossens) Chippind.in Meredith, *Grasses & Pastures S. Afr.* 381 (1955).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, Aristidoideae a Pharoideae (2012) (485), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (382 & 383 Fig. 326 & 327 as *U. stolonifera*), G.E.Gibbs Russell et al, *Grasses of Southern Africa* (1990) (351, Fig. 231), J.Bosser, *Graminees des Paturage et des Cultures a Madagascar* (1969) (349, Fig. 131), 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) (500), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler., *Grasses of New South Wales*, 4th edn (2008) (395), J.C.Tothill, & J.B.Hacker. *The grasses of southern Queensland* (1983) (426), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989).

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).

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

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, culms solitary or caespitose. Stolons absent or present. Butt sheaths pubescent. Culms geniculately ascending, 20–150 cm long. Ligule a fringe of hairs. Leaf-blades linear or lanceolate, 2–30 cm long, 3–20 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes (2–)3–15, borne along a central axis, unilateral, 2–8 cm long. Central inflorescence axis 3–12 cm long. Rhachis narrowly winged, angular. Spikelet packing abaxial, regular, 2 -rowed. Spikelets solitary or in pairs. Fertile spikelets sessile and 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 ovate, dorsally compressed, compressed strongly, plano-convex, acuminate, 3–5 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume oblong, (0.5–)0.66–0.75 length of spikelet, membranous, without keels, 3 -veined. Lower glume surface without hair tufts or with a dorsal tuft of hair. Lower glume apex obtuse. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume lateral veins with cross-veins. Upper glume surface glabrous or pubescent. Upper glume apex acuminate.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, eciliate on margins or setose on margins, acuminate. Fertile lemma orbicular, dorsally compressed, 2–4 mm long, indurate, without keel. Lemma surface granulate, rugulose. Lemma margins involute. Lemma apex obtuse, mucronate. Principal lemma awn 0.5–1.2 mm long overall. Palea indurate.

Flower and Fruit. $n = 14$ (2 refs TROPICOS). $2n = 28$ (2 refs TROPICOS).

Distribution (TDWG). Continent. Africa, Tropical Asia, Australasia (*), Pacific, North America, South America.

Country /Province /State. West-Central Tropical Africa, East Tropical Africa, South Tropical Africa, Southern Africa, Western Indian Ocean. DRC. Kenya, Tanzania, Uganda. Angola, Malawi, Mozambique, Zambia, Zimbabwe. Botswana, Limpopo, North-West, Gauteng, Mpumalanga, Swaziland, Free State, Kwazulu-Natal, Northern Cape. Madagascar. **Indo-China, Malesia, Papuasia.** Myanmar.

Christmas I. Solomon Is (*). **Australia.** Western Australia (*), Northern Territory (*), Queensland (*), New South Wales (*). **Southwestern Pacific.** New Caledonia (*). **South-central USA.** Texas. **Caribbean, Western South America, Brazil.** Bolivia. Brazil Northeast.

Kimberley, Darwin & Gulf, Victoria R & Barkly Tableland, Central Australia. North, Central, South East, Inland. Western Slopes, Western Plains. Bahia. Salta, Santiago del Estero.

Urochloa multiculma (Andersson) O. Morrone & F.O. Zuloaga. *Darwiniana*, 31: 87: (1992).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Brachiaria*).

TYPE from Galapagos Islands, Ecuador. **Basionym or Replaced Name:** *Panicum multiculmum* Andersson, *Kongl. Svenska Vetenskapsakad. Handl.* 1853: 133 (1855). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: IT: N.J. Andersson s.n.; no date; Galapagos Islands (US-80778 (fragm. ex P & photo)) HT: Andersson 24; ; Ecuador: Archipelago de Colon: Hab. ad scaturigines regionis mediae insulae Charle (S?; IT: P, SI (fragm. & photo), US-80778).

Illustrations (Journals): *Darwiniana* (31: 89, Fig.7 (1992)).

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms geniculately ascending or decumbent, 15–40 cm long, rooting from lower nodes. Culm-internodes distally glabrous. Leaf-sheaths 4.5–6 cm long, longer than adjacent culm internode, outer margin hairy. Ligule a ciliate membrane, 1 mm long. Collar glabrous. Leaf-blade base broadly rounded. Leaf-blades linear or lanceolate, 5–10 cm long, 5–8 mm wide. Leaf-blade surface glabrous or puberulous. Leaf-blade margins scaberulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 6–10, borne along a central axis, appressed or ascending, unilateral, 1–2.5 cm long, 2–4 mm wide, with branchlets at base of longer racemes. Central inflorescence axis 5–6 cm long. Rhachis wingless, angular, glabrous on surface, scabrous on margins, terminating in a sterile spikelet. Spikelet packing adaxial, irregular, 2–4 -rowed. Spikelets in pairs. Fertile spikelets pedicelled. Pedicels present, linear, 1.5 mm long, scaberulous, 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 elliptic, dorsally compressed, acute, 2.4–2.8 mm long, 1–1.2 mm wide, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 1.1–1.3 mm long, 0.5 length of spikelet, without keels, 5 -veined. Lower glume lateral veins transversely connected at apex. Lower glume surface glabrous. Lower glume apex acute. Upper glume elliptic, 2.3–2.6 mm long, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume lateral veins with cross-veins.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to upper glume, elliptic, 2.1–2.5 length of fertile lemma, 1 length of spikelet, membranous, 7 -veined, with cross-veins. Palea of lower sterile floret 1.8 mm long. Fertile lemma elliptic, 2 mm long, 1 mm wide, indurate, yellow, without keel. Lemma surface rugulose. Lemma margins involute. Palea involute, indurate, without keels. Palea surface rugose.

Flower and Fruit. Lodicules 2, 0.25 mm long. Anthers 3, 1 mm long. Caryopsis with adherent pericarp, ellipsoid, 1.5 mm long. Embryo 0.75 length of caryopsis. Hilum elliptic.

Distribution (TDWG). Continent. South America.

Country /Province /State. Western South America. Ecuador, Galapagos.

Urochloa muna (Basappa) Ashalatha & V.J. Nair

. *Bull. Bot. Surv. India* 35 (1–4): 29. 1993 [1997].

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

TYPE from India. **Basionym or Replaced Name:** *Brachiaria muna* G.P. Basappa, *Proc. Indian Acad. Sci., Pl. Sci.*, 93(1): 53 (1984). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: India, Tamil Nadu, Madurai University: Basappa 3001 (CAL holo, MH, BSI, MGM).

Illustrations: None found.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms prostrate, 20–40 cm long, rooting from lower nodes. Culm-internodes 3–5 cm long, distally hirsute. Culm-nodes pubescent. Lateral branches ample. Leaf-sheaths 2–4 cm long, striately veined, pubescent. Ligule a fringe of hairs, 1–1.5 mm long. Leaf-blade base broadly rounded or cordate. Leaf-blades lanceolate or ovate, 3–5.5 cm long, 7–13 mm wide. Leaf-blade surface pubescent. Leaf-blade margins crenate. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Peduncle pubescent above. Racemes 3–7, borne along a central axis, unilateral, 1–2 cm long, bearing 2–10 fertile spikelets on each, simple. Central inflorescence axis pubescent. Rhachis wingless, angular, pubescent on surface. Spikelet packing adaxial. Raceme-bases pilose, hairy in axils. Spikelets appressed, solitary or in pairs. Fertile spikelets sessile and pedicelled. Pedicels present, linear, 1–1.5 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 elliptic or oblong, dorsally compressed, compressed slightly, acute, 4.2–4.9 mm long, 1.8–2 mm wide, falling entire. Rhachilla internodes elongated between glumes.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 2.8–3.4 mm long, 0.7–0.8 length of spikelet, membranous, without keels, 11–13 -veined. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 11–13 -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 -veined. Palea of lower sterile floret 2.75–3 mm long. Fertile lemma elliptic, 2.75–3 mm long, indurate, shiny, without keel. Lemma surface striate. Lemma margins involute. Palea involute, indurate, without keels.

Flower and Fruit. Lodicules 2. Anthers 3, yellow. Stigmas purple. Caryopsis with adherent pericarp, ovoid, 2.7–3 mm long. Embryo 0.66 length of caryopsis. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. Indian Subcontinent. India.
Tamilnadu.

Urochloa mutica (Forsk.) Nguyen. *Novit. Syst. Pl. Vasc., Acad. Sci. URSS*, 1966, 13 (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, E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), D.Sharp, D. & B.K.Simon, *AusGrass* (2002) (as *Brachiaria*), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006) (as *Brachiaria*), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960) (as *Brachiaria*), T.Koyama, *Grasses of Japan and its neighboring regions* (1987) (as *Brachiaria*), W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).

TYPE from Egypt. **Basionym or Replaced Name:** *Panicum muticum* Forssk., *Fl. Aegypt.-Arab.* 20 (1775). T:<Type of Basionym>: fide TROPICOS and Kew Synonymy Database: Egypt: Rosettae (Rashid), 2–6 Nov. 1761, *Forsskal* 86 (HT: C).

Recent Synonyms: *Brachiaria mutica* (Forssk.) Stapf in Prain, *Fl. Trop. Afr.* 9: 526 (1919).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, Aristidoideae a Pharoideae (2012) (486), W. Robyns (1929 and 1934). *Flora Agrostologique du Congo Belge et du Ruanda-Urundi*, I. Maydees et Andropogonees and II. Panicees. Bruxelles, Goemaere (99, Pl. 26, as *Brachiaria*), J.Bosser, *Graminees des Paturage et des Cultures a Madagascar* (1969) (397, Fig. 150 as *Brachiaria*), N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 406 as *Brachiaria*), C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (486 as *Brachiaria*), C-C Hsu, *Taiwan Grasses* (1975) (531, Pl. 1422 as *Brachiaria*), H.B.Gilliland, *Grasses of Malaya* (1971) (Pl. 12 as *Brachiaria*), H.Duistermaat, *Field Guide to the Grasses of Singapore* (2005) (139, Fig.144), E.E.Henty, *A Manual of the Grasses of New Guinea* (1969) (40, Pl. 9 as *Brachiaria*), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler., *Grasses of New South Wales*, 4th edn (2008) (395), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989) (219, Fig. 35 as *Brachiaria*), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002) (as *Brachiaria*), W.L.Wagner et al., *Manual of the Flowering Plants of Hawai'i*, Vol. 2 (1990) (1501, Pl. 220 as *Brachiaria*), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 25 *Poaceae*, part 2 (2003) (486), F.W.Gould, *The Grasses of Texas* (1975) (463, Fig. 247 as *Panicum purpurascens*),

A.S.Hitchcock, *Manual of the Grasses of the West Indies* (1936) (249, Fig. 198 as *Panicum purpurascens*), S.A.Renvoize, *Gramineas de Bolivia* (1998) (435, Fig. 94 as *Brachiaria*), S.A.Renvoize, *The Grasses of Bahia*, 1984 (236, Fig. 88 as *Brachiaria*), J.A.Steyermarck et al, *Flora of the Venezuelan Guayana* Vol. 8 (2004) (65, Fig. 40 as *Brachiaria*), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (1077 & 1086, Fig. 209 & 212 as *Brachiaria*), W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (106, Fig. 31 as *Brachiaria*), E.Judziewicz, *Flora of the Guianas*, 187. *Poaceae* (1990) (129, Fig. 18 as *Brachiaria*), E.Hafliger & E.Schultz, *Grass Weeds*, CIBA-GEIGY (1:3(1980) as *Brachiaria*).

Illustrations (Journals): *Ruizia* (13:342, Fig 42k-m (1993) as *Brachiaria*).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002); (as *Brachiaria*), H.Duistermaat, *Field Guide to the Grasses of Singapore* (2005);, H.B.Gilliland et al., *Flora of Malaya Vol. 3 Grasses* (1971); (as *Brachiaria*).

Derivation (Clifford & Bostock 2007): L. blunt. Lacking awns or lemmas and/or glumes truncate.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial. Culms rambling, 25–125 cm long, rooting from lower nodes. Ligule a fringe of hairs. Leaf-blades 6–30 cm long, 3–15 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 5–20, borne along a central axis, unilateral, 2–10 cm long, simple or secondarily branched. Central inflorescence axis 7–20 cm long. Rhachis broadly winged, 0.5–1 mm wide, scabrous on margins, glabrous on margins. Spikelet packing irregular. Spikelets in pairs. Fertile spikelets sessile and pedicelled, 2 in the cluster. Pedicels present, bearing a few hairs.

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, compressed slightly, acute, 2.5–3.5 mm long, falling entire. Rhachilla internodes brief up to lowest fertile floret.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.25–0.33 length of spikelet, membranous, without keels, 3–5 -veined. Lower glume apex acute. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5–7 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, acute. Fertile lemma elliptic, 2–3 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex obtuse, muticous or mucronate. Palea involute, indurate, without keels. Palea surface rugose.

Flower and Fruit. $n = 6$ (1 ref TROPICOS), or 18 (5 resf TROPICOS). $2n = 36$ (3 refs TROPICOS).

Distribution (TDWG). Continent. Africa, Temperate Asia, Tropical Asia, Australasia (*), Pacific, North America, South America.

Country /Province /State. Northern Africa, Macaronesia, West Tropical Africa, West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Middle Atlantic Ocean, Western Indian Ocean. Egypt, Tunisia. Madeira. Burkina, Gambia, Ghana, Liberia, Mali, Nigeria, Sierra Leone, Niger. Cameroon, Gabon, DRC. Ethiopia (inc. Eritrea), Somalia, Sudan. Kenya, Tanzania. Angola. Mauritius, Madagascar, Rodrigues, Seychelles. **Western Asia, Arabian Peninsula, China, Eastern Asia.** China Southeast. Nansei-Shoto, Ogasawara-shoto, Taiwan (+). **Indian Subcontinent, Indo-China, Malesia, Papuasia.** Assam, Bangladesh, Sri Lanka. Andaman Is, Thailand, Vietnam. Borneo, Java, Malaya, Singapore, Philippines, Sulawesi, Sumatra, Christmas I. New Guinea PNG, or West Papua (Irian Jaya). New Guinea, Solomon Is (*). **Australia** (*), **New Zealand** (*). Western Australia (*), Northern Territory (*), Queensland (*), New South Wales (*). Kermadec Is. **Southwestern Pacific, South-central Pacific, Northwestern Pacific, North-central Pacific.** Fiji (*), Niue (*), New Caledonia (*), Samoa (*), Tonga (*). Cook Is (*), Marquesas (*), Society Is (*). Caroline Is (*), Marianas (*), Marshall Is (*). Hawaii (*). **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.** Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama. Bahamas, Bermuda, Cayman Is, Cuba, Dominican Republic, Haiti, Jamaica (& as *Panicum muticum*), Leeward Is, Windward Islands (& as *Panicum muticum*), Puerto Rico, Trinidad-Tobago. French Guiana, Guyana, Surinam, Venezuela. Bolivia, Colombia, Ecuador, Galapagos, Peru. Brazil Northeast, Brazil Southeast. Argentina Northwest, Paraguay.

Fujian, Hong Kong. Assam, Meghalaya. Kerala. Maharashtra, Tamilnadu, West Bengal. Distrito Federal (*), Mato Grosso, Goiás, Mato Grosso do Sul. Minas Gerais, Sao Paulo. Santa Catarina. Jujuy (*),

Salta. Chaco, Corrientes, Misiones. Mexico State, Puebla. Hidalgo, San Luis Potosi, Tamaulipas. Veracruz. Baja California. Colima, Guerrero, Jalisco, Michoacan, Nayarit, Oaxaca. Campeche, Chiapas, Quintana Roo, Tabasco, Yucatan.

Brachiaria nana (Urochloa) Stapf. *Kew Bull.* 1919, 264. (1919).

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

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Onilaky: Perrier 107 (K holo).

Illustrations (Books): J.Bosser, *Graminees des Paturage et des Cultures a Madagascar* (1969) (361, Fig 136).

Derivation (Clifford & Bostock 2007): L. dwarf. Smaller than related species.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Stolons present. Culms decumbent, 5–20 cm long, rooting from lower nodes. Leaf-sheaths glabrous on surface or pubescent. Ligule a fringe of hairs. Leaf-blade base broadly rounded. Leaf-blades linear or lanceolate, 1–5 cm long, 3–8 mm wide. Leaf-blade surface glabrous or pubescent, hairy abaxially. Leaf-blade margins cartilaginous, crenate, tuberculate-ciliate, hairy at base.

Inflorescence. Inflorescence composed of racemes, shorter than basal leaves, embraced at base by subtending leaf. Peduncle glabrous. Racemes 2–4, borne along a central axis, unilateral, 1–4 cm long. Central inflorescence axis 0.5–2 cm long. Rhachis wingless, angular. Spikelet packing irregular. Spikelets in pairs. Fertile spikelets sessile and pedicelled. Pedicels present, linear, 0.7–1.2 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 ovate, dorsally compressed, compressed slightly, acute, 2.2–2.7 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.5 length of spikelet, membranous, without keels, 3 -veined. Lower glume apex obtuse or acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, sulcate, acute. Fertile lemma ovate, 2 mm long, indurate, without keel. Lemma surface rugose. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate, without keels. Palea surface rugose.

Distribution (TDWG). Continent. Africa.

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

Urochloa nigropedata (Fic. & Hiern.) A.M.Torres & C.M.Morton. *Molec. Phylogenet. Evol.* 37: 42 (2005).

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

TYPE from South Africa. **Basionym or Replaced Name:** *Panicum nigropedatum* Munro ex Ficalho & Hiern, *Trans. Linn. Soc. London, Bot.* 2: 29 (1881). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: *Burchell 2391*, October 7, 1812, South Africa: Kalahari, "... on rocks at the Chue Spring ..." ST: *Burchell 2577*, Dec. 24, 1812, Southern part of the Kalahari Region, "at the Kosi Fountain,..." ST: *Burchell 2610*, December 26, 1812, S. part of the Kalahari region, "between Knefts Fontein and Klip Fontein, ..." ST: *Serpa Pinto 41*, Southern part of the Kalahari region, [along upper course of the river Nida, an affluent of the Zambesi. Angola].

Recent Synonyms: *Brachiaria nigropedata* (Fic. & Hiern.) Stapf, *Fl. Trop. Afr.* 9: 535 (1919).

Illustrations (Books): G.V.Pope et al., *Flora Zambesiaca* 10 (3(1989):72, t. 17 as *Brachiaria*), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (374, Fig. 320 as *Brachiaria*), M.A.N.Muller, *Grasses of South West Africa/Namibia* (1984) (as *Brachiaria*).

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

Derivation (Clifford & Bostock 2007): L. *niger*, black; *pes*, food; *-ata*, possessing. Pedicels black.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths thickened and forming a bulb, pubescent. Culms 25–100 cm long. Ligule a fringe of hairs. Leaf-blades 6–30 cm long, 2–8 mm wide. Leaf-blade surface pubescent or hirsute.

Inflorescence. Inflorescence composed of racemes. Racemes 5–16, borne along a central axis, unilateral, 1–6 cm long. Central inflorescence axis 4–11 cm long. Rhachis wingless, angular, villous on surface. Spikelet packing adaxial, regular, 2 -rowed. 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 elliptic, dorsally compressed, compressed slightly, acuminate, 3.5–5 mm long, falling entire. Spikelet callus oblong (black), incorporating lowest rhachilla internode with adnate lower glume, 0.5 mm long.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.33–0.5(–0.66) length of spikelet, membranous, without keels, 3–5 -veined. Lower glume surface villous. Lower glume apex acute or acuminate. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface villous. Upper glume apex acuminate.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, elliptic, 1 length of spikelet, membranous, 5 -veined, villous, acuminate. Fertile lemma elliptic, 3 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex acute, mucinous or mucronate. Palea involute, indurate, without keels.

Flower and Fruit. Anthers 3, 1 mm long.

$n = 36$ (1 ref TROPICOS). $2n = 18$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Africa.

Country /Province /State. East Tropical Africa, South Tropical Africa, Southern Africa. Kenya, Tanzania. Angola, Mozambique, Zambia, Zimbabwe. Namibia, Botswana, Limpopo, North-West, Gauteng, Mpumalanga, Swaziland, Free State, Kwazulu-Natal, Northern Cape.

Urochloa nilagirica (Bor) Ashalatha & V.J. Nair. *Bull. Bot. Surv. India* 35 (1–4): 29. 1993 [1997].

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

TYPE from India. **Basionym or Replaced Name:** *Brachiaria nilagirica* Bor, *Bot. Tidsskr.*, 67(4): 325 (1973). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Nilgiri Hills: *Perrottet 1357* (K holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. -ica*, belonging to. From Nilgiri Hills, South India.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidineae.

Habit, Vegetative Morphology. Annual, caespitose. Culms decumbent, 15–35 cm long, rooting from lower nodes. Leaf-sheaths striately veined. Ligule a fringe of hairs. Leaf-blade base broadly rounded. Leaf-blades ovate, 2–3 cm long, 8–9 mm wide. Leaf-blade surface pilose, sparsely hairy, hairy adaxially or abaxially. Leaf-blade margins cartilaginous, crenate. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Racemes 5–7, borne along a central axis, closely spaced, unilateral, 1–1.5 cm long, simple or with branchlets at base of longer racemes, secondary branches glomerate. Central inflorescence axis 2–3 cm long, puberulous to pilose. Rhachis wingless, angular, puberulous on surface to pilose on surface. Spikelet packing irregular. Spikelets in pairs. Fertile spikelets pedicelled. Pedicels present, linear or oblong, 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, compressed slightly, acute, 2.5–3.5 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume elliptic, 2 mm long, 0.8 length of spikelet, cartilaginous, without keels, 3 -veined. Lower glume surface grooved on either side of midvein. Lower glume apex acute. Upper glume elliptic, 2.5 mm long, 1 length of spikelet, cartilaginous, without keels, 5 -veined. Upper glume surface glabrous. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret similar to upper glume, elliptic, 1 length of spikelet, cartilaginous, 5 -veined, obscurely veined, glabrous, acute.

Fertile lemma elliptic, 2–2.25 mm long, indurate, without keel, 5 -veined, more than 3-veined. Lemma surface striate. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Flower and Fruit. Anthers 3, 0.5 mm long, purple.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. Indian Subcontinent. India.

Tamilnadu.

Urochloa notochthona (Domin) D.K.Hughes. *Kew Bull.* 1923, 319 (1923).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Brachiaria*), D.Sharp, D. & B.K.Simon, *AusGrass* (2002) (as *Brachiaria*).

TYPE from Australia. **Basionym or Replaced Name:** *Panicum notochthonum* Domin, *Repert. Spec. Nov. Regni Veg.* 10: 60 (1911). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Dallachy s.n.*, Australia: Darling River (PR).

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (428, Fig. 358 as *Brachiaria*), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler, *Grasses of New South Wales*, 4th edn (2008) (395).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002); (as *Brachiaria*).

Derivation (Clifford & Bostock 2007): Gk. *notos*, south; *chthon*, the earth. From southern places such as Australia.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms decumbent, 12–20 cm long. Lateral branches lacking. Ligule a fringe of hairs. Leaf-blades lanceolate, 2–5 cm long, 3–7 mm wide. Leaf-blade margins cartilaginous.

Inflorescence. Inflorescence composed of racemes. Racemes 2–5, borne along a central axis, unilateral, 1–3 cm long. Central inflorescence axis 1–2 cm long. Rhachis wingless, angular. Spikelet packing adaxial. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 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 ovate, dorsally compressed, compressed slightly, acute, 4–4.8 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume oblate, 0.5–0.75 mm long, 0.1–0.15 length of spikelet, membranous, without keels. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 7–9 -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 -veined, acute. Fertile lemma elliptic, 2.2 mm long, indurate, without keel. Lemma surface rugose. Lemma margins involute. Lemma apex mucronate or awned, 1 -awned. Principal lemma awn 0.75–1 mm long overall. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. Australia. Northern Territory, South Australia, Queensland, New South Wales.

Urochloa oblita (Swallen) O. Morrone & F.O. Zuloaga. *Darwiniana*, 31: 92: (1992).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Brachiaria*).

TYPE from Peru. **Basionym or Replaced Name:** *Panicum oblitum* Swallen, *Phytologia* 14(2): 76 (1966). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: R. Ferreyra & P.C. Hutchison 8245; 24 Mar 1952; Peru: Lima: Huarochiri Prov.: between Chosica and chicla, along Carretera Central (US-2181160; IT: USM, SI (fragm. ex USM)).

Illustrations (Journals): *Darwiniana* (31: 94, Fig.8 (1992)).

Derivation (Clifford & Bostock 2007): L. *oblino*, cover. Lower glume half the length of the spikelet.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms 30–45 cm long. Leaf-sheaths pubescent to hirsute. Ligule a fringe of hairs. Leaf-blades lanceolate, 3.5–8 cm long, 5–8 mm wide. Leaf-blade surface pubescent, densely hairy, hairy on both sides.

Inflorescence. Inflorescence composed of racemes. Peduncle hirsute above. Racemes 4–6, borne along a central axis, erect, unilateral, 1–2 cm long. Central inflorescence axis 3–4 cm long, villous. Rhachis wingless, angular, villous on surface. Spikelet packing irregular. Spikelets in pairs. Fertile spikelets pedicelled. Pedicels present, 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 or orbicular, dorsally compressed, plano-convex, 2.5–2.8 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.5–0.8 mm long, 0.25 length of spikelet, membranous, without keels. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels. Upper glume lateral veins with cross-veins. Upper glume surface glabrous.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, with cross-veins, glabrous. Fertile lemma elliptic or oblong, 2.5–2.6 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Palea involute, 1 length of lemma, indurate, without keels.

Distribution (TDWG). Continent. South America.

Country /Province /State. Western South America. Ecuador, Peru.

Urochloa occidentalis (C. A. Gardner & C. E. Hubbard) B.K. Simon. *Austrobaileya* 8: 215 (2010).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Brachiaria*), D.Sharp, D. & B.K.Simon, *AusGrass* (2002) (as *Brachiaria*).

TYPE from Australia. **Basionym or Replaced Name:** *Brachiaria occidentalis* C.A. Gardner & C.E. Hubb., *Hooker's Icon. Pl.* 4: pl. 3363, p. 1 (1938). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Gardner 3227a*, Australia: Western Australia: Wandagee Station (K; IT: PERTH).

Illustrations (Books): C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952) (233, Pl. 69 as *Brachiaria*).

Illustrations (Journals): *Hooker's Icones Plantarum* (t.3363 (1938) as *Brachiaria*).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): from western Australia.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidineae.

Habit, Vegetative Morphology. Annual, caespitose, clumped loosely. Culms decumbent, slender, 10–30 cm long, 3–6 -noded, without nodal roots or rooting from lower nodes. Culm-internodes smooth, distally glabrous. Culm-nodes pubescent or bearded. Lateral branches lacking or sparse. Leaf-sheaths mostly shorter than adjacent culm internode, glabrous on surface or pilose, with tubercle-based hairs, outer margin hairy. Ligule a ciliate membrane, truncate. Leaf-blade base simple or broadly rounded. Leaf-blades linear or lanceolate, 1.5–5.5 cm long, 4–9 mm wide. Leaf-blade surface glabrous or puberulous. Leaf-blade margins cartilaginous, scaberulous, tuberculate-ciliate, hairy at base. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Racemes 3–5, borne along a central axis, erect, unilateral, 3–5 cm long. Central inflorescence axis 2–4 cm long. Rhachis angular, scaberulous on margins. Spikelets in pairs. Fertile spikelets pedicelled. Pedicels present, unequal, 0.5 mm long or 1–2 mm long, glabrous or ciliate, hairy at tip.

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, compressed strongly, plano-convex, acute, 3–3.8 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.5–0.8 mm long, 0.1–0.2 length of spikelet, hyaline, without keels, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume apex obtuse. Upper glume ovate, 1.3–1.5 length of adjacent fertile lemma, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male or barren, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5–7 -veined, obtuse. Palea of lower sterile floret 1 length of lemma. Fertile lemma elliptic, gibbous, 2.3–2.5 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex obtuse, mucronate. Principal lemma awn 0.2–0.4 mm long overall. Palea involute, indurate, without keels. Palea surface rugose.

Flower and Fruit. Anthers 3, 0.7–1.5 mm long. Caryopsis with adherent pericarp, ellipsoid or oblong, 1.5 mm long.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. Australia. Western Australia.

Urochloa oligobrachiata (Pilg.) Kartesz. *Syn. N Amer. Fl. vers. 1.0, unpaginated insert with CD-ROM item no. 40* (1999).

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

TYPE from Zaire. **Basionym or Replaced Name:** *Panicum oligobrachiatum* Pilg., *Bot. Jahrb. Syst.* 33(1): 50–51 (1902). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Westafrika: Unteres Congo-Gebiet, Bonga, blühend im August 1899, *Schlechter 12663*.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *oligos*, few; L. *brachium*, arm; *-ata*, possessing. The inflorescence has few branches.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms robust, 60–120 cm long. Ligule a fringe of hairs. Leaf-blade base broadly rounded. Leaf-blades 10–60 cm long, 5–25 mm wide. Leaf-blade margins scabrous.

Inflorescence. Inflorescence composed of racemes. Racemes 3–15, borne along a central axis, unilateral, 2–8 cm long. Central inflorescence axis 5–15 cm long, tip without extension or filiform. Rhachis broadly winged, 1–3 mm wide, ciliate on margins. Spikelet packing adaxial, regular, 2 -rowed. 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, dorsally compressed, compressed slightly, acute, 4–6 mm long, falling entire. Rhachilla internodes elongated between glumes.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.33 length of spikelet, membranous, without keels, 9–11 -veined. Lower glume apex acute or acuminate. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5–7 -veined. Upper glume surface pubescent, hairy above. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, pubescent, hairy above, acute. Fertile lemma elliptic, 3.5–5 mm long, indurate, without keel. Lemma surface granulose. Lemma margins involute. Lemma apex obtuse, mucronate. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Africa, North America.

Country /Province /State. West-Central Tropical Africa, South Tropical Africa. Congo, DRC. Zambia. Southeastern USA. Florida.

Urochloa oligotricha (Figari & De Not.) Henrard. *Blumea*, iv. 502 (1941).

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) (as *U. bolbodes*).

TYPE from Sudan. **Basionym or Replaced Name:** *Panicum oligotrichum* Fig. & De Not., *Mem. Reale Accad. Sci. Torino, ser. 2*, 14: 333 (1854). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: T: *Figari s.n.*, Nubia.

Illustrations (Books): M.A.N.Muller, *Grasses of South West Africa/Namibia* (1984) (as *U. bolbodes*), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

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

Derivation (Clifford & Bostock 2007): Gk. *oligos*, few; *thrix*, hair. Plant in whole or part sparsely hairy.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths woolly. Culms 60–100 cm long. Ligule a fringe of hairs. Leaf-blades 10–40 cm long, 5–20 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 6–20, borne along a central axis, unilateral, 3–10 cm long. Central inflorescence axis 5–10 cm long. Rhachis angular, glabrous on surface or with scattered hairs. Spikelet packing abaxial, irregular, 2–4 -rowed. Spikelets solitary or in pairs. Fertile spikelets sessile and pedicelled or sessile. 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, compressed strongly, plano-convex, acuminate, 3.5–5 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume lanceolate, 0.66–0.75 length of spikelet, herbaceous, without keels, 5 -veined. Lower glume surface glabrous or pubescent. Lower glume apex obtuse or acute. Upper glume lanceolate, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume surface glabrous or pubescent. Upper glume apex acuminate.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, lanceolate, 1 length of spikelet, membranous, 5 -veined, glabrous or pubescent, ciliate on margins or setose on margins, acuminate. Fertile lemma elliptic, dorsally compressed, 2 mm long, indurate, without keel. Lemma surface granulate, rugulose. Lemma margins involute. Lemma apex obtuse, mucronate. Principal lemma awn 0.3–0.5 mm long overall. Palea indurate.

Flower and Fruit. $2n = 36$ (1 ref TROPICOS).

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

Country /Province /State. West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Southern Africa. DRC. Eritrea, Ethiopia (inc. Eritrea), Sudan. Kenya, Tanzania, Uganda. Angola, Malawi, Zambia, Zimbabwe. Namibia, Botswana, Limpopo, Gauteng, Mpumalanga, Swaziland. **Australia** (*). Queensland (*).

North.

Urochloa olivacea Sanchez-Ken. *Syst.Bot.* 36: 622 (2011).

TYPE from Mexico. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Nayarit, Mpio. Compostela; 4 km al surete de Borbollon, 11 Sep 1997, A.Ramos G.665 (holo: MEXU).

Illustrations (Journals): *Systematic Botany* (36: 624, Fig.1 (2011)).

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms geniculately ascending, 60–100 cm long, rooting from lower nodes. Culm-internodes (3–)5–9(–10) cm long, distally glabrous. Culm-nodes glabrous. Lateral branches sparse. Leaf-sheaths glabrous on surface, outer margin hairy. Leaf-sheath oral hairs ciliate. Ligule a ciliate membrane, 0.7–0.9 mm long. Leaf-blade base cordate. Leaf-blades lanceolate, (4.5–)5–20 cm long, 6–16(–20) mm wide. Leaf-blade surface glabrous. Leaf-blade margins scabrous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence composed of racemes, terminal and axillary, embraced at base by subtending leaf. Peduncle 9–18 cm long. Racemes (6–)7–14, borne along a central axis, unilateral, (3–)5.5–9 cm long. Central inflorescence axis 8–18 cm long. Rhachis wingless, angular, 1–1.2 mm wide. Spikelet packing contiguous, irregular, 2 -rowed. Spikelets solitary or in pairs. Fertile spikelets sessile or sessile and pedicelled. Pedicels present, linear, 1–2 mm long, scabrous, 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 elliptic, dorsally compressed, compressed slightly, turgidly plano-convex, acute, 4.5–4.9 mm long, 2.1–2.3 mm wide, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 1.5–1.8 mm long, 0.33 length of spikelet, membranous, without keels, 5–7 -veined. Lower glume lateral veins convergent at apex. Lower glume apex truncate. Upper glume elliptic, 4.2–4.7 mm long, 1 length of spikelet, membranous, dark green (olive), without keels, 9 -veined. Upper glume primary vein

conspicuous. Upper glume lateral veins with cross-veins. Upper glume surface glabrous. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 4.1–4.5 mm long, 1 length of spikelet, membranous, 5 -veined, glabrous, acute. Palea of lower sterile floret 1 length of lemma. Fertile lemma elliptic, 3–3.2 mm long, 1.8–2 mm wide, indurate, yellow or light brown, without keel. Lemma surface rugose, with distinct germination flap. Lemma margins involute. Lemma apex apiculate. Palea involute, indurate, without keels. Palea surface rugose.

Flower and Fruit. Anthers 3, 1–1.2 mm long. Caryopsis with adherent pericarp, ellipsoid, 2.3–2.8 mm long. Embryo 0.66 length of caryopsis. Hilum elliptic or linear, 0.25 length of caryopsis.

Distribution (TDWG). Continent. North America.

Country /Province /State. Mexico. Southwest Mexico.
Colima, Jalisco, Nayarit.

Urochloa ophryodes (Chase) O. Morrone & F.O. Zuloaga. *Darwiniana*, 32:71 (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) (as *Brachiaria*).

TYPE from Mexico. **Basionym or Replaced Name:** *Brachiaria ophryodes* Chase, *Contrib. U.S. Nat. Herb.* 22: 37 (1920). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Mexico, Monterrey: Hitchcock 5538 (US holo, MO).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *ophrys*, eyebrow; *-odes*, resembling. The upper glume and sterile lemma bear a band of glistening silky hairs which terminate below their apices and thereby resemble eyebrows.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial. Culms geniculately ascending, 15–25 cm long, rooting from lower nodes. Leaf-sheaths pilose. Ligule a ciliolate membrane, 0.5 mm long. Leaf-blades 5–20 cm long, 3–6 mm wide. Leaf-blade surface pilose, hairy on both sides, with tubercle-based hairs. Leaf-blade margins cartilaginous, scabrous, tuberculate-ciliate, hairy at base. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 2–4, borne along a central axis, unilateral, 3–4 cm long. Central inflorescence axis 1–2 cm long. Rhachis wingless, angular. Spikelet packing adaxial, regular, 2 -rowed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 0.5 mm long, bearing a few hairs.

