

Ocellochloa andreana (Mez) Zuloaga & Morrone. *Syst. Bot.* 34: 689 (2009).

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

TYPE from Colombia & Venezuela. **Basionym or Replaced Name:** *Panicum andreanum* Mez, *Engl. Jahrb.* 56, *Beibl.* 125, 5 (1921). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: LT: J.W.K. Moritz 1538, Venezuela: Trujillo: Escuque (B; ILT: US-80458 (fragm. ex B)). LT designated by Zuloaga & Sendulsky, *Ann. Missouri Bot. Gard.* 75: 429 (1988).

ST: *Karsten s.n.*, Venezuela: Escuque (B).

ST: *Andre 871*, Colombia.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-anum*, indicating connection. In honor of Andri who collected in Colombia.

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Paspalinae.

Habit, Vegetative Morphology. Perennial. Culms rambling, 30–90 cm long, wiry, rooting from lower nodes. Ligule a ciliolate membrane, truncate. Leaf-blades lanceolate, 3–8 cm long, 3–12 mm wide. Leaf-blade surface glabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Racemes 7–20, borne along a central axis, unilateral, 0.5–2 cm long. Central inflorescence axis 4–18 cm long. Rhachis angular. Spikelets 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, acute, 3 mm long, falling entire.

Glumes. Glumes reaching apex of florets, thinner than fertile lemma. Lower glume lanceolate, 0.33 length of spikelet, membranous, without keels, 3 -veined. Lower glume apex acute. Upper glume lanceolate, 1 length of spikelet, membranous, without keels, 7 -veined. 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, lanceolate, 1 length of spikelet, membranous, 7 -veined, ciliate on margins, acute. Fertile lemma elliptic, dorsally compressed, 3 mm long, indurate, yellow, shiny, without keel. Lemma margins involute. Palea involute, indurate.

Flower and Fruit. Caryopsis with adherent pericarp.

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

Country /Province /State. **Northern South America, Western South America.** Venezuela. Colombia.

Ocellochloa biglandularis (Scribn. & J. G. Sm.) Zuloaga & Morrone. *Syst. Bot.* 34: 689 (2009).

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

TYPE from Mexico. **Basionym or Replaced Name:** *Panicum biglandulare* Scribn. & J. G. Sm., *U.S. Dept. Agric. Bull. Agrost.* 4: 13 (1897). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *E.W. Nelson 3781*, 8 Feb 1896, Mexico: Chiapas: near Pinabete, alt. 6500–8000 ft (US-251785; IT: GH).

Illustrations (Journals): *Ann. Missouri Bot. Gard.* (75: 428, Fig.4 (1988)).

Derivation (Clifford & Bostock 2007): L. *bis*, twice; *glans*, acorn; *-ula*, diminutive; *-are*, pertaining to. With two glands on the sterile lemma.

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Paspalinae.

Habit, Vegetative Morphology. Perennial. Glands sunken crateriform. Culms decumbent, 20–60 cm long. Culm-internodes distally glabrous. Lateral branches ample. Leaf-sheaths pilose, with tubercle-based hairs. Ligule an eciliate membrane. Leaf-blades lanceolate, 4–10 cm long, 10–18 mm wide. Leaf-blade surface pilose, hairy on both sides. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes borne along a central axis, unilateral, 0.8–2 cm long. Central inflorescence axis 4–10 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets ovate, dorsally compressed, acute, 3.6 mm long, falling entire. Rhachilla internodes elongated below proximal fertile floret.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 0.33 length of spikelet, membranous, without keels, 3 -veined. Lower glume primary vein ciliate. Lower glume margins ciliate. Lower glume apex acute. Upper glume oblong, 0.9 length of spikelet, membranous, without keels, 7 -veined. Upper glume surface hispidulous. 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, glandular (2 glands), 5 -veined, hispidulous, ciliate on margins, acute. Palea of lower sterile floret 1 length of lemma, pubescent. Fertile lemma elliptic, dorsally compressed, 2.4 mm long, indurate, without keel. Lemma margins involute. Lemma apex acute. Palea involute, indurate.

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

Country /Province /State. Mexico. Southwest Mexico, Southeast Mexico. **Mesoamerica.** Guatemala. Guerrero, Oaxaca. Chiapas.

Ocellochloa brachystachya (Trin.) Zuloaga & Morrone. *Syst. Bot.* 34: 689 (2009).

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

TYPE from Brazil. **Basionym or Replaced Name:** *Panicum brachystachyum* Trin., *Gram. Panic.* 138. (1826). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *G.H. von Langsdorff s.n.*, Jan 1825, Brazil: Minas Gerais: Lapa (LE-TRIN-0606.01; IT: P, US-79731 (fragm. ex LE)).

Illustrations (Journals): *Ann. Missouri Bot. Gard.* (75: 430, Fig.5 (1988)).

Derivation (Clifford & Bostock 2007): Gk. *brachys*, short; *stachys*, ear of corn. Inflorescence comprised of short branches or spikelets short.

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Paspalinae.

Habit, Vegetative Morphology. Perennial. Culms erect, 18–35 cm long. Culm-internodes terete, distally pilose. Culm-nodes pallid, glabrous or pubescent. Leaf-sheaths pilose, outer margin hairy. Leaf-sheath auricles erect. Ligule a ciliate membrane, 0.3–0.4 mm long. Leaf-blade base simple or cordate. Leaf-blades lanceolate, flat or involute, 3–4.5 cm long, 2–3 mm wide. Leaf-blade midrib indistinct. Leaf-blade margins scabrous, ciliate. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Peduncle hispid above. Racemes 2–4, borne along a central axis, unilateral, 1–4 cm long. Central inflorescence axis flattened, hispid. Rhachis angular, glabrous on surface or hirsute on surface, scabrous on margins. Spikelets in pairs. Fertile spikelets pedicelled. Pedicels present, unequal, 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, 4.9–5.2 mm long, 3.5 mm wide, falling entire.

Glumes. Glumes similar, reaching apex of florets, thinner than fertile lemma, gaping. Lower glume ovate, 2.8–3 mm long, 0.33–0.5 length of spikelet, membranous, without keels, 1–3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or obscure. Lower glume surface pilose, with tubercle-based hairs. Lower glume apex acuminate. Upper glume ovate, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface pilose, with tubercle-based hairs. Upper glume apex acute or acuminate.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 1 length of spikelet, membranous, much thinner on margins, 3–5 -veined, pilose, with tubercle-based hairs, acute or acuminate. Palea of lower sterile floret 3.9–4.5 mm long, pilose, adorned on flanks. Fertile lemma lanceolate, dorsally compressed, 4–4.4 mm long, 1.2 mm wide, cartilaginous, pallid or yellow,

keeled, lightly keeled, 3–5 -veined, more than 3-veined. Lemma margins involute. Lemma apex acute or acuminate. Palea involute, indurate.

Flower and Fruit. Lodicules 2, cuneate, 0.5 mm long. Anthers 3, 3.2 mm long, purple. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. South America.

Country /Province /State. Brazil. Brazil Southeast.
Minas Gerais.

Ocellochloa chapadense (Swallen) Zuloaga & Morrone. *Syst. Bot.* 34: 689 (2009).

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

TYPE from Brazil. **Basionym or Replaced Name:** *Panicum chapadense* Swallen, *Contrib. Sci. Los Angeles County Mus.*, No. 22, 8 (1958). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *E.Y. Dawson 14602*, 24 Apr 1956, Brazil: Goiás: region of the Chapanda dos Veadeiros: 7 km south of Veadeiros (R; IT: US-2207228).

Illustrations (Books): S.A.Renvoize, *The Grasses of Bahia*, 1984.

Illustrations (Journals): *Ann. Missouri Bot. Gard.* (75: 432, Fig.6 (1988)).

Derivation (Clifford & Bostock 2007): *L. -ense*, denoting origin. From Serra da Chapada, Brazil.

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Paspalinae.

Habit, Vegetative Morphology. Perennial. Butt sheaths papery, pubescent. Culms erect, 50–150 cm long, not swollen at the base or swollen at the base, forming moniliform corms. Ligule a ciliate membrane, 0.1–0.2 mm long. Leaf-blade base cordate. Leaf-blades lanceolate, 10–25 cm long, 15–30 mm wide. Leaf-blade surface pubescent. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes numerous, borne along a central axis, unilateral, 1–7 cm long. Central inflorescence axis (4–)9–32 cm long. Rhachis angular, scabrous on surface, with scattered hairs. Spikelet packing irregular. Spikelets in pairs. Fertile spikelets pedicelled, 2 in the cluster. Pedicels present, 0.3–0.9 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, 2.5–3 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 ovate, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume margins eciliate or ciliate. 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, glandular (2–6 glands at tip), 7 -veined, ciliate on margins (above), acute. Fertile lemma elliptic, dorsally compressed, 1.5–1.7 mm long, coriaceous, pallid, without keel, more than 3-veined. Lemma margins involute. Lemma apex obtuse. Palea involute, coriaceous.

Distribution (TDWG). Continent. South America.

Country /Province /State. Brazil. Brazil West Central.
Goiás, Bahia, Maranhão, Piauí. Goiás.

Ocellochloa craterifera (Sohns) Zuloaga & Morrone. *Syst. Bot.* 34: 689 (2009).

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

TYPE from Mexico. **Basionym or Replaced Name:** *Panicum crateriferum* Sohn, *Journ. Wash. Acad. Sci.* 46: 378 (1957). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *H.E. Moore 5148*, 1 Oct 1949, Mexico: Guerrero: km 339–340, ca. 3000 ft, between Acahuizotla and Agua de Obispo, on highway to Acapulco (US-1983658; IT: BM, GH).

Illustrations (Journals): *Ann. Missouri Bot. Gard.* (75: 434, Fig.7 (1988)).

Derivation (Clifford & Bostock 2007): *L. crater*, bowl; *fero*, carry or bear. Bearing pit-like glands.

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Paspalinae.