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, compressed slightly, acuminate, 4 mm long, 2 mm wide, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.5 length of spikelet, membranous, without keels, 3 -veined. Lower glume surface pubescent, hairy below. Lower glume apex acuminate. Upper glume ovate, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume surface villous, hairy between veins (outer). Upper glume margins villous. Upper glume hairs 1 mm long. Upper glume apex acuminate.

Florets. Basal sterile florets 1, male or barren, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, pilose, hairy between veins but central interspaces glabrous, ciliate on margins, acuminate. Fertile lemma elliptic, 2.5 mm long, 1.5 mm wide, indurate, without keel. Lemma surface rugose. Lemma margins involute. Lemma apex obtuse, mucronate. Principal lemma awn 1 mm long overall, limb puberulous. Palea involute, indurate, without keels. Palea surface rugose.

Distribution (TDWG). Continent. North America.

Country /Province /State. Mexico. Northeast Mexico.
Nuevo Leon, Tamaulipas.

Brachiaria orthostachys (Urochloa) (Mez) W. D. Clayton. *Kew Bull.* 20: 265 (1966).

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

TYPE from The Gambia. **Basionym or Replaced Name:** *Panicum orthostachys* Mez, *Notizbl. Bot. Gart. Berlin-Dahlem* 7: 66 (1917). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: T: *Heudelot 453*, 1836, Africa (US-1445619). ST: *Leprieur 21*, Senegambia, ad fontes prope Wale ST: *Heudelot 453*, Senegambia, nec non in Sorghi arvis prope Cayor.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *orthos*, straight; *stachys*, spike as of ear of wheat. The inflorescence is a spike.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms 20–60 cm long. Culm-internodes distally pubescent. Culm-nodes pubescent. Leaf-sheaths pubescent. Ligule a fringe of hairs. Leaf-blades 3–8 cm long, 2–7 mm wide. Leaf-blade surface pubescent, densely hairy, hairy on both sides.

Inflorescence. Inflorescence composed of racemes. Racemes 4–8, borne along a central axis, unilateral, 1–4 cm long. Central inflorescence axis 5–10 cm long, puberulous to pilose. Rhachis wingless, angular, puberulous on surface to pilose on surface. Spikelet packing adaxial, regular, 2 -rowed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 1 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, compressed slightly, acute, 2.5–3.5 mm long, falling entire. Rhachilla internodes elongated between glumes.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.5 length of spikelet, membranous, without keels, 5 -veined. Lower glume apex acute. Upper glume oblong, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume surface glabrous. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, glabrous, acute. Fertile lemma oblong, 3 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate, without keels. Palea surface rugose.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West Tropical Africa, Northeast Tropical Africa. Mauritania. Sudan.

Brachiaria ovalis (Urochloa) Stapf. *Prain, Fl. Trop. Afr.* 9: 546 (1919).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Brachiaria*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.L.Bor, *Grasses of Burma, Ceylon, India and Pakistan* (1960).

TYPE from Eritrea, Ethiopia & Somalia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: *Appleton s.n.*, Somalia (K). ST: *Thompson s.n.*, Somalia (K). ST: *Hildebrandt 337*, Ethiopia (K). ST: *Salt s.n.*, Ethiopia (BM).

Recent Synonyms: *Brachiaria glauca* Stapf, in *Prain Fl. Trop. Afr.* 9: 550 (1919).

Illustrations (Books): S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (226, Fig 92 as *Brachiaria*).

Derivation (Clifford & Bostock 2007): L. *ovum*, egg; *-ale*, pertaining to. Spikelet elliptical in outline.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 10–50(–150) cm long. Ligule a fringe of hairs. Leaf-blades linear or lanceolate, 3–25 cm long, 2–12 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 3–15, borne along a central axis, spreading or appressed, unilateral, 3–7 cm long. Central inflorescence axis 4–15 cm long. Rhachis wingless, angular. Spikelet packing adaxial, lax, irregular. Spikelets appressed, solitary or in pairs. Fertile spikelets pedicelled. Pedicels present, linear, 2–4 mm long, 0.5–0.9 length of fertile spikelet.

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, compressed slightly, subacute or acute, 2.5–4.5 mm long, falling entire. Spikelet callus oblong, 0.3–0.7 mm long.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma, shiny. Lower glume obovate, clasping, 0.25–0.5 length of spikelet, membranous, without keels, 3–5 -veined. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, cartilaginous, without keels, 5 -veined. Upper glume surface smooth, glabrous or pubescent. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, cartilaginous, 5 -veined, smooth, glabrous or pubescent, acute. Fertile lemma ovate, 2.5–3.5 mm long, indurate, without keel. Lemma surface granulate, unwrinkled or rugulose. Lemma margins involute. Lemma apex acute or apiculate. Palea involute, indurate, without keels.

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

Country /Province /State. Northeast Tropical Africa, East Tropical Africa. Eritrea, Ethiopia (inc. Eritrea), Socotra, Somalia, Sudan. Kenya. Arabian Peninsula. Oman. Indian Subcontinent. Pakistan.

***Urochloa panicoides* Beauv. *Agrost.* 52. t. 11 (1812).**

Accepted by: R.J.Soreng et al., *Catalogue of 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).

TYPE from Mauritius. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: NT: *P. Beauv., Ess. Agrost. pl. 11, f. 1 (1812)*, NT designated by Veldkamp, *Blumea* 41: 433 (1996).

HT: *Commerson in de Jussieu s.n.*, Mauritius (P (lost)). According to Veldkamp, the type "could not be found" at G or P.

Recent Synonyms: *Urochloa longifolia* B.S.Sun & Z.H.Hu, *Acta Bot. Yunnanica*, 4 (2): 140 (1982).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, Aristidoideae a Pharoideae (2012) (487), T. Cope & A. Gray, Grasses of the British Isles (203), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (384, Fig 328), S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (231, Fig. 93), L.Boulos, *Flora of Egypt* 4 (2005) (296, Pl. 87), K.M.Matthew, Illustrations on the *Flora of Tamilnadu Carnatic* (1982) (Pls. 953 & 954), T.A.Cope, *Flora of Pakistan* 143: *Poaceae* (1982), H.J.Noltie, *The Grasses of Bhutan* (2000) (711, Fig. 41), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (492, Fig. 425 as var. *panicoides*), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler, *Grasses of New South Wales*, 4th edn (2008) (396), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989) (211, Fig. 33), 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), E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (460, Fig. 163), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 731), E.Hafliger & E.Schultz, Grass Weeds, CIBA-GEIGY (1:142(1980)), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Fig. 187).

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. 28).

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resembling. Resembling *Panicum*, usually with respect to form of the inflorescence or spikelet.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms geniculately ascending or decumbent, 10–100 cm long, without nodal roots or rooting from lower nodes. Ligule a fringe of hairs. Leaf-blade base amplexicaul. Leaf-blades linear or lanceolate, 2–25 cm long, 5–18 mm wide. Leaf-blade surface glabrous or pubescent. Leaf-blade margins tuberculate-ciliate, hairy at base.

Inflorescence. Inflorescence composed of racemes. Racemes 2–7(–10), borne along a central axis, unilateral, 1–7 cm long. Central inflorescence axis 1–9 cm long. Rhachis narrowly winged, angular, glabrous on surface or with scattered hairs. Spikelet packing abaxial, regular, 2 -rowed. Spikelets solitary or in pairs. Fertile spikelets sessile and pedicelled. Pedicels present, bearing a few hairs.

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, compressed strongly, plano-convex, acute, (2.5–)3.5–4.5(–5.5) mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.5(–0.66) length of spikelet, membranous, without keels, 3–5 -veined. Lower glume surface glabrous or pubescent. Lower glume apex obtuse or acute. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 7–11 -veined. Upper glume lateral veins with cross-veins. Upper glume surface glabrous or pubescent. Upper glume apex acuminate.

Florets. Basal sterile florets 1, male or barren, with palea. Lemma of lower sterile floret similar to upper glume, elliptic, 1 length of spikelet, membranous, 5–7 -veined, glabrous or pubescent, eciliate on margins or setose on margins, acuminate. Fertile lemma orbicular, dorsally compressed, 2 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex obtuse, mucronate. Principal lemma awn 0.3–1 mm long overall. Palea indurate.

Flower and Fruit. $n = 18$ (1 ref TROPICOS), or 24 (4 refs TROPICOS), or 27 (1 ref TROPICOS), or 30 (1 ref TROPICOS). $2n = 30$ (1 ref TROPICOS), or 36 (2 refs TROPICOS), or 48 (1 ref TROPICOS).

Distribution (TDWG). **Continent.** Europe (*), Africa, Temperate Asia, Tropical Asia, Australasia (*), North America, South America.

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

Country /Province /State. : Denmark (*), GB Aliens (Ryves et al). **Northern Africa, West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Southern Africa, Middle Atlantic Ocean, Western Indian Ocean.** Egypt. DRC. Eritrea, Ethiopia (inc. Eritrea), Somalia, 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. St Helena. Mauritius, Madagascar, Reunion. **Arabian Peninsula, China.** Oman. China South Central. **Indian Subcontinent, Indo-China.** Bangladesh, Eastern Himalaya, India, Pakistan, Sri Lanka, West Himalaya. Cambodia, Laos, Myanmar. **Australia** (*). Western Australia (*), South Australia (*), Queensland (*), New South Wales (*). **Southwestern USA, South-central USA, Mexico.** Arizona. New Mexico, Texas. Northeast Mexico, Southwest Mexico. **Western South America, Southern South America.** Bolivia. Argentina Northwest.

Sichuan, Yunnan. Bhutan. Andhra Pradesh, Bihar, Gujarat, Kerala, Karnataka. Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamilnadu, Uttah Pradesh, West Bengal. Eremean, South-West. Southern. North, Central, South East, Inland. Coast, Tablelands, Western Slopes, Western Plains. Jujuy (*), Salta, Santiago del Estero. Cordoba, La Pampa, Santa Fe. Aguascalientes, Guanajuato, Queretaro, Zacatecas. Jalisco, Michoacan.

Urochloa paspaloides J. Presl. *Rel. Haenk.* i. 318 (1830).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, S-L Chen et al, *Flora of China* 22 (Poaceae) (2006) (as *Urochloa glumaris*), N.L.Bor, *Grasses of Burma, Ceylon, India and Pakistan* (1960) (as *Brachiaria*).

TYPE from The Philippines. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Philippine Is., Luzon, Sorzogon: Haenke.

Illustrations (Books): T.Koyama, *Grasses of Japan and its neighbouring regions* (1987) (364, Fig. 142 as *Brachiaria*), H.B.Gilliland, *Grasses of Malaya* (1971) (Pl. 13 as *Brachiaria*), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 731), E.Hafliger & E.Schultz, *Grass Weeds*, CIBA-GEIGY (1:19(1980) as *Brachiaria*).

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resembling. Resembling *Paspalum*, usually with respect to the inflorescence.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms erect or geniculately ascending, 15–40 cm long. Culm-nodes bearded. Leaf-sheaths outer margin hairy. Ligule a fringe of hairs. Leaf-blades 5–20 cm long, 3–8 mm wide. Leaf-blade surface scaberulous, pilose. Leaf-blade margins scabrous.

Inflorescence. Inflorescence composed of racemes. Racemes 3–4, borne along a central axis, unilateral, 2.5–6 cm long. Central inflorescence axis 2–9 cm long. Rhachis wingless, angular, ciliate on margins. Spikelet packing abaxial, lax, irregular, 1–2 -rowed. Spikelets solitary or in pairs. Fertile spikelets sessile and pedicelled. Pedicels present, 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 ovate, dorsally compressed, compressed moderately, symmetrical, acute, 3.5–4 mm long, falling entire.

Glumes. Glumes similar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.75–0.8 length of spikelet, membranous, without keels, 5 -veined. Lower glume apex acute. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, with palea or without significant palea. Lemma of lower sterile floret similar to upper glume, elliptic, 1 length of spikelet, membranous, 5 -veined, acute. Fertile lemma elliptic, dorsally compressed, 3–3.5 mm long, indurate, without keel, 5 -veined, more than 3-veined. Lemma surface rugulose. Lemma margins involute. Lemma apex obtuse, mucronate. Principal lemma awn 0.5 mm long overall. Palea indurate.

Flower and Fruit. $n = 18$ (2 refs TROPICOS). $2n = 36$ (1 ref TROPICOS).

Distribution (TDWG). **Continent.** Africa, Temperate Asia, Tropical Asia, Pacific.

Country /Province /State. **Western Indian Ocean.** Mauritius. **China, Eastern Asia.** China South Central, Hainan. Ogosawara-shoto. **Indian Subcontinent, Indo-China, Malesia, Papuasia.** India, Sri Lanka. Thailand. Malaya, Philippines. **Southwestern Pacific, South-central Pacific, Northwestern Pacific.** Fiji (*), New Caledonia, Samoa (*), Tonga (*). Cook Is (*), Society Is (*), Tubuai Is (*). Marianas (*). Hawaii (*).

Yunnan. Tamilnadu.

***Urochloa pauciflora* Sanchez-Ken. *Syst. Bot.* 36:625 (2011).**

TYPE from Mexico. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Michoacan: Mpio 3 km al W. de la Cruz de Cachan, selva baja adicifolia, 90 m, 29 Sep 1980, A. Guerrero C. *Et al.* 992 (holo: MEXU).

Illustrations (Journals): *Systematic Botany* (36: 627, Fig.3 (2011)).

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms geniculately ascending, 10–40 cm long, rooting from lower nodes. Culm-internodes 0.5–6 cm long, distally pubescent. Culm-nodes pubescent. Lateral branches sparse. Leaf-sheaths puberulous, outer margin hairy. Ligule a ciliate membrane, 0.5–0.8 mm long. Leaf-blade base cordate. Leaf-blades lanceolate, 2–9 cm long, 3–15 mm wide. Leaf-blade surface glabrous or puberulous, densely hairy, hairy on both sides. Leaf-blade margins scabrous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence composed of racemes. Peduncle 1–20 cm long, pubescent above. Racemes 3–4, borne along a central axis, unilateral, 2–53 cm long, bearing 3–7 fertile spikelets on each. Central inflorescence axis 5–9 cm long, puberulous. Rhachis wingless, angular, 0.25–0.3 mm wide, scabrous on margins. Spikelet packing lax, irregular, 1–2 -rowed. Spikelets in pairs. Fertile spikelets sessile and pedicelled. Pedicels present, linear, 1.5–5 mm long, scabrous.

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, plano-convex, acute, 3–3.2 mm long, 1.3–1.4 mm wide, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 1.3–1.6 mm long, 0.33–0.5 length of spikelet, membranous, without keels, 3–5 -veined. Lower glume lateral veins obscure, meeting at apex. Lower glume surface puberulous. Lower glume apex acute. Upper glume ovate, 3–3.2 mm long, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume lateral veins with cross-veins. Upper glume surface puberulous. Upper glume apex acuminate.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 3–3.2 mm long, 1 length of spikelet, membranous, 5 -veined, puberulous, acuminate. Fertile lemma elliptic, 2.4–2.5 mm long, 1.2–1.3 mm wide, indurate, yellow, keeled, lightly keeled. Lemma surface rugulose, with distinct germination flap. Lemma margins involute. Lemma apex apiculate. Palea involute, indurate, without keels. Palea surface rugose.

Flower and Fruit. Anthers 3, 0.5–0.6 mm long. Caryopsis ellipsoid, 1.5–1.6 mm long. Embryo 0.66–0.75 length of caryopsis. Hilum elliptic or linear, 0.33 length of caryopsis.

Distribution (TDWG). **Continent.** North America.

Country /Province /State. Mexico. Southwest Mexico.
Jalisco, Michoacan.

Urochloa paucispicata (Morong) O. Morrone & F.O. Zuloaga. *Darwiniana*, 31: 95: (1992).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Brachiaria*).

TYPE from Paraguay. **Basionym or Replaced Name:** *Panicum paucispicatum* Morong, *Ann. N. Y. Acad. Sci.* 7: 262 (1893). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Paraguay, Asuncion: Morong 1573 (NY holo).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, Aristidoideae a Pharoideae (2012) (487), E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (442, Fig. 155 as *Acroceras*).

Illustrations (Journals): *Darwiniana* (31: 97, Fig.9 (1992)).

Derivation (Clifford & Bostock 2007): *L. paucus*, few; *spica*, thorn; *-ata*, possessing. Panicle with few branches.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms geniculately ascending or decumbent, 40–70 cm long, rooting from lower nodes. Ligule a ciliate membrane. Leaf-blade base broadly rounded. Leaf-blades lanceolate, 4–14 cm long, 10–25 mm wide. Leaf-blade margins cartilaginous, crenate.

Inflorescence. Inflorescence composed of racemes. Racemes 3–6, borne along a central axis, unilateral, 2–3.5 cm long. Central inflorescence axis 7–12 cm long. Rhachis wingless, angular, pubescent on surface. Spikelet packing irregular. Spikelets in pairs. Fertile spikelets sessile and 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 elliptic, dorsally compressed, compressed slightly, cuspidate, 6–8 mm long, falling entire. Spikelet callus oblong, incorporating lowest rhachilla internode with adnate lower glume, 1 mm long.

Glumes. Glumes similar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.75 length of spikelet, membranous, without keels, 5 -veined. Lower glume surface pubescent. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume surface pubescent. 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, 5 -veined, pubescent, cuspidate. Fertile lemma elliptic, 5–6 mm long, indurate, without keel. Lemma surface granulate. Lemma margins involute. Lemma apex rostrate, laterally pinched. Palea involute, indurate. Palea surface granular.

Distribution (TDWG). **Continent.** South America.

Country /Province /State. **Western South America, Brazil, Southern South America.** Bolivia. Brazil West Central, Brazil Northeast. Argentina Northwest, Argentina Northeast, Paraguay.

Maranhao, Piaui. Mato Grosso. Ceará. Catamarca, Jujuy, La Rioja, Salta, Santiago del Estero, San Luis, Tucuman. Chaco, Cordoba, Corrientes, Formosa, Santa Fe.

Brachiaria perrieri (Urochloa) A. Camus. *Bull. Soc. Bot. France*, 77: 639 (1931).

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

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Madagascar: Ambalavao, *Perrie de la Bathie* 14438.

Illustrations (Books): J.Bosser, *Graminees des Paturage et des Cultures a Madagascar* (1969) (407, Fig 154).

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 Melinidinae.

Habit, Vegetative Morphology. Annual. Culms decumbent, slender, 10–45 cm long. Culm-nodes pubescent. Leaf-sheaths pilose. Ligule a fringe of hairs. Leaf-blades lanceolate or ovate, 1–3 cm long, 3–10

mm wide. Leaf-blade surface pilose, densely hairy, hairy on both sides. Leaf-blade margins cartilaginous, crenate.

Inflorescence. Inflorescence composed of racemes. Racemes 5–12, borne along a central axis, appressed, unilateral, 0.5–1.8 cm long. Central inflorescence axis 2.5–7 cm long, pilose. Rhachis wingless, angular. Spikelet packing adaxial, irregular. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, 0.3–1 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, dorsally compressed, compressed slightly, acute, 2–3 mm long, with hairs extending 0.5 mm beyond apex, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.6–0.7 length of spikelet, membranous, without keels, 5 -veined. Lower glume surface pilose. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface pubescent, with a transverse fringe of hair. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, pubescent, with a transverse fringe of hair, acute, awned. Awn of lower sterile floret 0.5–1 mm long. Fertile lemma ovate, 2 mm long, indurate, without keel. Lemma surface striate. Lemma margins involute. Lemma apex apiculate. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Africa.

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

Urochloa piligera (F. Muell. ex Benth.) R.D. Webster. *Australian Paniceae* (Poac.): 246: (1987).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Brachiaria*), D.Sharp, D. & B.K.Simon, *AusGrass* (2002) (as *Brachiaria*), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Australia. **Basionym or Replaced Name:** *Panicum piligerum* F. Muell. ex Benth., *Fl. Austral.* 7: 477 (1878). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Mueller s.n.*, Australia: Northern Territory: Victoria River.

Illustrations (Books): H.Duistermaat, *Field Guide to the Grasses of Singapore* (2005) (139, Fig.145), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (429, Fig. 359 as *Brachiaria*), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler, *Grasses of New South Wales*, 4th edn (2008) (396), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989) (219, Fig. 35 as *Brachiaria*), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002) (as *Brachiaria*), M.E.Barkworth et al, *Flora of North America north of Mexico Vol 25 Poaceae*, part 2 (2003) (500).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002); (as *Brachiaria*).

Derivation (Clifford & Bostock 2007): *L. pilus*, a hair; *gero*, carry. Hairy in some respect usually of the spikelet.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Stolons absent or present. Culms erect or geniculate ascending, 15–60 cm long, 3–7 -noded. Culm-nodes glabrous. Leaf-sheaths outer margin glabrous or hairy. Ligule a fringe of hairs, 0.7–1.5 mm long. Leaf-blades 4–15 cm long, 3–11 mm wide. Leaf-blade surface glabrous. Leaf-blade margins scabrous.

Inflorescence. Inflorescence composed of racemes. Racemes 3–4, borne along a central axis, unilateral, 2–6 cm long, bearing 8–18 fertile spikelets on each. Central inflorescence axis 3–12 cm long. Rhachis narrowly winged or broadly winged, angular, 1.1–1.6 mm wide, smooth on margins. Spikelet packing adaxial, regular, 1–2 -rowed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 0.3–0.6 mm long, scabrous.

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, compressed slightly, acute, 3.3–4.9 mm long, 1.5–1.8 mm wide, with hairs extending 0–0.5 mm beyond apex, falling entire.

Spikelet callus square, incorporating lowest rhachilla internode with adnate lower glume, 0.5 mm long. Rhachilla internodes elongated between glumes.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume obovate, clasping, 1.9–2.7 mm long, 0.6–0.7 length of spikelet, membranous, without keels, 9–11 -veined. Lower glume surface glabrous. Lower glume apex obtuse or acute. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 7–9 -veined. Upper glume surface pilose. Upper glume margins ciliate. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret similar to upper glume, elliptic, 1 length of spikelet, membranous, 5–7 -veined, pilose, without hair tufts or with a transverse fringe of hair, acute. Fertile lemma elliptic, 2–4 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex apiculate. Palea involute, indurate, without keels. Palea surface rugose.

Flower and Fruit. Anthers 3, 1.5–1.7 mm long.

Distribution (TDWG). **Continent.** Tropical Asia, Australasia, North America.

Country /Province /State. **Malesia, Papuasia.** Moluccas, Sulawesi. New Guinea West Papua (Irian Jaya). New Guinea. **Australia.** Western Australia, Northern Territory, South Australia, Queensland, New South Wales. **Southeastern USA.** Florida.

***Urochloa plantaginea* (Link) R.D. Webster. *Syst. Bot.*, 13(4): 607: (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) (as *Brachiaria*), W.D.Clayton & N.Snow, *Key to Pacific Grasses* (2010).

TYPE from Cultivated. **Basionym or Replaced Name:** *Panicum plantagineum* Link, *Hort. Berol.* 1: 206 (1827). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: H.C. Beyrich s.n.; no date; Cultivated in Berlin from material collected in Brazil (B; IT: US-65729 (fragm. ex B & photo)).

Recent Synonyms: *Urochloa discifera* (E. Fourn.) O. Morrone & F.O. Zuloaga, *Darwiniana*, 32:65 (1993).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, Aristidoideae a Pharoideae (2012) (488), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 25 *Poaceae*, part 2 (2003) (504), S.A.Renvoize, *Gramineas de Bolivia* (1998) (as *Brachiaria*), S.A.Renvoize, *The Grasses of Bahia*, 1984 (236, Fig 88 as *Brachiaria*), J.A.Steyermark et al, *Flora of the Venezuelan Guayana* Vol. 8 (2004) (66, Fig. 41 as *Brachiaria*), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (1077 Fig. 209 & 1089, Fig. 213 as *Brachiaria*), W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (107, Fig. 32 as *Brachiaria*), E.Hafliger & E.Schultz, *Grass Weeds*, CIBA-GEIGY (1:20(1980) as *Brachiaria*).

Derivation (Clifford & Bostock 2007): L. *-inea*, close resemblance. Resembling *Plantago* with respect to the inflorescence.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms decumbent, 40–100 cm long, rooting from lower nodes. Ligule a fringe of hairs, 1 mm long. Leaf-blades lanceolate, 4–21 cm long, 6–13 mm wide. Leaf-blade surface glabrous or pubescent. Leaf-blade margins scabrous.

Inflorescence. Inflorescence composed of racemes. Racemes 2–8, borne along a central axis, unilateral, 2–11 cm long. Central inflorescence axis 10–20 cm long. Rhachis broadly winged, with sharp-edged midrib, 1–2 mm wide, scabrous on margins. Spikelet packing adaxial, regular, 2 -rowed. Spikelets ascending, solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 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 elliptic, dorsally compressed, compressed slightly, acute, 4–5.5 mm long, falling entire. Rhachilla internodes elongated between glumes.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.25–0.33 length of spikelet, membranous, without keels, 3–5 -veined. Lower glume apex obtuse or acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5–7 -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, 5 -veined, acute. Fertile lemma ovate, 3.5–5 mm long, indurate,

without keel. Lemma surface granulose, unwrinkled or rugulose. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate, without keels. Palea surface granular or rugose.

Flower and Fruit. $2n = 36$.

Distribution (TDWG). Continent. Africa, Pacific, North America, South America.

Country /Province /State. **West Tropical Africa, West-Central Tropical Africa.** Burkina, Ghana. Cameroon, DRC. **North-central Pacific.** Line Is (*). Hawaii (*). **Northeast USA, Southeastern USA, Mexico.** Florida, Georgia, Louisiana. Central Mexico, Northeast Mexico, Gulf (Mexico), Southwest Mexico, Southeast Mexico. **Mesoamerica, Northern South America, Western South America, Brazil, Southern South America.** Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama. French Guiana, Venezuela. Bolivia, Colombia, Ecuador. Brazil West Central, Brazil Northeast, Brazil North, Brazil Southeast, Brazil South. Argentina Northwest, Argentina Northeast, Paraguay.

Distrito Federal (*), Mato Grosso. Bahia, Maranhão, Sergipe. Amazonas, Pará. Minas Gerais, São Paulo. Paraná, Rio Grande do Sul, Santa Catarina. Jujuy, Salta, Santiago del Estero, Tucuman. Buenos Aires, Chaco, Córdoba, Corrientes, Entre Ríos, Formosa, Misiones. Mexico State, Morelos, Puebla. Aguascalientes, Chihuahua, Durango, Guanajuato, Querétaro, San Luis Potosí, Tamaulipas, Zacatecas. Veracruz. Colima, Guerrero, Jalisco, Michoacán, Nayarit, Oaxaca. Chiapas.

Urochloa platynota (K. Schum.) Pilger. *Engl. & Prantl, Nat. Pflanzenfam. Aufl. 2*, xiv e. 35 (1940).

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

TYPE from Tanzania. **Basionym or Replaced Name:** *Panicum platynotum* K. Schum., *Pflanzenw. Ost-Afrikas* C: 101 (1895). T: <Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: Stuhlmann 1095; 1899; Tanzania: Bukoba (B).

Illustrations (Books): W. Robyns (1929 and 1934). *Flora Agrostologique du Congo Belge et du Ruanda-Urundi*, I. Maydees et Andropogonees and II. Panicees. Bruxelles, Goemaere (91, Pl. 26, as *Brachiaria*).

Derivation (Clifford & Bostock 2007): Gk. *platys*, flat; *noton*, back. Rhachis much flattened.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidineae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths pubescent. Culms erect, 45–100 cm long. Ligule a fringe of hairs. Leaf-blades 4–35 cm long, 3–9 mm wide. Leaf-blade surface hirsute, hairy on both sides. Leaf-blade margins cartilaginous, ciliate.

Inflorescence. Inflorescence composed of racemes. Racemes (1–)2–3(–5), borne along a central axis, arcuate, unilateral, 3–13 cm long. Central inflorescence axis 1–15 cm long, tip without extension or filiform. Rhachis broadly winged, folded longitudinally to embrace spikelets, (1–)2–4 mm wide, scaberrulous on margins, glabrous on margins. Spikelet packing adaxial, regular, 2 -rowed. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rachilla 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, compressed strongly, acute, 3.5–4.5 mm long, falling entire.

Glumes. Glumes similar, reaching apex of florets, thinner than fertile lemma. Lower glume oblong, 1 length of spikelet, membranous, without keels, 7–9 -veined. Lower glume surface glabrous or pubescent, without hair tufts or with a dorsal tuft of hair. Lower glume apex acute. Upper glume oblong, 1.2 length of adjacent fertile lemma, 1 length of spikelet, membranous, without keels, 7–9 -veined. Upper glume lateral veins with cross-veins. Upper glume surface glabrous or pubescent. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret ovate, 1 length of spikelet, coriaceous, 7–9 -veined, with cross-veins, sulcate (thinly membranous), glabrous or pubescent, obtuse. Fertile lemma elliptic, 3–4 mm long, indurate, without keel. Lemma surface papillose. Lemma margins involute. Lemma apex obtuse, mucronate. Principal lemma awn 0.2–0.5 mm long overall. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Africa.

Country /Province /State. **West-Central Tropical Africa, East Tropical Africa, South Tropical Africa.** Burundi, Rwanda, DRC. Kenya, Tanzania, Uganda. Angola, Zambia.

Urochloa platyphylla (Munro ex Wright) R.D. Webster. *Syst. Bot.*, 13(4): 606 (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) (as *Brachiaria*), T.Koyama, *Grasses of Japan and its neighboring regions* (1987) (as *Brachiaria*).

TYPE from Cuba. **Basionym or Replaced Name:** *Brachiaria platyphylla*, *Urochloa extensa*, *Brachiaria extensa*, *Paspalum platyphyllum* Griseb., *Cat. Pl. Cub.* . . . 230 (1866). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: Wright s.n.; 1865; Cuba occidentalis, in humidis pr. Zarabanda (?) ST: C. Wright 3441; 4 May 1863; Cuba occidentalis, in humidis pr. Zarabanda (GOET; IST: K, US-2942507 (fragm. ex GOET)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, Aristidoideae a Pharoideae (2012) (489), T. Cope & A. Gray, *Grasses of the British Isles* (202 as *Brachiaria*), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 25 *Poaceae*, part 2 (2003) (504), F.W.Gould, *The Grasses of Texas* (1975) (425, Fig. 228 as *Brachiaria*), A.S.Hitchcock, *Manual of the Grasses of the West Indies* (1936) (186, Fig. 118 as *Brachiaria extensa*), S.A.Renvoize, *Gramineas de Bolivia* (1998) (431, Fig. 92 as *Brachiaria*), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (as *Brachiaria extensa*), B.Rosengurtt, *Gramineas Uruguayas I* (1970) (as *Brachiaria*), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina)*, Pt II, Gramineas (1969) (349, Fig. 146 as *Brachiaria extensa*), E.Hafliger & E.Schultz, *Grass Weeds, CIBA-GEIGY* (1:21(1980) as *Brachiaria*).

Derivation (Clifford & Bostock 2007): Gk. *platys*, flat; *phyllon*, leaf. Leaf-blade broad.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidineae.

Habit, Vegetative Morphology. Annual. Culms decumbent, 30–80 cm long, rooting from lower nodes. Leaf-sheaths glabrous on surface or hirsute, outer margin hairy. Ligule a fringe of hairs. Leaf-blades 4–12 cm long, 6–13 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence composed of racemes. Racemes 2–6, borne along a central axis, unilateral, 3–6 cm long. Central inflorescence axis 8–18 cm long. Rhachis broadly winged, 1.6–2.3 mm wide. Spikelet packing adaxial, distant, regular, 2 -rowed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear.

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, compressed slightly, acute, 4–4.5 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.25–0.33 length of spikelet, membranous, without keels, 5 -veined. Lower glume apex obtuse. Upper glume ovate, 4–4.5 mm long, 1.25–1.4 length of adjacent fertile lemma, 1 length of spikelet, membranous, without keels, 3–5 -veined. Upper glume lateral veins with cross-veins. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, with cross-veins, acute. Fertile lemma elliptic, 3.2–3.5 mm long, indurate, without keel. Lemma surface papillose. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate, without keels.

Flower and Fruit. Embryo 0.5 length of caryopsis.

Distribution (TDWG). **Continent.** Europe (*), Temperate Asia, North America, South America.

Region. Northern Europe (*).

Country /Province /State. : GB Aliens (Ryves et al). **Eastern Asia.** Nansei-Shoto, Ogasawara-shoto. **North-central USA, South-central USA, Southeastern USA, Mexico.** Oklahoma. Texas. Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee. Northeast Mexico, Southwest Mexico. **Caribbean, Northern South America, Western South America, Brazil, Southern South America.** Cuba. Venezuela. Bolivia. Brazil Northeast. Argentina Northeast, Argentina Northwest, Paraguay, Uruguay.

Ceará. Jujuy, Salta, Santiago del Estero, Tucuman. Buenos Aires, Chaco, Cordoba, Corrientes, Distrito Federal, Entre Rios, Formosa, La Pampa, Santa Fe. Guanajuato. Michoacan, Oaxaca.

Urochloa platyrrhachis C.E.Hubb. *Kew Bull.* 1934, 112. (1934).

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

TYPE from DRC. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Belgian Congo: Sakania, June 1931, *Mundy 5038* (HT:SRGH).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk *platys*, broad; *rhachis*, back-bone. Rhachis scabrid.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms decumbent, 20–60 cm long, rooting from lower nodes. Ligule a fringe of hairs. Leaf-blades linear or lanceolate, 2–10 cm long, 3–12 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 1–3, single or paired or digitate, unilateral, 1–5 cm long. Central inflorescence axis 0–1 cm long. Rhachis broadly winged, foliaceous, with sharp-edged midrib, 2–5 mm wide. Spikelet packing abaxial, regular, 2 -rowed. 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 elliptic, dorsally compressed, compressed strongly, plano-convex, subacute, 3.5–4 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume oblate, 0.2–0.5 mm long, 0.05–0.1 length of spikelet, membranous, without keels, 3 -veined. Lower glume apex truncate or obtuse. Upper glume ovate, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume apex obtuse.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret ovate, 1 length of spikelet, membranous, thinner along midline, 5 -veined, sulcate, acute. Palea of lower sterile floret becoming indurate on flanks at maturity. Fertile lemma orbicular, dorsally compressed, 2.5–3 mm long, indurate, without keel. Lemma surface granulose. Lemma margins involute. Lemma apex obtuse, mucronate. Palea indurate.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West-Central Tropical Africa, South Tropical Africa. DRC. Zambia.

Urochloa polyphylla (R. Br.) R.D. Webster. *Australian Paniceae* (Poac.): 248: (1987).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Brachiaria*), D.Sharp, D. & B.K.Simon, *AusGrass* (2002) (as *Brachiaria*).

TYPE from Australia. **Basionym or Replaced Name:** *Panicum polyphyllum* R. Br., *Prodr.* 190 (1810). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: "(T.) Littora Novae Hollandiae intra tropicum.",.

Illustrations (Books): D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002) (as *Brachiaria*), B.Rosengurtt, *Gramineas Uruguayas I* (1970) (298, Fig. 124 as *Brachiaria*).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002); (as *Brachiaria*).

Derivation (Clifford & Bostock 2007): Gk. *polys*, several; *phyllon*, leaf. Culms many-leaved in comparison with related species.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Stolons present. Culms geniculately ascending, 15–60 cm long, 3–7 -noded. Culm-nodes pubescent. Leaf-sheaths glabrous on surface or pubescent, outer margin hairy. Ligule a fringe of hairs, 0.3–0.6 mm long. Leaf-blades linear or lanceolate, 2–8 cm long, 3–7 mm wide. Leaf-blade surface pubescent, hairy on both sides. Leaf-blade margins cartilaginous, crenate.

Inflorescence. Inflorescence composed of racemes. Racemes 3–7, borne along a central axis, unilateral, 1.5–4 cm long. Central inflorescence axis 3–15 cm long, pubescent. Rhachis wingless, angular, scabrous on margins. Spikelet packing adaxial, lax, regular, 1 -rowed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 0.3–2 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 elliptic, dorsally compressed, compressed slightly, acute, 2.9–3.7 mm long, 1.2–1.5 mm wide, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 1.5–2 mm long, 0.5–0.6 length of spikelet, membranous, without keels, 5–7 -veined. Lower glume surface

glabrous. Lower glume apex obtuse or acute. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 5–9 -veined. Upper glume surface glabrous. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to upper glume, elliptic, 1 length of spikelet, membranous, 5 -veined, glabrous, acute. Fertile lemma elliptic, 2.4–2.8 mm long, indurate, without keel. Lemma surface rugose. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels. Palea surface rugose.

Flower and Fruit. Anthers 3, 1.3–1.5 mm long.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. Australia. Northern Territory, Queensland.

Urochloa praetervisa (Domin) D.K.Hughes. *Kew Bull.* 1923, 319 (1923).

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

TYPE from Australia. **Basionym or Replaced Name:** *Panicum praetervisum* Domin, *Biblioth. Bot.* 85: 309 (1915). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Andrews 156*, Australia: South Australia: vicinity of Lake Eyre (?).

Recent Synonyms: *Brachiaria windersii* C. E. Hubbard, *Hook. Ic. Pl.* 4 sub t. 3363, p. 4 (1938).

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (430, Fig 360 as *Brachiaria*), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler., *Grasses of New South Wales*, 4th edn (2008) (396).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002); (as *Brachiaria*).

Derivation (Clifford & Bostock 2007): *L. praeter*, beyond; *visum*, seen. Similar to but beyond the range of variability of another species.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose, clumped loosely. Culms erect or geniculately ascending, slender, 25–60 cm long, 2–9 -noded, without nodal roots or rooting from lower nodes. Culm-internodes channelled, distally glabrous or pubescent. Culm-nodes pubescent. Lateral branches ample. Leaf-sheaths loose, keeled, glabrous on surface to hirsute, with simple hairs or tubercle-based hairs, outer margin hairy. Ligule a fringe of hairs. Leaf-blade base cordate. Leaf-blades linear or lanceolate, 5–17 cm long, 4–18 mm wide. Leaf-blade surface glabrous or puberulous or pubescent, sparsely hairy. Leaf-blade margins cartilaginous, entire or crenate. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 3–20, borne along a central axis, unilateral, 2–8 cm long, simple or with branchlets at base of longer racemes. Central inflorescence axis 5–18 cm long. Rhachis wingless, angular, 0.5 mm wide, glabrous on surface or puberulous on surface, scaberulous on margins, pubescent on margins. Spikelet packing lax, irregular. Spikelets in pairs. Fertile spikelets pedicelled. Pedicels present, linear, 0.5–3 mm long, ciliate, hairy at tip, with 1–3 mm long hairs.

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 or ovate, dorsally compressed, compressed slightly, acute, 3–4 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 1 mm long, 0.33 length of spikelet, membranous, without keels, 3 -veined. Lower glume apex obtuse or acute. Upper glume elliptic or ovate, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume apex obtuse or acute or cuspidate.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to upper glume, elliptic or ovate, 1 length of spikelet, membranous, 5 -veined, obtuse or acute or cuspidate. Palea of lower sterile floret 3 mm long. Fertile lemma elliptic or oblong, 2.5–3.5 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex obtuse, muticous or mucronate or awned. Palea involute, indurate, without keels. Palea surface rugose.

Flower and Fruit. Anthers 3, 0.8–1 mm long. Caryopsis with adherent pericarp, oblong, 1.5–2 mm long.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. Australia. Western Australia, Northern Territory, South Australia, Queensland, New South Wales.

Brachiaria psammophila (Urochloa) (Welw. ex Rendle) Launert. *Mitt. Bot. Staatssamml. Munchen*, 8: 149 (1970).

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

TYPE from Angola. **Basionym or Replaced Name:** *Panicum psammophilum* Welw. ex Rendle, *Cat. Afr. Pl.* 2(1): 171 (1899)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Welwitsch* 2626, Aug 1859, Angola: Mossamedes (BM).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *psammos*, sand; *phileo*, love. Dune species.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect or geniculately ascending, 25–40 cm long. Leaf-sheaths hirsute. Ligule a fringe of hairs. Leaf-blades 4–13 cm long, 7–13 mm wide. Leaf-blade surface hirsute, densely hairy, hairy on both sides.

Inflorescence. Inflorescence composed of racemes. Racemes 3–7, borne along a central axis, appressed, linear or oblong, unilateral, 1–3 cm long, secondarily branched, secondary branches glomerate. Central inflorescence axis 5–15 cm long, pilose or villous. Rhachis wingless, angular, pilose on surface or villous on surface. Spikelet packing crowded, irregular. Spikelets in pairs or clustered at each node. Fertile spikelets pedicelled, 2–4 in the cluster. Pedicels present, oblong, 1 mm long, villous, tip discoid.

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, compressed slightly, acute, 3–4.5 mm long, with hairs extending 1 mm beyond apex, falling entire, readily shedding fertile florets.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.8 length of spikelet, membranous, without keels, 3 -veined. Lower glume surface villous. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume surface villous. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, villous, acute. Fertile lemma ovate, 3 mm long, indurate, shiny, without keel. Lemma surface granulose. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Flower and Fruit. Anthers 3, 2 mm long.

Distribution (TDWG). Continent. Africa.

Country /Province /State. South Tropical Africa, Southern Africa. Angola. Namibia.

Brachiaria pseudodichotoma (Urochloa) Bosser. *Adansonia, n. s.*, 6: 109 (1966).

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

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Madagascar SO: Anavoha, secteur de Fotadrevo poste d'Ejeda, *Dauban s.n.* (HT: P).

Illustrations (Books): J.Bosser, *Graminees des Paturage et des Cultures a Madagascar* (1969) (349, Fig 131).

Derivation (Clifford & Bostock 2007): Gk. *pseudos*, false; Resembling *Brachiaria dichotoma*.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Stolons present. Culms prostrate, 2–6 cm long, rooting from lower nodes. Leaf-sheaths keeled, glabrous on surface, outer margin glabrous or hairy. Ligule a fringe of hairs. Leaf-blades lanceolate, 8–20 cm long, 2.5–3.5 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence composed of racemes, embraced at base by subtending leaf. Racemes 1–2, single or paired, unilateral, 1–1.5 cm long. Rhachis narrowly winged, angular, 1 mm wide. Spikelet packing adaxial, regular, 2 -rowed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

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, compressed slightly, acute, 2–2.5 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.25–0.33 length of spikelet, membranous, without keels, 2–3 -veined. Lower glume apex obtuse. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, acute. Fertile lemma elliptic, 2 mm long, indurate, without keel. Lemma surface rugose. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate, without keels. Palea surface rugose.

Distribution (TDWG). Continent. Africa.

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

Urochloa pubescens Kunth. *Rev. Gram.* i. 31 (1829).

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

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Madagascar: Coll?.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. pubesco*, become hairy. Plant whole or in part hairy.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, short-lived, caespitose, clumped loosely. Culms geniculately ascending, slender, 60–90 cm long, without nodal roots or rooting from lower nodes. Culm-internodes distally pubescent. Culm-nodes bearded. Lateral branches ample. Leaves cauline. Ligule a fringe of hairs. Leaf-blades lanceolate, 7–15 mm wide. Leaf-blade surface pubescent, densely hairy. Leaf-blade margins scaberulous.

Inflorescence. Inflorescence composed of racemes. Racemes 5–7, borne along a central axis, unilateral, 4–5.5 cm long. Central inflorescence axis 6–8 cm long. Rhachis wingless, angular, hirsute on surface. Spikelet packing lax, irregular. Spikelets in pairs. Fertile spikelets pedicelled. Pedicels present, linear, 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 ovate, dorsally compressed, compressed slightly, 3.8–4.2 mm long, falling entire. Spikelet callus oblong, 0.5 mm long.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma, dull. Lower glume obovate, 0.33 length of spikelet, membranous, without keels. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume surface smooth, pubescent. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, smooth, pubescent, acute. Fertile lemma ovate, 3.8–4.2 mm long, indurate, without keel. Lemma surface papillose, rugulose. Lemma margins involute. Lemma apex acute, mucronate. Principal lemma awn 0.2 mm long overall. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Africa.

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

Urochloa pubigera (R. & S.) R.D. Webster. *Australian Paniceae (Poac.)*: 250: (1987).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Brachiaria*), J.F.Veldkamp, *Poaceae ms (Flora Malesiana)*.

TYPE from Australia. **Basionym or Replaced Name:** *Panicum pubigerum* Roem. & Schult., *Syst. Veg.* 2: 460 (1817); *Panicum pubescens* R. Br., *Prodr.* 190 (1810), non Lam. (1798). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: LT: *R. Brown 6111*, Australia: Northern Territory: Pobasso Island (BM; IT: BRI, E, K, MEL). LT designated by ?; cited by Veldkamp, *Blumea* 41: 426 (1996).

Recent Synonyms: *Brachiaria holotricha* Ohwi, *Bull. Tokyo Sci. Mus.*, No. 18, 4 (1947).

Illustrations (Books): D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002) (as *Brachiaria*).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002); (as *Brachiaria*).

Derivation (Clifford & Bostock 2007): *L. pubes*, hair of adulthood; *gero*, carry or bear. Plant pubescent in all parts.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms decumbent, 20–60 cm long, 3–6 -noded. Culm-nodes pubescent. Leaf-sheaths outer margin hairy. Ligule a fringe of hairs, 0.7–1 mm long. Leaf-blades linear or lanceolate, 3–18 cm long, 4–16 mm wide. Leaf-blade surface pubescent, hairy on both sides. Leaf-blade margins scabrous.

Inflorescence. Inflorescence composed of racemes. Racemes 4–10, borne along a central axis, unilateral, 3–9 cm long, bearing 8–30 fertile spikelets on each. Central inflorescence axis 6–18 cm long. Rhachis wingless, angular. Spikelet packing adaxial. Spikelets solitary or in pairs. Fertile spikelets pedicelled. Pedicels present, oblong, 0.3–0.8 mm long, scabrous.

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 or obovate, dorsally compressed, compressed slightly, acute, 3.5–4.6 mm long, 1.4–1.7 mm wide, falling entire. Spikelet callus oblong, incorporating lowest rhachilla internode with adnate lower glume, 0.4–0.8 mm long. Rhachilla internodes elongated between glumes.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 1.7–2.8 mm long, 0.5–0.6 length of spikelet, membranous, without keels, 7–9 -veined. Lower glume surface glabrous or puberulous. Lower glume apex obtuse. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 5–7 -veined. Upper glume surface puberulous. Upper glume apex acuminate.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to upper glume, elliptic, 1 length of spikelet, membranous or cartilaginous, 5–7 -veined, puberulous, acute. Fertile lemma elliptic, 2.5–3.2 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels. Palea surface rugose.

Flower and Fruit. Anthers 3, 1.2–1.4 mm long.

Distribution (TDWG). **Continent.** Tropical Asia, Australasia.

Country /Province /State. **Malesia, Papuasia.** Java, Lesser Sunda Is, Malaya. New Guinea West Papua (Irian Jaya). New Guinea. **Australia.** Western Australia, Northern Territory, Queensland.

Brachiaria pungipes (Urochloa) W.D. Clayton. *Kew Bull.*, 34(3): 558 (1980).

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

TYPE from Zambia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *E.W.B. Milne-Redhead 3617*, 11 Dec 1937, Zambia: Mwinilunga Dist. (K; IT: MO, US-2962845).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. pungo*, prick; *pes*, foot. Spikelet contracted at the base into an acute callus.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths pubescent. Culms 50–80 cm long. Ligule a fringe of hairs. Leaf-blades 3–10 cm long, 1–3 mm wide. Leaf-blade surface glabrous or hirsute, sparsely hairy. Leaf-blade margins cartilaginous.

Inflorescence. Inflorescence composed of racemes. Racemes 5–10, borne along a central axis, unilateral, 1–2 cm long. Central inflorescence axis 4–12 cm long. Rhachis wingless, angular, villous on margins. Spikelet packing adaxial, regular, 1–2 -rowed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, tip oblique.

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 obovate (turbinate), dorsally compressed, compressed slightly, obtuse, 2.5–3 mm long, falling entire. Spikelet callus cuneate, 0.5 mm long, pubescent, base pungent, attached obliquely.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.33 length of spikelet, membranous, without keels, 3 -veined. Lower glume surface pilose. Lower glume

apex obtuse. Upper glume obovate, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface pubescent, with a transverse fringe of hair. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, obovate, 1 length of spikelet, membranous, 5 -veined, pubescent, with a transverse fringe of hair, obtuse. Fertile lemma elliptic, 2 mm long, indurate, without keel. Lemma surface striate. Lemma margins involute. Lemma apex apiculate. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Africa.

Country /Province /State. South Tropical Africa. Zambia.

Urochloa ramosa (L.) Nguyen. *Novit. Syst. Pl. Vasc., Acad. Sci. URSS*, 1966, 13 (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), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006) (as *Brachiaria*), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960) (as *Brachiaria*).

TYPE from India. **Basionym or Replaced Name:** *Panicum ramosum* L., *Mant. Pl.* 1: 29–30 (1767). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: India; *Anon.* (LT: LINN-80.44).

Illustrations (Books): D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002) (as *Brachiaria*), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 25 *Poaceae*, part 2 (2003) (500), H.J.Noltie, *The Grasses of Bhutan* (2000) (707, Fig. 40), K.M.Matthew, Further Illustrations on the *Flora of Tamilnadu Carnatic* (1988) (Pl. 726 as *Brachiaria*), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 730 as *Brachiaria*), E.Hafliger & E.Schultz, Grass Weeds, CIBA-GEIGY (1:22(1980) as *Brachiaria*), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Fig. 188).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002); (as *Brachiaria*), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Pl. 28).

Derivation (Clifford & Bostock 2007): *L. ramus*, branch; *-osa*, abundance. Inflorescences or culms much branched.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 10–70 cm long. Ligule a fringe of hairs. Leaf-blades 2–25 cm long, 4–14 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 3–15, borne along a central axis, unilateral, 1–8 cm long, simple or with branchlets at base of longer racemes. Central inflorescence axis 3–10 cm long. Rhachis wingless, angular. Spikelet packing adaxial, irregular, 2 -rowed. Spikelets appressed, in pairs. Fertile spikelets pedicelled. Pedicels present, linear, 1–2 mm long, 0.5–0.75 length of fertile spikelet.

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, compressed slightly, acute or cuspidate, 2.5–3.5 mm long, falling entire. Spikelet callus brief or square, 0–0.5 mm long.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.33–0.5 length of spikelet, membranous, without keels, 5–7 -veined. Lower glume apex obtuse or acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5–7 -veined. Upper glume surface glabrous or pubescent. 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 or coriaceous (rarely), 5 -veined, glabrous or pubescent, acute. Fertile lemma ovate, 2–3 mm long, indurate, dark brown, without keel. Lemma surface rugose. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Flower and Fruit. $n = 7$ (2 refs TROPICOS), or 16 (3 refs TROPICOS), or 18 (4 refs TROPICOS), or 21 (2 refs TROPICOS). $2n = 32$ (1 ref TROPICOS), or 36 (2 refs TROPICOS).

Distribution (TDWG). Continent. Africa, Temperate Asia, Tropical Asia, Australasia, North America.

Country /Province /State. Northern Africa, Macaronesia, West Tropical Africa, West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Western Indian Ocean. Egypt. Cape Verde. Gambia, Mali, Mauritania, Nigeria, Senegal. Eritrea, Ethiopia (inc.

Eritrea), Socotra, Somalia, Sudan. Kenya, Tanzania. Malawi, Mozambique, Zimbabwe. Mauritius, Madagascar. **Western Asia, Arabian Peninsula, China.** Gulf States, Oman. China South Central, Hainan. **Indian Subcontinent, Indo-China, Malesia, Papuasias.** Assam, Bangladesh, Eastern Himalaya, India, Nepal, Pakistan, Sri Lanka, West Himalaya. Andaman Is, Cambodia, Myanmar, Thailand, Vietnam. Java, Lesser Sunda Is, Malaya, Philippines, Christmas I. **Australia** (*). Western Australia, Northern Territory, Queensland. **North-central USA, South-central USA, Southeastern USA.** Oklahoma. Texas. Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia.

Yunnan. Darjeeling, Bhutan, Sikkim.

Urochloa remota (Retz.) Haines. *Bull. Bot. Surv. India* 35 (1–4): 29. 1993 [1997].

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Brachiaria*), 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:** *Panicum remotum* Retz., *Observ. Bot.* 4: 17 (1786). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Tranquebar: Koenig.

Recent Synonyms: *Brachiaria remota* (Retz.) Haines, *Bot. Bihar & Orissa*, Pt. 5, 1005 (1924).

Illustrations (Books): K.M.Matthew, Further Illustrations on the *Flora of Tamilnadu Carnatic* (1988) (pl.727, as *Brachiaria*), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (Fig. 189).

Derivation (Clifford & Bostock 2007): L. distant. Spikelets widely separated.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial. Culms decumbent or prostrate, 30–60 cm long. Culm-nodes glabrous or pubescent. Ligule a fringe of hairs. Leaf-blades 5–10 cm long, 2.5–3 mm wide, glaucous. Leaf-blade surface glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 3–5, borne along a central axis, distant, unilateral, 1–6 cm long. Central inflorescence axis 2–15 cm long. Rhachis wingless, angular. Spikelet packing adaxial, distant, irregular. Spikelets solitary or in pairs. Fertile spikelets pedicelled. Pedicels present, linear.

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, compressed slightly, obtuse, 2.5–3 mm long, falling entire. Rhachilla internodes elongated between glumes. Rhachilla elongation 0.3 mm long.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.33 length of spikelet, membranous, without keels, 3–5 -veined. Lower glume apex acute. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 5–7 -veined. Upper glume surface glabrous or pubescent. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, elliptic, 1 length of spikelet, membranous, 5 -veined, obtuse. Fertile lemma elliptic, 2.5–3 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Distribution (TDWG). **Continent.** Tropical Asia.

Country /Province /State. **Indian Subcontinent.** Sri Lanka.

Orissa, Tamilnadu, Uttah Pradesh.

Urochloa reptans (L.) Stapf. Prain, *Fl. Trop. Afr.* ix. 601 (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) (as *Brachiaria*), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006) (as *Brachiaria*), J.F.Veldkamp, *Poaceae ms (Flora Malesiana)*, N.L.Bor, *Grasses of Burma, Ceylon, India and Pakistan* (1960) (as *Brachiaria*), T.Koyama, *Grasses of Japan and its neighboring regions* (1987) (as *Brachiaria*), W.D.Clayton & N.Snow, *Key to Pacific Grasses* (2010).

TYPE from Jamaica. **Basionym or Replaced Name:** *Panicum reptans* L., *Syst. Nat. (ed. 10)* 2: 870 (1759). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Jamaica:, *P. Browne s.n.* (LT: LINN-80.52).

Illustrations (Books): J.Bosser, *Graminees des Paturage et des Cultures a Madagascar* (1969) (409, Fig 155 as *Brachiaria*), T.Koyama, *Grasses of Japan and its neighbouring regions* (1987) (368, Fig 144 as *Brachiaria*), C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (488 as *Brachiaria*), C-C Hsu, *Taiwan Grasses* (1975) (532, Pl. 1423 as *Brachiaria*), K.M.Matthew, *Further Illustrations on the Flora of Tamilnadu Carnatic* (1988) (pl. 728 as *Brachiaria*), E.E.Henty, *A Manual of the Grasses of New Guinea* (1969) (41, Pl. 10 as *Brachiaria*), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 25 *Poaceae*, part 2 (2003) (496), F.W.Gould, *The Grasses of Texas* (1975) (427, Fig. 229 as *Brachiaria*), A.S.Hitchcock, *Manual of the Grasses of the West Indies* (1936) (250, Fig. 199 & 290, Fig. 276 as *Panicum patulum*), W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (584, Fig 219), E.Judziwicz, *Flora of the Guianas*, 187. *Poaceae* (1990) (Fig. 81), S-L Chen et al, *Flora of China*, Illustrations, *Poaceae* (2007) (Fig. 730 as *Urochloa reptans* var. *reptans*), J.Th.Henrard, *Monograph of the genus Digitaria* (1950) (as *Panicum umbrosum*), E.Hafliger & E.Schultz, *Grass Weeds*, CIBA-GEIGY (1:23(1980) as *Brachiaria*), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (Fig. 190).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002); (as *Brachiaria*), L.Boulos, *Flora of Egypt* 4 (2005); (as *Brachiaria*), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (Pl. 28).

Derivation (Clifford & Bostock 2007): *L. repo*, crawl. Culms ascending from a creeping rhizome or runner.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms decumbent, 15–60 cm long, rooting from lower nodes. Ligule a fringe of hairs. Leaf-blades lanceolate, 2–8 cm long, 3–15 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 5–15, borne along a central axis, unilateral, 1–4 cm long. Central inflorescence axis 1–8 cm long. Rhachis wingless, angular. Spikelet packing crowded, regular, 2 -rowed. Spikelets in pairs. Fertile spikelets sessile and pedicelled. Pedicels present, 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 or oblong, dorsally compressed, compressed slightly, acute, 1.5–2.2 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume orbicular, clasping, 0.15–0.25 length of spikelet, hyaline, without keels, 0 -veined. Lower glume lateral veins absent. Lower glume apex truncate. Upper glume ovate, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, acute. Fertile lemma elliptic, 1–2 mm long, indurate, without keel. Lemma surface rugose. Lemma margins involute. Lemma apex acute, mucronate. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Africa, Temperate Asia, Tropical Asia, Australasia, Pacific, North America, South America.

Country /Province /State. **Northern Africa, West Tropical Africa, West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Western Indian Ocean.** Egypt (as *Brachiaria*). Ethiopia (inc. Eritrea), Somalia, Sudan. Kenya, Tanzania. Mozambique. Mauritius, Madagascar, Reunion. **Western Asia, Arabian Peninsula, China, Eastern Asia.** Gulf States, Saudi Arabia. China South Central, China Southeast. Nansei-Shoto, Ogasawara-shoto, Taiwan. **Indian Subcontinent, Indo-China, Malesia, Papuasias.** Assam, Bangladesh, Pakistan, Sri Lanka. Andaman Is, Cambodia, Myanmar, Thailand, Vietnam. Java, Moluccas, Philippines, Sulawesi, Sumatra, Christmas I. New Guinea PNG, or West Papua (Irian Jaya). New Guinea, Solomon Is (*). **Australia.** Western Australia, Northern Territory, Queensland. **Southwestern Pacific, South-central Pacific, Northwestern Pacific, North-central Pacific.** Fiji (*), New Caledonia (*), Samoa (*), Tonga (*). Cook Is (*), Marquesas, Society Is (*). Caroline Is (*), Marianas (*), Marshall Is (*). Hawaii (*). **South-central USA, Southeastern USA, Mexico.** Texas. Georgia, Louisiana. Central Mexico, Northeast Mexico, Gulf (Mexico), Northwest Mexico, Southwest Mexico, Southeast Mexico. **Mesoamerica, Caribbean, Northern South America, Western South America, Brazil.** Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua. Bahamas, Bermuda, Cuba, Dominican Republic, Haiti, Jamaica (& as *Panicum*), Leeward Is, Windward Islands (& as

Panicum), Puerto Rico, Trinidad-Tobago, Venezuelan and Netherlands Antilles. French Guiana, Guyana, Venezuela. Colombia. Brazil West Central.

Guangdong, Guangxi, Hunan. Guizhou, Sichuan, Yunnan. Assam. Andhra Pradesh, Bihar, Delhi, Haryana, Karnataka. Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamilnadu, Uttar Pradesh, West Bengal. Jammu Kashmir. Mato Grosso do Sul. Morelos, Puebla. Neuvo Leon, San Luis Potosi, Tamaulipas. Veracruz. Sinaloa, Sonora. Colima, Guerrero, Jalisco, Michoacan, Nayarit, Oaxaca. Campeche, Chiapas, Yucatan.

Brachiaria reticulata (Urochloa) Stapf. Prain, *Fl. Trop. Afr.* 9: 522 (1919).

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

TYPE from DRC. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: *Vanderyst 3864*, Zaire: Lower Guinea, Stanley Pool District: Mokaba (BR). ST: *Vanderyst 3889*, Zaire: Lower Guinea, Stanley Pool District: Mokaba (BR). ST: *Vanderyst 3619*, Zaire: Lower Guinea, Stanley Pool District: Mokaba (BR). ST: *Vanderyst 3687*, Zaire: Lower Guinea, Stanley Pool District: Kitebe (BR). ST: *Vanderyst 3971*, Zaire: Lower Guinea, Stanley Pool District: on sand banks at Musehie (BR).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. reticulum*, net; -ata, possessing. Glumes net-veined.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose, clumped loosely. Culms geniculately ascending or decumbent, slender, 15–45 cm long. Lateral branches ample or fastigiate. Leaf-sheaths glabrous on surface, outer margin hairy. Ligule a fringe of hairs. Leaf-blade base broadly rounded. Leaf-blades lanceolate, 2.5–7.5 cm long, 7–9 mm wide. Leaf-blade surface glabrous. Leaf-blade margins cartilaginous, crenate, scaberrulous. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Racemes 1–3, single or borne along a central axis, erect or ascending, unilateral, 2–4 cm long. Central inflorescence axis 1–5 cm long. Rhachis narrowly winged, with sharp-edged midrib, angular, 0.5–1 mm wide, glabrous on margins. Spikelet packing adaxial, regular, 1 -rowed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, smooth, glabrous, tip discoid.

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, compressed slightly, obtuse, 2.5–3 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.33–0.5 length of spikelet, membranous, without keels, 11 -veined. Lower glume surface glabrous. Lower glume apex obtuse. Upper glume oblong, 1 length of spikelet, membranous, without keels, 7–9 -veined. Upper glume lateral veins with cross-veins. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, with cross-veins, obtuse or acute. Fertile lemma oblong, 2.5–3 mm long, indurate, pallid, without keel. Lemma surface smooth or pitted. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate, without keels.

Flower and Fruit. Anthers 3, 0.5 mm long.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West-Central Tropical Africa. DRC.

Urochloa rudis Stapf. Prain, *Fl. Trop. Afr.* ix. 597 (1920).

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 Synonymy Database: Nile Land. Italian Somaliland: Gharabwein near Obbia Drake, *Brockman 954*.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. uncultivated*. Species whose relatives are often cultivated.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms decumbent, 20–100 cm long, rooting from lower nodes. Ligule a fringe of hairs. Leaf-blades linear or lanceolate, 2–15 cm long, 6–20 mm wide. Leaf-blade surface pubescent, moderately hairy or densely hairy.

Inflorescence. Inflorescence composed of racemes. Racemes 2–5, borne along a central axis, unilateral, 2–6 cm long. Central inflorescence axis 2–6 cm long. Rhachis narrowly winged, angular, glabrous on margins. Spikelet packing abaxial, regular, 2 -rowed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, bearing a few hairs.

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, compressed moderately, plano-convex, cuspidate, 3.5–5 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume oblate, clasping, 0.1–0.25 length of spikelet, hyaline, without keels, 0–3 -veined. Lower glume apex truncate. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 11 -veined. Upper glume surface tuberculate, glabrous or setose, with tubercle-based hairs. Upper glume apex cuspidate.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to upper glume, elliptic, 1 length of spikelet, chartaceous, 7 -veined, tuberculate, cuspidate. Palea of lower sterile floret becoming indurate on keels at maturity. Fertile lemma elliptic, dorsally compressed, 3 mm long, indurate, without keel, 7 -veined, more than 3-veined. Lemma surface reticulate. Lemma margins involute. Lemma apex obtuse, mucronate. Principal lemma awn 0.5 mm long overall. Palea indurate.

Distribution (TDWG). Continent. Africa.

Country /Province /State. Northeast Tropical Africa, East Tropical Africa. Somalia. Kenya, Tanzania.

Brachiaria rugulosa (Urochloa) Stapf. Prain, *Fl. Trop. Afr.* 9: 529 (1919).

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

TYPE from Kenya. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: *Lyne 154*, Africa: Nile Land: British East Africa: Nairobi ST: *Dowson 257(partly)*, Africa: Nile Land: British East Africa: Nairobi.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. ruga*, wrinkle; *-ula*, diminutive; *-osa*, abundance. Fertile lemma conspicuously wrinkled.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 50–100 cm long. Ligule a fringe of hairs. Leaf-blades 5–30 cm long, 2–10 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 2–12, borne along a central axis, unilateral, 2–10 cm long. Central inflorescence axis 3–20 cm long. Rhachis narrowly winged, ciliate on margins. Spikelet packing adaxial, regular, 2 -rowed. 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 elliptic, dorsally compressed, compressed slightly, acute, 2.8–3.5 mm long, falling entire. Rhachilla internodes brief up to lowest fertile floret.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.33 length of spikelet, membranous, without keels, 5–7 -veined. Lower glume apex obtuse. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, obtuse. Fertile lemma elliptic, 2.5–3 mm long, indurate, without keel. Lemma surface rugose. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate, without keels. Palea surface rugose.

Distribution (TDWG). Continent. Africa.

Country /Province /State. East Tropical Africa, South Tropical Africa. Kenya, Tanzania. Zambia, Zimbabwe.

Urochloa ruziziensis (R. Germ. & C.M. Evrard) Crins. *J. Arnold Arbor., Suppl. Ser.*, 1: 269: (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) (as *Brachiaria*), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Zaire. **Basionym or Replaced Name:** *Brachiaria ruziziensis* Germain & C. Evrard, *Bull. Jard. Bot. Brux.* 23: 373 (1953). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Zaire, Tsimuka: Germain 6214 (BR holo).

Illustrations (Books): L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (1077 & 1096, Fig. 209 & 215 as *Brachiaria*).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Ruzizi district, Zaire.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial. Rhizomes short. Culms decumbent, 50–100 cm long, 3–4 mm diam., rooting from lower nodes. Ligule a fringe of hairs. Leaf-blades lanceolate, 10–25 cm long, 11–15 mm wide. Leaf-blade surface pilose, hairy on both sides. Leaf-blade margins cartilaginous, scabrous.

Inflorescence. Inflorescence composed of racemes. Racemes (3–)5–7(–9), borne along a central axis, unilateral, 5–10 cm long. Central inflorescence axis 4–12 cm long. Rhachis broadly winged, foliaceous, with rounded midrib, 2–3.5 mm wide, ciliate on margins. Spikelet packing adaxial, regular, 2 -rowed. 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 elliptic, dorsally compressed, compressed slightly, cuspidate, 4–5 mm long, falling entire. Spikelet callus square. Rhachilla internodes elongated between glumes.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume oblate, clasping, 0.33–0.5 length of spikelet, membranous, without keels, 11–13 -veined. Lower glume apex obtuse. Upper glume oblong, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume surface pilose, hairy above. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, pilose, hairy above, acute. Fertile lemma elliptic, 4.5–5 mm long, indurate, without keel. Lemma surface striate. Lemma margins involute. Lemma apex apiculate. Palea involute, indurate, without keels.

Flower and Fruit. Anthers 3, 3.5 mm long.

$n = 9$. $2n = 18$ (1 ref TROPICOS).

Distribution (TDWG). **Continent.** Africa, Tropical Asia, Pacific, North America, South America.

Country /Province /State. **West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, Western Indian Ocean.** DRC. Ethiopia (inc. Eritrea). Kenya, Tanzania. Madagascar (*). **Malesia, Papuasias.** Philippines. New Guinea. **Southwestern Pacific.** New Caledonia. **Mexico.** Central Mexico, Southeast Mexico. **Mesoamerica, Caribbean, Western South America, Brazil.** Costa Rica, Panama. Colombia. Brazil West Central, Brazil Northeast, Brazil Southeast.

Distrito Federal (*). Pernambuco. Sao Paulo. Mexico State. Tabasco.

Brachiaria scalaris (Urochloa) Pilger. *Notizbl. Bot. Gart. Berlin*, 10: 269 (1928).

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

TYPE from Tanzania. **Basionym or Replaced Name:** *Panicum scalare* Mez, *Bot. Jahrb. Syst.* 34: 138 (1904). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: IT: *G.L.A. Volkens* 657, 15 Aug 1893, Tanzania: Kilimanjaro (K, US-1061495 (fragm.), US-1645183). ST: *Stuhlmann* 2286, Africa orient. Germanica: ad Ru-Nssoro T: *A. Stolz* 1261, 13 May 1912, Malawi: Kyimbala, 1350 m (WAG).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *scala*, ladder; *-aris*, pertaining to. Lemma ornamented with longitudinal striations.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms geniculately ascending or decumbent, 10–60 cm long. Ligule a fringe of hairs. Leaf-blades lanceolate, 1–10 cm long, 2–10 mm wide. Leaf-blade margins cartilaginous.

Inflorescence. Inflorescence composed of racemes. Racemes 3–20, borne along a central axis, unilateral, 0.5–3 cm long. Central inflorescence axis 1–7 cm long. Rhachis wingless, angular. Spikelet packing adaxial, irregular, 1–2 -rowed. Spikelets solitary or in pairs. 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 elliptic, dorsally compressed, compressed slightly, obtuse or acute, 1.5–2 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume orbicular, 0.33 length of spikelet, membranous, without keels, 3 -veined. Lower glume apex obtuse. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface glabrous or pubescent. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, glabrous or pubescent, obtuse. Fertile lemma elliptic, 1.5–2 mm long, indurate, without keel. Lemma surface granulate or striate. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

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

Country /Province /State. West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa. Rwanda, DRC. Eritrea, Ethiopia (inc. Eritrea), Sudan. Kenya, Tanzania, Uganda. Malawi, Zambia, Zimbabwe. **Arabian Peninsula. Indian Subcontinent.** India, Sri Lanka.

Brachiaria schoenfelderi (Urochloa) C.E.Hubb. & Schweickhardt. *Kew Bull.* 1936, 323. (1936).

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

TYPE from Namibia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Schoenfelder 584*, Mar 1931, Namibia: Grootfontein, on red soil near Gross Huis (PRE).

Illustrations (Books): M.A.N.Muller, *Grasses of South West Africa/Namibia* (1984).

Derivation (Clifford & Bostock 2007): In honor of Eberhard Bruno Willie Schoenfelder (1892–1969) South African farm manager and plant collector.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms geniculately ascending or decumbent, 30–80 cm long, without nodal roots or rooting from lower nodes. Ligule a fringe of hairs. Leaf-blades 3–15 cm long, 3–4 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 8–15, borne along a central axis, straight or arcuate, unilateral, 1–3.5 cm long, with branchlets at base of longer racemes, secondary branches racemulose. Central inflorescence axis 5–12 cm long. Rhachis wingless, angular, pilose on surface. Spikelet packing adaxial, regular, 2 -rowed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 0.2 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 ovate, dorsally compressed, compressed slightly, acute, 2–3.4 mm long, with hairs extending 0.5 mm beyond apex, falling entire, readily shedding fertile florets.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.5 mm long, 0.15 length of spikelet, membranous, without keels. Lower glume surface villous. Lower glume apex obtuse. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume lateral veins obscure. Upper glume surface villous. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, sulcate, villous, acute. Fertile lemma oblong, 2–3 mm long, cartilaginous, shiny, without keel. Lemma surface smooth. Lemma margins involute. Lemma apex obtuse. Palea involute, cartilaginous, without keels.

Distribution (TDWG). Continent. Africa.

Country /Province /State. South Tropical Africa and Southern Africa. Angola. Namibia.

Urochloa sclerochlaena Chiov. *Webbia*, viii. 84 (1951).

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

TYPE from Kenya/Ethiopia border. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Ethiopia, Elolo: Corradi 107 (FI syn).

Illustrations (Books): S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (231, Fig. 93).

Derivation (Clifford & Bostock 2007): Gk. *skleros*, hard; *chlaena*, cloak. Lemmas and sometimes glumes cartilaginous.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 30–40 cm long. Ligule a fringe of hairs. Leaf-blades lanceolate, 2–5 cm long, 4–12 mm wide. Leaf-blade surface pubescent, densely hairy.

Inflorescence. Inflorescence composed of racemes. Racemes 2–5, borne along a central axis, unilateral, 1–3 cm long. Central inflorescence axis 1–4 cm long. Rhachis angular. Spikelet packing irregular, 2–3 -rowed. Spikelets in pairs. Fertile spikelets sessile and 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 elliptic, dorsally compressed, compressed slightly, plano-convex, acute or acuminate, 2.5–4 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume oblate, clasping, 0.1–0.25 length of spikelet, hyaline, without keels, 0 -veined. Lower glume lateral veins absent. Lower glume apex truncate. Upper glume elliptic, 1 length of spikelet, coriaceous, without keels, 11 -veined. Upper glume surface spinose or tuberculate. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, elliptic, 1 length of spikelet, coriaceous, 7 -veined, spinulose or tuberculate, cuspidate. Palea of lower sterile floret becoming indurate on keels at maturity. Fertile lemma elliptic, dorsally compressed, 2–3 mm long, indurate, without keel. Lemma surface granulate. Lemma margins involute. Lemma apex obtuse or acute, mucronate. Principal lemma awn 0.2 mm long overall. Palea indurate.