Habit, Vegetative Morphology. Perennial. Glands sunken crateriform. Culms decumbent, 20–60 cm long, rooting from lower nodes. Culm-internodes 2.5–6 cm long, distally glabrous or pilose. Culm-nodes brown, pubescent. Lateral branches ample. Leaf-sheaths 0.8–2.5 cm long, mostly shorter than adjacent culm internode, glabrous on surface or hispid, outer margin hairy. Ligule a ciliate membrane, 0.4 mm long. Collar pubescent. Leaf-blade base symmetrical, with a brief petiole-like connection to sheath, petiole pubescent. Leaf-blades lanceolate, 4–6 cm long, 6–13 mm wide. Leaf-blade midrib indistinct. Leaf-blade venation with obscure cross veins. Leaf-blade surface pilose, sparsely hairy, hairy adaxially or on both sides, with tubercle-based hairs. Leaf-blade margins ciliate, hairy at base.

Inflorescence. Inflorescence composed of racemes. Racemes 4–6, borne along a central axis, distant, ascending, unilateral, 0.5–3 cm long. Central inflorescence axis 5–10 cm long, glabrous. Rhachis angular, with scattered hairs or glabrous on surface, scabrous on margins. Raceme-bases hirsute. Spikelets in pairs. Fertile spikelets sessile and pedicelled. Pedicels present, 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 lanceolate or ovate, dorsally compressed, 2.5–3.1 mm long, 0.8–1.1 mm wide, falling entire.

Glumes. Glumes similar, reaching apex of florets, thinner than fertile lemma. Lower glume lanceolate or oblong, 1.3–2 mm long, 0.33–0.5 length of spikelet, membranous, without keels, 3(–5) -veined. Lower glume primary vein scabrous. Lower glume surface scabrous, pilose, hairy above, with tubercle-based hairs. Lower glume margins ciliate. Lower glume apex acuminate. Upper glume ovate, 2.1–2.8 mm long, 1 length of spikelet, membranous, without keels, 5(–7) -veined. Upper glume surface hirsute, hairy above. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 2.4–3 mm long, 1 length of spikelet, membranous, glandular (2 glands), 5(–7) -veined, pilose, acute. Palea of lower sterile floret 2.2–2.6 mm long, pilose, adorned on flanks. Fertile lemma elliptic, dorsally compressed, 1.5–2 mm long, indurate, yellow, without keel, more than 3-veined. Lemma margins involute. Palea involute, indurate.

Flower and Fruit. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. North America.

Country /Province /State. Mexico. Southwest Mexico.

Guerrero, Oaxaca.

Ocellochloa irregularis (Swallen) Zuloaga & Morrone. *Syst. Bot.* 34: 689 (2009).

Accepted by: R.J.Soreng et al., *Catalogue of 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. **Basionym or Replaced Name:** *Panicum irregulare* Swallen, *Journ. Wash. Acad. Sc.* 30: 216. (1940). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: A.F. Skutch 4115, Feb 1939, Costa Rica: San Jos? on stony river bank in the vicinity of El General, 760 m (US-1644874; IT: CR, GH, MO-1148427, NY).

Illustrations (Books): W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (369, Fig 134).

Illustrations (Journals): *Ann. Missouri Bot. Gard.* (75: 436, Fig.8 (1988)).

Derivation (Clifford & Bostock 2007): *L. irregular*. Spikelets arranged on one side of the rhachis instead of an open panicle.

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Paspalinae.

Habit, Vegetative Morphology. Perennial. Culms decumbent or prostrate, 20–50 cm long, 1–1.5 mm diam., rooting from lower nodes. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs scanty. Leaf-sheath auricles erect. Ligule a fringe of hairs. Leaf-blade base asymmetrical, with a brief petiole-like connection to sheath, petiole 0.1 cm long, petiole pubescent. Leaf-blades lanceolate, 4.5–7 cm long, 9–15 mm wide.

Inflorescence. Inflorescence composed of racemes. Peduncle 5–15 cm long. Racemes 10–15, borne along a central axis, drooping, unilateral, 1–2 cm long. Central inflorescence axis 16–24 cm long. Spikelets in pairs. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 2 fertile florets, without rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, dorsally compressed, 1.7–2.2 mm long, falling entire, readily shedding fertile florets.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 1 mm long, 0.33–0.5 length of spikelet, membranous, without keels, 3 -veined. Lower glume apex acute. Upper glume ovate, 2 mm long, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume apex acute.

Florets. Fertile florets with the lowest dissimilar. Lowest fertile lemma bisexual, ovate, 2.2 mm long, 1.6 length of adjacent lemma, thinner than adjacent lemma (membranous). Fertile lemma ovate, dorsally compressed, 1.4 mm long, indurate, shiny, without keel. Lemma margins involute. Lemma apex acute. Palea involute, indurate.

Flower and Fruit. Anthers 3, 1.1–1.2 mm long, brown.

Distribution (TDWG). Continent. South America.

Country /Province /State. Mesoamerica, Northern South America, Western South America. Costa Rica. Venezuela. Colombia.

Ocellochloa gardneri (Mez) Filg. & R.S. Rodr. *Phytotaxa* 64: 59–60 (2012).

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

TYPE from Brazil. **Basionym or Replaced Name:** *Panicum blepharophorum* Mez, *Bot. Jahrb. Syst.* 56 (Beibl. 125): 4 (1921)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: IT: *G. Gardner* 2016, Jul 1839-Sep 1839, Brazil: Piaui (US-823971, US-80914 (fragm. & photo ex B), US-81107 (fragm. ex W)).

Recent Synonyms: *Panicum piauiensis* Swallen, *Sellowia* 18: 110 (1966).

Ocellochloa piauiense (Swallen) Zuloaga & Morrone, *Syst. Bot.* 34: 689 (2009).

Illustrations (Journals): *Ann. Missouri Bot. Gard.* (75: 440, Fig.10 (1988)).

Derivation (Clifford & Bostock 2007): L. -ense, denoting origin. From Piaui State, Brazil.

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Paspalinae.

Habit, Vegetative Morphology. Perennial, caespitose. Roots bearing tubers. Cataphylls evident. Rhizomes short. Butt sheaths woolly. Glands sunken crateriform. Culms erect, 40–80 cm long. Culm-internodes terete, distally glabrous or pilose. Culm-nodes constricted, brown, pubescent. Lateral branches ample. Leaf-sheaths 4–6 cm long, longer than adjacent culm internode, glabrous on surface or pilose, outer margin hairy. Ligule a ciliate membrane, 0.5 mm long, glabrous on abaxial surface or ciliate from base of abaxial surface. Collar pubescent. Leaf-blade base cordate, with a brief petiole-like connection to sheath, petiole pubescent. Leaf-blades lanceolate, 9–13 cm long, 10–15 mm wide. Leaf-blade surface scabrous, rough on both sides, glabrous or hirsute, densely hairy, hairy on both sides. Leaf-blade margins cartilaginous, scaberulous, glabrous or ciliate, hairy at base. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 20–30, borne along a central axis, ascending, unilateral, 1–3 cm long, simple or secondarily branched. Central inflorescence axis 7–22 cm long, hispid. Rhachis angular, with scattered hairs, scabrous on margins. Raceme-bases hirsute. Spikelets in pairs. Fertile spikelets sessile and pedicelled. Pedicels present, scabrous, glabrous 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 elliptic, dorsally compressed, 2.4–2.8 mm long, 0.8 mm wide, falling entire.

Glumes. Glumes similar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 1.8–2.5 mm long, 0.5–0.75 length of spikelet, membranous, without keels, 3 -veined. Lower glume primary vein scabrous. Lower glume inner surface pubescent. Lower glume apex acuminate. Upper glume ovate, 2.3–2.7 mm long, 1 length of spikelet, membranous, without keels, 5 -veined. Upper glume primary vein scabrous. Upper glume surface scabrous, glabrous or pilose, inner surface pubescent. Upper glume margins ciliate. Upper glume apex acute or acuminate.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret similar to upper glume, ovate, 2.3–2.6 mm long, 1 length of spikelet, membranous, eglandular or glandular (2–4 glands), 5 -veined, scabrous, glabrous or pilose, ciliate on margins, acute. Palea of lower sterile floret 1.7–2 mm long. Fertile

lemma lanceolate, dorsally compressed, 1.7–2 mm long, indurate, yellow, without keel, more than 3-veined. Lemma margins involute. Palea involute, indurate.

Flower and Fruit. Caryopsis with adherent pericarp, ellipsoid, 1.3 mm long. Hilum elliptic.

Distribution (TDWG). Continent. South America.

Country /Province /State. Brazil. Brazil Northeast.

Bahia, Piauí.

Ocellochloa latissima (Mikan ex Trin.) Zuloaga & Morrone. *Syst. Bot.* 34: 689 (2009).

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

TYPE from Brazil. **Basionym or Replaced Name:** *Panicum latissimum* Mikan ex Trin., *Neue Entdeck.Pflanzenk.* 2: 87 (1821). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *J.C. Mikan s.n.*, no date, Brazil (LE; IT: US-974701 (fragm. ex LE)).

Illustrations (Journals): *Ann. Missouri Bot. Gard.* (75: 438, Fig.9 (1988)).

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (*Syst. Bot.*34: 687, Fig.2 (2009)).

Derivation (Clifford & Bostock 2007): *L. latus*, broad; *-issimum*, most. Leaf-blades very broad.

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Paspalinae.

Habit, Vegetative Morphology. Perennial. Culms robust, 300 cm long, 5–10 mm diam. Ligule a ciliate membrane. Leaf-blade base cordate. Leaf-blades oblong or ovate, 10–35 cm long, 30–110 mm wide. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, 20–45 cm long, contracted about secondary branches. Primary panicle branches bearing spikelets almost to the base. Panicle branches secund. 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 ovate, dorsally compressed, acute, 2–2.5 mm long, falling entire.

Glumes. Glumes similar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 0.75 length of spikelet, membranous, without keels, 3–5 -veined. Lower glume surface puberulous. Lower glume apex acute. Upper glume ovate, 0.8–0.9 length of spikelet, membranous, without keels, 5 -veined. Upper glume surface puberulous. 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, puberulous, acute. Palea of lower sterile floret 0.7–0.8 length of lemma, pubescent. Fertile lemma oblong, dorsally compressed, 1.5–2 mm long, indurate, pallid or dark brown, shiny, without keel, more than 3-veined. Lemma margins involute. Lemma apex acute. Palea involute, indurate.