Distribution (TDWG). Continent. Africa.

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

Urochloa semiundulata (Hochst. ex A. Rich.) Ashalatha & V.J. Nair. *Bull. Bot. Surv. India* 35 (1–4): 29. 1993 [1997].

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Brachiaria*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.L.Bor, *Grasses of Burma, Ceylon, India and Pakistan* (1960).

TYPE from Ethiopia. **Basionym or Replaced Name:** *Panicum semiundulatum* Hochst. ex A. Rich., *Tent. Fl. Abyss.* 2: 364–365 (1850). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: *Schimper, pl. Schimp. Abyss., sect. III*, 1833, 10 Oct 1840, Ethiopia: Shire (?; IST: US-1645182, K, MO). ST: *Schimper, pl. Schimp. Abyss., sect. I*, 289, 25 Sep 1837, Ethiopia (Adoa), locis graminosis opacis prope Adoam (?; IST: K, MO, US-1061570, US-945154).

Recent Synonyms: *Brachiaria semiundulata* (A.Rich.) Stapf, Prain, *Fl. Trop. Afr.* 9: 556 (1919).

Illustrations (Books): S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (223, Fig 91 as *Brachiaria*), K.M.Matthew, *Further Illustrations on the Flora of Tamilnadu Carnatic* (1988) (pl.729 as *Brachiaria*), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 729 as *Brachiaria*).

Derivation (Clifford & Bostock 2007): L. *semi-*, half; *undulatus*, wavy. Inflorescence branches flexuous.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms geniculately ascending, 5–40 cm long. Ligule a fringe of hairs. Leaf-blades lanceolate or ovate, 1–4 cm long, 2–15 mm wide. Leaf-blade margins cartilaginous.

Inflorescence. Inflorescence composed of racemes. Racemes 3–18, borne along a central axis, unilateral, 0.5–1 cm long. Central inflorescence axis 1–6 cm long. Rhachis wingless, angular. Spikelet packing adaxial, regular, 2-rowed. 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 orbicular, dorsally compressed, compressed slightly, gibbous (almost hemispherical), obtuse or subacute, 1.5–2 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.33 length of spikelet, membranous, without keels, 1–3 -veined. Lower glume apex obtuse or acute. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface glabrous or pubescent. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to upper glume, elliptic, 1 length of spikelet, membranous, 5 -veined, glabrous or pubescent, acute. Fertile lemma elliptic, hemispherical, 1.5–2 mm long, indurate, without keel. Lemma surface granulate or striate. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Flower and Fruit. $2n = 36$ (2 refs TROPICOS).

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

Country /Province /State. West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa. Rwanda, DRC. Ethiopia (inc. Eritrea), Sudan. Kenya, Tanzania, Uganda. China. China South Central, Hainan. Indian Subcontinent. Sri Lanka.

Yunnan. Kerala. Maharashtra, Tamilnadu.

Urochloa semiverticillata (Rottler ex Steud.) Ashalatha & V.J. Nair. *Bull. Bot. Surv. India* 35 (1–4): 29. 1993 [1997].

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Brachiaria*), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. **Basionym or Replaced Name:** *Panicum semiverticillatum* Rottler ex Steud., *Syn. Pl. Glumac.* 1: 62 (1853).

Recent Synonyms: *Brachiaria semiverticillata* (Rottl.) Alston, *Trimen, Hand-Book Fl. Ceylon*, 6 Suppl., 318 (1931).

Illustrations (Books): K.M.Matthew, *Illustrations on the Flora of Tamilnadu Carnatic* (1982) (Pl. 817 & 818).

Derivation (Clifford & Bostock 2007): L. *semi-*, half; *verticillus*, whorl; *-ata*, possessing. Having inflorescences with secondary branching tending towards verticillate.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial. Culms erect, 60–100 cm long. Culm-nodes pubescent. Ligule a fringe of hairs. Leaf-blade base broadly rounded. Leaf-blades lanceolate, 12–20 cm long, 7–20 mm wide. Leaf-blade surface glabrous. Leaf-blade margins cartilaginous, crenate. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 5–30, borne along a central axis, simply spaced or the lowest whorled, unilateral, 3–10 cm long. Central inflorescence axis 10–20 cm long. Rhachis wingless, subterete, pubescent on surface. Spikelet packing distant, irregular. Spikelets in pairs. Fertile spikelets pedicelled. Pedicels present, filiform, 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 ovate, dorsally compressed, compressed slightly, obtuse, 3.2–4 mm long, falling entire. Rhachilla internodes elongated below proximal fertile floret. Rhachilla elongation stout (wider than long), 0.2 mm long.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.33 length of spikelet, membranous, without keels, 5 -veined. Lower glume apex obtuse. Upper glume ovate, 1 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 similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, acute. Fertile lemma elliptic, 3–4 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex acute or apiculate. Palea involute, indurate, without keels.

Flower and Fruit. *n* = 18 (1 ref TROPICOS).

Distribution (TDWG). **Continent.** Tropical Asia.

Country /Province /State. **Indian Subcontinent.** India, Sri Lanka.
Tamilnadu.

Brachiaria serpens (Urochloa) (Kunth) C. E. Hubbard. *Kew Bull.* 1939, 654 (1940).

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

TYPE from Mauritius. **Basionym or Replaced Name:** *Panicum serpens* Kunth, *Revis. Gramin.* 1: 3 (1829). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Nov. Holl. Ins. Franc.", "Insulae Franciae et ? Bourboniae.",.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. serpo*, creep. Plants conspicuously rhizomatous or scandent.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, mat forming. Culms prostrate, slender, 2–5 cm long, rooting from lower nodes. Ligule a fringe of hairs or absent. Leaf-blades 0.5–2 cm long, 0.8–2 mm wide. Leaf-blade surface puberulous. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes, shorter than basal leaves, embraced at base by subtending leaf. Racemes 1, single, unilateral, 0.3–0.5 cm long, bearing few fertile spikelets, bearing 2–9 fertile spikelets on each. Rhachis wingless, angular, 0.2 mm wide. Spikelet packing adaxial. Spikelets solitary or in pairs. Fertile spikelets pedicelled. Pedicels present, oblong, 0.2–0.5 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 elliptic, dorsally compressed, compressed slightly, acute, 1.5–2 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.5 length of spikelet, membranous, without keels, 1–3 -veined. Lower glume lateral veins absent or distinct. Lower glume apex acuminate. Upper glume ovate, 1 length of spikelet, membranous, without keels, 9–13 -veined. Upper glume surface puberulous. 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, 9–13 -veined, puberulous, acute. Fertile lemma elliptic, 1.5–2 mm long, indurate, without keel. Lemma surface smooth. Lemma margins involute. Lemma apex apiculate. Palea involute, indurate, without keels.

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

Country /Province /State. **Western Indian Ocean.** Mauritius, Madagascar, Reunion.

Brachiaria serrata (Urochloa) (Thunb.) Stapf. *Prain, Fl. Trop. Afr.* 9: 537 (1919).

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

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

Recent Synonyms: *Brachiaria brachylopha* Stapf in Prain, *Fl. Trop. Afr.* ix. 539 (1919).

Illustrations (Books): L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (Plt. 12), G.E.Gibbs Russell et al, *Grasses of Southern Africa* (1990) (63, Fig 29), S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (223, Fig 91), R.Pilger, *Die Natürlichen Pflanzenfamilien* 14e (1940) (27, Fig. 14).

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

Derivation (Clifford & Bostock 2007): *L. serra*, saw; -*ata*, possessing. Margins of leaf-blades or pedicels with short stiff hairs or hair-bases.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths villous or woolly. Culms 20–100 cm long. Ligule a fringe of hairs. Leaf-blades 5–25 cm long, 2–10 mm wide. Leaf-blade surface glabrous or pubescent or pilose. Leaf-blade margins cartilaginous.

Inflorescence. Inflorescence composed of racemes. Racemes 5–15, borne along a central axis, unilateral, 0.5–2 cm long. Central inflorescence axis 3–15 cm long. Rhachis wingless, angular, with scattered hairs. Spikelet packing adaxial, crowded, regular, 2 -rowed. 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 ovate, dorsally compressed, compressed slightly, cuspidate, 2.3–4.5 mm long, falling entire. Spikelet callus brief.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.5 length of spikelet, membranous, without keels, 3 -veined. Lower glume surface pubescent. Lower glume apex obtuse. Upper glume oblong, 1 length of spikelet, cartilaginous, without keels, 5 -veined. Upper glume surface pubescent, with a transverse fringe of hair. Upper glume apex cuspidate.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, cartilaginous, thinner along midline, 5 -veined, pubescent, with dorsal tufts of hair, cuspidate, muticous or mucronate or awned. Awn of lower sterile floret 0–1 mm long. Fertile lemma ovate, 2–2.5 mm long, indurate, without keel. Lemma surface striate. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Flower and Fruit. Anthers 3, 2 mm long.

$n = 18$ (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. Burkina, Ivory Coast, Nigeria, Togo. DRC. Eritrea, Ethiopia (inc. Eritrea), Somalia. Kenya, Tanzania, Uganda. Angola, Malawi, Mozambique, Zambia, Zimbabwe. Namibia, Botswana, Limpopo, North-West, Gauteng, Mpumalanga, Swaziland, Free State, Kwazulu-Natal, Lesotho, Northern Cape, Western Cape, Eastern Cape.

Brachiaria serrifolia (Urochloa) (Hochst.) Stapf. Prain, *Fl. Trop. Afr.* 9: 548 (1919).

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

TYPE from Ethiopia. **Basionym or Replaced Name:** *Panicum serrifolium* Hochst., *Flora* 38: 196 (1855)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Schimper 2171*, Ethiopia (?; IT: K, P).

Illustrations (Books): S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (226, Fig 92 as *Brachiaria*).

Derivation (Clifford & Bostock 2007): *L. serra*, saw; *folium*, leaf. Leaf-blade margins spinulosly toothed.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms 40–100 cm long. Ligule a fringe of hairs. Leaf-blade base cordate or amplexicaul. Leaf-blades lanceolate, 5–25 cm long, 8–25 mm wide. Leaf-blade margins cartilaginous, serrulate.

Inflorescence. Inflorescence composed of racemes. Racemes 3–14, borne along a central axis, ascending or appressed, unilateral, 3–10 cm long. Central inflorescence axis 5–20 cm long. Rhachis wingless, angular. Spikelet packing lax, irregular. Spikelets in pairs. 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 obovate, dorsally compressed, compressed slightly, subacute or acute, 4–5 mm long, falling entire. Rhachilla internodes brief up to lowest fertile floret.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.33–0.5 length of spikelet, membranous, without keels, 3–5 -veined. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5–7 -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, 5 -veined, acute. Fertile lemma elliptic, 3.5–4.5 mm long, indurate, without keel. Lemma surface corrugate. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West Tropical Africa, West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa. Niger. Eritrea, Ethiopia (inc. Eritrea), Sudan. Kenya, Tanzania, Uganda. Zimbabwe.

Urochloa setigera (Retz.) Stapf. Prain, *Fl. Trop. Afr.* 9: 598 (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).

TYPE from China. **Basionym or Replaced Name:** *Panicum setigerum* Retz., *Obs.* 4: 15 (1786). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: China: Bladh (LD holo).

Recent Synonyms: *Urochloa cordata* Keng ex S.L. Chen & Y.X. Jin, *Acta Phytotax. Sin.* 22(6): 472 (1984).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 731), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (Fig. 191).

Derivation (Clifford & Bostock 2007): L. *seta*, bristle; *gero*, carry. With hairs or awns on the glumes or lemmas.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial. Culms decumbent, 20–40 cm long. Ligule a fringe of hairs. Leaf-blade base broadly rounded. Leaf-blades lanceolate, 3–12 cm long, 5–20 mm wide. Leaf-blade margins glabrous or ciliate.

Inflorescence. Inflorescence composed of racemes. Racemes 2–8, borne along a central axis, unilateral, 2–5 cm long. Central inflorescence axis 1–7 cm long. Rhachis wingless, angular, glabrous on surface or with scattered hairs. Spikelet packing abaxial, irregular, 2–4 -rowed. Spikelets solitary or in pairs. Fertile spikelets sessile and pedicelled. Pedicels present, bearing a few hairs.

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, compressed moderately, plano-convex, acute, 3–4(–4.5) mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.5 length of spikelet, membranous, without keels, 3–5 -veined. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 7–9 -veined. Upper glume surface glabrous or pubescent. Upper glume apex acuminate.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, glabrous or pubescent, acuminate. Fertile lemma orbicular, dorsally compressed, 2 mm long, indurate, without keel. Lemma surface reticulate. Lemma margins involute. Lemma apex obtuse, mucronate. Principal lemma awn 0.2–0.5 mm long overall. Palea indurate.

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

Country /Province /State. West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa. DRC. Ethiopia (inc. Eritrea). Kenya, Tanzania. **China.** Hainan, China Southeast. **Indian Subcontinent, Indo-China.** Bangladesh, India, Nepal, Sri Lanka. Myanmar, Thailand. Guangdong.

***Brachiaria stefaninii* (*Urochloa*)** Chiov. *Pl. Nov. Aethiop.* 23 (1928).

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

TYPE from Somalia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Somalia: Puccioni & Stefanini 909 (FT holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Giuseppe Stephanini (fl. 1882–1938) Italian botanist.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Rootstock evident. Cataphylls evident. Culms 25–30 cm long. Culm-internodes distally pubescent. Culm-nodes bearded. Lateral branches fastigiate. Leaves distichous. Leaf-sheaths puberulous. Ligule a fringe of hairs. Leaf-blades 3–6 cm long, 3–4 mm wide, stiff, glaucous. Leaf-blade surface puberulous, densely hairy, hairy on both sides. Leaf-blade margins cartilaginous, ciliate. Leaf-blade apex attenuate.

Inflorescence. Inflorescence composed of racemes. Peduncle 13–17 cm long. Racemes 3–5, borne along a central axis, erect or ascending, unilateral, 0.7–1.5 cm long. Rhachis wingless, angular, scaberulous on margins. Spikelets in pairs. Fertile spikelets sessile and pedicelled. Pedicels present, 1–1.5 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 lanceolate or elliptic, dorsally compressed, 3.5 mm long, 1.5 mm wide, falling entire. Rhachilla internodes elongated between glumes.

Glumes. Glumes shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 2.3 mm long, 0.66 length of spikelet, membranous, without keels, 3 -veined. Lower glume surface villous. Lower glume apex acute. Upper glume ovate, 3 mm long, 0.8–0.9 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface villous. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 3.5 mm long, 1 length of spikelet, membranous, 5 -veined, villous, acute. Fertile lemma elliptic, 3 mm long, indurate, shiny, without keel. Lemma surface smooth. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Africa.

Country /Province /State. Northeast Tropical Africa. Somalia.

Brachiaria stigmatisata (Urochloa) (Mez) Stapf. Prain, *Fl. Trop. Afr.* 9: 520 (1919).

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

TYPE from Chad. **Basionym or Replaced Name:** *Panicum stigmatisatum* Mez, *Bot. Jahrb. Syst.* 34(1): 140 (1904). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Ghasalquellengebiet: Land der Djur, grosse Seriba Ghattas, *Schweinfurth* 2299 (B).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. stigma*, mark; *-atum*, possessing. Lemma of upper floret punctate-rugulose.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, culms solitary or caespitose. Culms decumbent, 30–60 cm long. Ligule a fringe of hairs. Leaf-blades linear or lanceolate, 2.5–18 cm long, 6–12 mm wide. Leaf-blade margins cartilaginous, crenate, scabrous.

Inflorescence. Inflorescence composed of racemes. Racemes 1–3, borne along a central axis, unilateral, 2.5–8 cm long. Central inflorescence axis 2–5 cm long, tip without extension or filiform. Rhachis narrowly winged, angular, 1 mm wide, ciliate on margins. Spikelet packing adaxial, regular, 1–2 -rowed. 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, dorsally compressed, compressed slightly, acute, 4–4.5 mm long, falling entire.

Glumes. Glumes similar, reaching apex of florets, thinner than fertile lemma. Lower glume oblong, clasping, 0.66 length of spikelet, membranous, without keels, 11 -veined. Lower glume lateral veins with cross-veins. Lower glume surface glabrous. Lower glume apex obtuse. Upper glume oblong, 1 length of spikelet, membranous, without keels, 9 -veined. Upper glume lateral veins with cross-veins. Upper glume surface glabrous. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male or barren, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, with cross-veins, glabrous, acute. Fertile

lemma elliptic, 3 mm long, indurate, shiny, without keel. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate, without keels.

Flower and Fruit. Anthers 3, 0.5 mm long. Caryopsis with adherent pericarp, ellipsoid, 2 mm long. Embryo 0.75 length of caryopsis.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West Tropical Africa, West-Central Tropical Africa, Northeast Tropical Africa. Gambia, Ghana, Ivory Coast, Mali, Nigeria, Senegal. Sudan.

Urochloa subquadriflora (Trin.) R.D. Webster. *Australian Paniceae* (Poac.): 252: (1987).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Brachiaria*), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006) (as *Brachiaria*), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960) (as *Brachiaria subquadriflora* & *B. miliiformis*), T.Koyama, *Grasses of Japan and its neighboring regions* (1987) (as *Brachiaria*), W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).

TYPE from Australia. **Basionym or Replaced Name:** *Panicum subquadriflorum* Trin., *Gram. Panic.* 145 (1826). T:<Type of Basionym>: fide TROPICOS and Kew Synonymy Database: LT: *Chamisso s.n.*, LT designated by ?; cited by Veldkamp, *Blumea* 41: 426 (1996).

Recent Synonyms: *Brachiaria miliiformis* (Presl) Chase, *Contrib. U.S. Nat. Herb.* 22: 35 (1920).

Illustrations (Books): T.Koyama, *Grasses of Japan and its neighbouring regions* (1987) (366, Fig 143 as *Brachiaria*), C-C Hsu, *Taiwan Grasses* (1975) (as *Brachiaria*), H.Duistermaat, *Field Guide to the Grasses of Singapore* (2005) (139, Fig.146), E.E.Henty, *A Manual of the Grasses of New Guinea* (1969) (41, Pl. 10 as *Brachiaria*), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (431, Fig. 361 as *Brachiaria*), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler., *Grasses of New South Wales*, 4th edn (2008) (396), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989) (219, Fig. 35 as *Brachiaria*), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002) (as *Brachiaria*), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 25 *Poaceae*, part 2 (2003) (502), J.Th.Henrard, *Monograph of the genus Digitaria* (1950) (as *Panicum*), H.J.Noltie, *The Grasses of Bhutan* (2000) (707, Fig. 40), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 730 as *Brachiaria subquadriflora* var. *subquadriflora*).

Images: H.Duistermaat, *Field Guide to the Grasses of Singapore* (2005);.

Derivation (Clifford & Bostock 2007): *L. sub*, almost; *quadri*, four; *pario*, bear. Inflorescence mostly of four racemes.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, mat forming. Culms prostrate, 10–50 cm long. Ligule a fringe of hairs. Leaf-blades linear or lanceolate, 2–20 cm long, 5–10 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 3–5, borne along a central axis, unilateral, 2–6 cm long. Central inflorescence axis 3–10 cm long. Rhachis narrowly winged, glabrous on margins. Spikelet packing adaxial, regular, 2 -rowed. 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 elliptic, dorsally compressed, compressed slightly, acute, 3.3–3.7 mm long, falling entire. Rhachilla internodes elongated between glumes.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.33–0.5 length of spikelet, membranous, without keels, 5–7 -veined. Lower glume apex obtuse. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5–7 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, acute. Fertile lemma elliptic, 3–3.5 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels. Palea surface rugose.

Flower and Fruit. $n = 36$ (3 refs TROPICOS), or 42 (1 ref TROPICOS). $2n = 72$ (2 refs TROPICOS).

Distribution (TDWG). Continent. Africa, Temperate Asia, Tropical Asia, Australasia, Pacific, South America.

Country /Province /State. West Tropical Africa, West-Central Tropical Africa, East Tropical Africa, Western Indian Ocean. DRC. Kenya, Tanzania, Uganda. Mauritius, Madagascar, Seychelles. China, Eastern Asia. Hainan, China Southeast. Kazan-retto, Nansei-Shoto, Ogosawara-shoto, Taiwan. Indian Subcontinent, Indo-China, Malesia, Papuasias. Assam, Bangladesh, Eastern Himalaya, Sri Lanka. Andaman Is, Thailand. Java, Malaya, Singapore, Philippines, Christmas I. New Guinea, Solomon Is (*). Australia (*). Western Australia, Northern Territory, South Australia, Queensland, New South Wales. Southwestern Pacific, South-central Pacific, Northwestern Pacific, North-central Pacific. Fiji (*), Gilbert Is (*), Niue (*), New Caledonia (*), Phoenix Archipelago (*), Samoa (*), Tonga (*), Vanuatu (*), Wallis-Futuna Is (*). Cook Is (*). Caroline Is (*), Marianas (*), Marshall Is (*). Hawaii (*). Mesoamerica, Western South America. Colombia.

Fujian, Guangdong, Guangxi, Hunan, Jiangxi. Guizhou, Yunnan. Darjeeling, Bhutan. Assam. Bihar, Kerala. West Bengal.

Brachiaria subrostrata (Urochloa) A. Camus. *Bull. Soc. Bot. France*, 73: 691 (1927).

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

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: IT: *P.E. Perrier de la Bathie 13661*, no date, Madagascar: Antananarivo (US-1298201 (fragm.)).

Illustrations (Books): J.Bosser, *Graminees des Paturage et des Cultures a Madagascar* (1969) (409, Fig 155).

Derivation (Clifford & Bostock 2007): *L. sub-*, almost; *rostrum*, beak. Upper glumes and sterile lemmas less conspicuously beaked than in other species of the genus.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Stolons present. Culms decumbent, 7–20 cm long, rooting from lower nodes. Culm-nodes pubescent. Leaf-sheaths pilose. Ligule a fringe of hairs. Leaf-blade base broadly rounded. Leaf-blades linear or lanceolate, 1.5–7 cm long, 3–7 mm wide. Leaf-blade surface pilose, hairy on both sides.

Inflorescence. Inflorescence composed of racemes. Racemes 2–5, borne along a central axis, unilateral, 1–2 cm long. Central inflorescence axis 1.5–3.5 cm long, pilose. Rhachis wingless, angular. Spikelet packing adaxial, irregular. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear or oblong.

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, compressed slightly, acute, 3–3.5 mm long, with hairs extending 0.5 mm beyond apex, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.2 length of spikelet, membranous, without keels, 0 -veined. Lower glume lateral veins absent. Lower glume margins ciliate. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume lateral veins ribbed. Upper glume surface pubescent, with a transverse fringe of hair. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, ribbed, pubescent, with a transverse fringe of hair, acute. Fertile lemma ovate, 2.5 mm long, indurate, without keel. Lemma surface granulate. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Africa.

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

Urochloa subulifolia (Mez) W.D. Clayton. *Molec. Phylogenet. Evol.* 37: 42 (2005).

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

TYPE from South Africa. **Basionym or Replaced Name:** *Panicum subulifolium* Mez, *Bot. Jahrb. Syst.* 34(1): 135 (1979) [1980]. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Wahlenberg s.n.*, South Africa: Cape (S).

Recent Synonyms: *Brachiaria subulifolia* (Mez) W.D. Clayton, *Kew Bull.*, 34 (3): 559 (1980).

Illustrations (Books): G.V.Pope et al., *Flora Zambesiaca* 10 (3(1989):67, t. 16).

Derivation (Clifford & Bostock 2007): *L. subulus*, fine sharp point; *folium*, a leaf. Leaf-blades narrow, tapering.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 20–100 cm long. Ligule a fringe of hairs. Leaf-blades filiform, terete, 5–20 cm long, 0.5–1 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes (1–)2–4, borne along a central axis, unilateral, 1–3 cm long. Central inflorescence axis 1–5 cm long. Rhachis wingless, angular, ciliate on margins. Rhachis hairs white or yellow. Spikelet packing adaxial, regular, 2 -rowed. 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 elliptic, dorsally compressed, compressed slightly, subacute, 2.8–4 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume oblong, 0.66–0.75 length of spikelet, membranous, without keels, 5–9 -veined. Lower glume surface pubescent. Lower glume apex obtuse. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5–7 -veined. Upper glume lateral veins with cross-veins. Upper glume surface pubescent. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, with cross-veins, pubescent, obtuse. Fertile lemma elliptic, 2.5–3.5 mm long, indurate, without keel. Lemma surface granulose. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West-Central Tropical Africa, East Tropical Africa, South Tropical Africa, Southern Africa. DRC. Tanzania. Angola, Malawi, Zambia, Zimbabwe. Limpopo, Gauteng, Mpumalanga.

Urochloa supervacua (Clarke) Noltie. *Edinb. J. Bot.* 56:394 (1999).

TYPE from India. **Basionym or Replaced Name:** *Brachiaria ramosa*, *Panicum supervacuum* C.B.Clarke, *Journ. Linn. Soc.* 24: 407 (1888). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: India: Clarke 35103 (K lecto, BM islecto).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (Fig. 192).

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (Pl. 28).

Derivation (Clifford & Bostock 2007): L. redundant. There is an extra second sterile lemma between the lower sterile lemma and fertile lemma.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. Indian Subcontinent. Eastern Himalaya. Bhutan.

Urochloa tanimbarensis (Ohwi) J.F. Veldkamp. *Blumea*, 41(2): 431 (1996).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Brachiaria*), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Moluccas. **Basionym or Replaced Name:** *Brachiaria tanimbarensis* Ohwi, *Bull. Tokyo Sci. Mus.*, No. 18, 5 (1947). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Moluccas, Tanimbar: Buwalder 4050 (BO holo, K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Tanimbar, an Indonesian Island.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms 80–100 cm long. Ligule a fringe of hairs. Leaf-blades 10–20 cm long, 8–10 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence composed of racemes. Racemes 3–9, borne along a central axis, unilateral, 1.5–2 cm long. Central inflorescence axis 15–25 cm long. Rhachis broadly winged, 1 mm wide. Spikelet packing adaxial, regular, 2 -rowed. 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 elliptic, dorsally compressed, compressed slightly, subacute, 3–3.2 mm long, falling entire. Rhachilla internodes elongated between glumes.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume oblong, clasping, 0.33 length of spikelet, membranous, without keels, 11 -veined. Lower glume surface glabrous. Lower glume apex obtuse. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume surface pilose. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 7 -veined, sulcate, obtuse. Fertile lemma elliptic, 3–3.2 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate, without keels. Palea surface rugose.

Flower and Fruit. Anthers 3, 3–3.2 mm long.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. Malesia, Papuasias. Lesser Sunda Is, Moluccas. New Guinea.

Urochloa texana (Buckl.) R.D. Webster. *Australian Paniceae* (Poac.): 253: (1987).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Brachiaria*), D.Sharp, D. & B.K.Simon, *AusGrass* (2002) (as *Brachiaria*).

TYPE from USA. **Basionym or Replaced Name:** *Panicum texanum* Buckley, *Prelim. Rep. Surv. Texas* 3 (1866). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *S.B. Buckley s.n.*, USA: Texas: Travis Co.: Austin (PH; IT: US-81144 (fragm. ex PH)).

Illustrations (Books): S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler., *Grasses of New South Wales*, 4th edn (2008) (397), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002) (as *Brachiaria*), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 25 *Poaceae*, part 2 (2003) (496), F.W.Gould, *The Grasses of Texas* (1975) (440, Fig. 233 as *Panicum texanum*), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989) (219, Fig. 35 as *Brachiaria texana*), E.Hafliger & E.Schultz, *Grass Weeds, CIBA-GEIGY* (1:24(1980) as *Brachiaria*).

Derivation (Clifford & Bostock 2007): L. -ana, indicating location. From Texas, USA.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms geniculately ascending or decumbent, 40–120 cm long, rooting from lower nodes. Culm-nodes pubescent. Leaf-sheaths pubescent. Ligule a ciliate membrane, 1–1.5 mm long. Leaf-blades lanceolate, flat or conduplicate, 8–20 cm long, 7–20 mm wide. Leaf-blade surface pubescent, hairy on both sides.

Inflorescence. Inflorescence composed of racemes. Peduncle pubescent above. Racemes 3–10, borne along a central axis, unilateral, 3–7 cm long. Central inflorescence axis 7–18 cm long. Rhachis wingless, angular, pubescent on surface. Spikelet packing irregular. Spikelets in pairs. Fertile spikelets pedicelled. Pedicels present, linear, 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 elliptic, dorsally compressed, compressed slightly, acute, 5–6 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.66 length of spikelet, membranous, without keels, 5–7 -veined. Lower glume apex acute. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface pubescent. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, elliptic, 1 length of spikelet, membranous, 5 -veined, pubescent, acute. Fertile lemma elliptic, 3.5–4 mm long, indurate, without keel. Lemma surface rugose. Lemma margins involute. Lemma apex apiculate. Palea involute, indurate, without keels. Palea surface rugose.

Distribution (TDWG). Continent. Australasia (*), North America.

Country /Province /State. Australia (*). Queensland (*), New South Wales (*). **Southwestern USA, South-central USA, Southeastern USA, Mexico.** Arizona, California. New Mexico, Texas. Alabama, Arkansas, Florida, Georgia, Louisiana, South Carolina. Northeast Mexico, Southwest Mexico. Coahuila, Neuvo Leon, Tamaulipas, Zacatecas. Michoacan, Nayarit.

Urochloa trichopodioides (Mez & K.Schum) S.M.Phillips & S.L.Chen. *Novon* 13(4): 470 (2003).

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

TYPE from Tanzania. **Basionym or Replaced Name:** *Panicum trichopodioides* Mez & Schum, *Notizbl. Bot. Gart. Berlin-Dahlem* 7: 60 (1917). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: *Holst* 2844, Africa orient. Germanica, prope Amboni

ST: *herb. inst. Amani* 5333, Africa orient. ad Bukoba.

Illustrations: None found.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial. Culms decumbent, 20–40 cm long. Culm-internodes distally glabrous or pubescent. Ligule a fringe of hairs. Leaf-blade base broadly rounded. Leaf-blades lanceolate, 5.5–10 cm long, 10–18 mm wide. Leaf-blade margins scabrous, glabrous or ciliate, hairy at base.

Inflorescence. Inflorescence composed of racemes. Racemes 1–7, borne along a central axis, unilateral, 2–5 cm long. Central inflorescence axis 1–7 cm long. Rhachis wingless, angular, glabrous on surface or with scattered hairs. Spikelet packing abaxial, irregular, 2–4 -rowed. Spikelets solitary or in pairs. Fertile spikelets sessile and pedicelled. Pedicels present, bearing a few hairs.

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, compressed moderately, plano-convex, acute, 3–4(–4.5) mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma, shiny. Lower glume ovate, clasping, 0.5 length of spikelet, membranous, without keels, 3–5 -veined. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, cartilaginous, without keels, 7–9 -veined. Upper glume surface glabrous. Upper glume apex acuminate.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, cartilaginous, 5 -veined, glabrous, acuminate. Fertile lemma orbicular, dorsally compressed, 2 mm long, indurate, without keel. Lemma surface reticulate. Lemma margins involute. Lemma apex obtuse, mucronate. Principal lemma awn 0.4–0.6 mm long overall. Palea indurate.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West-Central Tropical Africa, Northeast Tropical Africa, and East Tropical Africa. DRC.

Urochloa trichopus (Hochst.) Stapf. Prain, *Fl. Trop. Afr.* ix. 589 (1920).

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 Sudan. **Basionym or Replaced Name:** *Panicum trichopus* Hochst., *Flora*, 27: 254 (1844). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Sudan, Kordofan: Kotschy 74 (K iso).

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (242, Fig. 170), R.M.Phillips, F.T.E.A., *Gramineae* (3(1982): 605, Fig 141), S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (231, Fig. 93 as *Urochloa*), T.A.Cope, in M.Thulin, *Poaceae* (Gramineae). *Flora of Somalia* (1995) (230, Fig. 131), R.Pilger, *Die Natürlichen Pflanzenfamilien* 14e (1940) (36, Fig. 19).

Illustrations (Journals): *Kew Bulletin* (57: 976, Fig.3 (2002)).

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

Derivation (Clifford & Bostock 2007): Gk. *thrix*, hair; *pous*, foot. Pedicels hairy.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms geniculately ascending, 20–170 cm long. Culm-nodes pubescent. Leaf-sheaths glabrous on surface or pubescent, with tubercle-based hairs, outer margin hairy. Ligule a fringe of hairs. Leaf-blade base broadly rounded or amplexicaul. Leaf-blades linear

or lanceolate, 5–30 cm long, 5–20 mm wide. Leaf-blade surface glabrous or hispid, with tubercle-based hairs. Leaf-blade margins ciliate. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Racemes 3–20, borne along a central axis, unilateral, 1–14 cm long. Central inflorescence axis 4–20 cm long. Rhachis narrowly winged, with sharp-edged midrib. Spikelet packing abaxial, regular, 2 -rowed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

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, compressed strongly, plano-convex, acuminate, 2.5–5.5 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume oblong, 0.6–0.8 length of spikelet, membranous, without keels, 3 -veined. Lower glume surface without hair tufts or with a dorsal tuft of hair. Lower glume apex obtuse. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface glabrous or pubescent. Upper glume apex acuminate.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1.2–1.3 length of fertile lemma, 1 length of spikelet, membranous, 5 -veined, ciliate on margins, acuminate. Fertile lemma orbicular, dorsally compressed, gibbous, hemispherical, 2–4 mm long, indurate, yellow, without keel, 5–7 -veined, more than 3-veined. Lemma surface granulose, rugulose. Lemma margins involute. Lemma apex obtuse, mucronate. Principal lemma awn 0.5–1 mm long overall. Palea orbicular, indurate. Palea apex obtuse.

Flower and Fruit. $2n = 28$ (1 ref TROPICOS).

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

Country /Province /State. **West Tropical Africa, West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Southern Africa.** Mali, Nigeria, Senegal. Chad, Eritrea, Ethiopia (inc. Eritrea), Somalia, Sudan. Kenya, Tanzania. Angola, Malawi, Mozambique, Zambia. Namibia, Botswana, Limpopo, Gauteng, Mpumalanga. **Arabian Peninsula.** Yemen.

Brachiaria tsiafajavonensis (Urochloa) A.Camus. *Bull. Soc. Bot. France* 72:622. (1925).

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

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Madagascar centr.: Mont Tsiafajavona, 2100 m, forest a sous-bois herbace, *Perrier de La Bathie* 14717 (HT: not designated).

Illustrations: None found.

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

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial. Culms prostrate, 25–35 cm long, with prop roots. Culm-internodes distally glabrous. Leaf-sheaths striately veined, outer margin hairy. Ligule an eciliate membrane. Leaf-blades lanceolate, 7–9 cm long, 8 mm wide. Leaf-blade surface glabrous. Leaf-blade margins scaberrulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 4–8, borne along a central axis, unilateral, 2–2.5 cm long. Central inflorescence axis 3–8 cm long. Spikelets in pairs. Fertile spikelets sessile and pedicelled. Pedicels present, linear, 0.8–3 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 linear or oblong, dorsally compressed, 3 mm long, falling entire.

Glumes. Glumes similar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.7–0.9 mm long, 0.33 length of spikelet, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume margins ciliolate or ciliate. Lower glume apex obtuse. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret similar to upper glume, oblong, 3 mm long, 1 length of spikelet, membranous, 5 -veined, sulcate, acute. Fertile lemma oblong, 3 mm long, indurate, without keel. Lemma surface unwrinkled. Lemma margins involute. Lemma apex apiculate. Palea involute, indurate, without keels.

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

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

Brachiaria turbinata (Urochloa) Van der Veken. *Bull. Jard. Bot. Brux.* 28: 77 (1958).