Distribution (TDWG). Continent. South America.

Country /Province /State. Brazil. Brazil Southeast.

Minas Gerais, Rio de Janeiro, Espírito Santo. Rio de Janeiro.

Ocellochloa pulchella (Raddi) Zuloaga & Morrone. *Syst. Bot.* 34: 690 (2009).

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

TYPE from Brazil. **Basionym or Replaced Name:** *Panicum pulchellum* Raddi, *Agrost. Bras.* 42. (1823). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *G. Raddi s.n.*, Brazil: Rio de Janeiro (PI; IT: BAA (fragm.), FI, US-2877784 (fragm. ex PI & photo)).

Illustrations (Books): A.S.Hitchcock, *Manual of the Grasses of the West Indies* (1936) (271, Fig. 236), W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (377, Fig 138).

Illustrations (Journals): *Ann. Missouri Bot. Gard.* (75: 442, Fig.11 (1988)), *Ruizia* (13:316, Fig 38c-e (1993)).

Derivation (Clifford & Bostock 2007): *L. pretty*. Attractive in some respect, usually the inflorescence.

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Paspalinae.

Habit, Vegetative Morphology. Perennial. Culms prostrate, 10–30 cm long, 0.2–0.5 mm diam., rooting from lower nodes. Culm-internodes distally glabrous or pubescent. Lateral branches ample. Leaf-sheaths glabrous on surface or pilose, outer margin hairy. Ligule a ciliolate membrane, 0.3–0.4 mm long. Collar bearded. Leaf-blade base cordate, asymmetrical. Leaf-blades ovate, 1.8–5 cm long, 4–17 mm wide, mid-green or purple. Leaf-blade surface glabrous or pubescent.

Inflorescence. Inflorescence composed of racemes. Peduncle 6–13 cm long. Racemes 6–25, borne along a central axis, unilateral, 0.7–2 cm long. Central inflorescence axis 2–12 cm long. Spikelet packing regular, 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, acute, 2–2.3 mm long, falling entire. Rhachilla internodes elongated between glumes.

Glumes. Glumes dissimilar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.9–1.2 mm long, 0.33 length of spikelet, membranous, without keels, 3 -veined. Lower glume surface pubescent. Lower glume apex acute. Upper glume ovate, 2–2.1 mm long, 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, ovate, 1.9–2 mm long, 1 length of spikelet, membranous, eglandular or glandular (1–3 glands), 5 -veined, pubescent, acute. Fertile lemma ovate, dorsally compressed, 1.1–1.4 mm long, indurate, shiny, without keel. Lemma margins involute. Palea involute, indurate.

Flower and Fruit. Anthers 3, 0.6–0.7 mm long, yellow. Caryopsis ellipsoid, 1 mm long.

$2n = 20$ (1 ref TROPICOS).

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

Country /Province /State. Mexico. Southwest Mexico, Southeast Mexico. **Mesoamerica, Caribbean, Northern South America, Western South America, Brazil.** Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama. Windward Islands. Venezuela. Bolivia, Colombia, Peru. Brazil Southeast, Brazil North.

Minas Gerais, Rio de Janeiro, Espirito Santo. Rio de Janeiro. Guerrero, Oaxaca. Chiapas.

Ocellochloa rudis (Nees) Zuloaga & Morrone. *Syst. Bot.* 34: 690 (2009).

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

TYPE from Brazil. **Basionym or Replaced Name:** *Panicum rude* Nees, *Agrost. Bras.* 158. (1829). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Martius s.n.*, May, Brazil: Minas Gerais: habitat in marginibus sylvarum Districtus Adamantum prope Milho verde (M; IT: BAA (fragm. ex M), US (fragm. ex M)).

Recent Synonyms: *Panicum apricum*. *Panicum kleinii*.

Illustrations (Books): L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (656, Fig. 140 & 663, Fig. 141 as *Panicum apricum*, *P. decipiens*, *P. kleinii*), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina)*, Pt II, Gramineas (1969) (300, Fig. 119 as *P. decipiens*), F.O.Zuloaga et al, *Flora del Paraguay* 23 (1994) (226, Fig. 62 as *P. decipiens*), B.Rosengurt, *Gramineas Uruguayas I* (1970) (338, Fig. 143 as *P. decipiens*).

Illustrations (Journals): *Ann. Missouri Bot. Gard.* (75: 444, Fig.12 (1988)).

Derivation (Clifford & Bostock 2007): L. uncultivated. Species whose relatives are often cultivated.

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Paspalinae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 200–300 cm long. Culm-internodes distally glabrous. Leaf-sheaths glabrous on surface, outer margin hairy. Ligule a ciliolate membrane. Collar with external ligule. Leaf-blade base cordate. Leaf-blades lanceolate or oblong, 15–50 cm long, 25–50 mm wide. Leaf-blade surface glabrous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 15–45 cm long, contracted about primary branches. Primary panicle branches spreading, 2.5–15 cm long. Panicle branches secund, bearded in axils. 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 ovate, dorsally compressed, acute, 2–3 mm long, falling entire.

Glumes. Glumes reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.5–1 length of spikelet, membranous, 1-keeled, 3–5 -veined. Lower glume surface asperulous. Lower glume apex acute. Upper glume ovate, 1 length of spikelet, membranous, 1-keeled, 5 -veined. Upper glume surface asperulous. Upper glume apex acute.

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

Flower and Fruit. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. South America.

Country /Province /State. Brazil. Brazil Southeast, Brazil South.

Minas Gerais, Rio de Janeiro, Espirito Santo, Sao Paulo Parana, Catarina, Rio Grande do Sul. Minas Gerais, Rio de Janeiro, Sao Paulo. Paraná, Santa Catarina.

Ocellochloa soderstromii (Zuloaga & Send.) Zuloaga & Morrone ex Filg. & R.S. Rodr. *Phytotaxa* 64: 60 (2012).

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

TYPE from Brazil. **Basionym or Replaced Name:** *Panicum soderstromii* (Zuloaga & Send.), *Ann. Missouri Bot. Gard.*, 75 (2): 446 (1988). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: S.A. Mori, R.M. King, T.S. Dos Santos & J.L. Hage 12652, 26 Jul 1979, Brazil: Bahia: Município de Mucuj? 3 km ao S de Mucuj? na estrada para Jussiape, 1000 m de alt., camp rupestre, 13°0'S, 41°4'W, espalhada entre os galhos de uma árvore (CEPEC; IT: MO-2986254, US-2881264).

Illustrations (Journals): *Ann. Missouri Bot. Gard.* (75: 447, Fig.13 (1988)).

Derivation (Clifford & Bostock 2007): in honor of Thomas Robert Soderstrom (1936–1987) United States agrostologist.

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Paspalinae.

Habit, Vegetative Morphology. Perennial, caespitose. Cataphylls evident. Glands sunken crateriform. Culms erect, robust, 45–95 cm long. Culm-internodes terete, thin-walled or solid, striate, distally pilose. Culm-nodes constricted, brown, pubescent. Lateral branches ample, arising from mid culm or upper culm. Leaf-sheaths tight, longer than adjacent culm internode, pilose, with tubercle-based hairs. Ligule a ciliate membrane, 0.5 mm long. Collar dark, pubescent. Leaf-blade base broadly rounded, with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 2–13 cm long, 7–13 mm wide, stiff. Leaf-blade midrib indistinct. Leaf-blade surface pubescent, hairy on both sides. Leaf-blade apex attenuate.

Inflorescence. Inflorescence composed of racemes. Racemes numerous, borne along a central axis, ascending, unilateral, 1–5 cm long. Central inflorescence axis 8–18 cm long, puberulous. Rhachis angular. Raceme-bases pilose. Spikelets in pairs. Fertile spikelets pedicelled. Pedicels present, unequal, bearing a few hairs, 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 elliptic, dorsally compressed, 2–2.8 mm long, 1–1.5 mm wide, falling entire.

Glumes. Glumes similar, shorter than spikelet, thinner than fertile lemma, gaping. Lower glume ovate, 0.5–0.75 length of spikelet, membranous, without keels, 3 -veined. Lower glume surface asperulous, pilose, hairy at apex. Lower glume apex acute. Upper glume ovate, 0.9 length of spikelet, membranous, without keels, 3–5 -veined. Upper glume surface asperulous. 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, glandular (2–4 glands), 5 -veined, scaberulous, ciliate on margins, acute. Palea of lower sterile floret pilose (at tip). Fertile lemma ovate, dorsally compressed, 1.1–1.4 mm long, 0.4–0.7 mm wide, indurate, yellow or dark brown, shiny, without keel, more than 3-veined. Lemma margins involute. Palea involute, indurate.

Flower and Fruit. Anthers 3, 0.8–1.1 mm long. Caryopsis with adherent pericarp, ovoid, 1.5 mm long, yellow. Embryo 0.33 length of caryopsis. Hilum elliptic.

Distribution (TDWG). Continent. South America.

Country /Province /State. Brazil. Brazil Northeast.
Bahia.

Ocellochloa stolonifera (Poir.) Zuloaga & Morrone. *Syst. Bot.* 34: 690 (2009).

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

TYPE from French Guiana. **Basionym or Replaced Name:** *Panicum stoloniferum* Poir., *Encyc. Suppl.* 4: 274 (1816). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Anonymous s.n.*, French Guiana: Ile de Cayenne (P; IT: P, US-79734 (fragm. ex P)).

Recent Synonyms: *Panicum frondescens*.

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, Aristidoideae a Pharoideae (2012) (340), A.S.Hitchcock, *Manual of the Grasses of the West Indies* (1936) (& as *P. frondescens*), S.A.Renvoize, *Gramineas de Bolivia* (1998) (391, Fig. 83), S.A.Renvoize, *The Grasses of Bahia*, 1984 (132, Fig. 46 as *Panicum frondescens*), J.A.Steyermark et al, *Flora of the Venezuelan Guayana* Vol. 8 (2004) (206, Fig. 161), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (656, Fig. 140 as *Panicum*), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina)*, Pt II, Gramineas (1969) (317, Fig. 128), W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (362, Fig. 132 as *P. frondescens*), F.O.Zuloaga et al, *Flora del Paraguay* 23 (1994) (306, Fig. 89), E.Judziewicz, *Flora of the Guianas*, 187. *Poaceae* (1990) (430, Fig. 76), R.Pilger, *Die Natürlichen Pflanzenfamilien* 14e (1940) (15, Fig. 4).

Illustrations (Journals): *Ann. Missouri Bot. Gard.* (75: 449, Fig.14 (1988)), *Ruizia* (13:310, Fig 37i-k (1993)).

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (*Syst. Bot.*34: 687, Fig.2 (2009)).

Derivation (Clifford & Bostock 2007): *L. stolo*, shoot; *fero*, bear. Plant with well developed underground stems.

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Paspalinae.

Habit, Vegetative Morphology. Perennial. Culms prostrate, 10–50 cm long. Culm-internodes distally with pubescent line (2 lines). Culm-nodes glabrous or pubescent. Lateral branches ample. Leaf-sheaths glabrous on surface, outer margin hairy. Ligule an eciliate membrane, 0.2 mm long, erose. Leaf-blades lanceolate, 1–5 cm long, 3–15 mm wide. Leaf-blade surface pilose, sparsely hairy, hairy adaxially. Leaf-blade margins undulate. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes borne along a central axis, unilateral, 0.5–1 cm long. Central inflorescence axis 0.5–4 cm long, pubescent. 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 ovate, dorsally compressed, 2.3–2.5 mm long, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 0.33 length of spikelet, membranous, without keels, 3 -veined. Lower glume apex obtuse. Upper glume ovate, 0.75 length of spikelet, membranous, without keels, 5 -veined. Upper glume primary vein scabrous. Upper glume apex obtuse.

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, scabrous, rough on midvein, acute. Palea of lower sterile floret 0.5 length of lemma. Fertile lemma elliptic, dorsally compressed, 1.3 mm long, indurate, shiny, without keel. Lemma margins involute. Lemma apex acute. Palea involute, indurate.

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

Country /Province /State. Mexico. Gulf (Mexico), Southwest Mexico, Southeast Mexico. Mesoamerica, Caribbean, Northern South America, Western South America, Brazil, Southern South

America. Belize, Costa Rica, Guatemala, Honduras, Nicaragua, Panama. Leeward Is, Windward Islands, Trinidad-Tobago. French Guiana, Guyana, Surinam, Venezuela. Bolivia, Colombia, Peru. Brazil Southeast. Argentina Northeast, Paraguay, Uruguay.

Roraima, Para, Amapa, Amazonas, Acre, Rondonia, Mato Grosso, Goias, Bahia, Minas Gerais, Rio de Janeiro, Espirito Santo, Sao Paulo Parana, Catarina, Rio Grande do Sul. Rio de Janeiro, Sao Paulo. Chaco, Corrientes, Entre Rios, Formosa, Misiones, Santa Fe. Veracruz. Oaxaca. Chiapas, Quintana Roo, Tabasco.

Ochlandra beddomei Gamble. *Ann. Bot. Gard. Calc.* vii. 124. (1896).

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

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Gamble s.n.*, India: Nilgris, 3000–4000 ft (K). LT designated by Kumar, *Rheedea* 5: 68 (1995).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Richard Henry Beddome (1830–1911) English-born Indian forester.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes short, pachymorph. Butt sheaths absent. Culms woody. Culm-internodes terete, thin-walled. Lateral branches dendroid. Culm-sheaths present. Leaves cauline. Leaf-sheaths striately veined, puberulous, outer margin hairy. Leaf-sheath oral hairs setose. Leaf-sheath auricles falcate. Ligule an eciliate membrane. Leaf-blade base asymmetrical, with a brief petiole-like connection to sheath, petiole 0.5 cm long. Leaf-blades lanceolate, 15–20 cm long, 25–40 mm wide. Leaf-blade midrib evident. Leaf-blade venation with 16 secondary veins, without cross veins. Leaf-blade margins cartilaginous. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, clustered at the nodes, in untidy tufts, with spathaceous subtending bracts, with axillary buds at base of spikelet, prophyllate below lateral spikelets, leafy between clusters.

Fertile Spikelets. Spikelets comprising 1 fertile florets. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, subterete, 25–40 mm long, falling entire.

Glumes. Glumes several, comprising 2–3 gemmiferous bracts, 2 empty glumes, similar, shorter than spikelet. Lower glume ovate, 15 mm long. Lower glume surface hispid, with tubercle-based hairs. Lower glume hairs dark brown. Lower glume apex acute, mucronate. Upper glume ovate. Upper glume surface hispid, with tubercle-based hairs. Upper glume hairs dark brown. Upper glume apex acute, mucronate.

Florets. Fertile lemma ovate, 30 mm long, chartaceous, without keel, more than 3-veined. Lemma margins convolute, covering most of palea. Lemma apex acute, mucronate. Palea 25 mm long.

Flower and Fruit. Lodicules many (5), lanceolate, 14–16 mm long, membranous, veined, glabrous or ciliate. Anthers 32, 12–16 mm long, anther tip apiculate. Filaments free. Stigmas 5–6. Ovary with a steeple-like appendage, glabrous. Caryopsis with fleshy pericarp. Endosperm farinose.

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

Country /Province /State. **Indian Subcontinent.** India.

Kerala, Karnataka.

Ochlandra ebracteata Raiz. & Chatterji. *Indian Forester*, 1 ix. 362 (1963).

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

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: T: India (DD).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *e-*, without; *bractea*, bract; *-atus*, possessing. Sessile spikelets lacking subtending bracts.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes short, pachymorph. Butt sheaths absent. Culms 300–460 cm long, 20–40 mm diam., woody. Culm-internodes terete, thin-walled, 35–45 cm long. Lateral branches dendroid. Culm-sheaths present, 13–25 cm long, 2 times as long

as wide, hispid, with dark brown hairs or black hairs, truncate at apex, auriculate, setose on shoulders, shoulders with 8–10 mm long hairs. Culm-sheath ligule 5–9 mm high, lacerate. Culm-sheath blade lanceolate, reflexed, 12–15 cm long, 15–20 mm wide, acuminate. Leaves cauline. Leaf-sheaths striately veined, glabrous on surface. Leaf-sheath oral hairs ciliate. Leaf-sheath auricles falcate. Ligule an eciliate membrane, 2–4 mm long. Leaf-blade base cuneate, with a brief petiole-like connection to sheath, petiole 0.6–1 cm long. Leaf-blades lanceolate or oblong, 40–50 cm long, 60–110 mm wide. Leaf-blade midrib prominent beneath. Leaf-blade venation with 20–30 secondary veins, with distinct cross veins. Leaf-blade margins smooth or scabrous. Leaf-blade apex acuminate, antrorsely scabrous.

Inflorescence. Synflorescence bractiferous, clustered at the nodes, in stellate clusters, 2–3 cm long, 3–33 cm between clusters, with glumaceous subtending bracts, with axillary buds at base of spikelet, prophyllate below lateral spikelets.

Fertile Spikelets. Spikelets comprising 3–5 basal sterile florets, 1 fertile florets. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, subterete, 25–30 mm long, 5–7 mm wide, falling entire.

Glumes. Glumes several, 2–3 empty glumes, similar, shorter than spikelet. Upper glume ovate.

Florets. Basal sterile florets 2 or more. Fertile lemma ovate, 27–36 mm long, chartaceous, without keel, more than 3-veined. Lemma margins convolute, covering most of palea. Lemma apex acuminate, mucronate.

Flower and Fruit. Lodicules 3, lanceolate, 11–14 mm long, membranous, veined. Anthers 50–100, 10–15 mm long, anther tip penicillate. Stigmas 7–9. Ovary with a steeple-like appendage, glabrous. Caryopsis with fleshy pericarp, 32–40 mm long. Endosperm farinose.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. Indian Subcontinent. India.

Kerala.

Ochlandra keralensis M.Kumar, Remesh & Sequiera. *J. Econ. Taxon. Bot.* 25(1): 49 (2001).

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

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: India, Kerala, Pachakkanam: Remesh & Stephen 20730 (KFRI holotype).

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes short, pachymorph. Butt sheaths absent. Culms erect, 200–300 cm long, 16–22 mm diam., woody. Culm-internodes terete, thin-walled, 45–65 cm long, yellow. Culm-nodes swollen. Lateral branches dendroid. Culm-sheaths present, persistent, 12–18 cm long, chartaceous, pubescent, ciliate on shoulders. Culm-sheath blade linear, pubescent. Leaves cauline. Leaf-sheath oral hairs setose, 12 mm long. Ligule a ciliate membrane, 2 mm long. Collar with external ligule. Leaf-blade base truncate, with a brief petiole-like connection to sheath, petiole 0.6 cm long. Leaf-blades lanceolate, 22–30 cm long, 25–38 mm wide. Leaf-blade midrib prominent beneath. Leaf-blade venation with 16–20 secondary veins. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, clustered at the nodes, in untidy tufts, with glumaceous subtending bracts, with axillary buds at base of spikelet, prophyllate below lateral spikelets, leafless between clusters.

Fertile Spikelets. Spikelets comprising 1 fertile florets. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate or ovate, subterete, 20–24 mm long, 4–6 mm wide, falling entire.

Glumes. Glumes several, comprising 2 gemmiferous bracts, 3 empty glumes, similar, shorter than spikelet. Upper glume ovate, 14–24 mm long. Upper glume surface pilose, hairy at apex. Upper glume margins ciliate. Upper glume apex acute, mucronate.

Florets. Fertile lemma ovate, 20–22 mm long, 8–10 mm wide, chartaceous, without keel, 20–36 - veined, more than 3-veined. Lemma lateral veins with cross-veins. Lemma margins convolute, covering most of palea. Lemma apex acuminate. Palea tightly convolute around flower, 14–15 mm long, 15–25 - veined, without keels. Palea apex ciliate.

Flower and Fruit. Lodicules many (4), 6–8 mm long, membranous, veined. Anthers 30–56, 9 mm long, yellow. Filaments free. Stigmas 7. Ovary with a steeple-like appendage (40–55 mm), glabrous. Caryopsis with fleshy pericarp, ovoid, 85–95 mm long.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. Indian Subcontinent. India.

Ochlandra scriptoria (Dennst.) C.E.C.Fischer. *Gamble, Fl. Madras*, 1863 (1934).