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

TYPE from DRC. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Zaire: Dist. Haut-Katanga: Kiubo, au sud des chutes de la Lufira, sable sur gres, 27 Jan 1954, *Van Oosten* 236 (HT: BR).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. turbo*, a top; -*ata*, possessing. Spikelets top-shaped.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms erect, 20–40 cm long, 7–9 -noded. Culm-nodes pubescent. Leaf-sheaths pilose, with tubercle-based hairs, outer margin hairy. Ligule a fringe of hairs, 0.2 mm long. Leaf-blades linear or lanceolate, 2.5–9 cm long, 5–10 mm wide. Leaf-blade margins cartilaginous, crenate, spinulose.

Inflorescence. Inflorescence composed of racemes. Racemes 5–10, borne along a central axis, unilateral, 1–2 cm long. Central inflorescence axis 5–9 cm long. Rhachis wingless, angular, ciliate on margins. Spikelet packing adaxial, regular, 2 -rowed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, setose (4–9mm hairs), tip oblique.

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 obovate (turbinate), dorsally compressed, compressed slightly, obtuse, 3 mm long, falling entire. Spikelet callus cuneate, 0.7–0.8 mm long, pubescent, base pungent, attached obliquely.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.4–0.5 length of spikelet, membranous, without keels, 3 -veined. Lower glume surface pilose. Lower glume apex acute. Upper glume obovate, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface pubescent, with a transverse fringe of hair. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, obovate, 1 length of spikelet, membranous, 5 -veined, pubescent, with a transverse fringe of hair, obtuse. Fertile lemma elliptic, 2 mm long, indurate, without keel, 5 -veined, more than 3-veined. Lemma surface punctate. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Flower and Fruit. Anthers 3, 1 mm long.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West-Central Tropical Africa. DRC.

Brachiaria umbellata (Urochloa) (Trin.) W.D.Clayton. *Kew Bull.*, 34(3): 559 (1980).

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

TYPE from Mauritius. **Basionym or Replaced Name:** *Panicum umbellatum* Trin., *Gram. Panic.* 238 (1826). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *F.W. Sieber* 34, Mauritius (?; IT: G, K, L, MO, US-2903023 (fragm.), US-1445762 (dup. ex G-DELES)).

Illustrations (Books): J.Bosser, *Graminees des Paturage et des Cultures a Madagascar* (1969) (333, Fig 124 as *Panicum umbellatum*).

Derivation (Clifford & Bostock 2007): *L. umbella*, parasol; -*ata*, possessing. Inflorescence branches whorled.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, mat forming. Culms prostrate, 8–15 cm long. Ligule a fringe of hairs. Leaf-blades lanceolate, 1–3 cm long, 2–6 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 4–6, borne along a central axis, unilateral, 0.5–3 cm long. Central inflorescence axis 0.5–2 cm long. Rhachis wingless, angular, pilose on surface. Spikelet packing adaxial, irregular. Raceme-bases filiform, 0.2–10 mm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform.

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, compressed slightly, acute, 1.5–2 mm long, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.15–0.25 length of spikelet, membranous, without keels, 0 -veined. Lower glume lateral veins absent. Lower glume apex emarginate or obtuse. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, acute. Fertile lemma elliptic, 1–1.5 mm long, coriaceous, without keel. Lemma surface papillose. Lemma margins involute. Lemma apex acute. Palea involute, coriaceous, without keels.

Distribution (TDWG). Continent. Africa.

Country /Province /State. East Tropical Africa, South Tropical Africa, Western Indian Ocean. Tanzania. Malawi, Mozambique, Zimbabwe. Comoros, Mauritius, Madagascar, Rodrigues, Seychelles.

Brachiaria umbratilis (Urochloa) Napper. *Kirkia*, 3: 124 (1963).

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

TYPE from Kenya. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Kenya, Meru: Bogdan 2719 (EA holo, K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. umbra*, any shady place; *-atile*, place of growth. Growing on wet, shaded river-banks.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Perennial, caespitose. Rootstock evident. Rhizomes short. Butt sheaths pubescent or woolly. Culms 30–100 cm long. Ligule a fringe of hairs. Leaf-blades linear or lanceolate, 4–10 cm long, 3–9 mm wide. Leaf-blade margins cartilaginous, crenate.

Inflorescence. Inflorescence composed of racemes. Racemes 5–10, borne along a central axis, unilateral, 1–5 cm long, simple or secondarily branched. Central inflorescence axis 3–10 cm long. Rhachis wingless, angular, pubescent on surface. Spikelet packing adaxial, irregular. Spikelets solitary or in pairs. Fertile spikelets pedicelled. Pedicels present, 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, compressed slightly, acute, 2.5–3 mm long, falling entire. Spikelet callus square.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.33–0.5 length of spikelet, membranous, without keels, 3 -veined. Lower glume apex acute. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface glabrous or pubescent. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, elliptic, 1 length of spikelet, membranous, 5 -veined, glabrous or pubescent, obtuse. Fertile lemma elliptic, 2–2.5 mm long, indurate, without keel. Lemma surface granulate. Lemma margins involute. Lemma apex acute. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West-Central Tropical Africa, East Tropical Africa. Rwanda. Kenya, Tanzania, Uganda.

Brachiaria urochlooides (Urochloa) (as urocoides) S.L. Chen & Y.X. Jin. *Acta Phytotax. Sin.* 22(6): 471–472, pl. 2. (1984).

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

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: China: Yunnan: Regio australis, 1956, *S.L. Liou s.n.* (HT: JSBI).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 730).

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resembling. Resembling *Urochloa*.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Butt sheaths glabrous or pubescent. Culms decumbent, 40–60 cm long. Leaf-sheaths glabrous on surface, outer margin hairy. Ligule a fringe of hairs. Leaf-blades 5–9 cm long, 3–5 mm wide. Leaf-blade surface pubescent, hairy on both sides, with tubercle-based hairs.

Inflorescence. Inflorescence composed of racemes. Racemes 2–4, borne along a central axis, unilateral, 1.5–3 cm long. Central inflorescence axis hirsute. Rhachis wingless, angular. Spikelet packing abaxial, lax, irregular, 1–2 -rowed. Spikelets solitary or in pairs. Fertile spikelets sessile and pedicelled. Pedicels present, 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, compressed moderately, symmetrical, acute, 4 mm long, falling entire.

Glumes. Glumes similar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.5–0.75 length of spikelet, membranous, without keels, 3–5 -veined. Lower glume apex acute. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 5–7 -veined. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret similar to upper glume, elliptic, 1 length of spikelet, membranous, 5 -veined, acute. Fertile lemma elliptic, dorsally compressed, 2.5 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex obtuse, mucronate. Palea indurate.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. China. China South Central. Yunnan.

Brachiaria uzondoiensis (Urochloa) Sanchez-Ken. Kew Bulletin 62:516 (2007).

TYPE from Tanzania. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Tanzania: Mpanda District: Uzondo Plateau, rocky outcrops with small seepage area, 1550 m, 16 Apr 2006, S. Bidgood, I. Darbyshire, K. Hoenselaar, G. Leliyo, G. Sánchez-Ken & K. Vollesen 5535 (HT: K; IT: BR, EA, MO, NHT, P).

Illustrations: None found.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Distribution (TDWG). Continent. Africa.

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

Urochloa venosa (Swallen) O. Morrone & F.O. Zuloaga. *Darwiniana*, 32:74 (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) (as *Brachiaria*).

TYPE from Mexico. **Basionym or Replaced Name:** *Panicum venosum* Swallen, *Contrib. U. S. Nat. Herb.* 29: 415 (1950). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Mexico, Apatzingan: Leavenworth 481 (US holo, MO).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. vena*, vein; *-osa*, abundance. Veins conspicuous or many branched.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms erect or geniculately ascending, 40 cm long. Culm-internodes 6 cm long, distally glabrous. Culm-nodes pubescent. Leaf-sheaths 3–7 cm long, glabrous on surface, outer margin hairy. Ligule a ciliate membrane, 1 mm long. Collar glabrous. Leaf-blade base broadly rounded. Leaf-blades lanceolate, 4–9 cm long, 5–9 mm wide. Leaf-blade surface pubescent. Leaf-blade margins cartilaginous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence composed of racemes. Racemes borne along a central axis, unilateral, 5–10 cm long, secondarily branched. Central inflorescence axis 2–4 cm long. Rhachis wingless, angular, glabrous on surface, scaberulous on margins, terminating in a sterile spikelet. Spikelet packing irregular. Raceme-bases linear. Spikelets solitary or in pairs. Fertile spikelets pedicelled. Pedicels present, linear, scaberulous.

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, compressed slightly, 2.4–2.6 mm long, 1–1.4 mm wide, falling entire.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 1.3–1.8 mm long, 0.5 length of spikelet, membranous, without keels, 5–7 -veined. Lower glume lateral veins transversely connected at apex. Lower glume apex acuminate. Upper glume oblong, 1 length of spikelet, membranous, without keels, 9–11 -veined. Upper glume lateral veins transversely connected at apex. Upper glume surface glabrous. 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, 11 -veined, with veins transversely connected at apex, glabrous, acute. Palea of lower sterile floret 0.5 length of lemma. Fertile lemma elliptic, 1.9 mm long, 1 mm wide, indurate, without keel, 5 -veined, 0–3 -veined. Lemma surface rugose. Lemma margins involute. Lemma apex apiculate. Palea involute, indurate, without keels. Palea surface rugose.

Flower and Fruit. Anthers 3, 0.8 mm long. Caryopsis with adherent pericarp, ovoid, 1.5 mm long. Embryo 0.5 length of caryopsis. Hilum punctiform.

Distribution (TDWG). Continent. North America.

Country /Province /State. Mexico. Southwest Mexico. Michoacan.

Urochloa villosa (Lam.) Nguyen. *Novit. Syst. Pl. Vasc., Acad. Sci. URSS*, 14 (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), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006) (as *Brachiaria*), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*), N.L.Bor, *Grasses of Burma, Ceylon, India and Pakistan* (1960) (as *Brachiaria*), T.Koyama, *Grasses of Japan and its neighboring regions* (1987) (as *Brachiaria*).

TYPE from India. **Basionym or Replaced Name:** *Brachiaria distichophylla*, *Panicum villosum* Lam., *Illustr.* 1: 173 (1791). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: India: Sonnerat (P holo).

Illustrations (Books): C-C Hsu, *Taiwan Grasses* (1975) (492 as *Brachiaria*), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 25 *Poaceae*, part 2 (2003) (502), H.J.Noltie, *The Grasses of Bhutan* (2000) (707, Fig. 40 as var. *villosa*, *barbata*), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 729 as *Brachiaria villosa* var. *villosa*), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (Fig. 193).

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (Pl. 28).

Derivation (Clifford & Bostock 2007): *L. villi*, long weak hairs; *-osa*, abundance. The plant in whole or in part covered with long hairs.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidineae.

Habit, Vegetative Morphology. Annual, culms solitary or caespitose. Culms decumbent, 10–50 cm long. Ligule a fringe of hairs. Leaf-blades lanceolate, 1–7 cm long, 2–6 mm wide. Leaf-blade margins cartilaginous.

Inflorescence. Inflorescence composed of racemes. Racemes 5–10, borne along a central axis, unilateral, 1–4 cm long, simple or with branchlets at base of longer racemes. Central inflorescence axis 3–7 cm long. Rhachis wingless, angular, pubescent on surface. Spikelet packing adaxial, irregular. Spikelets solitary or in pairs. 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 elliptic, dorsally compressed, compressed slightly, subacute or acute, 2–2.7 mm long, with hairs extending 0–0.5 mm beyond apex, falling entire. Rhachilla internodes elongated between glumes.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.33–0.5 length of spikelet, membranous, without keels, 3–5 -veined. Lower glume apex acute. Upper glume oblong, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface glabrous or pubescent, without hair tufts or with a transverse fringe of hair. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, with palea or without significant palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, membranous, 5 -veined, glabrous or pubescent, without hair tufts or with a transverse fringe of hair, acute. Fertile lemma elliptic, 1.5–2.5 mm long, indurate, without keel. Lemma surface striate, unwrinkled or rugulose. Lemma margins involute. Lemma apex acute or apiculate. Palea involute, indurate, 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.

Country /Province /State. **West Tropical Africa, West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa.** Benin, Burkina, Gambia, Ghana, Guinea, Ivory Coast, Liberia, Mali, Mauritania, Nigeria, Senegal, Sierra Leone, Togo, Niger. Gabon, Rwanda, DRC. Sudan. Uganda. **China, Eastern Asia.** China North-Central, China Southeast. Japan Shikoku, or Kyushu. Japan, Nansei-Shoto, Ogasawara-shoto, Taiwan. **Indian Subcontinent, Indo-China, Malesia, Papuasia.** Assam, Eastern Himalaya, India, Nepal. Myanmar, Thailand, Vietnam. Java, Lesser Sunda Is, Philippines, Sumatra. New Guinea West Papua (Irian Jaya). New Guinea. **Southeastern USA.** Virginia.

Gansu, Shaanxi. Anhui, Fujian, Guangdong, Guangxi, Henan, Hunan, Jiangxi, Zhejiang. Guizhou, Hubei, Sichuan, Yunnan. Darjeeling, Bhutan, Sikkim. Assam, Manipur, Meghalaya, Nagaland. Orissa, Uttah Pradesh. Himachal Pradesh.

Urochloa vittata (Stapf) O. Morrone & F.O. Zuloaga. *Darwiniana* 31: 103: (1992).

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 DRC. **Basionym or Replaced Name:** *Brachiaria vittata* Stapf, Prain, *Fl. Trop. Afr.* 9: 525 (1919). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Congo, Bonga: Schlechter 126633 (K holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. vitta*, band; *-ata*, possessing. Leaf-blades marked with transverse white stripes.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Distribution (TDWG). **Continent.** Africa, South America.

Country /Province /State. **West-Central Tropical Africa.** Congo. **Brazil.** Brazil Northeast. Pernambuco.

Urochloa whiteana (Domin) R.D. Webster. *Australian Paniceae (Poac.)*: 254: (1987).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Brachiaria*), D.Sharp, D. & B.K.Simon, *AusGrass* (2002) (as *Brachiaria*).

TYPE from Australia. **Basionym or Replaced Name:** *Panicum whiteanum* Domin, *Biblioth. Bot.* 85: 305 (1915). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Anon.*, Australia: Queensland: "Cape False bei Yerraba" (?).

Illustrations (Books): D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002) (as *Brachiaria*), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989) (219, Fig. 35 as *Brachiaria*).

Derivation (Clifford & Bostock 2007): *L. -ana*, indicating connection. In honor of Cyril Tenison White (1890–1950) Australian botanist.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms erect or geniculately ascending, 10–50 cm long, 3–7 -noded. Culm-nodes glabrous. Leaf-sheaths glabrous on surface or pilose, outer margin hairy. Ligule a fringe of hairs, 0.5–1 mm long. Leaf-blades 4–15 cm long, 2.5–5 mm wide. Leaf-blade surface glabrous or pilose. Leaf-blade margins smooth.

Inflorescence. Inflorescence composed of racemes. Racemes 2–4, borne along a central axis, unilateral, 2–5 cm long, bearing 8–20 fertile spikelets on each. Central inflorescence axis 3–9 cm long. Rhachis narrowly winged, angular. Spikelet packing adaxial, regular, 2 -rowed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 0.4–0.7 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 elliptic, dorsally compressed, compressed slightly, acute, 3–3.5 mm long, 1.3–1.6 mm wide, falling entire. Rhachilla internodes brief up to lowest fertile floret or elongated between glumes.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate or obovate, 1.5–1.8 mm long, 0.5 length of spikelet, membranous, without keels, 7–9 -veined. Lower glume apex obtuse or acute. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 7 -veined. Upper glume surface puberulous. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret similar to upper glume, elliptic, 1 length of spikelet, membranous, 5 -veined, puberulous, acute. Fertile lemma elliptic, 2.3–2.8 mm long, indurate, without keel. Lemma surface striate. Lemma margins involute. Lemma apex obtuse. Palea involute, indurate, without keels.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. Australia. Queensland.

Brachiaria wittei (Urochloa) Robyns. *Bull. Jard. Bot. Brux.* 9: 180 (1932).

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

TYPE from DRC. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: IT: *De Witte* 238, Mar 1931, Zaire: Shaba (US-81730, US-1538745 (fragm.)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): In honor of de Witte (fl. 1931) who collected in Zaire.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual. Culms geniculately ascending or decumbent, 30–40 cm long, rooting from lower nodes. Culm-internodes terete, striate. Culm-nodes pubescent. Lateral branches ample. Leaf-sheaths mostly shorter than adjacent culm internode, without keel, striately veined, pubescent, with tubercle-based hairs. Ligule a fringe of hairs. Leaf-blades linear or lanceolate, 2–6 cm long, 3–7 mm wide. Leaf-blade surface glabrous. Leaf-blade margins crenate, scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 5–6, borne along a central axis, unilateral, 1.5–2 cm long. Rhachis narrowly winged, 0.75 mm wide, pubescent on surface, ciliate on margins. Rhachis hairs purple. Spikelet packing crowded, regular, 2 -rowed. 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 elliptic or oblong, dorsally compressed, compressed slightly, acuminate, 3.5 mm long, falling entire. Spikelet callus brief.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume lanceolate, 0.5 length of spikelet, membranous, without keels, 3 -veined. Lower glume surface pubescent. Lower glume apex acute. Upper glume elliptic, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume primary vein obscure. Upper glume lateral veins obscure. Upper glume surface pubescent. Upper glume margins villous. Upper glume hairs purple. Upper glume apex acuminate.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, oblong, 1 length of spikelet, 5 -veined, villous, bearing purple hairs, acuminate. Fertile lemma 2.5 mm long, indurate, pallid, without keel. Lemma surface punctate. Palea without keels.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West-Central Tropical Africa. DRC.

Urochloa xantholeuca (Schinz) H. Scholz. *Bull. Mus. Nation. Hist. Nat., B, Adansonia, Ser.* 4, 11(4): 443 (1990).

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

TYPE from Namibia. **Basionym or Replaced Name:** *Panicum xantholeucum* Hack. ex Schinz, *Verh. Bot. Ver. Brand.* 30: 141 (1888). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Namibia, Olukunda: Schinz 639 (K iso).

Illustrations (Books): S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (226, Fig. 92 as *Brachiaria*).

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

Derivation (Clifford & Bostock 2007): Gk. *xanthos*, yellow; *leukos*, white. Foliage yellowish-green and rachis ciliate with white hairs.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Melinidinae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 20–60 cm long. Ligule a fringe of hairs. Leaf-blades linear or lanceolate, 3–15 cm long, 4–10 mm wide. Leaf-blade surface pubescent, densely hairy, hairy on both sides.

Inflorescence. Inflorescence composed of racemes. Racemes 2–8, borne along a central axis, unilateral, 2–7 cm long. Central inflorescence axis 2–10 cm long. Rhachis wingless, angular. Spikelet packing adaxial, crowded, regular, 2 -rowed. 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 elliptic, dorsally compressed, compressed slightly, acute or cuspidate, 2.7–4 mm long, falling entire. Rhachilla internodes elongated between glumes.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, clasping, 0.33–0.5 length of spikelet, membranous, without keels, 7 -veined. Lower glume surface hispidulous. Lower glume apex acute or acuminate. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface hispidulous. Upper glume apex cuspidate.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, 5 -veined, hispidulous, cuspidate. Fertile lemma elliptic, 2.5–3.5 mm long, indurate, without keel. Lemma surface rugulose. Lemma margins involute. Lemma apex apiculate. Palea involute, indurate, without keels.

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

Country /Province /State. West Tropical Africa, West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Southern Africa. Gambia, Ghana, Mali, Mauritania, Nigeria, Senegal, Niger, Eritrea, Sudan. Kenya, Tanzania, Uganda. Angola, Mozambique, Zambia, Zimbabwe. Namibia, Botswana, Limpopo, Gauteng, Mpumalanga, Swaziland, Kwazulu-Natal. Arabian Peninsula. Saudi Arabia.

Urochondra setulosa (Trin.) C.E.Hubb. *Hook. Ic. Pl.* v. t. 3457 (1947).

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 Arabia. **Basionym or Replaced Name:** *Vilfa setulosa* Trin., *Mem. Acad. Petersb.* Ser. VI. Sc. Nat. 5: II. 55 (1840). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Arabia: Ehrenberg & Hemprich (LE holo).

Illustrations (Books): S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (157, Fig. 64), N.L.Bor, *The grasses of Burma, Ceylon, India and Pakistan* (1960) (635, Fig. 77), T.A.Cope, in M.Thulin, *Poaceae* (Gramineae). *Flora of Somalia* (1995) (198, Fig. 107), T.A.Cope, *Flora of Pakistan* 143: *Poaceae* (1982) (134, Fig. 15).

Illustrations (Journals): *Hooker's Icones Plantarum* (t.3457 (1947)).

Derivation (Clifford & Bostock 2007): L. *seta*, bristle; *-ula*, diminutive; *-osa*, abundance. Glumes shortly hairy.

Classification. Subfamily Chloridoideae. Tribe: Zoysieae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 15–90 cm long. Ligule a fringe of hairs. Leaf-blades convolute, 20–30 cm long, 5–8 mm wide, stiff. Leaf-blade surface ribbed. Leaf-blade apex pungent.

Inflorescence. Inflorescence a panicle. Peduncle pubescent above. Panicle spiciform, linear, 4.5–16 cm long, 0.4–0.8 cm wide. Primary panicle branches accrescent to a central axis, with lateral stumps on axis. Panicle axis with rounded ribs, pubescent. 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 oblong, laterally compressed, compressed strongly, 2–3 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, reaching apex of florets or shorter than spikelet, similar to fertile lemma in texture. Lower glume elliptic, 1.5–2.5 mm long, 0.7–1 length of upper glume, membranous, without keels, 1 -veined. Lower glume primary vein ciliate. Lower glume lateral veins absent. Lower

glume margins ciliate. Lower glume apex obtuse or acute. Upper glume elliptic, 2–3 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume primary vein ciliate. Upper glume lateral veins absent. Upper glume margins ciliate. Upper glume apex obtuse or acute.

Florets. Fertile lemma elliptic, 2–3 mm long, membranous, keeled, 1 -veined, 0–3 -veined, one-veined. Lemma midvein ciliate. Lemma apex obtuse, mucronate. Palea hyaline. Palea keels eciliate or ciliate. Palea apex glabrous or ciliate.

Flower and Fruit. Lodicules absent. Anthers 3, 1–1.5 mm long. Ovary beaked, glabrous. Caryopsis with free soft pericarp, ellipsoid, isodiametric, biconvex, 2 mm long, dark brown, glabrous, apex rostrate. Embryo 0.6 length of caryopsis. Hilum punctiform.

$n = 14$ (1 ref TROPICOS).

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

Country /Province /State. **Northeast Tropical Africa.** Djibouti, Eritrea, Ethiopia (inc. Eritrea), Socotra, Somalia, Sudan. **Arabian Peninsula.** Oman, Yemen. **Indian Subcontinent.** Pakistan. Gujarat. Rajasthan.

Vacoparis laxiflora (F.M.Bailey) Spangler. *Austral. Syst. Bot.* 16(3): 297 . (2003).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Sorghum*), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*) (as *Sorghum*).

TYPE from Australia. **Basionym or Replaced Name:** *Sorghum laxiflorum* F.M. Bailey, *Rep. Bellenden-Ker Range* 70 (1889). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *F.M. Bailey s.n.*, 1 Aug 1889, Australia: Queensland: Cook District: Mulgrave River (BRI; IT: K).

Illustrations (Books): 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. laxus*, loose; *flos*, flower. Inflorescence an open panicle.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Sorghinae.

Habit, Vegetative Morphology. Annual. Culms erect or geniculately ascending, 100–200 cm long, without nodal roots or with prop roots. Culm-internodes distally pruinose. Culm-nodes pubescent or bearded. Leaves cauline. Ligule a ciliate membrane, 1–2 mm long. Leaf-blades 3–16 mm wide, stiff. Leaf-blade surface glabrous or hirsute, with tubercle-based hairs. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle with branches tipped by a raceme. Panicle contracted, elliptic, 7–17 cm long, 3–4 cm wide. Primary panicle branches not whorled, moderately divided, 1–3 cm long. Panicle branches glabrous or pilose, glabrous in axils or bearded in axils. Racemes 0.8–1.2 cm long, bearing few fertile spikelets, bearing (1–)2(–3) fertile spikelets on each. Rhachis fragile at the nodes, ciliate on margins. Rhachis internodes filiform, 3.6–4 mm long. 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, filiform, ciliate.

Sterile Spikelets. Companion sterile spikelets well-developed, comprising 2 unequal glumes without lemmas, linear, 4.3–5 mm long, shorter than fertile, separately deciduous. Companion sterile spikelet glumes chartaceous, 6–8 -veined, pubescent, 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 oblong, dorsally compressed, 5.3–6.6 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus 0.2–0.3 mm long, bearded, base obtuse. Spikelet callus hairs white, 0.25 length of spikelet.

Glumes. Glumes dissimilar, with lower wider than upper, exceeding apex of florets, firmer than fertile lemma. Lower glume ovate, 1 length of spikelet, coriaceous, dark brown or black, without keels, keel-less except near apex, 11 -veined. Lower glume surface villous, inner surface glabrous. Lower glume hairs white. Lower glume apex acute. Upper glume ovate, coriaceous, dark brown or black, without keels, 7 -veined. Upper glume surface villous. Upper glume hairs white.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret elliptic, 0.8 length of spikelet, hyaline, 2 -veined, ciliate on margins. Fertile lemma oblong, 3–4 mm long, hyaline, 3 -veined, 0–3 -veined. Lemma margins ciliate. Lemma apex dentate, 2 -fid, awned, 1 -awned. Principal

lemma awn from a sinus, geniculate, 2.5–4.3 mm long overall, with twisted column. Column of lemma awn pubescent, hairy on the spiral. Palea absent or minute.

Flower and Fruit. Lodicules 2, ciliate. Anthers 3, 1–1.3 mm long. Caryopsis with adherent pericarp, ellipsoid or obovoid, 3 mm long.

Distribution (TDWG). Continent. Tropical Asia and Australasia.

Country /Province /State. **Malesia, Papuaia.** Lesser Sunda Is, Philippines, Sulawesi. New Guinea PNG. New Guinea. **Australia.** Northern Territory, Queensland.

Darwin & Gulf. North, Central, South East.

Vacoparis macrosperma (E.D.Garber) Spangler. *Austral. Syst. Bot.* 16(3): 297 . (2003).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Sorghum*), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. **Basionym or Replaced Name:** *Sorghum macrospermum* E.D. Garber, *Univ. Calif. Publ. Bot.* 23(6): 323 (1950). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Anonymous s.n.*, Australia: Northern Territory: Darwin and Gulf District; UC-753385, specimen cultivated in 1948 from seed collected by W. Hartley "near Darwin" in 1947 (UC (photo, CANB)).

Illustrations: None found.

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);.

Derivation (Clifford & Bostock 2007): Gk. *makros*, large; *sperma*, seed. Grains large.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Sorghinae.

Habit, Vegetative Morphology. Annual. Culms erect, robust, 180–380 cm long, 5–10 mm diam., without nodal roots or with prop roots. Culm-nodes glabrous or pubescent. Leaves cauline. Ligule a ciliate membrane, 2.6–5 mm long. Leaf-blade base broadly rounded. Leaf-blades 30–60 cm long, 15–30 mm wide. Leaf-blade surface glabrous or pilose, hairy adaxially, with tubercle-based hairs. Leaf-blade margins smooth or spinulose. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle with branches tipped by a raceme. Panicle open, ovate, effuse, 15–35 cm long. Primary panicle branches drooping or reflexed, distant, 1–4 -nate, not whorled, simple or moderately divided, 4–8 cm long. Panicle branches glabrous in axils or pubescent in axils. Racemes 4–12 cm long, bearing 9–21 fertile spikelets on each. Rhachis fragile at the nodes, ciliate on margins. Rhachis internodes linear, 4–6 mm long. Rhachis internode tip transverse, cupuliform. Spikelets in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, filiform, 5–6 mm long, ciliate.

Sterile Spikelets. Basal sterile spikelets absent or well-developed, 0–4 in number.

Companion sterile spikelets well-developed, comprising 2 subequal glumes without lemmas, linear, 6.5–13.5 mm long, as long as fertile, separately deciduous. Companion sterile spikelet glumes chartaceous, 7–17 -veined, glabrous or pubescent, 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, dorsally compressed, 10–11 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus 0.2 mm long, bearded, base truncate or obtuse. Spikelet callus hairs 0.1–0.25 length of spikelet.

Glumes. Glumes dissimilar, with lower wider than upper, exceeding apex of florets, firmer than fertile lemma, shiny. Lower glume ovate, 1 length of spikelet, coriaceous, much thinner above, without keels, keel-less except near apex, 15–20 -veined. Lower glume surface scabrous (above), glabrous. Lower glume apex dentate, 2 -fid. Upper glume ovate, coriaceous, much thinner above, without keels, winged on margins, 7 -veined. Upper glume lateral veins with cross-veins. Upper glume surface scabrous, rough above, pubescent. Upper glume margins ciliate. Upper glume apex truncate or obtuse.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret elliptic, 0.8 length of spikelet, hyaline, 2 -veined, ciliate on margins. Fertile lemma oblong, 3.5–4 mm long, hyaline, 1 -veined, 0–3 -veined, one-veined. Lemma margins ciliate. Lemma apex dentate, 2 -fid, awned, 1 -awned. Principal lemma awn from a sinus, geniculate, 33–52 mm long overall, with twisted column. Column of lemma awn pubescent, hairy on the spiral. Palea absent or minute.

Flower and Fruit. Lodicules 2, glabrous. Anthers 3, 5.5–6.8 mm long. Caryopsis with adherent pericarp, ellipsoid or ovoid, 5.2–6.3 mm long.

Distribution (TDWG). Continent. Australasia.
Country /Province /State. Australia. Northern Territory.
Darwin & Gulf.

Vahlodea atropurpurea (Wahl.) Fries. *Bot. Notiser*, 178 (1842).

Accepted 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 *Deschampsia*), 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 Sweden. **Basionym or Replaced Name:** *Aira atropurpurea* Wahlenb., *Fl. Lapp.* 37 (1812). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Sweden, Lapland: Wahlenberg (K isosyn, LE).

Recent Synonyms: *Deschampsia atropurpurea* (Wahl.) Scheele, *Flora*, 27 1: 56 (1844).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 2 Pooideae (2012) (366), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (692), M.N.Corrêa, *Flora Patagonica* Parte III, Gramineae (1978) (221, Fig. 145 as *Deschampsia*).

Derivation (Clifford & Bostock 2007): *L. ater*, dark; *purpurea*;, purple or dull red. Culms purple red at their bases.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 15–20 cm long. Ligule an eciliate membrane, 0.8–3 mm long. Leaf-blades 1–7 cm long, 1–5 mm wide. Leaf-blade surface glabrous or pilose.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 3–12 cm long. Panicle branches smooth or scabrous, glabrous or pilose. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

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 oblong, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes definite, pilose. Floret callus bearded. Floret callus hairs 0.33–0.75 length of lemma.

Glumes. Glumes persistent, similar, exceeding apex of florets, shiny. Lower glume lanceolate, 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 ovate, 4–6 mm long, 2.2–2.4 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile florets with the lowest dissimilar (awn straight). Fertile lemma ovate, 1.8–2.5 mm long, cartilaginous, much thinner above, shiny, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface scaberulous, rough above. Lemma apex dentate, 2–4 -fid, truncate, awned, 1 -awned. Principal lemma awn dorsal, arising 0.6–0.7 way up back of lemma, straight, 2–3 mm long overall, with twisted column. Palea keels scaberulous. Rhachilla extension pilose.

Flower and Fruit. Lodicules 2, membranous. Anthers 3, 0.4–0.8 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Hilum linear, 0.33–0.5 length of caryopsis.

$2n = 14$ (2 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Temperate Asia, North America, South America.

Region. Northern Europe, Eastern Europe.

Country /Province /State. North European Russia. Russian Far East, **Eastern Asia.** Kamchatka, Kuril Is, Magadan. Japan Hokkaido. Japan. **Subarctic America, Western Canada, Eastern Canada, Northwest USA, Northeast USA, Southwestern 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. California. **Southern South America.** Argentina South, Chile Central, Chile South.

Chubut, Neuquén, Río Negro, Santa Cruz, Tierra del Fuego. Santiago. Los Lagos, Aisen, Magellanes.

Valiha diffusa Dransfield. *Kew Bull.* 53:381 (1998).

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 Synonymy Database: massif of Manongarivo, fl. 1909, *Perrier de la Bathie* 11285 (HT: P; IT: K).

Illustrations: None found.

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

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, culms solitary. Rhizomes elongated, pachymorph. Butt sheaths absent. Culms erect, slender, inclined at the tip, 600–1000 cm long, 60–100 mm diam., woody. Culm-internodes terete, thin-walled, 40–80 cm long, light green or mid-green or dark green, distally glabrous or pubescent. Lateral branches dendroid, extravaginal. Bud complement 1. Branch complement many, in a clump, apparently arising below the node, with 1 branch dominant. Culm-sheaths present, 16–20 cm long, 1 times as long as wide, pubescent, with dark brown hairs, auriculate, setose on shoulders. Culm-sheath ligule ciliolate. Culm-sheath blade linear, constricted at base, erect, 5 cm long, pubescent, attenuate. Leaves 7–10 per branch. Leaf-sheaths glabrous on surface, outer margin glabrous or hairy. Ligule a ciliolate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 6–8 cm long, 11–14 mm wide. Leaf-blade surface glabrous or pilose, sparsely hairy. Leaf-blade apex attenuate.

Inflorescence. Synflorescence bractiferous, paniculate, 3–6 cm long, lax, with glumaceous subtending bracts, without axillary buds at base of spikelet, prophyllate below lateral spikelets, with 2-keeled prophylls.

Spikelets appressed or ascending.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 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 linear, subterete or laterally compressed, compressed slightly, 12–35 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes elongated between glumes. Rhachilla elongation 1–2 mm long.

Glumes. Glumes several, 4–5 empty glumes, persistent, similar, shorter than spikelet. Lower glume ovate, 1–2 mm long, chartaceous, without keels, 15 -veined. Lower glume surface glabrous. Lower glume apex acuminate. Upper glume ovate, 9–11 mm long, chartaceous, without keels, 17 -veined. Upper glume surface glabrous or pilose. Upper glume margins eciliate. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, without significant palea, attached to and deciduous with the fertile. Lemma of lower sterile floret similar to fertile lemma, ovate, 15–20 mm long, chartaceous, 23–27 -veined, glabrous or pilose, acute. Fertile lemma lanceolate or ovate, 18–26 mm long, 8–12 mm wide, chartaceous, without keel, 29–41 -veined. Lemma surface glabrous or pilose. Lemma apex acute. Palea tightly convolute around flower, 14–24 mm long, chartaceous, 16–22 -veined. Palea keels contiguous above a sulcus. Palea apex dentate, 2 -fid. Rhachilla extension 0–3 mm long, pubescent.

Flower and Fruit. Lodicules 3, 1–3 mm long, membranous, acute. Anthers 6, 15 mm long. Stigmas 3. Styles 15 mm long. Caryopsis with tardily free pericarp, oblong, 10 mm long. Embryo with basal plumule.

Distribution (TDWG). Continent. Africa.

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

Valiha perrieri (A.Camus) Dransfield. *Kew Bull.* 53:388 (1998).

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:** *Ochlandra perrieri* A.Camus, *Bull. Soc. Bot. France*, 82: 310 (1935). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Madagascar, Andrafianamena: Perrier 11283 (P holo, K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Joseph Marie Henri Alfred Perrier de la Bbthie (1872–1958) French botanist.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, culms solitary. Rhizomes elongated, pachymorph. Butt sheaths absent. Culms erect, slender, inclined at the tip, woody. Culm-internodes terete, thin-walled. Lateral branches dendroid, extravaginal. Bud complement 1. Branch complement many, in a clump, apparently arising below the node, with 1 branch dominant. Culm-sheaths present. Leaf-sheaths glabrous on surface, outer margin glabrous or hairy. Ligule a ciliolate membrane. Leaf-blade base with a

brief petiole-like connection to sheath. Leaf-blades lanceolate, 4.5–7 cm long, 9–15 mm wide. Leaf-blade surface glabrous. Leaf-blade apex attenuate.

Inflorescence. Synflorescence bractiferous, paniculate, 2.5–3.5 cm long, lax, with glumaceous subtending bracts, without axillary buds at base of spikelet, prophyllate below lateral spikelets, with 2-keeled prophylls.