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

Basionym or Replaced Name: *Bambusa scriptoria* Dennst., *Schlusssel Hortus Malab.* 31 (1818).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. belonging to writing. Origin uncertain, but may be a reference to the plants being used to make paper.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes short, pachymorph. Butt sheaths absent. Culms erect, 300–500 cm long, 25 mm diam., woody. Culm-internodes terete, thin-walled, 45 cm long, smooth. Lateral branches dendroid. Culm-sheaths present, persistent, 10–15 cm long, 0.33 length of internode, purple, smooth, pubescent, hairy on margins, truncate at apex, auriculate, ciliate on shoulders. Culm-sheath ligule ciliate. Culm-sheath blade linear, acuminate. Leaves cauline. Leaf-sheaths smooth. Leaf-sheath oral hairs ciliate, deciduous. Leaf-sheath auricles falcate. Ligule an eciliate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 10–25 cm long, 10–30 mm wide. Leaf-blade midrib evident. Leaf-blade venation with 10–20 secondary veins. Leaf-blade surface smooth. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, clustered at the nodes, in stellate clusters, with glumaceous subtending bracts, with axillary buds at base of spikelet, prophyllate below lateral spikelets, leafless between clusters.

Fertile Spikelets. Spikelets comprising 1 fertile florets. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, subterete, 25–30 mm long, falling entire.

Glumes. Glumes several, 2–3 empty glumes, similar, shorter than spikelet. Upper glume ovate. Upper glume apex acute, mucronate.

Florets. Fertile lemma ovate, 10–20 mm long, chartaceous, without keel, more than 3-veined. Lemma margins convolute, covering most of palea. Lemma apex acute. Palea tightly convolute around flower, without keels.

Flower and Fruit. Lodicules many, lanceolate, 7–13 mm long, membranous, veined. Anthers 15–18, anther tip apiculate. Filaments free. Stigmas 3. Ovary with a steeple-like appendage, glabrous. Caryopsis with fleshy pericarp, oblong. Endosperm farinose.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. Indian Subcontinent. India.

Kerala. Tamilnadu.

Ochlandra setigera Gamble. *Ann. Bot. Gard. Calc.* vii. 128. (1896).

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

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Gamble 20503*, India: Tamil Nadu: Nilgiri Distr.: Gudalur (K).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *seta*, bristle; *gero*, carry. With hairs or awns on the glumes or lemmas.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes short, pachymorph. Butt sheaths absent. Culms erect or leaning, 600 cm long, 12–18 mm diam., woody. Culm-internodes terete, thin-walled, 25–30 cm long, smooth. Culm-nodes flush with internodes. Lateral branches dendroid, arising from upper culm. Culm-sheaths present, persistent, 15–19 cm long, chartaceous. Culm-sheath blade linear,

1.1–2 cm long. Leaves cauline. Leaf-sheaths smooth. Leaf-sheath oral hairs setose, curly. Leaf-sheath auricles erect. Ligule an eciliate membrane. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.3–0.6 cm long. Leaf-blades lanceolate, 12–26 cm long, 18–30 mm wide. Leaf-blade venation with 10–14 secondary veins. Leaf-blade surface puberulous, hairy abaxially. Leaf-blade margins scabrous. Leaf-blade apex attenuate, filiform.

Inflorescence. Synflorescence bractiferous, clustered at the nodes, in untidy tufts, with glumaceous subtending bracts, with axillary buds at base of spikelet, prophyllate below lateral spikelets, leafless between clusters.

Fertile Spikelets. Spikelets comprising 1 fertile florets. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, subterete, 18–22 mm long, falling entire.

Glumes. Glumes several, 3 empty glumes, similar, shorter than spikelet. Upper glume ovate, 7–13 mm long. Upper glume apex acute, mucronate.

Florets. Fertile lemma ovate, 18–22 mm long, chartaceous, without keel, more than 3-veined. Lemma margins convolute, covering most of palea. Lemma apex acute. Palea tightly convolute around flower, 1 length of lemma, without keels.

Flower and Fruit. Lodicules many (5), 1.3–1.4 mm long, membranous, veined. Anthers 26–32, 12–15 mm long. Filaments free. Stigmas 5. Ovary with a steeple-like appendage. Caryopsis with fleshy pericarp, oblong, 68 mm long. Endosperm farinose.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. Indian Subcontinent. India.

Tamilnadu.

Ochlandra sivagiriana (Gamble) E.G.Camus. *Les Bambusees*, 181 (1913).

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

TYPE from India. **Basionym or Replaced Name:** *Ochlandra rheedii* var. *sivagiriana* Gamble, *Ann. Roy. Bot. Gard. (Calcutta)* 7: 122 (1896). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Gamble s.n.*, India: Tamil Nadu: Sivagiri (K; IT: MH-887796).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. From Sivagiri Hills, India.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes short, pachymorph. Butt sheaths absent. Culms leaning, 400–500 cm long, 18 mm diam., woody. Culm-internodes terete, thin-walled, 36 cm long. Lateral branches dendroid. Culm-sheaths present, 18 cm long. Leaves cauline. Leaf-sheaths smooth, glabrous on surface. Leaf-sheath oral hairs setose. Leaf-sheath auricles falcate. Ligule an eciliate membrane. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.2–0.4 cm long. Leaf-blades lanceolate, 8–22 cm long, 12–25 mm wide. Leaf-blade venation with 14–20 secondary veins. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, clustered at the nodes, in untidy tufts, with glumaceous subtending bracts, with axillary buds at base of spikelet, prophyllate below lateral spikelets, leafless between clusters.

Fertile Spikelets. Spikelets comprising 1 fertile florets. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, subterete, 40 mm long, falling entire.

Glumes. Glumes two, similar, shorter than spikelet. Lower glume elliptic, 8 mm long. Lower glume apex acuminate. Upper glume elliptic, 15 mm long. Upper glume apex acuminate.

Florets. Fertile lemma ovate, 30 mm long, chartaceous, without keel, more than 3-veined. Lemma margins convolute, covering most of palea. Lemma apex acute. Palea tightly convolute around flower, 32 mm long, without keels.

Flower and Fruit. Lodicules many (6), 1.5 mm long, membranous, veined. Anthers 27–32, anther tip apiculate. Filaments free. Stigmas 5. Ovary with a steeple-like appendage. Caryopsis with fleshy pericarp. Endosperm farinose.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. Indian Subcontinent. India.

Tamilnadu.

Ochlandra soderstromia M. Kumar & S. Sequiera. *Rheedea*, 9(1): 33 (1999).

TYPE from India. **Basionym or Replaced Name:** India, Kerala, Kallar: Stephen 008883 (KFRI holo).

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Country /Province /State. Kerala.

Ochlandra spirostylis M. Kumar, K. Seethal. & Sequiera. *Rheedea* 9(1): 31, f. 1 (1999).

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

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: India: Kerala: Idukki Distr.: Adimali, Chattuparakudy, 900 m, 16 jun 1998, *Stephen Sequiera 008884* (HT: KFRI).

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes short, pachymorph. Butt sheaths absent. Culms erect, 400–600 cm long, 25 mm diam., woody. Culm-internodes terete, thin-walled, 30–47 cm long, grey, scaberulous. Lateral branches dendroid. Culm-sheaths present, persistent, 13–15 cm long, chartaceous, pubescent, hairy at the base, with appressed hairs, with grey hairs. Leaves cauline. Leaf-sheaths striately veined, glabrous on surface. Ligule an eciliate membrane, brown. Collar with external ligule. Leaf-blade base truncate, with a brief petiole-like connection to sheath, petiole 1 cm long, petiole glabrous. Leaf-blades lanceolate, 25–32 cm long, 45–58 mm wide. Leaf-blade midrib prominent beneath. Leaf-blade venation with 24–26 secondary veins. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, clustered at the nodes, in untidy tufts, with glumaceous subtending bracts, with axillary buds at base of spikelet, prophyllate below lateral spikelets, leafless between clusters.

Fertile Spikelets. Spikelets comprising 1 fertile florets. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate or ovate, subterete, 15–50 mm long, 3–10 mm wide, falling entire.

Glumes. Glumes several, comprising 3 gemmiferous bracts, 3 empty glumes, similar, shorter than spikelet. Upper glume ovate, 14–30 mm long, 40–56 -veined. Upper glume surface glabrous. Upper glume margins ciliate. Upper glume apex acute, mucronate.

Florets. Fertile lemma ovate, 31–35 mm long, 22–24 mm wide, chartaceous, without keel, 30–48 -veined, more than 3-veined. Lemma lateral veins with cross-veins. Lemma margins convolute, covering most of palea, ciliate, hairy above. Lemma apex acuminate. Palea tightly convolute around flower, 31–35 mm long, 30–48 -veined, without keels. Palea surface pilose, hairy on margins, hairy above. Palea apex emarginate, ciliate.

Flower and Fruit. Lodicules 3, 15–20 mm long, membranous, veined, ciliate, 2-toothed. Anthers 40–70, 11 mm long, anther tip with extended connective. Filaments free. Stigmas 6–8. Ovary with a steeple-like appendage (55mm), glabrous. Caryopsis with fleshy pericarp, ovoid, 100–105 mm long.

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

Country /Province /State. **Indian Subcontinent.** India.

Ochlandra stridula Thw. *Enum. Pl. Zeyl.* 376. (1864).

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

TYPE from Sri Lanka. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: LT: G.H.K. Thwaites *C.P.* 241, no date, Sri Lanka: (K; ILT: K(3 sheets), US-1126305). LT designated by Kumar, *Rheedea* 5: 76, 78 (1995); CS\Also a type of *Beesha stridula* munro..

Illustrations (Journals): *Smithsonian Contributions to Botany* (72 : 68 (1988)).

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (*Smith. Contr. Bot.* No. 72 : 70 (1988)).

Derivation (Clifford & Bostock 2007): *L. rustling*. The leaves make a crackling sound when trodden on.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes short, pachymorph. Butt sheaths absent. Culms erect, 400–500 cm long, 10 mm diam., woody. Culm-internodes terete, thin-walled. Lateral branches dendroid. Bud complement 1. Branch complement several, in a horizontal line, with 1 branch dominant, thinner than stem. Culm-sheaths present, deciduous, auriculate, setose on shoulders. Culm-sheath ligule 1 mm high. Culm-sheath blade lanceolate (with lateral projections at 2/3 its length), reflexed, 7.5 cm long, attenuate. Leaves cauline, 8–14 per branch. Leaf-sheath oral hairs woolly. Leaf-sheath auricles falcate. Ligule an eciliate membrane, 1.3–2.2 mm long, scarious. Collar with external ligule. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades deciduous at the ligule, lanceolate, 23–34 cm long, 25–50 mm wide. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, clustered at the nodes, in stellate clusters, 4–6 cm long (diam), dense, with spathaceous subtending bracts, with axillary buds at base of spikelet, prophyllate below lateral spikelets, leafless between clusters.

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, subterete, 25–30 mm long, 2–5 mm wide, falling entire.

Glumes. Glumes several, 3 empty glumes, similar, shorter than spikelet. Lower glume oblong, 10–15 mm long, chartaceous, without keels, 21–33 -veined. Lower glume margins ciliate. Lower glume apex acute, mucronate.

Florets. Fertile lemma oblong, 22–28 mm long, chartaceous, without keel, 18 -veined, more than 3-veined. Lemma surface with a median groove. Lemma margins convolute, covering most of palea. Lemma apex emarginate, mucronate. Palea oblong, tightly convolute around flower, 1 length of lemma, 12 -veined, without keels. Palea apex emarginate. Rhachilla extension 0.05 length of fertile floret.

Flower and Fruit. Lodicules many (7), lanceolate, 10–12 mm long, membranous, veined, glabrous, acute. Anthers 27, dehiscent by a subapical slit. Stigmas 4. Ovary with a steeple-like appendage, glabrous. Caryopsis with fleshy pericarp. Endosperm farinose.

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

Country /Province /State. Indian Subcontinent. Sri Lanka.

Ochlandra talbotii Brandis. *Indian Trees*, 684 (1906).

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

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: North Kanara,.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): In honor of William Alexander Talbot (1847–1917) Irish-born Indian forester.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose, clumped densely. Rhizomes short, pachymorph. Butt sheaths absent. Culms erect, drooping at the tip, 300–600 cm long, 12–18 mm diam., woody. Culm-internodes terete, thin-walled, 40 cm long. Lateral branches dendroid. Culm-sheaths present, smooth, hairy on margins, auriculate, ciliate on shoulders. Culm-sheath blade linear. Leaves cauline. Leaf-sheaths striately veined, smooth. Leaf-sheath oral hairs setose. Ligule an eciliate membrane, 0.5 mm long. Leaf-blade base cordate, with a brief petiole-like connection to sheath, petiole 0.4 cm long. Leaf-blades lanceolate, 20–26 cm long, 30–35 mm wide. Leaf-blade midrib conspicuous. Leaf-blade venation with 20 secondary veins. Leaf-blade apex attenuate, filiform.

Inflorescence. Synflorescence bractiferous, clustered at the nodes, in untidy tufts, with glumaceous subtending bracts, with axillary buds at base of spikelet, prophyllate below lateral spikelets, leafless between clusters, 10–20 cm long overall.

Fertile Spikelets. Spikelets comprising 1 fertile florets. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, subterete, 40 mm long, falling entire.

Glumes. Glumes several, 3–4 empty glumes, similar, shorter than spikelet. Upper glume ovate, 10–19 mm long. Upper glume surface pilose, hairy at apex. Upper glume hairs white. Upper glume apex acute, mucronate.

Florets. Fertile lemma ovate, 28 mm long, chartaceous, without keel, more than 3-veined. Lemma margins convolute, covering most of palea. Lemma apex acute. Palea tightly convolute around flower, 1 length of lemma, without keels.

Flower and Fruit. Lodicules many (6–7), linear, 6–7 mm long, membranous. Anthers 26–40. Filaments free. Stigmas 5. Ovary with a steeple-like appendage. Caryopsis with fleshy pericarp, ovoid, 78 mm long, glabrous, cuspidate. Endosperm farinose.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. Indian Subcontinent. India.
Karnataka.

Ochlandra travancorica (Bedd.) Gamble. *Ann. Bot. Gard., Calc.* 7:125 (1896).

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

TYPE from India. **Basionym or Replaced Name:** *Beesha travancorica* Bedd., *Fl. Sylv. S. India* 239, t. 234 (1873). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Most abundant on the south Travancore and South Tinnevely mountains, 3000–5000 ft.,

Illustrations (Books): D.Farrelly, *The Book of Bamboo* (1984) (195).

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Travancore, India.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes short, pachymorph. Butt sheaths absent. Culms erect, 200–600 cm long, 25–50 mm diam., woody. Culm-internodes terete, thin-walled, 45–60 cm long, grey, antrorsely scabrous. Culm-nodes swollen. Lateral branches dendroid. Culm-sheaths present, deciduous, 15–20 cm long, pubescent, with appressed hairs, with tawny hairs or black hairs, hairy on margins, truncate at apex, setose on shoulders, shoulders with 7.5 mm long hairs. Culm-sheath ligule entire. Culm-sheath blade linear, 4–8 cm long. Leaves cauline. Leaf-sheaths keeled, striately veined, glabrous on surface, outer margin hairy. Leaf-sheath oral hairs scanty, 20–25 mm long. Leaf-sheath auricles falcate. Ligule an eciliate membrane, truncate. Leaf-blade base symmetrical or asymmetrical, with a brief petiole-like connection to sheath, petiole 0.7–1 cm long. Leaf-blades lanceolate or oblong, 9–30 cm long, 50–120 mm wide. Leaf-blade venation with 24–34 secondary veins, with obscure cross veins. Leaf-blade surface smooth or scaberrulous, glabrous. Leaf-blade margins cartilaginous, scabrous. Leaf-blade apex attenuate.

Inflorescence. Synflorescence bractiferous, linear, with spathaceous subtending bracts, with axillary buds at base of spikelet, prophyllate below lateral spikelets.

Fertile Spikelets. Spikelets comprising 1 fertile florets. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, subterete, 50–65 mm long, 12–15 mm wide, falling entire.

Glumes. Glumes several, comprising 2–4 gemmiferous bracts, 3 empty glumes, similar, shorter than spikelet. Lower glume ovate, 30 mm long. Lower glume lateral veins with cross-veins. Lower glume apex truncate. Upper glume ovate, 50 mm long. Upper glume lateral veins with cross-veins. Upper glume apex acuminate.

Florets. Fertile lemma ovate, 50 mm long, chartaceous, without keel, more than 3-veined. Lemma lateral veins with cross-veins. Lemma margins convolute, covering most of palea. Lemma apex acute.

Flower and Fruit. Lodicules 3, lanceolate, 12–15 mm long, membranous, veined. Anthers 100–120, 25 mm long, anther tip apiculate or pubescent. Filaments united in a tube. Stigmas 5–6. Ovary with a steeple-like appendage, glabrous. Caryopsis with fleshy pericarp, oblong, 50 mm long. Endosperm farinose.

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

Country /Province /State. Indian Subcontinent. India, Sri Lanka. **Caribbean** (?*). Puerto Rico.

Ochlandra wightii (Munro) C.E.C.Fischer. *Gamble, Fl. Madras*, 1864 (1934).

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

TYPE from India. **Basionym or Replaced Name:** *Ochlandra brandisii*, *Bambusa wightii* Munro, *Trans. Linn. Soc. London* 26(1): 111 (1868). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: *R.H. Beddome 117 or 1009 or 1346*, no date, India (US-79430). ST: *Wight 1009*, Hab. in Ind. or. Courtallum ST: *Wight 117*, India: Malabar ST: *Wight 1346*, India.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Robert Wight (1796–1872) Scots-born physician and sometime Superintendent, Botanic Gardens, Madras.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes short, pachymorph. Butt sheaths absent. Culms woody. Culm-internodes terete, thin-walled. Lateral branches dendroid. Culm-sheaths present. Leaves cauline. Leaf-sheaths striately veined. Leaf-sheath oral hairs setose, deciduous. Leaf-sheath auricles falcate. Ligule an eciliate membrane, 25 mm long, acute. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.5–0.8 cm long. Leaf-blades lanceolate or oblong, 25–50 cm long, 40–75 mm wide. Leaf-blade midrib conspicuous. Leaf-blade venation with 20–26 secondary veins, without cross veins. Leaf-blade surface glabrous. Leaf-blade margins cartilaginous, smooth. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, clustered at the nodes, in stellate clusters, with glumaceous subtending bracts, with axillary buds at base of spikelet, prophyllate below lateral spikelets.

Fertile Spikelets. Spikelets comprising 1 fertile florets. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, subterete, 25–40 mm long, 7–10 mm wide, falling entire.

Glumes. Glumes several, comprising 3–4 gemmiferous bracts, 3–4 empty glumes, similar, shorter than spikelet. Upper glume ovate. Upper glume apex acute, mucronate.

Florets. Fertile lemma ovate, 20 mm long, chartaceous, without keel, more than 3-veined. Lemma lateral veins with cross-veins. Lemma margins convolute, covering most of palea. Lemma apex acute, mucronate.

Flower and Fruit. Lodicules 1, lanceolate, 12–16 mm long, membranous, veined, truncate. Anthers 40–60, anther tip apiculate. Filaments united in a tube. Stigmas 5. Ovary with a steeple-like appendage, glabrous. Caryopsis with fleshy pericarp. Endosperm farinose.

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

Country /Province /State. **Indian Subcontinent.** India.

Kerala.

Ochthochloa compressa (Forssk.) K.W. Hilu. *Kew Bull.*, 36(3): 560 (1981).

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 *Eleusine*).

TYPE from Yemen. **Basionym or Replaced Name:** *Eleusine compressa*, *Panicum compressum* Forssk., *Fl. Aegypt.-Arab.* 18 (1775). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Yemen: Al Hadiyah [in montibus Hadiensibus], March 1763, *Forsskal* 46 (HT: C).

Illustrations (Books): S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (108, Fig 46), L.Boulos, *Flora of Egypt* 4 (2005) (251, Pl. 74), T.A.Cope, in M.Thulin, *Poaceae* (Gramineae). *Flora of Somalia* (1995) (177, Fig 92), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (Fig. 263).