Spikelets appressed or ascending.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 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 linear, subterete or laterally compressed, compressed slightly, 2.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes several, 5 empty glumes, persistent, similar, shorter than spikelet. Lower glume ovate, 4 mm long, chartaceous, without keels, 9 -veined. Lower glume surface pubescent. Lower glume apex acuminate. Upper glume ovate, 6 mm long, chartaceous, without keels, 15 -veined. Upper glume surface pilose, hairy above. Upper glume margins ciliate. Upper glume apex attenuate.

Florets. Basal sterile florets 1, barren, without significant palea, attached to and deciduous with the fertile. Lemma of lower sterile floret similar to fertile lemma, ovate, 10 mm long, chartaceous, 19 -veined, pilose, hairy above, ciliate on margins, setaceously acuminate. Fertile lemma lanceolate or ovate, 18 mm long, chartaceous, without keel, 21 -veined. Lemma surface pilose, hairy above. Lemma margins ciliate. Lemma apex acuminate. Palea tightly convolute around flower, 18 mm long, chartaceous. Palea keels contiguous above a sulcus. Palea apex dentate, 2 -fid.

Flower and Fruit. Lodicules 3, 6 mm long, membranous, acute. Anthers 6. Stigmas 3. Caryopsis with tardily free pericarp, oblong.

Distribution (TDWG). Continent. Africa.

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

Vaseyochloa multinervosa (Vasey) Hitchcock. *Journ. Wash. Acad. Sc.* xxiii. 452. (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 USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: G.C. Nealley s.n.; 1891; USA: Texas: Brazos Santiago (US-81963) floret drawn by A. Chase.

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 25 *Poaceae*, part 2 (2003) (108), F.W.Gould, *The Grasses of Texas* (1975) (239, Fig. 126).

Derivation (Clifford & Bostock 2007): *L. multus*, many; *nervus*, nerve; *-osa*, abundance. The glumes or lemmas many-nerved.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes absent or elongated. Culms 50–100 cm long. Culm-nodes glabrous or pubescent. Ligule a fringe of hairs. Leaf-blades flat or involute, 15–35 cm long, 2–5 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 4–10, borne along a central axis, drooping, unilateral, 2–8 cm long, bearing few fertile spikelets, bearing 2–10 fertile spikelets on each. Central inflorescence axis 6–20 cm long. Rhachis angular. Raceme-bases filiform. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform.

Fertile Spikelets. Spikelets comprising 6–11 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, 10–18 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 lanceolate, 3–5 mm long, membranous, without keels, 3–5 -veined. Lower glume apex emarginate or obtuse. Upper glume ovate, 4–6 mm long, 0.8 length of adjacent fertile lemma, membranous, without keels, 7–9 -veined. Upper glume apex emarginate or obtuse.

Florets. Fertile florets imbricate to tip. Fertile lemma ovate, 5–7 mm long, chartaceous, without keel, 7–9 -veined, more than 3-veined. Lemma surface pilose, hairy below. Lemma apex emarginate or obtuse.

Palea readily splitting down midline, elliptic, 0.75 length of lemma, 2 -veined. Palea keels winged, scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Caryopsis with adherent pericarp, orbicular, laterally compressed, concavo-convex, 2.5–3 mm long, dark brown or black, striate, glabrous, apex bicornate.

Distribution (TDWG). Continent. North America.

Country /Province /State. South-central USA. Texas.

Veldkampia sagaingensis Ibaragi & Kobay. *J. Jap. Bot.* 83: 106 (2008).

TYPE from Myanmar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Myanmar, Sagaing Division, Kathapa Nat. Park: Kobayashi & Hamaguchi 031779 (RAF holo, K, L, MBK, TI, TKPM).

Illustrations: None found.

Classification. Subfamily Panicoideae. Tribe: Sacchareae. Subtribe Saccharinae.

Habit, Vegetative Morphology. Annual, culms solitary. Culms prostrate, 5–7 cm long (high), 7–10 -noded, rooting from lower nodes. Culm-nodes glabrous. Lateral branches lacking. Ligule an eciliate membrane, 0.5–0.7 mm long. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.2–0.35 cm long, petiole pubescent. Leaf-blades linear or lanceolate, 1–2 cm long, 1.4–3.5 mm wide. Leaf-blade surface glabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, 0.5–1.7 cm long, bearing 14 fertile spikelets on each. Rhachis fragile at the nodes, ciliate on margins. Rhachis hairs 0.6–1.7 mm long. Rhachis internodes linear, 0.9 mm long, 0.5 length of fertile spikelet. Rhachis internode tip crateriform. Spikelets in pairs. Fertile spikelets sessile and pedicelled, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, linear, ciliate.

Sterile Spikelets. Companion sterile spikelets represented by barren pedicels.

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, 1.7 mm long, falling entire. Spikelet callus pubescent, base obtuse, inserted. Spikelet callus hairs white, 0.3–1 mm long.

Glumes. Glumes dissimilar, reaching apex of florets, firmer than fertile lemma. Lower glume oblong, 1.5 mm long, 0.9 length of spikelet, cartilaginous. Lower glume apex emarginate or obtuse. Upper glume oblong, 1.7 mm long, 1 length of spikelet. Upper glume awned, 1 -awned, awn 30 mm long.

Florets. Fertile florets with the lowest dissimilar. Lowest fertile lemma elliptic, 1 mm long, entire, mucous. Fertile lemma oblong, 1.3 mm long, membranous. Lemma apex dentate, 2 -fid, awned, 1 -awned. Principal lemma awn from a sinus, geniculate, 30–35 mm long overall, with twisted column. Column of lemma awn 3.5 mm long. Palea absent or minute (but 0.7 mm long in lower floret).

Flower and Fruit. Caryopsis oblong, 0.8 mm long.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. Indo-China. Myanmar.

Ventenata blanchei Boiss. *Fl. Orient.* v. 539. (1884).

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

TYPE from Lebanon. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Lebanon, Hadet: Blanche.

Illustrations (Books): N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 255 as *Pilgerochloa blanchei*).

Derivation (Clifford & Bostock 2007): in honor of Charles Isidore Blanche (1823–1887) who collected in Lebanon.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 15–40 cm long. Ligule an eciliate membrane. Leaf-blades 3–5 cm long, 1–3 mm wide. Leaf-blade surface pubescent.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Panicle open, elliptic or oblong, 5–18 cm long. Primary panicle branches appressed. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, cuneate, scabrous.

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 cuneate, laterally compressed, 7–10 mm long, breaking up at maturity, disarticulating between fertile florets but the lowest falling with glumes attached. Floret callus evident, 0.5 mm long, pubescent.

Glumes. Glumes deciduous with pedicel attached, similar, reaching apex of florets, thinner than fertile lemma, shiny. Lower glume lanceolate, 3.5–5 mm long, 0.5 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, 7–10 mm long, 1.4–1.8 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex acute.

Florets. Fertile florets with the lowest dissimilar. Lowest fertile lemma elliptic, 1 length of adjacent lemma, thinner than adjacent lemma, muticous. Fertile lemma elliptic, 4–7 mm long, chartaceous, shiny, without keel, 5 -veined, more than 3-veined. Lemma surface scaberulous, rough above. Lemma apex lobed, 2 -fid, incised 0.1 of lemma length, awned, 3 -awned. Principal lemma awn dorsal, arising 0.5–0.7 way up back of lemma, geniculate, 10–15 mm long overall, with twisted column. Lateral lemma awns present, arising on apex of lobes, 1 mm long, shorter than principal. Palea 0.6–0.7 length of lemma. Palea keels ciliate. Rhachilla extension 0.05 length of fertile floret.

Flower and Fruit. Anthers 3. Ovary glabrous. Caryopsis with adherent pericarp. Endosperm liquid.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Western Asia. Lebanon-Syria, Palestine, Israel & Jordan.

Ventenata dubia (Leers) Coss.& Durieu. *Ann. Sci. Nat., Bot., Ser. 4.* iv. 252 (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), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Germany. **Basionym or Replaced Name:** *Avena dubia* Leers, *Fl. Herborn.* 41 (1775). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: In collibus siccis, apricis, in arvis sterilibus passim",..

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (684).

Derivation (Clifford & Bostock 2007): L. doubtful. Readily confused with other species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 20–55 cm long. Ligule an eciliate membrane, 5–6 mm long, lacerate, acute. Leaf-blades 2–6 cm long, 0.8–3 mm wide. Leaf-blade surface pubescent, hairy adaxially. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 7–20 cm long. Primary panicle branches 4–10 cm long, bearing 2–5 fertile spikelets on each lower branch. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, cuneate, 2–17 mm long, 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, 10–16 mm long, breaking up at maturity, disarticulating between fertile florets but the lowest falling with glumes attached. Floret callus evident, 0.5 mm long, pubescent.

Glumes. Glumes deciduous with pedicel attached, similar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 4.5–7 mm long, 0.6–0.7 length of upper glume, membranous, 1-keeled, 7 -veined. Lower glume lateral veins ribbed. Lower glume apex acuminate. Upper glume lanceolate, 6.3–11 mm long, 0.7–1 length of adjacent fertile lemma, membranous, 1-keeled, 9 -veined. Upper glume lateral veins ribbed. Upper glume apex acuminate.

Florets. Fertile florets with the lowest dissimilar. Lowest fertile lemma elliptic, 1.25 length of adjacent lemma, thinner than adjacent lemma, awned (terminal, 2–3mm). Fertile lemma elliptic, 5–13 mm long, coriaceous, without keel, 5 -veined, more than 3-veined. Lemma apex lobed, 2 -fid, incised 0.1 of lemma length, awned, 3 -awned. Principal lemma awn dorsal, arising 0.5 way up back of lemma, geniculate, 20–25 mm long overall, with twisted column. Lateral lemma awns present, arising on apex of lobes, 2–3 mm long, shorter than principal. Palea 0.9 length of lemma. Palea keels ciliate. Rhachilla extension 0.1–0.2 length of fertile floret.

Flower and Fruit. Anthers 3, 1–2 mm long. Ovary glabrous. Caryopsis with adherent pericarp, ellipsoid. Endosperm liquid.

$2n = 14$ (2 refs TROPICOS).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, North America.

Region. Northern Europe (*), Middle Europe, Southwestern Europe, Southeastern Europe, Eastern Europe.

Country /Province /State. : GB Aliens (Ryves et al). : Austria, Belgium, Czechoslovakia, Germany, Hungary, Poland. : France, Portugal, Sardinia, Spain. : Albania, Bulgaria, Greece, Italy, Romania, Turkey Europe, Yugoslavia. Krym, East European Russia, South European Russia, Northwest European Russia, Ukraine. **Northern Africa.** Tunisia. **Caucasus, Western Asia.** North Caucasus, Transcaucasus. Turkey. **Western Canada, Northwest USA, Southwestern USA.** Alberta, British Columbia. Idaho, Montana, Oregon, Washington, Wyoming. California, Utah.

Ventenata eigiana (H. Scholz & Raus) M. Dogan. *Fl. Turkey & E. Aegean Is.*, 9: 318: (1985).

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

TYPE from Turkey. **Basionym or Replaced Name:** *Pilgerochloa eigiana* H. Scholz & T. Raus, *Willdenowia* 12(1): 56 (1982). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Turkey, Bingol: Raus 4014 (B holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Alexander Eig (1895–1938) Russian-born Palestine botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms erect, 7–43 cm long. Ligule an eciliate membrane, 4 mm long, lacerate, acute. Leaf-blades convolute, 4–5 cm long, 1–2 mm wide. Leaf-blade surface pubescent, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 6–14 cm long, 3–5 cm wide. Primary panicle branches 2–6 cm long, bearing 1–3 fertile spikelets on each lower branch. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, cuneate, 5–18 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 oblong, laterally compressed, 9.5–13 mm long, breaking up at maturity, disarticulating between fertile florets but the lowest falling with glumes attached. Floret callus evident, pubescent.

Glumes. Glumes deciduous with pedicel attached, similar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 3.5–5.5 mm long, 0.5 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acuminate. Upper glume lanceolate, 7.5–10 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 5 -veined. Upper glume apex acuminate.

Florets. Fertile florets with the lowest dissimilar. Lowest fertile lemma elliptic, 1.25 length of adjacent lemma, thinner than adjacent lemma, lobed, awned. Fertile lemma oblong, 8–10 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma apex dentate, 2 -fid, awned, 3 -awned. Principal lemma awn dorsal, geniculate, 14–21 mm long overall, with twisted column. Lateral lemma awns present, arising on apex of lobes, 1–2.5 mm long, shorter than principal. Palea 4–4.8 mm long. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.3 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Endosperm liquid.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Western Asia. Turkey.

Ventenata huber-morathii (Dogan) D.Heller. *Conspect. Fl. Oriental.*, 6: 93: (1991).

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

TYPE from Turkey. **Basionym or Replaced Name:** *Gaudiniopsis huber-morathii* M. Dogan, *Notes Roy. Bot. Gard. Edinburgh*, 40(1): 81 (1982). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Turkey, Antalya: Huber-Morath 12485 (E iso).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Arthur Huber-Morath (1901–1990) Swiss botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms slender, 16–33 cm long, 3–4 -noded. Culm-nodes glabrous. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 2–6 mm long, lacerate. Leaf-blades involute, 6–9.5 cm long, 1–2 mm wide. Leaf-blade surface pubescent, hairy adaxially. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Peduncle glabrous. Panicle open, lanceolate, 3–14 cm long, 2–4.5 cm wide. Primary panicle branches 1–3.5 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, cuneate, 1.5–13 mm long, scaberulous.

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 lanceolate, laterally compressed, 8–11 mm long, breaking up at maturity, disarticulating between fertile florets but the lowest falling with glumes attached. Floret callus evident.

Glumes. Glumes deciduous with pedicel attached, similar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 4.5–6 mm long, 0.75–0.9 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume lanceolate, 6–6.5 mm long, 1.1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile florets with the lowest dissimilar. Lowest fertile lemma elliptic, 1.1–1.3 length of adjacent lemma, thinner than adjacent lemma, lobed, mucronate. Fertile lemma lanceolate, 4–7 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma surface pubescent. Lemma apex dentate, 2 -fid, acute, awned, 1 -awned. Principal lemma awn dorsal, geniculate, 3–6 mm long overall, with twisted column. Palea 5.5–6 mm long. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 3.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Endosperm liquid.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Western Asia. Turkey.

Ventenata macra (Stev.) Balansa, ex Boiss. *Fl. Orient.* v. 540. (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), N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *Gaudiniopsis*).

TYPE from Ukraine. **Basionym or Replaced Name:** *Avena macra* Stev., *Bieb. Fl. Taur. Cauc.* i. 77 (1808). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: PT: Steven s.n.; s.d.; Ukraine: S Crimea (LE).

Recent Synonyms: *Gaudiniopsis macra* (Stev.) Eig, *Fedde, Repert.* 26: 77 (1929).

Illustrations (Books): N.N.Tsvelev, *Grasses of the Soviet Union* (1983) (377 (257), Pl.4 as *Gaudinioposis*), N.L.Bor, *Gramineae* in K.H.Rechinger, *Flora Iranica*. No. 70/30 (1970) (Tab. 50 as *Gaudinioposis*), N.L.Bor, *Gramineae* in *Flora of Iraq* (1968) (345, Pl. 130 as *Gaudinioposis*).

Derivation (Clifford & Bostock 2007): L. thin. Leaf-blades narrow.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms erect or geniculately ascending, 10–30 cm long. Ligule an eciliate membrane, 3 mm long, lacerate. Leaf-blades conduplicate or involute, 5–10 cm long, 1–2 mm wide. Leaf-blade surface pubescent, hairy adaxially.

Inflorescence. Inflorescence composed of racemes. Racemes 1, linear or lanceolate, paucilateral, 4–10 cm long, 10 mm wide. Spikelet packing irregular. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, cuneate, 1–3.5 mm long, scabrous.

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 oblong, laterally compressed, 9–19 mm long, breaking up at maturity, disarticulating between fertile florets but the lowest falling with glumes attached. Floret callus evident.

Glumes. Glumes deciduous with pedicel attached, similar, shorter than spikelet, thinner than fertile lemma. Lower glume elliptic, 5–6 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined.

Lower glume apex acute. Upper glume elliptic, 6–6.5 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 5 -veined. Upper glume apex acute.

Florets. Fertile florets with the lowest dissimilar. Lowest fertile lemma elliptic, 1.25 length of adjacent lemma, thinner than adjacent lemma, entire, muticous. Fertile lemma oblong, 6–7 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma apex entire, acute, awned, 1 -awned. Principal lemma awn dorsal, arising 0.66 way up back of lemma, geniculate, 8–10 mm long overall, with twisted column. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 2.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Endosperm liquid.

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

Region. Northern Europe (*), Southeastern Europe, Eastern Europe.

Country /Province /State. : GB Aliens (Ryves et al). : Greece. Krym. Middle Asia, Caucasus, Western Asia. Tadjikistan. Iran, Iraq.

Ventenata quercetorum Boiss. & Bal. *Diagn. Ser.* II. iv. 130. (1859).

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

TYPE from Turkey. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Turkey, Bulgaz: Balansa (G holo, K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. quercus*, oak; *-etum*, place of growth. Growing in oak-woods.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms erect or geniculately ascending, 12–14 cm long, 2 -noded. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 2.5–4 mm long. Leaf-blades convolute, 1.3–2.4 cm long, 0.5–1 mm wide. Leaf-blade surface pubescent, hairy adaxially.

Inflorescence. Inflorescence composed of racemes. Racemes 1, linear or lanceolate, paucilateral, 4–5 cm long, 10–14 mm wide. Spikelet packing irregular. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, cuneate, 1.2–5.5 mm long, scabrous.

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 oblong, laterally compressed, 8.5–10 mm long, breaking up at maturity, disarticulating between fertile florets but the lowest falling with glumes attached. Rhachilla internodes pubescent. Floret callus evident.

Glumes. Glumes deciduous with pedicel attached, similar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 4.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acuminate. Upper glume lanceolate, 6 mm long, 0.9 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex acuminate.

Florets. Fertile florets with the lowest dissimilar. Lowest fertile lemma elliptic, 1.25 length of adjacent lemma, thinner than adjacent lemma, entire, muticous. Fertile lemma oblong, 7 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma surface pubescent, hairy below. Lemma apex dentate, 2 -fid, awned, 1 -awned. Principal lemma awn dorsal, geniculate, 8 mm long overall, with twisted column. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 2.4–3.1 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Endosperm liquid.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Western Asia. Turkey.

Ventenata sorgerae (Dogan) D.Heller. *Conspect. Fl. Oriental.*, 6: 93: (1991).

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

TYPE from Turkey. **Basionym or Replaced Name:** *Gaudiniopsis sorgerae* M. Dogan, *Notes Roy. Bot. Gard. Edinburgh* 40(1): 85 (1982). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Turkey, Egridir: Sorger 68–36a-12.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Friederike Sorger, Austrian merchant.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms erect, slender, 7.5–16 cm long, 2–3 -noded. Culm-nodes pubescent. Leaf-sheaths inflated, glabrous on surface. Ligule an eciliate membrane, 1.5–3.5 mm long, acute. Leaf-blades involute, 1.2–3 cm long, 0.6–1.2 mm wide. Leaf-blade surface pubescent, hairy adaxially.

Inflorescence. Inflorescence a panicle. Peduncle pilose above. Panicle open, lanceolate, interrupted, 2.5–5 cm long, 0.8–1.7 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, cuneate, 2–8.5 mm long, puberulous.

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, 4.5–10 mm long, breaking up at maturity, disarticulating between fertile florets but the lowest falling with glumes attached. Rhachilla internodes 1 mm long. Floret callus evident, pubescent. Floret callus hairs 0.2–0.5 mm long.

Glumes. Glumes deciduous with pedicel attached, similar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 3–4 mm long, 0.66–0.75 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume lanceolate, 3.7–5.8 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 3–5(–7) -veined. Upper glume apex acute.

Florets. Fertile florets all alike. Fertile lemma lanceolate, 4.2–5.5 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma surface puberulous. Lemma apex entire, acute, muticous. Palea 3.8–4.8 mm long. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 2.1–3 mm long. Ovary glabrous. Caryopsis with adherent pericarp, ellipsoid, 1.7 mm long. Endosperm liquid.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Western Asia. Turkey.

Vietnamocalamus catbaensis Nguyen To Quyen. *Bot. Zhurn.*, 76(6): 874 (1991).

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

TYPE from Vietnam. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Vietnam, Catha Is.: Vu Van Dung (HNF holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. -ensis*, denoting origin. From Catba Island in the Gulf of Tonkin.

Classification. Subfamily Bambusoideae. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 150–250 cm long, 5–10 mm diam., woody. Culm-internodes terete. Lateral branches suffrutescent. Branch complement one. Culm-sheaths present. Leaves cauline. Leaf-sheaths glabrous on surface, outer margin hairy. Leaf-sheath oral hairs setose. Leaf-sheath auricles falcate. Ligule an eciliate membrane, 0.5 mm long, truncate. Leaf-blade base without a false petiole. Leaf-blades spreading (in a rosette), lanceolate, 20–26 cm long, 30–45 mm wide. Leaf-blade venation with 18–22 secondary veins. Leaf-blade apex attenuate.

Inflorescence. Inflorescence comprising only a few spikelets, comprising 1 fertile spikelets, axillary, subtended by an unspecialized leaf-sheath, embraced at base by subtending leaf. 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 linear, subterete, 15 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes glabrous. Floret callus glabrous.

Glumes. Glumes several, 3 empty glumes, persistent, similar, shorter than spikelet. Lower glume lanceolate, 3–4 mm long, chartaceous, without keels. Upper glume lanceolate, 3–4 mm long, chartaceous, without keels.

Florets. Fertile lemma lanceolate, 5 mm long, chartaceous, without keel, 7 -veined, more than 3-veined. Palea chartaceous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3. Anthers 3, 3 mm long. Stigmas 2. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia and Tropical Asia.

Country /Province /State. Indo-China. Vietnam.

Vietnamochloa aurea J.F. Veldkamp & R. Nowack. *Bull. Mus. Nation. Hist. Nat., B, Adansonia*, Ser. 4, 16:215 (1995).

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

TYPE from Vietnam. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Vietnam, Phan Rang: Nguyen Van Khiem (L. holo).

Illustrations: None found.

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

Classification. Subfamily Chloridoideae. Tribe: Eragrostideae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 10–25 cm long. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths ribbed, glabrous on surface. Ligule a fringe of hairs, 0.25 mm long. Leaf-blades lanceolate, flat or involute, 0.5–1 cm long, 1.5–2 mm wide. Leaf-blade surface glabrous. Leaf-blade margins ciliate.

Inflorescence. Inflorescence composed of racemes. Peduncle 7–15 cm long. Racemes 3–5, borne along a central axis, unilateral, 1–2 cm long, bearing 3–7 fertile spikelets on each. Spikelet packing lax or distant. Spikelets solitary. Fertile spikelets sessile or pedicelled. Pedicels absent or present, 0.5–1 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 lanceolate, dorsally compressed, 4–4.25 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent, acute.

Glumes. Glumes persistent, similar, exceeding apex of florets, similar to fertile lemma in texture. Lower glume lanceolate, 3.5–4 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, 3.9–4.1 mm long, 1.3–1.4 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma lanceolate, dorsally compressed, 3–3.2 mm long, membranous, without keel, 3 -veined, 0–3 -veined. Lemma midvein pubescent. Lemma lateral veins close to margins. Lemma hairs yellow or tawny. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn subapical, 1.5–1.75 mm long overall. Palea bowed outwards, 3 mm long, 2 -veined. Palea surface pubescent, hairy on flanks, hairy below. Palea apex dentate, 2 -fid. Rhachilla extension 0.75 length of fertile floret.

Flower and Fruit. Anthers 3, 1.5 mm long. Caryopsis with adherent pericarp, obovoid, dorsally compressed, 1.5 mm long, light brown. Embryo 0.33–0.5 length of caryopsis. Hilum punctiform.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. Indo-China. Vietnam.

Vietnamosasa ciliata (A. Camus) Nguyen To Quyen. *Bot. Zhurn.*, 75(2): 222: (1990).

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

TYPE from Indochina. **Basionym or Replaced Name:** *Arundinaria ciliata* A.Camus, *Bull. Mus. Hist. Nat. Paris*, 25: 672 (1919). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Indochina, Cambodia, Compong-Thon: Pierre.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *cilium*, eyelid; -*ata*, possessing. Plant hairy overall or in part.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms woody. Culm-internodes terete. Lateral branches dendroid. Branch complement many. Culm-sheaths present. Leaf-sheaths striately veined, pubescent. Leaf-sheath oral hairs ciliate, 5–7 mm long. Ligule an eciliate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 8–12 cm long, 8–10 mm wide, stiff, light green. Leaf-blade midrib conspicuous. Leaf-blade venation with 10 secondary veins, with distinct cross veins. Leaf-blade surface pilose, sparsely hairy, hairy abaxially. Leaf-blade margins scaberrulous. Leaf-blade apex attenuate.

Inflorescence. Synflorescence on a separate leafless culm.

Inflorescence a panicle. Peduncle glabrous. Panicle open. Panicle axis glabrous. 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 or oblong, laterally compressed, 30–40 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 3–4 mm long, eventually visible between lemmas, pubescent. Floret callus disarticulating transversely.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 5 mm long, chartaceous, without keels. Lower glume apex acute. Upper glume ovate, 6–7 mm long, chartaceous, without keels. Upper glume apex acute.

Florets. Fertile lemma ovate, 7–8 mm long, chartaceous, without keel, 11–15 -veined, more than 3-veined. Lemma inner surface pubescent. Palea keels ciliate. Palea apex truncate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, ciliate. Anthers 6, 3.5–4 mm long. Stigmas 3. Caryopsis with adherent pericarp, apex unappendaged.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. Indo-China. Cambodia.

Vietnamosasa darlacensis Nguyen To Quyen. *Bot. Zhurn.*, 75(2): 221 (1990).

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

TYPE from Vietnam. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Vietnam, Darlac: Nguyen Vu Can (HNF holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Darlac Province, Vietnam.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms 100–150 cm long, 10 mm diam., woody. Culm-internodes terete. Lateral branches dendroid. Culm-sheaths present, 22–25 cm long, 2 times as long as wide, coriaceous, convex at apex, auriculate, setose on shoulders, shoulders with 10–12 mm long hairs. Leaf-sheaths outer margin hairy. Leaf-sheath oral hairs ciliate. Ligule an eciliate membrane, 1 mm long. Leaf-blade base broadly rounded, with a brief petiole-like connection to sheath, petiole 0.1 cm long. Leaf-blades linear or lanceolate, 9–15 cm long, 4–5 mm wide. Leaf-blade venation with distinct cross veins. Leaf-blade surface pilose, hairy adaxially. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Panicle open. 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 or oblong, laterally compressed, 20–40 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 1–2 mm long, chartaceous, without keels. Lower glume apex acute. Upper glume ovate, 1–2 mm long, chartaceous, without keels. Upper glume apex acute.

Florets. Fertile lemma ovate, 8–9 mm long, chartaceous, without keel, more than 3-veined. Palea 8–9 mm long. Palea keels ciliate. Palea apex obtuse. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, ciliate. Anthers 6, 4 mm long. Stigmas 3. Caryopsis with adherent pericarp, apex unappendaged.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. Indo-China. Vietnam.

Vietnamosasa pusilla (A. Chevalier & A. Camus) Nguyen To Quyen. *Bot. Zhurn.*, 75(2): 222: (1990).

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

TYPE from Indochina. **Basionym or Replaced Name:** *Arundinaria pusilla* A.Cheval. & A.Camus, *Bull. Mus. Hist. Nat. Paris* 27: 450 (1919). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Indochina, Annam, Lang Bian: Chevalier 40600 ; Indochina, Annam, Lang Bian: Chevalier 40508 ; Indochina, Annam, Lang Bian: Chevalier 40330.

Illustrations: None found.

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

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph, scaly. Butt sheaths absent. Culms 50–150 cm long, 3–8 mm diam., woody. Culm-internodes terete, thick-walled or solid, light green, distally glabrous. Lateral branches dendroid. Branch complement many. Culm-sheaths present, 3–5 cm long. Culm-sheath blade triangular, deciduous, erect, glabrous on surface. Leaf-sheaths glabrous on surface, outer margin hairy. Leaf-sheath oral hairs setose. Ligule an eciliate membrane, pubescent on abaxial surface. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.07 cm long. Leaf-blades deciduous at the ligule, lanceolate, 8–14 cm long, 8–10 mm wide, coriaceous, stiff, light green. Leaf-blade venation with 6–8 secondary veins, with distinct cross veins. Leaf-blade surface pubescent, hairy on both sides. Leaf-blade margins scaberrulous. Leaf-blade apex attenuate.

Inflorescence. Synflorescence on a separate leafless culm.

Inflorescence a panicle, subtended by a spatheole, embraced at base by subtending leaf. Peduncle pubescent above. Panicle open, lanceolate, bearing few spikelets. Panicle axis pubescent. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

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 linear or oblong, laterally compressed, 30–40 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 3 mm long, eventually visible between lemmas.

Glumes. Glumes several, 0–2 empty glumes, persistent, similar, shorter than spikelet. Lower glume ovate, 7.5–10 mm long, chartaceous, without keels. Lower glume apex acute. Upper glume ovate, 7.5–10 mm long, chartaceous, without keels. Upper glume apex acute.

Florets. Fertile lemma ovate, 8–14 mm long, chartaceous, without keel, 17–23 -veined, more than 3-veined. Lemma apex obtuse. Palea 7 -veined. Palea keels ciliate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, ciliate. Anthers 6, 6–7 mm long, purple. Stigmas 3. Caryopsis with adherent pericarp, apex unappendaged.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. Indo-China. Vietnam.

Viguiereella madagascariensis A.Camus. *Bull. Bi-Mens. Soc. Linn. Lyon* v. 11. (1926).

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 Synonymy Database: Madagascar, Majunga: Perrier 11044 ; Madagascar, Amposimentera: Perrier 11246 ; Madagascar, Majunga: Perrier 13018 (K iso) ; Madagascar, Sakoa-be: Perrier 889.

Illustrations (Books): J.Bosser, *Graminees des Paturage et des Cultures a Madagascar* (1969) (93, Fig. 25).

Illustrations (Journals): *Hooker's Icones Plantarum* (t.3122 (1927)).

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

Classification. Subfamily Chloridoideae. Tribe: Chloridoideae incertae sedis.

Habit, Vegetative Morphology. Annual, caespitose. Culms decumbent, 10–40 cm long. Ligule a fringe of hairs. Leaf-blades 2–6 cm long, 2–3 mm wide.

Inflorescence. Inflorescence composed of racemes, bracteate at pedicel base (1mm long). Racemes 1, single, multilateral, 2–7 cm long. Rhachis angular. Spikelets ascending, 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 oblong, laterally compressed, 4–6 mm long, falling entire. Spikelet callus cuneate, 1–1.2 mm long, pubescent, base pungent.

Glumes. Glumes similar, shorter than spikelet, thinner than fertile lemma. Lower glume oblong, 1–1.5 mm long, 1 length of upper glume, hyaline, 1-keeled, 2 -veined. Lower glume surface pubescent. Lower glume apex emarginate or truncate, awned, 1 -awned, awn 6–15 mm long. Upper glume oblong, 1–1.5 mm long, 0.25 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume surface pubescent. Upper glume apex emarginate or truncate, awned, 1 -awned, awn 6–15 mm long.

Florets. Fertile lemma elliptic, lanceolate in profile, 4–6 mm long, coriaceous, keeled, 3–5 -veined, 0–3 -veined or more than 3-veined. Lemma apex acute, awned, 1 -awned. Principal lemma awn 8–15 mm long overall. Apical sterile florets 1–3 in number, barren, in a clump, linear, 1–2 mm long. Apical sterile lemmas awned, 1 -awned. Apical sterile lemma awns 4–15 mm long.

Flower and Fruit. Caryopsis with adherent pericarp, oblong (banana-like).

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

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

Vossia cuspidata (Roxb.) Griff. *Ic. Pl. Asiat. t.* 153 (1851).

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 Bangladesh. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Bangladesh: Icon (K icon).

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (276, Fig. 209), F.N.Hepper, *F.W.T.A.* 3(2) (1972) (503, Fig.459), R.M.Phillips, F.T.E.A., *Gramineae* (3(1982):830, Fig. 193), G.V.Pope et al., *Flora Zambesiaca* 10, G.E.Gibbs Russell et al, *Grasses of Southern Africa* (1990) (353, Fig. 233), S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (360, Fig. 149), L.Boulos, *Flora of Egypt* 4 (2005) (344, Pl. 101), T.A.Cope, in M.Thulin, *Poaceae* (Gramineae). *Flora of Somalia* (1995) (268, Fig. 161), N.L.Bor, *The grasses of Burma, Ceylon, India and Pakistan* (1960) (260, Fig. 30).

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 Panicoideae. Tribe: Sacchareae. Subtribe Rottboelliinae.

Habit, Vegetative Morphology. Perennial, mat forming. Culms prostrate, 100–200 cm long, 5–10 mm diam., spongy, rooting from lower nodes. Ligule a ciliate membrane. Leaf-blades 30–100 cm long, 6–18 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 1–12, single or paired or digitate, 10–30 cm long. Rhachis fragile at the nodes (tardily), angular, 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, cuneate, flattened, scabrous, tip rectangular.

Sterile Spikelets. Companion sterile spikelets well-developed, male, ovate, dorsally compressed, shorter than fertile, separately deciduous. Companion sterile spikelet glumes coriaceous, glabrous, caudate. 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, caudate, 20–40 mm long (the body 6–8 mm), falling entire, deciduous with accessory branch structures. Spikelet callus base truncate, attached transversely.

Glumes. Glumes dissimilar, firmer than fertile lemma. Lower glume ovate, 2–5 length of upper glume, 1 length of spikelet, coriaceous, yellow, 2-keeled, winged on keel, winged narrowly, winged above. Lower glume primary vein scabrous. Lower glume intercarinal veins distinct. Lower glume surface flat. Lower glume apex caudate. Upper glume ovate, 8 mm long, chartaceous, 1-keeled, 5–9 -veined. Upper glume primary vein scabrous. Upper glume apex acuminate, mucronate.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret oblong, 8 mm long, hyaline, 2 -veined. Fertile lemma oblong, hyaline, without keel, 3 -veined, 0–3 -veined. Lemma margins ciliolate, hairy above. Lemma apex acute.

Flower and Fruit. $n = 10$ (1 ref TROPICOS).

Distribution (TDWG). **Continent.** Africa, Tropical Asia.

Country /Province /State. **Northern Africa, West Tropical Africa, West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Southern Africa.** Egypt. Ghana, Mali, Nigeria, Sierre Leone. Burundi, Central African Republic, Gabon, Rwanda, DRC. Chad, Ethiopia (inc. Eritrea), Somalia, Sudan. Kenya, Tanzania, Uganda. Angola, Malawi, Mozambique, Zambia, Zimbabwe. Namibia, Botswana. **Indian Subcontinent, Indo-China.** Bangladesh. Myanmar, Thailand, Vietnam.

Assam, Meghalaya. West Bengal.

Vulpia alopecuros (Schousb.) Link. *Hort. Berol.* 1:147 (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 Morocco. **Basionym or Replaced Name:** *Festuca alopecuros* Schousb., *Vext. Marokko* 40 (1800). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Morocco, Tingida: Coll?.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *alopex*, fox; *oura*, tail. The spicate inflorescence resembling a fox tail.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms erect or geniculately ascending, 30–60 cm long. Leaf-sheaths striately veined, glabrous on surface. Ligule an eciliate membrane, 0.5 mm long, truncate. Leaf-blades filiform, convolute, 3–10 cm long, 2.5–4 mm wide. Leaf-blade surface pubescent, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, linear, secund, 12–15 cm long, 1–2(–3) cm wide. Primary panicle branches indistinct the panicle almost racemose. Panicle axis scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, clavate, 5–8 mm long.

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 or cuneate, laterally compressed, 16–21 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, 0.5–0.8 mm long, pilose, acute.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume linear, 1–1.5 mm long, 0.1 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume surface smooth or scabrous, rough at apex. Lower glume apex acute. Upper glume linear or lanceolate, 13–15 mm long, 1 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume margins scabrous. Upper glume apex acuminate, awned, 1 -awned, awn 4–7 mm long.

Florets. Fertile lemma lanceolate, 12–16 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma apex attenuate, awned, 1 -awned. Principal lemma awn 12–24 mm long overall. Palea 7–8 mm long, 2 -veined. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers (1–)3, (1.5–)2–2.5 mm long, eventually exserted. Ovary glabrous. Caryopsis with adherent pericarp, linear, glabrous.

$2n = 14$ (2 refs TROPICOS).

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

Region. **Northern Europe** (*), **Southwestern Europe, Southeastern Europe.**

Country /Province /State. : GB Aliens (Ryves et al). : Portugal, Spain. : Italy. **Northern Africa.** Algeria, Morocco.

Vulpia alpina L.Liu. *Fl. Reipubl. Popularis Sin.* 9(2): 405 . (2002).

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

TYPE from Tibet. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Tibet, Lhasa: Chang & Lang 1597 (PE holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. alpes*, high mountain; *-ina*, indicating possession. Species growing at high altitudes.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, culms solitary or caespitose. Culms erect or decumbent, 3–6 cm long. Leaf-sheaths without keel. Ligule an eciliate membrane, 0.3–1 mm long. Leaf-blades flat or involute, 2–4 cm long, 0.4 mm wide. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle, exserted or embraced at base by subtending leaf. Panicle contracted, linear, nodding, curved, 1–2 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 or cuneate, laterally compressed, 6–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume linear to lanceolate, 0.15–0.4 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 0.75 length of adjacent fertile lemma, membranous, without keels, 1–3 -veined. Upper glume lateral veins absent or obscure. Upper glume apex acuminate.

Florets. Fertile lemma lanceolate, 4–6 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 4–12 mm long overall. Palea 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Distribution (TDWG). **Continent.** Temperate Asia.

Country /Province /State. China. Tibet.

***Vulpia antofagastensis* L. Parodi. *Rev. Argent. Agron.* xxiii. 86 (1956).**

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

TYPE from Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Chile, Antofagasta: Barros 1217.

Illustrations: None found.

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

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms erect, 5–15 cm long, 2–3 -noded. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long. Leaf-blades flat or convolute, 3–5 cm long, 0.5 mm wide, flaccid.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 1–5 cm long, 0.5 cm wide. Primary panicle branches appressed. Panicle axis glabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 0.5–1.5 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 lanceolate, laterally compressed, 6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.6–0.7 mm long, pubescent.

Glumes. Glumes persistent, dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume linear, 2–3 mm long, 0.5–0.75 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume lanceolate, 3.5–4 mm long, 1 length of adjacent fertile lemma, membranous, with hyaline margins, without keels, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma lanceolate, 3.5–4 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma surface puberulous, hairy above. Lemma apex awned, 1 -awned. Principal lemma awn 3.5–4 mm long overall. Palea 1 length of lemma, 2 -veined. Palea keels ciliate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 2, 0.5–1 mm long, retained within floret or eventually exserted. Ovary glabrous. Caryopsis with adherent pericarp, 2.5 mm long, dark brown, glabrous. Hilum linear.

Distribution (TDWG). **Continent.** South America.

Country /Province /State. Southern South America. Chile North.

Antofagasta.

Vulpia antucensis Trin. *Linnaea*, x. 303 (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 Synonymy Database: Chile, Antico: Poeppig (LE holo).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina 3 – 2 Pooideae* (2012) (368).

Derivation (Clifford & Bostock 2007): *L. -ensis*, denoting origin. From Andes de Atuco, Chile.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 5–20 cm long. Ligule an eciliate membrane. Leaf-blades filiform, convolute, 2–10 cm long, 0.5 mm wide. Leaf-blade surface pubescent, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 2–8 cm long. Panicle axis 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 cuneate, laterally compressed, 5–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.8–1 mm long, scaberulous. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume linear, 3–4 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 lanceolate or oblong, 4–4.5 mm long, 0.75–0.9 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 4.5–6 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma surface pubescent. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 4–6 mm long overall. Palea lanceolate, 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 1, retained within floret. Ovary glabrous. Caryopsis with adherent pericarp, 3.5 mm long, glabrous. Embryo 0.2 length of caryopsis.

Distribution (TDWG). Continent. South America.

Country /Province /State. Southern South America. Chile Central.

Mendoza. Buenos Aires, La Pampa. Chubut, Neuquén, Río Negro, Santa Cruz. Antofagasta. Coquimbo, Valparaiso, Santiago, Biobio, La Araucania. Los Lagos, Magellanes.

Vulpia australis (Nees) Blom. *Acta Hort. Gothoburg.* ix. 163 (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.

TYPE from Uruguay. **Basionym or Replaced Name:** *Festuca australis* Nees ex Steud., *Syn. Pl. Gram.* 304 (1854). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Uruguay, Montevideo: Sellow (K iso).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina 3 – 2 Pooideae* (2012) (363), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (223, Fig. 49), A.Burkat, *Flora Illustrada de Entre Rios (Argentina)*, Pt II, Gramineas (1969) (75, Fig. 22), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (131, Fig. 34), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (122, Fig. 74 as var. *nana*), B.Rosengurtt, *Gramineas Uruguayas I* (1970) (141, Fig. 54), H.M. Longhi-Wagner, *Flora Illustrada do Rio Grande do Sul, Gramineae, Poeae* (1987).

Illustrations (Journals): *Ruizia* (13:113, Fig12h (1993)).

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. Annual, caespitose. Culms erect or geniculately ascending, 5–20 cm long. Leaf-sheaths without keel. Ligule an eciliate membrane. Leaf-blades 3–18 cm long, 0.5–2 mm wide, firm or flaccid. Leaf-blade surface glabrous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle, exserted. Panicle contracted or spiciform, linear, 1–5 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

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 or cuneate, laterally compressed, 5–7 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 to lanceolate, 2.5–4 mm long, 0.6–0.8 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume lanceolate, 4–5 mm long, 0.6–0.8 length of adjacent fertile lemma, membranous, without keels. Upper glume apex attenuate.

Florets. Fertile lemma lanceolate, 3.7–5 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 7–8 mm long overall. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Hilum linear.

$2n = 14$ (3 refs TROPICOS).

Distribution (TDWG). Continent. Europe (*), South America.

Region. Northern Europe.

Country /Province /State. : GB Aliens (Ryves et al). **Western South America, Brazil, and Southern South America.** Colombia. Brazil South. Argentina Northeast, Argentina South, Uruguay.

Rio Grande do Sul, Santa Catarina. San Luis. Buenos Aires, Corrientes, Distrito Federal, Entre Rios, La Pampa.

Vulpia brevis Boiss. & Kotschy. Diagn. Ser. II. 189 (1859).

TYPE from Lebanon. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Bscherre: Kotschy.

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Western Asia.** Lebanon-Syria.

Vulpia bromoides (L.) S. F. Gray. *Nat. Arr. Brit. Pl.* ii. 124 (1821).

Accepted by: R.J.Soreng et al., *Catalogue of 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), J.F.Veldkamp, *Poaceae ms (Flora Malesiana)*, 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 Europe. **Basionym or Replaced Name:** *Festuca bromoides* L., *Sp. Pl.* 1: 75 (1753). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: LT: *Herb. A. van Royen*, (L-912, 356–219). LT designated by Stace & Jarvis, *Bot. J. Linn. Soc.* 91: 436 (1985).

Recent Synonyms: *Vulpia dertonensis* (All.) Aschers. & Graebn., *Mittleurop. Fl.* 2: 559 (1901).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 2 Pooideae (2012) (369), C.E.Hubbard, *Grasses* (1968) (156), T. Cope & A. Gray, *Grasses of the British Isles* (28), G.Hegi, *Flora von Mitteleuropa* 1 (1909), F.N.Hepper, *F.W.T.A.* 3(2) (1972) (370, Fig.423), R.M.Phill, F.T.E.A., *Gramineae* (1(1970):65, Fig. 22), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (60, Fig 31), S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (28, Fig. 13), L.Boulos, *Flora of Egypt* 4 (2005) (138, Fig. 39), H.J.Noltie, *The Grasses of Bhutan* (2000) (541, Fig. 14), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (171, Fig 120), C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (406, Fig. 81), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler, *Grasses of New South Wales*, 4th edn (2008) (398), J.C.Tothill, & J.B.Hacker. *The grasses of southern Queensland*

(1983) (432), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (292, Fig. 39), 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) (1600, Pl. 237), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (453), 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) (217, Fig. 48 as *V. dertonensis*), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina)*, Pt II, Gramineas (1969) (75, Fig. 22 as *B. dertonensis*), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (as *V. dertonensis*), W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (588, Fig. 221), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (122, Fig. 73 as *V. dertonensis*), B.Rosengurtt, *Gramineas Uruguayas I* (1970) (141, Fig. 54), H.M. Longhi-Wagner, *Flora Ilustrada do Rio Grande do Sul, Gramineae, Poeae* (1987), E.Hafliger & E.Schultz, *Grass Weeds*, CIBA-GEIGY (2:135(1980)).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resembling. Resembling *Bromus*, usually with respect to the inflorescence.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, culms solitary or caespitose. Culms erect or decumbent, 5–60 cm long. Leaf-sheaths without keel, smooth, glabrous on surface. Ligule an eciliate membrane, 0.2–0.5 mm long. Leaf-blades flat or involute, 1–18 cm long, 0.5–3 mm wide, firm or flaccid. Leaf-blade surface pubescent, hairy adaxially. Leaf-blade margins scaberulous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle, exserted. Panicle open or contracted, lanceolate or oblong, equilateral or nodding, 1–10 cm long. Primary panicle branches appressed or ascending. Panicle branches angular, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 1–4 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 cuneate, laterally compressed, 7–14 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas, scaberulous.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume linear to lanceolate, 2–6 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 lanceolate, 5–10 mm long, 1 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex attenuate.

Florets. Fertile lemma lanceolate, 6–9 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma surface scaberulous. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 5–12 mm long overall. Palea 1 length of lemma, 2 -veined. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 1, 0.3–0.6 mm long, retained within floret. Ovary glabrous. Caryopsis with adherent pericarp, glabrous. Hilum linear, 1 length of caryopsis.

$n = 7$ (2 refs TROPICOS). $2n = 14$ (5 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, Great Britain, Ireland, Northern Ireland, Sweden. : Austria, Liechtenstein, Belgium, Luxembourg, Czechoslovakia, Germany, Hungary, Netherlands, Poland, Switzerland. : Balears, Corsica, Channel Islands, France, Monaco, Portugal, Sardinia, Andorra, Gibraltar, Spain. : Albania, Bulgaria, Greece, Italy, San Marino, Vatican, Romania, Malta, Sicily, Turkey Europe, Yugoslavia, Belarus, Estonia, Kaliningrad, Latvia, Lithuania, South European Russia, Northwest European Russia, Moldova, Ukraine. **Northern Africa, Macaronesia, West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, Southern Africa** (*), **Middle Atlantic Ocean, Western Indian Ocean.** Egypt (unconfirmed), Libya, Morocco. Azores, Canary Is, Cape Verde, Madeira, Selvagens. Cameroon. Ethiopia (inc. Eritrea), Sudan. Kenya, Uganda. Mpumalanga, Free State, Kwazulu-Natal, Lesotho, Northern Cape, Western Cape, Eastern Cape. Ascension, St Helena. Mauritius. **Caucasus, Western Asia, Arabian Peninsula.** Transcaucasus. Lebanon-Syria, Turkey. Yemen. **Indian Subcontinent, Malesia, Papuasia.** Eastern Himalaya, Sri Lanka. Lesser Sunda Is. New Guinea PNG. 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 (*). **Western Canada, Northwest USA, North-central USA, Southwestern USA, South-central USA, Southeastern USA, Mexico.** British Columbia. Oregon, Washington. Missouri. Arizona, California. New Mexico, Texas. Alabama, Arkansas, Kentucky, Louisiana, Mississippi, Tennessee. Central Mexico, Gulf (Mexico), Southeast Mexico. **Mesoamerica, Caribbean, Northern South America, Western South America, Brazil, Southern South America.** Costa Rica, El Salvador, Guatemala, Honduras. Jamaica (& as *Festuca*), Windward Islands. Bolivia, Colombia, Peru. Brazil Southeast, Brazil South. Argentina Northeast, Argentina Northwest, Chile North, Chile Central, Chile South, Juan Fernandez Is, Paraguay, Uruguay. **Subantarctic islands.** Falkland Is (Malvinas), Tristan de Cunha.

Bhutan. South-West. Southern. Central, South East. Coast, Tablelands, Western Slopes, Western Plains. Sao Paulo. Rio Grande do Sul, Santa Catarina. Catamarca, Jujuy (*), San Luis, Tucuman. Buenos Aires, Cordoba, Corrientes, Distrito Federal, Entre Rios. Chubut, Neuquén, Río Negro, Santa Cruz, Tierra del Fuego. Atacama. Coquimbo, Valparaiso, Santiago, O'Higgins, Maule, Biobio, La Araucania. Los Lagos, Aisen, Magellanes. Mexico State. Veracruz. Chiapas.

Vulpia ciliata Dum. *Obs. Gram. Belge* :100 (1823).

Accepted by: R.J.Soreng et al., *Catalogue of 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), N.L.Bor, *Grasses of Burma, Ceylon, India and Pakistan* (1960), N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Yugoslavia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Yugoslavia, Vergada Is.: Fig. in Host, *Gram. Austr.* 4:t.65(1809).

Illustrations (Books): C.E.Hubbard, *Grasses* (1968) (160 as *V. ambigua*), T. Cope & A. Gray, *Grasses of the British Isles* (27), N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 304), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (171, Fig. 121), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (406, Fig. 81), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler., *Grasses of New South Wales*, 4th edn (2008) (398), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (292, Fig. 39), 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) (454).

Derivation (Clifford & Bostock 2007): *L. cilium*, eyelid; *-ata*, possessing. Plant hairy overall or in part.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect or decumbent, 5–30 cm long, 1–2 -noded. Leaf-sheaths without keel, smooth, glabrous on surface. Ligule an eciliate membrane. Leaf-blades flat or involute, 1–10 cm long, 0.5–2 mm wide. Leaf-blade surface pubescent, hairy adaxially. Leaf-blade margins scaberulous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle, exserted or embraced at base by subtending leaf. Panicle contracted, linear, secund, straight, 3–13 cm long. Primary panicle branches appressed. Panicle branches angular, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 0.5–1 mm long.

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 cuneate, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas, scaberulous.

Glumes. Glumes persistent, dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume oblong or ovate, 0.2–1 mm long, 0.1–0.3 length of upper glume, membranous, without keels, 0 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2–3 mm long, 0.5–0.6 length of adjacent fertile lemma, membranous, without keels, 1 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 4–5 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma surface scaberulous. Lemma margins eciliate or ciliate. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 5–10 mm long overall. Palea 1 length of lemma, 2 -veined. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 1, 0.3–0.4 mm long, retained within floret. Ovary glabrous. Caryopsis with adherent pericarp, linear, glabrous. Hilum linear, 1 length of caryopsis.

n = 14 (1 ref 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. : Great Britain. : Belgium. : France, Portugal, Sardinia, Spain. : Albania, Bulgaria, Greece, Italy, Romania, Sicily, Turkey Europe, Yugoslavia. Krym. **Northern Africa, Macaronesia.** Algeria, Libya, Morocco, Tunisia. Canary Is. **Middle Asia, Caucasus, Western Asia.** Kirgizistan, Turkmenistan, Tadjikistan, Uzbekistan. North Caucasus, Transcaucasus. Afghanistan, Iran, Iraq. **Indian Subcontinent.** Pakistan. **Australia** (*). South Australia (*), New South Wales (*), Victoria (*). **Northeast USA, Southwestern USA.** Pennsylvania. Utah. Southern. Tablelands.

Ventenata subenervis Boiss. & Bal. *Bull. Soc. Bot. Fr.* iv. 305. (1857).

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

TYPE from Turkey. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Turkey, Smyrna: Balansa 7 (P holo, E, G, K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. sub*, approaching; *-e*, without; *nerva*, nerve. Glumes and/or lemmas weakly nerved.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms erect, 7–43 cm long. Ligule an eciliate membrane, 4 mm long, lacerate, acute. Leaf-blades convolute, 4–5 cm long, 1–2 mm wide. Leaf-blade surface pubescent, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 6–14 cm long, 3–5 cm wide. Primary panicle branches 2–6 cm long, bearing 1–3 fertile spikelets on each lower branch. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, cuneate, 5–18 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 oblong, laterally compressed, 9.5–13 mm long, breaking up at maturity, disarticulating between fertile florets but the lowest falling with glumes attached. Floret callus evident, pubescent.

Glumes. Glumes deciduous with pedicel attached, similar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 3.5–5.5 mm long, 0.5 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume apex acuminate. Upper glume lanceolate, 7.5–10 mm long, 0.9–1 length of adjacent fertile lemma, membranous, 1-keeled, 5 -veined. Upper glume apex acuminate.

Florets. Fertile florets with the lowest dissimilar. Lowest fertile lemma elliptic, 1.25 length of adjacent lemma, thinner than adjacent lemma, entire, muticous. Fertile lemma oblong, 8–10 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma apex dentate, 2 -fid, awned, 3 -awned. Principal lemma awn dorsal, geniculate, 14–21 mm long overall, with twisted column. Lateral lemma awns present, arising on apex of lobes, 1–2.5 mm long, shorter than principal. Palea 4–4.8 mm long. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.4–1.8 mm long. Ovary glabrous. Caryopsis with adherent pericarp. Endosperm liquid.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Western Asia. East Aegean Is, Turkey.

Vulpia cynosuroides (Desf.) Parl. *Pl. Nov.* :52 (1842).

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

TYPE from Tunisia. **Basionym or Replaced Name:** *Festuca cynosuroides* Desf., *Fl. Atlant.* 1: 88. t. 21 (1798). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Tunisia, Cafsam: Coll?.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resembling. Inflorescence resembling that of *Cynosurus*.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect or geniculately ascending, 3–20 cm long. Culm-internodes smooth, distally glabrous. Leaf-sheaths without keel, smooth, glabrous on surface. Ligule an eciliate membrane, 1–2 mm long, truncate or obtuse. Leaf-blades involute, 2–4.5 cm long, 1 mm wide. Leaf-blade surface puberulous, hairy adaxially. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, oblong or ovate, unilateral, 1–3 cm long. Rhachis glabrous on surface to pubescent on surface. Spikelets solitary or in pairs. Fertile spikelets pedicelled. Pedicels present, oblong, 1–2 mm long, glabrous or puberulous.

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 obovate or cuneate, laterally compressed, 6–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas, scaberulous.

Glumes. Glumes persistent, dissimilar, shorter than spikelet, similar to fertile lemma in texture. Lower glume ovate, 0.1–1.1 mm long, 0.02–0.25 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse or acute. Upper glume lanceolate, 4.5 mm long, 0.9–1 length of adjacent fertile lemma, coriaceous, without keels, 3 -veined. Upper glume apex obtuse or acute.

Florets. Fertile florets divergent. Fertile lemma lanceolate, 4.5–5 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 2–3 mm long overall. Palea 1 length of lemma, 2 -veined. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, 0.5 mm long. Anthers 1, 0.4–0.9 mm long. Ovary glabrous. Caryopsis with adherent pericarp, linear, 2.5–3 mm long, glabrous. Embryo 0.2 length of caryopsis. Hilum linear, 0.33 length of caryopsis.

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

Region. Northern Europe (*).

Country /Province /State. : GB Aliens (Ryves et al). **Northern Africa.** Algeria, Morocco, Tunisia.

Vulpia delicatula (Lag.) Dum. *Obs. Gram. Belg.* 100 (1823).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, T.G.Tutin et al, *Flora Europaea* 5 (1980) (as *Ctenopsis*).

TYPE from Spain. **Basionym or Replaced Name:** *Ctenopsis delicatula*, *Festuca delicatula* Lag., *Varied. Cienc.* 2: IV. 39 (1805). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Spain, Guadarrama: Coll?.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. delicatus*, dainty; *-ula*, diminutive. Small and dainty as of habit.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms erect or geniculately ascending, 10–35 cm long. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.1–0.3 mm long, truncate. Leaf-blades filiform, involute, 1–6 cm long, 0.2–0.8 mm wide. Leaf-blade surface pubescent, hairy adaxially.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, arcuate, unilateral, 2–7 cm long. Spikelets pectinate, 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 or cuneate, laterally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.8–1.3 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume linear, 0.3–0.8 mm long, 0.05–0.1 length of upper glume, membranous, without keels, 0–1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 4.2–7.8 mm long, 0.9–1.2 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma lanceolate, 5–6.5 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma apex attenuate, awned, 1 -awned. Principal lemma awn 5–9 mm long overall. Palea 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 2–2.6 mm long. Ovary glabrous. Caryopsis with adherent pericarp, linear, 2.5–3 mm long, glabrous.

Distribution (TDWG). Continent. Europe.

Region. Southwestern Europe.

Country /Province /State. : Portugal, Spain.

Vulpia eliotea (Rafin.) Fernald. *Rhodora*, xlvii. 106 (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).

TYPE from USA. **Basionym or Replaced Name:** *Dasiola eliotea* Rafin., *Neogenyt.* 4 (1825). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: USA, South Carolina: Elliot.

Recent Synonyms: *Vulpia sciurea* (Nutt.) Henrard, *Blumea*, 2: 323 (1937).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): In honor of Stephen Elliott (1771–1830) United States planter, legislator and amateur botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect or geniculately ascending, 15–60 cm long. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long. Leaf-blades flat or involute, 5–10 cm long, 0.5–1 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 5–20 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 or cuneate, laterally compressed, 3.5–5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume linear, 1.3–2.5 mm long, 0.5 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume surface glabrous. Lower glume apex acuminate. Upper glume linear, 2.5–4 mm long, 1 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume lateral veins obscure. Upper glume surface glabrous. Upper glume apex acuminate.

Florets. Fertile lemma lanceolate, 2.5–3.5 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma surface pubescent. Lemma apex attenuate, awned, 1 -awned. Principal lemma awn 4.5–9.5 mm long overall. Palea 0.9 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 1, 0.5 mm long. Ovary glabrous. Caryopsis with adherent pericarp, linear, 1.5–2 mm long, glabrous.

Distribution (TDWG). Continent. North America.

Country /Province /State. North-central USA, Northeast USA, South-central USA, and Southeastern USA. Missouri, Oklahoma. New Jersey. Texas. Alabama, Florida, Georgia, Maryland, Mississippi, North Carolina, South Carolina.

Vulpia eriolepis (Desv.) Blom. *Acta Hort. Gothoburg.* ix. 153, 156. (1934).

TYPE from Chile. **Basionym or Replaced Name:** *Festuca eriolepis* E.Desv., C. Gay, *Fl. Chil.* 6: 428 (1853). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Chile: Gay (P holo, K).

Illustrations (Books): M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (117, Fig. 72).

Derivation (Clifford & Bostock 2007): Gk. *erion*, wool; *lepis*, scale. With densely hairy glumes, sterile lemmas or palea.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms 5–20 cm long. Ligule an eciliate membrane. Leaf-blades filiform, convolute, 2–10 cm long, 0.5 mm wide. Leaf-blade surface pubescent, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 2–8 cm long. Panicle axis 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 cuneate, laterally compressed, 5–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 0.8–1 mm long, scaberulous. Floret callus glabrous.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume linear, 3–4 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 lanceolate or oblong, 4–4.5 mm long, 0.75–0.9 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 4.5–6 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma surface pubescent. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 4–6 mm long overall. Palea lanceolate, 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 1, retained within floret. Ovary glabrous. Caryopsis with adherent pericarp, 3.5 mm long, glabrous. Embryo 0.2 length of caryopsis.

Distribution (TDWG). Continent. South America.

Country /Province /State. Southern South America. Argentina South. Chubut, Neuquén, Río Negro.

***Vulpia fasciculata* (Forssk.) Sampaio. *Herb. Portug.* 24 (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), T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from Egypt. **Basionym or Replaced Name:** *Festuca fasciculata* Forssk., *Fl. Aegypt.-Arab.* 22 (1775). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Forsskel 1260*, Apr 1762, Egypt: Alexandria (C).

Illustrations (Books): T. Cope & A. Gray, *Grasses of the British Isles* (26), N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 301), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (172, Fig. 122), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (406, Fig. 81), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler, *Grasses of New South Wales*, 4th edn (2008) (398), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (292, Fig. 39), 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. Annual, culms solitary or caespitose. Culms erect or decumbent, 10–60 cm long, 2–3 -noded. Leaf-sheaths without keel, smooth, glabrous on surface. Ligule an eciliate membrane. Leaf-blades flat or involute, 1–10 cm long, 1–3 mm wide, firm or flaccid. Leaf-blade surface ribbed, pubescent, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong, secund, 2–12 cm long. Primary panicle branches appressed. Panicle branches angular, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, 3–7 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 oblong or cuneate, laterally compressed, 12–16 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas, smooth.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume ovate, 0.2–1.6 mm long, 0.02–0.1 length of upper glume, membranous, without keels, 0–1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 10–14 mm long, 0.9–1.2 length of adjacent fertile lemma, chartaceous, with membranous margins, 1-keeled, 3 -veined. Upper glume surface scabrous. Upper glume apex acuminate, awned, 1 -awned, awn 4–6 mm long.

Florets. Fertile lemma lanceolate, 8–16 mm long, chartaceous, keeled, 3–5 -veined, 0–3 -veined or more than 3-veined. Lemma surface scaberulous. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 10–25 mm long overall. Palea 0.6–0.7 length of lemma, 2 -veined. Palea keels scaberulous.

Apical sterile florets 3–4 in number, barren, in a clump, linear, 2–4 mm long. Apical sterile lemmas awned, 1 -awned. Apical sterile lemma awns 6–16 mm long.

Flower and Fruit. Anthers 1–3, 0.8–1.5 mm long. Ovary pubescent on apex. Caryopsis with adherent pericarp, linear, hairy at apex. Hilum linear, 1 length of caryopsis.

$n = 14$ (2 refs TROPICOS). $2n = 28$ (6 refs TROPICOS).

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

Region. Northern Europe, Southwestern Europe, Southeastern Europe.

Country /Province /State. : Great Britain, Ireland. : Balears, Corsica, France, Sardinia, Spain. : Albania, Greece, Italy, Crete, Sicily, Turkey Europe, Yugoslavia. **Northern Africa, Southern Africa** (*). Egypt. Western Cape. **Western Asia.** Cyprus, Lebanon-Syria, Palestine, Israel & Jordan, Turkey. **Australia** (*). Western Australia (*), South Australia (*), New South Wales (*), Victoria (*), Tasmania (*). South-West. Southern. Coast.

Vulpia fontquerana Melderis & Stace. *Collect. Bot., Barcinone*, vii. 782 (1968).

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. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Spain, Sanlucar: Stace 411 (BM holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Pes Font-Quer (1888–1964) Spanish botanist.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms 4–30 cm long. Ligule an eciliate membrane. Leaf-blades 1–7 cm long, 0.5–1 mm wide.

Inflorescence. Inflorescence a panicle or composed of racemes (when impoverished). Panicle contracted, linear, 2.5–7 cm long. Primary panicle branches simple. Racemes few, single, unilateral. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 2–4 mm long.

Fertile Spikelets. Spikelets comprising 1–2 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 cuneate, laterally compressed, 6–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas. Floret callus elongated, 1–1.5 mm long, pubescent, pungent.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume linear, 2–4 mm long, 0.25–0.5 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume linear, 4–8 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex attenuate, awned, 1 -awned, awn 1–4 mm long.

Florets. Fertile lemma lanceolate, 4–8 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma surface smooth or asperulous. Lemma apex attenuate, awned, 1 -awned. Principal lemma awn 10–30 mm long overall. Palea 1 length of lemma, 2 -veined. Palea keels ciliate. Apical sterile florets 2–3 in number, barren, separate, linear. Apical sterile lemmas awned, 1 -awned.

Flower and Fruit. Anthers 3, 0.5–0.6 mm long, retained within floret. Ovary glabrous. Caryopsis with adherent pericarp. Hilum linear.

$2n = 14$ (1 ref TROPICOS).

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

Region. Southwestern Europe.

Country /Province /State. : Spain.

Vulpia geniculata (L.) Link. *Hort. Berol.* i. 148 (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), T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from Portugal. **Basionym or Replaced Name:** *Bromus geniculatus* L., *Mant.* 1: 33 (1767) .
T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Portugal: Herb. Linn. 93.24 (LINN lecto).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *genus*, knee; *-ulus*, diminutive. *-ata*, possessing. Plants with bent culms or awns.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms erect or geniculately ascending, 30–70(–115) cm long. Leaf-sheaths striately veined, glabrous on surface. Ligule an eciliate membrane, 0.5–1.5 mm long, lacerate, truncate. Leaf-blades flat or convolute, 3–15 cm long, 1.5–4 mm wide. Leaf-blade surface scabrous, rough adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, secund, 5–26 cm long, 1–6 cm wide. Primary panicle branches appressed. Panicle axis scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, clavate, 3.5–10 mm long, smooth or scaberulous.

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 cuneate, laterally compressed, 7–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus brief, 0.1–0.2 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume linear, 3–5.5 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 apex acute, muticous or mucronate. Upper glume lanceolate, 5.5–9 mm long, 1.1–1.2 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume margins eciliate or ciliate. Upper glume apex acute, muticous or awned, 1 -awned, awn 0.5–3 mm long.

Florets. Fertile lemma lanceolate, 5–7.5 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface glabrous or pubescent. Lemma apex attenuate, awned, 1 -awned. Principal lemma awn (2.5–)4–8 mm long overall. Palea 4–5.5 mm long, 2 -veined. Palea keels scabrous. Palea apex dentate, 2 -fid. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.8–2.8 mm long, eventually exserted. Ovary glabrous. Caryopsis with adherent pericarp, linear, glabrous.

$2n = 14$ (3 refs TROPICOS).

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

Region. Northern Europe (*), Southwestern Europe, Southeastern Europe.

Country /Province /State. : GB Aliens (Ryves et al). : Balears, Corsica, France, Portugal, Sardinia, Spain. : Italy, Sicily. **Northern Africa, Macaronesia.** Algeria, Morocco, Tunisia. Madeira.

Vulpia gracilis Scholz. *Willdenowia*, v. 109 (1968).

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

TYPE from Tunisia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Tunisia, Hammamet: Scholz 601 (B holotype).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. slender. Culms or inflorescences slender.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect or decumbent, 5–30 cm long, 2–3 -noded. Culm-internodes ridged, distally glabrous. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 1 mm long, obtuse. Leaf-blades 1–5 cm long, 1–2 mm wide.

Inflorescence. Inflorescence a panicle, exserted or embraced at base by subtending leaf. Panicle contracted, lanceolate, secund, 2–9 cm long. Primary panicle branches appressed. Panicle axis scabrous. Panicle branches angular, scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, clavate, 5–7 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, laterally compressed, 15–20 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas, glabrous. Floret callus glabrous, acute.

Glumes. Glumes persistent, dissimilar, shorter than spikelet, gaping. Lower glume ovate, 0.5–2 mm long, 0.03–0.1 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 15 mm long, 0.3–0.4 length of adjacent fertile lemma, chartaceous, 1-keeled, 3 -veined. Upper glume surface scabrous. Upper glume apex acuminate, awned, 1 -awned, awn 30–42 mm long.

Florets. Fertile lemma lanceolate, 35–50 mm long, chartaceous, keeled, 5 -veined, more than 3-veined. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 40–50 mm long overall. Palea 6–8 mm long, 2 -veined. Palea apex awned, awns 1–2 mm long. Apical sterile florets 2–3 in number, barren, in a clump, linear. Apical sterile lemmas awned, 1 -awned.

Flower and Fruit. Anthers 3, 0.6–1.2 mm long. Ovary pubescent on apex. Caryopsis with adherent pericarp, linear, hairy at apex. Hilum linear.

Distribution (TDWG). Continent. Africa.

Country /Province /State. Northern Africa. Libya.

***Vulpia gypsophila* (Hack.) Nym. *Consp.* 821 (1879).**

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, T.G.Tutin et al, *Flora Europaea* 5 (1980) (as *Ctenopsis*).

TYPE from Spain. **Basionym or Replaced Name:** *Festuca gypsophila* Hack., *Oestr. Bot. Zeitschr.* 27: 47 (1877). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Spain, Aranjuez: Porta & Rigo (K iso).

Recent Synonyms: *Ctenopsis gypsophila* (Hack.) Paunero, *An. Inst. Bot. A. J. Cavan.* 21: 368 (1963).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *gypsos*, gypsum; *phileo*, love. Growing on gypsum soils.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect or geniculately ascending, 3–20 cm long. Leaf-sheaths without keel, striately veined, glabrous on surface. Ligule an eciliate membrane, 1–2 mm long, lacerate, truncate or obtuse. Leaf-blades filiform, convolute, 1–4.5 cm long, 0.5–1 mm wide. Leaf-blade surface puberulous, hairy adaxially. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, oblong or ovate, unilateral, 1–3 cm long. Rhachis scabrous on surface, glabrous on surface or pubescent on surface. Spikelets pectinate, solitary. Fertile spikelets pedicelled. Pedicels present, oblong or clavate, 0.5–2 mm long.

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 obovate or cuneate, laterally compressed, 6–8 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet, firmer than fertile lemma. Lower glume linear or oblong, 0.2–1.1 mm long, 0.05 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume lanceolate, 4–5 mm long, 1 length of adjacent fertile lemma, coriaceous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Fertile lemma lanceolate, 4–5 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma apex attenuate, awned, 1 -awned. Principal lemma awn 2–3 mm long overall. Palea lanceolate, 2 -veined. Palea keels scabrous. Palea apex dentate, 2 -fid. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.4–0.9 mm long, eventually exserted. Ovary glabrous. Caryopsis with adherent pericarp, linear, sulcate on hilar side, 2.5–3 mm long, glabrous. Embryo 0.2 length of caryopsis. Hilum linear, 0.33 length of caryopsis.

Distribution (TDWG). Continent. Europe.

Region. Southwestern Europe, Southeastern Europe.

Country /Province /State. : Spain. : Sicily.

***Vulpia hirtiglumis* Boiss. & Haussk. *Boiss. Fl. Orient.* v. 629. (1884).**

Accepted by: N.Tsvelev, *Grasses of the Soviet Union* (1983).

TYPE from Iraq. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Iraq, Orfa: Haussknecht (G holo).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. hirtus*, hairy; *gluma*, husk. Glumes hairy.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect, 15–30 cm long. Culm-nodes purple. Leaf-sheaths without keel, smooth, glabrous on surface. Ligule an eciliate membrane. Leaf-blades conduplicate or convolute, 2–4 cm long, 1–2 mm wide. Leaf-blade surface pilose, hairy adaxially.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Peduncle glabrous or pilose above. Panicle contracted, linear, 4–20 cm long. Primary panicle branches indistinct the panicle almost racemose. Panicle axis villous. Panicle branches villous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, villous.

Fertile Spikelets. Spikelets comprising 1–3 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, laterally compressed, 7–10 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, thinner than fertile lemma. Lower glume linear, 2–3 mm long, 1 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume surface villous. Lower glume apex acute. Upper glume linear, 2–3 mm long, 0.5 length of adjacent fertile lemma, membranous, without keels, 1–3 -veined. Upper glume surface villous. Upper glume apex acuminate.

Florets. Fertile lemma lanceolate, 4–6 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma surface villous. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 6–8 mm long overall. Palea 1 length of lemma, 2 -veined. Palea keels scaberulous. Apical sterile florets distinct from fertile, 2–7 in number.

Flower and Fruit. Ovary glabrous. Caryopsis with adherent pericarp, linear, glabrous. Hilum linear.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Western Asia. Iran, Iraq.

Vulpia inops Hack. *Flora*, lxiii. 476 (1880).

TYPE from Egypt. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Egypt, Alexandria: Ehrenberg ; Egypt, Alexandria: Letourneux.

Recent Synonyms: *Vulpia brevis* Boiss. & Kotschy, *Diagn. Ser.* 2. 189 (1859).

Illustrations (Books): N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 305 as *V. brevis*).

Derivation (Clifford & Bostock 2007): Gk. weak. Culms slender.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms geniculately ascending or decumbent, 10–30 cm long, 2–3 -noded. Ligule an eciliate membrane, 1–2 mm long, obtuse. Leaf-blades 3–10 cm long, 1–2 mm wide.

Inflorescence. Inflorescence a panicle. Panicle contracted, oblong, secund, 2–6 cm long, 0.8–1.5 cm wide. Panicle axis bearing deciduous spikelet clusters. Panicle branches angular, pubescent. Spikelets in threes. Fertile spikelets pedicelled, 3 in the cluster. Pedicels present, fused to each other, united below, cuneate, 2–3 mm long, pubescent, hairy below.

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, 7–10 mm long, falling entire, deciduous in a cluster with fused pedicels, pedicel base acute.

Glumes. Glumes similar, shorter than spikelet. Lower glume lanceolate, 0.5 length of upper glume, membranous, 1-keeled, 3 -veined. Lower glume primary vein scabrous. Lower glume surface glabrous or pubescent. Lower glume apex acuminate, awned, 1 -awned, awn 3–5 mm long. Upper glume lanceolate, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume surface glabrous or pubescent. Upper glume apex acuminate, awned, 1 -awned, awn 7–8 mm long.

Florets. Fertile lemma lanceolate, 5–7 mm long, membranous, keeled, 5 -veined, more than 3-veined. Lemma surface glabrous or pubescent. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 9–11 mm long overall. Palea keels scabrous. Apical sterile florets 4–8 in number, barren, in a clump,

lanceolate, 0–2 mm long. Apical sterile lemmas awned, 1 -awned. Apical sterile lemma awns 5–10 mm long.

Flower and Fruit. Anthers 2–3, 1 mm long. Ovary pubescent on apex. Caryopsis with adherent pericarp, linear, dorsally compressed, 5 mm long, hairy at apex. Embryo 0.2 length of caryopsis. Hilum linear, 1 length of caryopsis.

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

Country /Province /State. **Northern Africa.** Egypt (as *V. brevis*), Libya (as *V. brevis*). **Western Asia.** Cyprus (as *V. brevis*), Lebanon-Syria (as *V. brevis*), Palestine, Israel & Jordan (as *V. brevis*).

***Vulpia ligustica* (All.) Link. *Hort. Berol.* i. 148 (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 Italy. **Basionym or Replaced Name:** *Bromus ligusticus* All., *Fl. Pedem.* 2: 249 (1785). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Italy, Liguria: Scheuchzer.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): From *Ligusticus*, now Liguria, part of the Italian Piedmont.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms erect, 10–60 cm long. Ligule an eciliate membrane, 0.5–1 mm long, entire or lacerate. Leaf-blades 3–12 cm long, 1–3 mm wide.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, equilateral or nodding, 5–13 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 1.5–5.5 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 cuneate, laterally compressed, 6.5–10(–16) mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas.

Glumes. Glumes persistent, dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 2–6 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 linear, 5–10 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex attenuate, awned, 1 -awned, awn 1–2 mm long.

Florets. Fertile lemma lanceolate, 6–9 mm long, membranous, without keel, 5 -veined, more than 3-veined. Lemma surface asperulous, glabrous or pubescent. Lemma apex attenuate, awned, 1 -awned. Principal lemma awn 5–8 mm long overall. Palea 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 2–3 mm long, eventually exserted. Ovary pubescent on apex. Caryopsis with adherent pericarp. Hilum linear.

$2n = 14$ (1 ref TROPICOS).

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

Region. **Northern Europe** (*), **Southwestern Europe**, **Southeastern Europe**.

Country /Province /State. : GB Aliens (Ryves et al). : Corsica, France, Sardinia. : Italy, Crete, Sicily, Turkey Europe, Yugoslavia. **Northern Africa.** Algeria, Libya, Morocco, Tunisia. **Western Asia.** Turkey.

***Vulpia litardiereana* (Maire) A.Camus. *Riv. Scient.* xxi. 44 (1934).**

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

TYPE from Morocco. **Basionym or Replaced Name:** *Festuca litardiereana* Maire, *Bull. Soc. Hist. Nat. Afr. Nord.*, 22: 323 (1932). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Morocco, Reraya: Emberger, Litardiere & Maire.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. -ana*, indicating connection. In honor of R. de Litardiere, French botanist (–1962).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Basal innovations extravaginal. Culms 20–40 cm long, 2 -noded. Culm-nodes brown. Leaf-sheaths keeled, glabrous on surface or pubescent. Ligule an eciliate membrane, 1 mm long, erose, truncate. Leaf-blades filiform, conduplicate, 10–18 cm long, 1 mm

wide. Leaf-blade venation comprising 5 vascular bundles, with 5 inner ridges. Leaf-blade surface glabrous. Leaf-blade apex obtuse or abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle open, linear or lanceolate, secund, 4–8 cm long. Primary panicle branches ascending. Panicle axis scabrous, glabrous or pubescent. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 3–5 mm long, tip widened.

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 cuneate, laterally compressed, 8–13 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 2–2.5 mm long, scaberulous.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume linear, 0.33–0.5 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex obtuse or acute. Upper glume linear or lanceolate, 0.5–0.75 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume primary vein scabrous. Upper glume apex obtuse or acute, mucronate.

Florets. Fertile lemma lanceolate, 5–7 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma midvein without distinctive roughness or scaberulous. Lemma apex attenuate, awned, 1 -awned. Principal lemma awn 4–8 mm long overall. Palea linear, 0.9 length of lemma, 2 -veined. Palea keels scabrous. Palea apex dentate, 2 -fid. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 2.2–3.2 mm long, eventually exerted. Ovary pubescent on apex. Caryopsis with adherent pericarp, linear, sulcate on hilar side, 3–5 mm long, hairy at apex. Embryo 0.15 length of caryopsis. Hilum linear, 0.33 length of caryopsis.

Distribution (TDWG). Continent. Africa.

Country /Province /State. Northern Africa. Morocco.

Vulpia membranacea (L.) Dum. *Obs. Gram. Belg.* 100 (1823).

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 Spain. **Basionym or Replaced Name:** *Stipa membranacea* L., *Sp. Pl.* 560 (1753). T:<Type of Basionym>; *vide* TROPICOS and Kew Synonymy Database: Spain: Loeffling.

Illustrations (Books): C.E.Hubbard, *Grasses* (1968) (162).

Derivation (Clifford & Bostock 2007): *L. membrana*, membrane; *-acea*, resembling. Inflorescence bracts or glumes papery.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, culms solitary or caespitose. Culms erect or geniculately ascending, slender, 10–60 cm long, 2–3 -noded. Leaf-sheaths without keel, smooth, glabrous on surface. Ligule an eciliate membrane, 0.2 mm long. Leaf-blades flat or involute, 1–10 cm long, 1–3 mm wide, firm or flaccid. Leaf-blade surface ribbed, puberulous, hairy adaxially.

Inflorescence. Inflorescence a panicle, exerted. Panicle contracted, oblong, secund, 2–12 cm long. Primary panicle branches appressed, indistinct the panicle almost racemose or simple. Panicle branches angular, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, 3–7 mm long, scaberulous, tip widened.

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 cuneate, laterally compressed, 9–15 mm long, falling entire or breaking up at maturity, deciduous with the pedicel (if entire), disarticulating or below each fertile floret (if fragile). Rhachilla internodes eventually visible between lemmas, smooth. Floret callus glabrous.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume ovate, 0.2–3 mm long, 0.02–0.2 length of upper glume, membranous, without keels, 0–1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 8–14 mm long, 0.9–1.2 length of adjacent fertile lemma, chartaceous, with membranous margins, 1-keeled, 3 -veined. Upper glume apex acuminate, awned, 1 -awned, awn 4–6 mm long.

Florets. Fertile lemma lanceolate, 7–15 mm long, chartaceous, keeled, 3–5 -veined, 0–3 -veined or more than 3-veined. Lemma surface scaberulous. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 10–25 mm long overall. Palea 2 -veined. Apical sterile florets 3–4 in number, barren, in a

clump, linear, 2–4 mm long. Apical sterile lemmas awned, 1 -awned. Apical sterile lemma awns 6–16 mm long.

Flower and Fruit. Anthers 1–3, 0.6–0.9 mm long. Ovary glabrous. Caryopsis with adherent pericarp, linear, glabrous. Hilum linear, 1 length of caryopsis.

$n = 7$ (1 ref TROPICOS), or 14 (1 ref TROPICOS). $2n = 90–91$.

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

Region. Northern Europe, Middle Europe, Southwestern Europe.

Country /Province /State. : GB Aliens (Ryves et al). : Belgium. : Corsica, France, Portugal, Spain. Northern Africa, Macaronesia. Algeria, Morocco, Tunisia. Canary Is. **Caucasus, Western Asia.** North Caucasus. Cyprus, Lebanon-Syria, Palestine, Israel & Jordan, Turkey.

Vulpia microstachys (Nutt.) Munro. *Benth. Pl. Hartw.* 342 (1857).

Accepted by: R.J.Soreng et al., *Catalogue of 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:** *Festuca microstachys* Nutt., *Journ. Acad. Philad. N. S.* 1: 187 (1847). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: USA, California: Gambel.

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (453 as var. *microstachys*, *confusa*, *ciliata* & *pauciflora*).

Derivation (Clifford & Bostock 2007): Gk. *mikros*, small; *stachys*, ear of corn. Inflorescences or spikelets small.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual, culms solitary or caespitose. Culms 7–45 cm long. Culm-internodes distally glabrous or pubescent. Leaf-sheaths glabrous on surface or pubescent. Ligule an eciliate membrane, 0.5–1 mm long. Leaf-blades flat or involute, 5–10 cm long, 0.5–1 mm wide. Leaf-blade surface glabrous or pubescent.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate or ovate, 3–13 cm long. Primary panicle branches spreading or reflexed (at maturity). Panicle branches with prominent pulvini. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1–6 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 cuneate, laterally compressed, 1–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume linear, 1.7–5.5 mm long, 0.5–0.75 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface scabrous, glabrous or pubescent. Lower glume apex attenuate. Upper glume lanceolate, 3.5–7.5 mm long, 0.75 length of adjacent fertile lemma, membranous, without keels, 3–5 -veined. Upper glume lateral veins ribbed. Upper glume surface scabrous, glabrous or pubescent. Upper glume apex attenuate.

Florets. Fertile lemma lanceolate, 4.5–7 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface scabrous, glabrous or pubescent. Lemma apex attenuate, awned, 1 -awned. Principal lemma awn (3–)6–20 mm long overall. Palea 0.9 length of lemma, 2 -veined. Palea apex with excurrent keel veins. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers (1–)3. Ovary glabrous. Caryopsis with adherent pericarp, linear, 3.5–5.5 mm long, glabrous.

Distribution (TDWG). **Continent.** North America.

Country /Province /State. **Western Canada, Northwest USA, Southwestern USA, South-central USA, Mexico.** British Columbia. Colorado, Oregon, Washington. Arizona, Utah. New Mexico. Northwest Mexico.

Baja California.

Vulpia muralis (Kunth) Nees. *Linnaea*, xix. 694 (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), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from Ecuador. **Basionym or Replaced Name:** *Festuca muralis* Kunth, *Syn. Pl.* 1: 218 (1822). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *F.W.H.Humboldt & A.J.A.Bonpland s.n.*, Ecuador (P; IT: BM, US-91045 (fragm.)).

Illustrations (Books): N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 303), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (173, Fig 123), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (406, Fig 81), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler, *Grasses of New South Wales*, 4th edn (2008) (399), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (292, Fig. 39), 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. murus*, wall; *-alis*, pertaining to. Growing on walls.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Basal innovations intravaginal. Culms erect, 10–60 cm long. Leaf-sheaths without keel, smooth, glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long, entire or lacerate, truncate. Leaf-blades 1–2 mm wide.

Inflorescence. Inflorescence a panicle, exserted. Panicle open, linear, 3–15 cm long. Primary panicle branches sparsely divided. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, 0.5–3.5 mm long, tip rectangular.

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 cuneate, laterally compressed, 5–10 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, thinner than fertile lemma. Lower glume lanceolate, 1–3 mm long, 0.33–0.5 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 3–6 mm long, 0.75–0.85 length of adjacent fertile lemma, membranous, without keels, 1–3 -veined. Upper glume apex acuminate, awned, 1 -awned, awn 1–2 mm long.

Florets. Fertile lemma lanceolate, 4–7 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma surface smooth or scabrous, glabrous or pubescent. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 8–20 mm long overall, 2–3 length of lemma. Palea 1 length of lemma, 2 -veined. Palea keels scaberrulous. Apical sterile florets resembling fertile though underdeveloped or distinct from fertile, 0–2(–3) in number.

Flower and Fruit. Anthers 1(–3), 0.3–0.7 mm long, retained within floret. Ovary glabrous. Caryopsis with adherent pericarp, linear, glabrous. Hilum linear.

$n = 14$ (1 ref TROPICOS), or 21 (2 refs TROPICOS). $2n = 14$ (1 ref TROPICOS), or 28.

Distribution (TDWG). **Continent.** Europe, Africa, Temperate Asia, Australasia, South America.

Region. Northern Europe (*), Southwestern Europe, Southeastern Europe.

Country /Province /State. : GB Aliens (Ryves et al). : Balears, Corsica, France, Portugal, Sardinia, Spain. : Greece, Italy, Sicily, Turkey Europe, Yugoslavia. **Northern Africa, Macaronesia, Southern Africa** (*). Algeria, Libya, Morocco. Azores, Madeira. Limpopo, Free State, Northern Cape, Western Cape. **Western Asia, Arabian Peninsula.** Cyprus, East Aegean Is, Palestine, Israel & Jordan, Turkey. Saudi Arabia. **Australia** (*). Western Australia, South Australia, Queensland, New South Wales, Victoria. **Northern South America, Western South America, Southern South America.** Venezuela. Colombia, Ecuador, Peru. Chile Central, Juan Fernandez Is.

South-West. Southern. Central, South East. Coast, Tablelands, Western Slopes, Western Plains. Coquimbo, Valparaiso, Santiago, La Araucania.

Vulpia myuros (L.) C.C.Gmel. *Fl. Bad.* i. 8 (1805).

Accepted by: R.J.Soreng et al., *Catalogue of 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 *V. megalura*), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983) (& as *V. megalura*), T.Koyama, *Grasses of Japan and its neighboring regions* (1987) (as *Festuca myuros*, *F. megalura*), W.D.Clayton & N.Snow, *Key to Pacific Grasses* (2010).

TYPE from Europe. **Basionym or Replaced Name:** *Festuca myuros* L., *Sp. Pl.* 1: 74–75 (1753). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: LT: *Herb. A. van Royen*, (L-912.556–218). LT designated by Stace & Jarvis, *Bot. J. Linn. Soc.* 91: 436 (1985).

Recent Synonyms: *Vulpia megalura* Nutt.in *Proc. Acad. Nat. Sci. Philad.* 4: 24 (Mart.-Apr. (1848)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 2 Pooideae (2012) (370 & 371), C.E.Hubbard, *Grasses* (1968) (158), T. Cope & A. Gray, *Grasses of the British Isles* (29), H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (174, Fig. 97), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (60, Fig. 32), G.E.Gibbs Russell et al, *Grasses of Southern Africa* (1990) (354, Fig. 234), N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 302), S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (28, Fig. 13), L.Boulos, *Flora of Egypt* 4 (2005) (138, Fig. 39), C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (344), C-C Hsu, *Taiwan Grasses* (1975), K.M.Matthew, *Flora Palni Hills* (1996) (882, Pl. 882), H.J.Noltie, *The Grasses of Bhutan* (2000) (541, Fig. 14), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (174, Fig. 124 & 175, Fig. 125 as forma *myuros* & forma *megalura*), C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952) (90, Pl. 25), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (406, Fig. 81 as forma *myuros* & forma *megalura*), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler, *Grasses of New South Wales*, 4th edn (2008) (399), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989) (115, Fig. 18), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (292, Fig. 39), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (451), F.W.Gould, *The Grasses of Texas* (1975) (97, Fig. 44 as var. *hirsuta*), A.S.Hitchcock, *Manual of the Grasses of the West Indies* (1936) (27, Fig. 8 as *Festuca*), 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) (217, Fig. 48 & 223, Fig. 49 as *V. megalura* & *V. myuros*), A.Burkat, *Flora Illustrada de Entre Rios (Argentina)*, Pt II, *Gramineas* (1969) (75, Fig. 22 & as *V. megalura*), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970), M.N.Correra, *Flora Patagonica Parte III, Gramineae* (1978) (122, Fig. 75 – 76 as *V. megalura* & *V. myuros*), B.Rosengurt, *Gramineas Uruguayas I* (1970) (141, Fig. 54 & as *V. megalura*), S-L Chen et al, *Flora of China*, *Illustrations, Poaceae* (2007) (Fig. 339 & 360), H.M. Longhi-Wagner, *Flora Illustrada do Rio Grande do Sul, Gramineae, Poaeae* (1987), E.Hafliger & E.Schultz, *Grass Weeds*, CIBA-GEIGY (2:136(1980)).

Illustrations (Journals): *Ruizia* (13:113, Fig12j (1993) & Fig12f-g (1993) as *V. megalura*).

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): Gk. *mys*, mouse; *oura*, tail. Inflorescence a spike-like panicle.

Classification. Subfamily Pooideae. Tribe: Poaeae.

Habit, Vegetative Morphology. Annual, culms solitary or caespitose. Culms erect or decumbent, 10–70 cm long, 2–3 -noded. Leaf-sheaths without keel, smooth, glabrous on surface. Ligule an eciliate membrane, 0.3–1 mm long. Leaf-blades flat or involute, 2–15 cm long, 0.5–3 mm wide, firm or flaccid. Leaf-blade surface pubescent, hairy adaxially. Leaf-blade margins scaberulous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle, exserted or embraced at base by subtending leaf. Panicle contracted, linear, nodding, curved, 5–30 cm long. Primary panicle branches appressed. Panicle branches angular, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 1–3 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 cuneate, laterally compressed, 7–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas, scaberulous.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume linear to lanceolate, 1–3.5 mm long, 0.15–0.4 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 3–8 mm long, 0.75 length of adjacent fertile lemma, membranous, without keels, 1–3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma lanceolate, 5–7 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma surface scaberulous. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 5–15 mm long overall. Palea 1 length of lemma, 2 -veined. Palea keels scaberulous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 1, 0.3–1 mm long, retained within floret. Ovary glabrous. Caryopsis with adherent pericarp, linear, glabrous. Hilum linear, 1 length of caryopsis.

$n = 21$ (1 ref TROPICOS). $2n = 28$ (2 refs TROPICOS), or 42 (11 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, Norway, Svalbard, Sweden. : Germany. Baltic States, Central European Russia, North European Russia, South European Russia, Ukraine. **Northern Africa, Macaronesia, Northeast Tropical Africa, East Tropical Africa, Southern Africa** (*). Algeria, Egypt, Libya, Morocco, Tunisia. Azores, Canary Is, Cape Verde, Madeira. Eritrea, Sudan. Kenya. Free State, Kwazulu-Natal, Lesotho, Northern Cape, Western Cape, Eastern Cape. Russian Far East, **Middle Asia, Caucasus, Western Asia, Arabian Peninsula, China, Eastern Asia.** Primorye. Kazakhstan, Kirgizistan, Turkmenistan, Tadzhikistan, Uzbekistan. Afghanistan, Iran, Iraq. China Southeast, Tibet. Japan Hokkaido, or Honshu, or Shikoku, or Kyushu. Japan, Taiwan. **Indian Subcontinent, Malesia.** Eastern Himalaya, Pakistan, Sri Lanka, West Himalaya. Borneo, Java, Philippines, Sulawesi. **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. **South-central Pacific, North-central Pacific.** Tubuai Is (*). Hawaii (*). **Subarctic America, Western Canada, Northwest USA, Northeast USA, Southwestern USA, South-central USA, Southeastern USA, Mexico.** Alaska, Yukon. British Columbia. Idaho, Washington. 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), Northwest Mexico, Southwest Mexico, Southeast Mexico. **Mesoamerica, Caribbean, Western South America, Brazil, Southern South America.** Costa Rica, Guatemala. Dominican Republic (as *Festuca*), Haiti (& as *Festuca*), Jamaica (& as *Festuca*), Leeward Is. Bolivia, Colombia, Ecuador, Peru. Brazil South. Argentina Northeast, Argentina South, Argentina Northwest, Chile North, Chile Central, Chile South, Juan Fernandez Is, Uruguay. **Subantarctic islands.** Tristan de Cunha.

Anhui, Fujian, Jiangsu, Jiangxi, Zhejiang. Bhutan. Tamilnadu, Uttar Pradesh. Himachal Pradesh, Jammu Kashmir. South-West. NW & Lake Eyre, Southern. Central, South East. Coast, Tablelands, Western Slopes, Western Plains. Rio Grande do Sul, Santa Catarina. Catamarca, Jujuy (*), Mendoza, San Luis, Tucuman. Buenos Aires, Cordoba, Distrito Federal, Entre Rios, La Pampa. Chubut, Neuquén, Río Negro, Santa Cruz. Antofagasta, Atacama. Coquimbo, Valparaíso, Santiago, O'Higgins, Maule, Biobío, La Araucanía. Los Lagos, Magallanes. Distrito Federal, Mexico State, Morelos, Puebla. Aguascalientes, Chihuahua, Guanajuato, Querétaro, San Luis Potosí, Zacatecas. Veracruz. Baja California, Sonora. Guerrero, Jalisco, Michoacán, Oaxaca. Chiapas.

Vulpia octoflora (Walt.) Rydb. *Bull. Torr. Bot. Club*, vi. 538. (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), N.L.Bor, *Grasses of Burma, Ceylon, India and Pakistan* (1960), T.Koyama, *Grasses of Japan and its neighboring regions* (1987) (as *Festuca*).

TYPE from USA. **Basionym or Replaced Name:** *Festuca octoflora* Walt., *Fl. Carol.* 81 (1788). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: USA, South Carolina, Santee valley: Walter.

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 2 Pooidae (2012) (371), K.F.Best, et al, *Prairie Grasses* (1971) (131 as *Festuca*), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (451 as var. *octoflora* & var. *hirtella* & var. *glauca*), F.W.Gould, *The Grasses of Texas* (1975) (97, Fig. 45 as var. *octoflora*), E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (302, Fig. 100).

Derivation (Clifford & Bostock 2007): *L. octo*, eight; *flos*, flower. The spikelets usually have eight florets.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms geniculately ascending or decumbent, 10–60 cm long. Ligule an eciliate membrane, 0.5–1 mm long. Leaf-blades involute, 2–10 cm long, 0.5–1 mm wide. Leaf-blade surface glabrous or pubescent.

Inflorescence. Inflorescence a panicle or composed of racemes (when impoverished). Panicle contracted, linear, 1–20 cm long. Primary panicle branches appressed. Racemes 1, single, unilateral. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 5–17 fertile florets, with diminished florets at the 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, 4–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume linear, 1.7–4.5 mm long, 0.6–0.7 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acuminate. Upper glume lanceolate, 2.7–6.7 mm long, 1 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined. Upper glume apex attenuate.

Florets. Fertile lemma lanceolate, 2.7–6.5 mm long, membranous, without keel, 5 -veined, more than 3-veined. Lemma surface smooth or scaberrulous, glabrous or pubescent. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 0.3–6 mm long overall. Palea 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 1. Caryopsis with adherent pericarp, 1.7–2.3 mm long, dark brown. Embryo 0.1–0.2 length of caryopsis. Hilum linear.

$2n = 14$ (1 ref TROPICOS), or 28.

Distribution (TDWG). **Continent.** Temperate Asia, Tropical Asia, North America, South America.

Country /Province /State. **Eastern Asia.** Japan Honshu. Japan. **Indian Subcontinent.** India. **Western Canada, Eastern Canada, Northwest USA, North-central USA, Northeast USA, Southwestern USA, South-central USA, Southeastern USA, Mexico.** Alberta, British Columbia, Saskatchewan. Ontario. Colorado, Idaho, Montana, Oregon, Washington, Wyoming. Illinois, Iowa, Kansas, Minnesota, Missouri, North Dakota, Nebraska, Oklahoma, South Dakota, Wisconsin. Connecticut, Indiana, 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. Northwest Mexico. **Southern South America.** Argentina Northeast, Chile North, Chile Central, Uruguay.

Mendoza. Buenos Aires, Entre Rios, La Pampa. Antofagasta. Coquimbo. Baja California Sur.

Vulpia pectinella (Del.) Boiss. *Fl. Orient.* v. 631 (1884).

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

TYPE from Egypt. **Basionym or Replaced Name:** *Festuca cynosuroides* Delile, non Desf. (1798), *Fl. Eg. Illustr.* 107 (1813). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: : Based on *Festuca cynosuroides* Del. ; Egypt: Coll?.

Illustrations (Books): N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl.310 as *Ctenopsis*), L.Boulos, *Flora of Egypt* 4 (2005) (138, Fig 39), N.L.Bor, *Gramineae in Flora of Iraq* (1968) (69, Pl. 23 as *Ctenopsis*).

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms 5–15 cm long. Ligule an eciliate membrane. Leaf-blades filiform, convolute, 1–8 cm long, 0.5–1 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, straight or arcuate, unilateral, 2–3 cm long. Rhachis semiterete. Spikelet packing broadside to rhachis, regular, 2 -rowed. Spikelets pectinate, solitary. Fertile spikelets sessile.

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 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, dissimilar, shorter than spikelet. Lower glume ovate, 0.5–0.6 mm long, 0.1 length of upper glume, hyaline, without keels, 0 -veined. Lower glume lateral veins absent. Upper glume lanceolate, 3–4 mm long, 1 length of adjacent fertile lemma, coriaceous, 1-keeled, keeled above, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, 3–4 mm long, coriaceous, without keel, rounded except near apex, 5 -veined, more than 3-veined. Lemma surface smooth or scabrous. Lemma apex acute, mucous or mucronate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp, fusiform, sulcate on hilar side. Embryo 0.2 length of caryopsis. Hilum elliptic.

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

Region. Southwestern Europe.

Country /Province /State. : Spain. **Northern Africa.** Algeria, Egypt, Libya, Morocco, Tunisia. **Western Asia.** Iraq, Lebanon-Syria, Palestine, Israel & Jordan.

Vulpia persica (Boiss. & Buhse) Krecz. & Bobr. Komarov, *Fl. URSS*, ii. 535 (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:** *Nardurus persicus* Boiss. & Buhse, *Mem. Soc. Nat. Mosc.* 12: 225 (1860). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Iran, Dschendak: Buhse (G holo).

Illustrations (Books): N.L.Bor, *Gramineae in Flora of Iraq* (1968) (89, Pl. 30), T.A.Cope, *Flora of Pakistan* 143: *Poaceae* (1982) (384, Fig. 40).

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Persia, now Iran.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Basal innovations intravaginal. Culms erect, 3–40 cm long. Leaf-sheaths without keel, smooth, glabrous on surface. Ligule an eciliate membrane, 0.5–1 mm long, entire or lacerate, truncate. Leaf-blades conduplicate or convolute, 2–6 cm long, 0.5–2 mm wide. Leaf-blade margins scabrous.

Inflorescence. Inflorescence composed of racemes, embraced at base by subtending leaf. Racemes 1, single, 2–12 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, 0.2–1 mm long, tip rectangular.

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 cuneate, laterally compressed, 5.5–12 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, thinner than fertile lemma. Lower glume lanceolate, 0.9–2.7 mm long, 0.33–0.66 length of upper glume, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume lanceolate, 2–4.5 mm long, 0.4–0.66 length of adjacent fertile lemma, membranous, without keels, 1–3 -veined. Upper glume apex acuminate, awned, 1 -awned, awn 0.5–1 mm long.

Florets. Fertile lemma lanceolate, 4–7 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma surface scabrous, glabrous or pubescent. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 4–7 mm long overall, 1 length of lemma. Palea 1 length of lemma, 2 -veined. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped or distinct from fertile, 0–2(–3) in number.

Flower and Fruit. Anthers 1(–3), 0.4–0.6 mm long, retained within floret. Ovary glabrous. Caryopsis with adherent pericarp, linear, glabrous. Hilum linear.

$2n = 42$ (1 ref TROPICOS).

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

Country /Province /State. **Middle Asia, Caucasus, Western Asia, Arabian Peninsula.** Kirgizistan, Tadzhikistan. Afghanistan, Iran, Iraq. **Indian Subcontinent.** Pakistan, West Himalaya.

Vulpia sicula (Presl) Link. *Hort. Berol.* ii. 272 (1833).

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. **Basionym or Replaced Name:** *Festuca sicula* Presl, *Cyp. et Gram. Sic.* 36 (1820). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Sicily: Coll?.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. a Sicilian. From Sicily.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 12–70 cm long. Ligule an eciliate membrane. Leaf-blades 2–15 cm long, 0.5–1 mm wide.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 5–13 cm long. Primary panicle branches appressed or ascending. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 1–2.5 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 cuneate, laterally compressed, 6.5–9.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas. Floret callus pubescent.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume linear, 1.5–2.5 mm long, 0.2–0.6 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex attenuate. Upper glume lanceolate, 5.5–10.5 mm long, 1.2–1.5 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex attenuate.

Florets. Fertile lemma lanceolate, 4.5–7 mm long, membranous, without keel, 5 -veined, more than 3-veined. Lemma apex attenuate, awned, 1 -awned. Principal lemma awn 4–6 mm long overall. Palea 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, eventually exserted. Caryopsis with adherent pericarp. Hilum linear.

$2n = 14$ (3 refs TROPICOS), or 35 (2 refs TROPICOS).

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

Region. Northern Europe (*), Southwestern Europe, Southeastern Europe.

Country /Province /State. : GB Aliens (Ryves et al). : Corsica, France, Sardinia. : Italy, Sicily. **Northern Africa.** Algeria, Morocco, Tunisia.

Vulpia unilateralis (L.) C.A.Stace. *Bot. J. Linn. Soc.*, 76(4): 350 (1978).

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 *Nardurus maritimus*), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *Nardurus maritimus*).

TYPE from Spain. **Basionym or Replaced Name:** *Nardurus maritimus*, *Festuca maritima* L., *Sp. Pl.* 75 (1753). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Spain: Coll?.

Illustrations (Books): C.E.Hubbard, *Grasses* (1968) (164 as *Nardurus maritimus*), N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 306).

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. Annual. Culms erect or decumbent, 3–45 cm long. Leaf-sheaths glabrous on surface or pubescent. Ligule an eciliate membrane, 0.5–1 mm long, entire or lacerate, truncate. Leaf-blades conduplicate or convolute, 1–5 cm long, 0.5 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, unilateral, 1–16 cm long, simple or secondarily branched. Rhachis angular. Spikelet packing broadside to rhachis. Spikelets appressed, solitary. Fertile spikelets pedicelled. Pedicels present, linear, 0.7–1.6 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 oblong, laterally compressed, 4–8 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1.5–3.5 mm long, 0.5–0.75 length of upper glume, chartaceous, 1-keeled, 3 -veined. Lower glume apex acute. Upper glume lanceolate, 3–5 mm long, 1 length of adjacent fertile lemma, chartaceous, 1-keeled, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma elliptic, 3–5 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma surface glabrous or pubescent. Lemma apex acute, muticous or awned, 1 -awned. Principal lemma awn 0–12 mm long overall. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 0.7–1.3(–1.9) mm long, eventually exerted. Ovary glabrous. Caryopsis with adherent pericarp, fusiform, sulcate on hilar side. Embryo 0.2 length of caryopsis. Hilum linear, 0.5 length of caryopsis.

$n = 7$ (1 ref TROPICOS under *Narduroides maritimus*). $2n = 14$ (3 refs TROPICOS).

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

Region. Northern Europe, Middle Europe, Southwestern Europe, Southeastern Europe, Eastern Europe.

Country /Province /State. : Great Britain (*). : Belgium, Switzerland. : Corsica, France, Portugal, Sardinia, Spain. : Bulgaria, Italy, Yugoslavia. Kym. **Northern Africa.** Algeria, Morocco, Tunisia. **Middle Asia, Caucasus, Western Asia, Arabian Peninsula.** Kirgizistan, Turkmenistan, Tadjikistan, Uzbekistan. Afghanistan, Iran, Iraq. **Indian Subcontinent.** Pakistan.

Vulpiella stipoides (L.) Maire. *Bull. Soc. Hist. Nat. Afr. Nord*, iii. 95 (1942).

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

TYPE from Majorca. **Basionym or Replaced Name:** *Bromus stipoides* L., *Mant.* 2: 557 (1771). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Majorca: Coll?.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resembling. With spikelets resembling those of *Stipa*.

Classification. Subfamily Bambusoideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms geniculately ascending or decumbent, 10–40 cm long. Culm-nodes black. Ligule an eciliate membrane, 3 mm long, lacerate, truncate or obtuse or acute. Leaf-blades 2–8 cm long, 1–2 mm wide.

Inflorescence. Inflorescence a panicle. Panicle contracted, elliptic or ovate, 4–9 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear or oblong, scabrous.

Fertile Spikelets. Spikelets comprising 5–18 fertile florets, with diminished florets at the 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, 8–40 mm long, 5–7 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas, scaberulous.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 0.66 length of upper glume, scarios, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acute, mucronate. Upper glume lanceolate, 0.5–0.66 length of adjacent fertile lemma, scarios, 1-keeled, 2–3 -veined. Upper glume primary vein scaberulous. Upper glume apex acute, mucronate.

Florets. Fertile lemma lanceolate, 4–8 mm long, coriaceous, keeled, 3 -veined, 0–3 -veined. Lemma midvein scaberulous. Lemma lateral veins close to margins. Lemma apex dentate, 2 -fid, acuminate, awned, 1 -awned. Principal lemma awn from a sinus, 2–8 mm long overall. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 2.5–4 mm long. Caryopsis with adherent pericarp, linear, laterally compressed, trigonous, sulcate on hilar side, 2.5–3 mm long. Embryo 0.25–0.33 length of caryopsis. Hilum elliptic.

Distribution (TDWG). Continent. Europe and Africa.

Region. Southwestern Europe and Southeastern Europe.

Country /Province /State. : Balears, Corsica, France, Sardinia, Spain. : Italy, Malta, Sicily. **Northern Africa.** Algeria, Libya, Morocco, Tunisia.

Vulpiella tenuis (Tineo) M. Kerguelen. *Bull. Soc.Bot. France*, 124(5–6): 34 (1977).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980).

TYPE from Italy. **Basionym or Replaced Name:** *Bromus tenuis* Tineo, *Rar. Pl. Sic. Pugill.* 1: 3 (1817). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Italy: Coll?.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. thin. Culms, leaf-blades or pedicels, slender.

Classification. Subfamily Bambusoideae. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Annual. Culms geniculately ascending or decumbent, 10–40 cm long. Culm-nodes black. Ligule an eciliate membrane, 3 mm long, lacerate, truncate or obtuse or acute. Leaf-blades 2–8 cm long, 1–2 mm wide.

Inflorescence. Inflorescence a panicle. Panicle contracted, elliptic or ovate, 4–9 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear or oblong, scabrous.

Fertile Spikelets. Spikelets comprising 5–18 fertile florets, with diminished florets at the 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, 8–40 mm long, 5–7 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas, scaberulous.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 0.66 length of upper glume, scarious, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acute, mucronate. Upper glume lanceolate, 0.5–0.66 length of adjacent fertile lemma, scarious, 1-keeled, 2–3 -veined. Upper glume primary vein scaberulous. Upper glume apex acute, mucronate.

Florets. Fertile lemma lanceolate, 4–8 mm long, coriaceous, keeled, 3 -veined, 0–3 -veined. Lemma midvein scaberulous. Lemma lateral veins close to margins. Lemma apex dentate, 2 -fid, acuminate, awned, 1 -awned. Principal lemma awn from a sinus, 2–8 mm long overall. Palea keels scabrous. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 2.5–4 mm long. Caryopsis with adherent pericarp, linear, laterally compressed, trigonous, sulcate on hilar side, 2.5–3 mm long. Embryo 0.25–0.33 length of caryopsis. Hilum elliptic.

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

Region. **Northern Europe** (*), **Southwestern Europe**, **Southeastern Europe**.

Country /Province /State. : GB Aliens (Ryves et al). : Balears, Corsica, France, Sardinia. : Italy, Sicily. **Northern Africa.** Algeria, Libya, Morocco, Tunisia.