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (Pl. 23).

Derivation (Clifford & Bostock 2007): *L. comprimo*, squeeze together. Culms flattened.

Classification. Subfamily Chloridoideae. Tribe: Chloridoideae incertae sedis.

Habit, Vegetative Morphology. Perennial. Stolons present. Culms decumbent, 10–30(–90) cm long. Ligule a ciliate membrane. Leaf-blades conduplicate, (1–)2.5–15 cm long, 2–3 mm wide, glaucous.

Inflorescence. Inflorescence composed of racemes. Racemes (2–)3–5, digitate, unilateral, 1.5–4.5 cm long. Rhachis deciduous from axis, angular, glabrous on margins. Spikelet packing broadside to rhachis, crowded. Spikelets appressed, solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 4–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or oblong, laterally compressed, breaking up at maturity, disarticulating above glumes but not between florets.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume oblong, 0.5 length of upper glume, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume oblong, 0.7 length of adjacent fertile lemma, membranous, 1-keeled, 3 -veined (all in keel). Upper glume apex acute.

Florets. Fertile lemma ovate, 3.8–5.5 mm long, chartaceous, keeled, 3 -veined, 0–3 -veined. Lemma surface glabrous or pilose, hairy above. Lemma margins pubescent, hairy below. Lemma apex acute, mucous or mucronate. Palea keels ciliate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Caryopsis with free soft pericarp.

$n = 10$ (1 ref TROPICOS), or 20 (1 ref TROPICOS).

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

Country /Province /State. **Northern Africa, West Tropical Africa, Northeast Tropical Africa.** Algeria, Egypt, Libya. Djibouti, Eritrea, Ethiopia (inc. Eritrea), Somalia, Sudan. **Western Asia, Arabian Peninsula.** Afghanistan, Iran. Gulf States, Oman, Saudi Arabia. **Indian Subcontinent.** India, Pakistan. Punjab, Rajasthan, Tamilnadu.

Odyssea mucronata (Forssk.) Stapf. *Hook. Ic. Pl. t.* 3100 (1922).

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

TYPE from Yemen. **Basionym or Replaced Name:** *Festuca mucronata* Forssk., *Fl. Aegypt.-Arab.* 22 (1775). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Forsskål 94*, Yemen: Beit al Fakih (C (2 sheets); IT: BM).

Illustrations (Books): S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (101, Fig 42), T.A.Cope, in M.Thulin, *Poaceae* (Gramineae). *Flora of Somalia* (1995) (174, Fig 88).

Illustrations (Journals): *Hooker's Icones Plantarum* (t.3100 (1922)).

Derivation (Clifford & Bostock 2007): *L. mucro*, sharp point; *-ata*, possessing. With glumes or lemmas contracted into a short hard point or bifid and shortly awned from between the teeth.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Perennial, mat forming. Cataphylls evident. Rhizomes elongated. Culms geniculately ascending, 15–200 cm long. Lateral branches suffrutescent. Leaves cauline, distichous. Leaf-sheaths mostly shorter than adjacent culm internode. Ligule a fringe of hairs. Leaf-blades flat or involute, 1–3 cm long, 2–4 mm wide, coriaceous, stiff, glaucous. Leaf-blade surface ribbed. Leaf-blade apex acute, pungent.

Inflorescence. Inflorescence composed of racemes. Racemes 3–10, borne along a central axis, closely spaced, in a head, unilateral, 0.3–1 cm long, bearing few fertile spikelets. Central inflorescence axis 1–2 cm long. Rhachis subterete. Spikelet packing broadside to rhachis, crowded. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.5–1 mm long.

Fertile Spikelets. Spikelets comprising 4–10 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, compressed slightly, 6–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pilose, obtuse.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 0.6–0.7 length of upper glume, scarious, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume oblong, 0.6–0.8 length of adjacent fertile lemma, scarious, without keels, 1 -veined. Upper glume lateral veins absent. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 4.3–5 mm long, membranous, without keel, 3 -veined, 0–3 -veined. Lemma midvein ciliate, hairy below. Lemma lateral veins close to margins. Lemma margins ciliate. Lemma hairs 1–1.5 mm long. Lemma apex dentate, 2 -fid, mucronate. Palea 1 length of lemma, 2 -veined.

Palea keels scaberulous. Palea surface pubescent. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Caryopsis with free soft pericarp, ellipsoid.

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

Country /Province /State. Northeast Tropical Africa. Eritrea, Somalia. Arabian Peninsula. Saudi Arabia, Yemen.

Odyssea paucinervis (Nees) Stapf. *Hook. Ic. Pl.* t. 3100 (1922).

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

TYPE from South Africa. **Basionym or Replaced Name:** *Dactylis paucinervis* Nees, *Fl. Afr. Austral. Ill.* 429 (1841). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Ad ostium fluvii Olifantrivier. Novembri, Drège s.n..

Illustrations (Books): R.M.Phill, F.T.E.A., *Gramineae* (2(1974):287, Fig.79), G.V.Pope et al., *Flora Zambesiaca* 10 (2(1999):35, t. 15), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (119, Fig 89), M.A.N.Muller, *Grasses of South West Africa/Namibia* (1984), G.E.Gibbs Russell et al, *Grasses of Southern Africa* (1990) (226, Fig 143), T.A.Cope, in M.Thulin, *Poaceae* (Gramineae). *Flora of Somalia* (1995).

Derivation (Clifford & Bostock 2007): *L. paucus*, few; *nervus*, nerve. Lemma few-nerved.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Perennial, caespitose. Cataphylls evident. Rhizomes elongated. Culms geniculately ascending, 15–32 cm long. Lateral branches lacking. Leaves cauline, distichous. Leaf-sheaths mostly shorter than adjacent culm internode. Ligule a fringe of hairs. Leaf-blades flat or involute, 1–6 cm long, 1–5 mm wide, coriaceous, stiff, glaucous. Leaf-blade surface ribbed, pilose, hairy on both sides. Leaf-blade apex acute, pungent.

Inflorescence. Inflorescence composed of racemes. Racemes 4–12, borne along a central axis, closely spaced, in a multilateral false spike or in a head, unilateral, 1–3 cm long, bearing few fertile spikelets, bearing 3–14 fertile spikelets on each. Central inflorescence axis 1–4 cm long. Rhachis subterete. Spikelet packing broadside to rhachis, crowded. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, 0.5–1 mm long.

Fertile Spikelets. Spikelets comprising 4–9 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, compressed slightly, 5–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pilose, obtuse.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 1.8–2.4 mm long, 0.6–0.7 length of upper glume, scarious, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume oblong, 2.7–3.3 mm long, 1–1.2 length of adjacent fertile lemma, scarious, without keels, 1 -veined. Upper glume lateral veins absent. Upper glume surface scabrous, rough on veins. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 2.3–3.3 mm long, membranous, without keel, 3 -veined, 0–3 -veined. Lemma midvein ciliate, hairy below. Lemma lateral veins close to margins. Lemma margins ciliate. Lemma hairs 0.75–1 mm long. Lemma apex dentate, 2 -fid, mucronate. Palea 1 length of lemma, 2 -veined. Palea keels scaberulous. Palea surface pubescent. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Caryopsis with free soft pericarp, ellipsoid, 1.1–1.2 mm long, dark brown.

Distribution (TDWG). Continent. Africa.

Country /Province /State. Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Southern Africa. Somalia. Tanzania. Angola, Zambia. Namibia, Botswana, Limpopo, North-West, Northern Cape, Western Cape.

Oligostachyum bilobum W.T. Lin & Z.J. Feng. *J. Bamboo Res.*, 13(2): 23 (1994).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: China: Guangdong: Xinyi, Dawuling, forested slopes, 500–1500 m, 14 Aug. 1988, Z.H. Feng 36806 (HT: CANT).

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms 100–150 cm long, 8 mm diam., woody. Culm-internodes terete, 8–12 cm long, distally hispid. Culm-nodes flanged. Lateral branches dendroid. Branch complement three, with 1 branch dominant. Culm-sheaths present, tardily deciduous, glabrous, glabrous on margins or hairy on margins, convex at apex, auriculate, ciliate on shoulders. Culm-sheath ligule 0.5–1 mm high, dentate. Culm-sheath blade lanceolate, erect. Leaves 4–5 per branch. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs scanty or lacking. Leaf-sheath auricles absent or falcate. Ligule a ciliolate membrane, 1–1.3 mm long, truncate. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades deciduous at the ligule, lanceolate, 5–17 cm long, 10–25 mm wide. Leaf-blade venation with 8–12 secondary veins. Leaf-blade surface glabrous. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. China. China Southeast.
Guangdong.

Oligostachyum exauriculatum N.X. Zhao & Z.Y. Li. *Pl. Longqi Mt. Fujian China* 599 (1994).

Accepted by: S-L Chen et al, *Flora of China* 22 (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Fujian: Jiangle, montane forest margins, 1900–2000 m.,

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. China. China Southeast.
Fujian.

Oligostachyum glabrescens (T.H.Wen) Q.F.Zheng, Y.M.Lin. *Fl. Fujianica* 6: 82 (1995).

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:** *Sinobambusa glabrescens* T.H. Wen, *J. Bamboo Res.*, 1(2): 20 (1982). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: China, Pinnan: Chang & Hua 81639 (ZJFI holo).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007).

Derivation (Clifford & Bostock 2007): *L. glabresco*, becoming glabrous. Quite glabrous with respect to the whole plant or one or more of its parts.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo, culms solitary. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 100–200 cm long, 5–10 mm diam., woody, without nodal roots. Culm-internodes channelled, thin-walled, 30 cm long, distally glabrous. Lateral branches dendroid. Branch complement three, in a horizontal line, with subequal branches, thinner than stem. Culm-sheaths present, pubescent, hairy at the base, glabrous on margins, without auricles, ciliate on shoulders. Culm-sheath ligule 1 mm high, ciliolate. Culm-sheath blade linear, reflexed, glabrous on surface. Leaves cauline, 4–5 per branch. Leaf-sheaths striately veined, glabrous on surface, outer margin hairy. Leaf-sheath oral hairs scanty. Leaf-sheath auricles erect. Ligule an eciliate membrane, 1 mm long, pubescent on abaxial surface. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 9–11 cm long, 11–15 mm wide. Leaf-blade venation with 8 secondary veins, with distinct cross veins. Leaf-blade surface pubescent, hairy abaxially. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, fasciculate, lax, with glumaceous subtending bracts, with axillary buds at base of spikelet, prophyllate below lateral spikelets.

Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 5–11 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the

upper sterile. Spikelets linear, laterally compressed, 40–70 mm long, 5 mm wide, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes several, 3 empty glumes, persistent, similar, shorter than spikelet.

Florets. Fertile lemma ovate, 11–14 mm long, chartaceous, without keel, more than 3-veined. Lemma lateral veins with cross-veins. Lemma margins ciliate, hairy above. Lemma apex acute. Palea 10–12 mm long, chartaceous, 2 -veined. Palea keels ciliate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, veined. Anthers 3. Stigmas 3. Ovary glabrous. Caryopsis with adherent pericarp.

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

Country /Province /State. **China.** China Southeast.
Fujian.

Oligostachyum gracilipes (McClure) G.H. Ye & Z.P. Wang. *J. Nanjing Univ., Nat. Sci. Ed.* 26(3): 488 (1990).

Accepted by: W.D. Clayton & K. Harman, *GrassBase* (2008) and online, U. Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006).

TYPE from China. **Basionym or Replaced Name:** *Semiarundinaria gracilipes* McClure, *Lingnan Univ. Sci. Bull.*, No. 9, 47 (1940). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: China: Hainan: mountain slopes, 600–700 m, 3–20 May 1932, *H. Feng 20159* (HT: US).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007).

Derivation (Clifford & Bostock 2007): *L. gracilis*, slender; *pes*, foot. Pedicels slender.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Butt sheaths absent. Culms erect, 200 cm long, 10 mm diam., woody. Culm-internodes terete, thin-walled, purple, distally pilose, with reflexed hairs. Culm-nodes swollen, glabrous. Lateral branches dendroid. Branch complement three, with 1 branch dominant, thinner than stem. Culm-sheaths present, tardily deciduous, pubescent, with appressed hairs, with white hairs, without auricles, glabrous on shoulders. Culm-sheath ligule 2 mm high, entire or ciliate. Culm-sheath blade lanceolate, deciduous, erect or spreading, scabrid, acuminate. Leaves cauline. Leaf-sheaths glabrous on surface, outer margin glabrous. Leaf-sheath oral hairs lacking. Ligule a ciliate membrane, pubescent on abaxial surface, truncate. Leaf-blade base cuneate or broadly rounded, with a brief petiole-like connection to sheath. Leaf-blades lanceolate or oblong, 7–20 cm long, 10–20 mm wide. Leaf-blade venation with 8–10 secondary veins. Leaf-blade surface smooth or scabrous, rough abaxially. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, fasciculate, with spathaceous subtending bracts, bracts 20–90 mm long, without axillary buds at base of spikelet, with ultimate bract subtending a compact bracteolate fascicle of spikelets, prophyllate below lateral spikelets.

Fertile spikelets pedicelled. Pedicels present, scabrous, glabrous or pubescent.

Fertile Spikelets. Spikelets comprising 6–10 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 40–60 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes clavate, curved, 4–6 mm long, pubescent.

Glumes. Glumes two, 2 empty glumes, persistent, similar, shorter than spikelet. Lower glume elliptic, 0.5–1 length of upper glume, chartaceous, 1-keeled. Lower glume surface scabrous. Lower glume apex acute. Upper glume elliptic, chartaceous, 1-keeled. Upper glume surface scabrous. Upper glume apex obtuse.

Florets. Basal sterile florets absent. Fertile lemma elliptic, 10–14 mm long, chartaceous, without keel, more than 3-veined. Lemma lateral veins with cross-veins. Lemma surface asperulous. Lemma margins ciliate, hairy above. Lemma apex acute. Palea 8–9.5 mm long. Palea keels ciliate. Palea surface pubescent, hairy on back. Palea apex obtuse. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, ciliate. Anthers 3, 4–6 mm long, anther tip smooth. Stigmas 3. Ovary umbonate, glabrous. Caryopsis with adherent pericarp.

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

Country /Province /State. **China.** Hainan.

Oligostachyum hupehense (J.L. Lu) Y.P. Wang & G.H. Ye. *J. Nanjing Univ., Nat. Sci. Ed.* 24(1): 164. 1988.

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: China: Hubei: Zigui, *J.L. Lu 78118* (HT: HNAC; IT: NJU).

Recent Synonyms: *Sinobambusa acutiligulata* W.T. Lin, *J. Bamboo Res.*, 12(2): 39 (1993). *Sinobambusa anaurita* T.H. Wen, *J. Bamboo Res.*, 2(1): 62 (1983).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 160).

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

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. China. China South Central.
Hubei.

Oligostachyum lanceolatum G. H. Ye & Z. P. Wang. *J. Nanjing Univ., Nat. Sci. Ed.* 24(1): 163 (1988).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006).

TYPE from China.

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 160).

Derivation (Clifford & Bostock 2007): *L. lanceus*, lance; *-ola*, diminutive; *-ata*, possessing. Mostly a reference to lanceolate leaf-blades.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms 450 cm long, 20–30 mm diam., woody. Culm-internodes terete, 26 cm long, purple, distally glabrous. Culm-nodes swollen, with distinct supra-nodal ridge. Lateral branches dendroid. Culm-sheaths present, yellow and green, striped, pilose, hairy above, with tawny hairs, hairy on margins, without auricles, glabrous on shoulders. Culm-sheath ligule entire. Culm-sheath blade lanceolate, erect or spreading or reflexed, glabrous on surface. Leaves (1–)2–3(–4) per branch. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs lacking. Leaf-sheath auricles absent. Ligule an eciliate membrane, 1.5–2.5 mm long, truncate or obtuse. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 15 cm long, 16 mm wide. Leaf-blade surface puberulous, hairy abaxially. Leaf-blade apex acuminate. Flowering specimens unknown.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. China. China Southeast.
Zhejiang.

Oligostachyum lubricum (Wen) Keng. *J. Nanjing Univ., Nat. Sci.* 22:415 (1986).

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:** *Semiarundinaria lubrica* T.H. Wen, *J. Bamboo Res.* 2(1): 64, pl. 17 (1983). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: China: Zhejiang: Dongyang, 400–500 m, *T.H. Wen 80512* (HT: ZJFI).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 162).

Derivation (Clifford & Bostock 2007): *L. slippery*. Growing on steep slopes with clay soils.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms 500 cm long, 20 mm diam. Culm-internodes semiterete or channelled, 14–30 cm long, distally glabrous. Lateral branches dendroid. Branch complement three. Culm-sheaths present, green, pilose, with erect hairs, with yellow hairs, hairy on margins, auriculate, ciliate on shoulders. Culm-sheath ligule purple, ciliate. Culm-sheath blade lanceolate, erect. Leaves 3–4 per branch. Leaf-sheaths 3.5–4 cm long, ribbed, pubescent. Leaf-sheath oral hairs setose, spreading. Leaf-sheath auricles falcate. Ligule a

ciliolate membrane, purple, truncate. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades deciduous at the ligule, lanceolate, 10–15 cm long, 15–22 mm wide. Leaf-blade venation with distinct cross veins. Leaf-blade surface scabrous, rough abaxially, glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes, subtended by a spatheole. Spatheole 1.6–3.7 cm long. Racemes 1, single, bearing few fertile spikelets. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 9 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 40 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes two, persistent, similar, shorter than spikelet. Lower glume elliptic, chartaceous. Lower glume apex acuminate. Upper glume elliptic, chartaceous. Upper glume apex acute.

Florets. Fertile lemma ovate, 17–18 mm long, chartaceous, without keel, 13 -veined, more than 3-veined. Lemma lateral veins with cross-veins. Lemma apex acuminate. Palea 15 -veined. Palea keels ciliate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, ciliate. Anthers 3. Stigmas 2.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. China. China Southeast.

Fujian, Jiangxi, Zhejiang.

Oligostachyum nuspiculum (McClure) Z.P. Wang & G.H. Ye. *J. Nanjing Univ., Nat. Sci. Ed.* 1: 98 (1982).

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

TYPE from China.

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Butt sheaths absent. Culms erect, 200 cm long, 10 mm diam., woody. Culm-internodes terete, thin-walled, distally glabrous. Culm-nodes swollen, glabrous. Lateral branches dendroid. Branch complement three or several, with 1 branch dominant, thinner than stem. Culm-sheaths present. Leaves cauline. Leaf-sheaths striately veined, glabrous on surface. Leaf-sheath oral hairs lacking. Ligule a ciliolate membrane, pubescent on abaxial surface. Leaf-blade base simple, with a brief petiole-like connection to sheath, petiole 0.1–0.3 cm long, petiole glabrous. Leaf-blades linear or lanceolate, 5–14.5 cm long, 5–10 mm wide. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, fasciculate, with spathaceous subtending bracts, bracts 50 mm long, without axillary buds at base of spikelet, with ultimate bract subtending a compact bracteolate fascicle of spikelets, prophyllate below lateral spikelets.

Fertile spikelets pedicelled. Pedicels present, 12–20 mm long, smooth, glabrous.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 6–10 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 50–70 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 6 mm long, pilose, hairy at tip.

Glumes. Glumes two, 2 empty glumes, persistent, similar, shorter than spikelet. Lower glume elliptic, 3.5–5 mm long, chartaceous, 1-keeled, keeled above. Lower glume surface smooth or asperulous. Lower glume apex obtuse, mucronate. Upper glume elliptic, 5–6 mm long, chartaceous, without keels. Upper glume surface smooth or asperulous. Upper glume apex acute, mucronate.

Florets. Basal sterile florets 2 or more. Lemma of lower sterile floret 7.5–10 mm long. Fertile lemma elliptic, 12 mm long, chartaceous, without keel, more than 3-veined. Lemma surface asperulous. Lemma apex acute, awned, 1 -awned. Principal lemma awn 1–2 mm long overall. Palea 9–9.5 mm long. Palea keels ciliate, adorned above. Palea surface glabrous. Palea apex obtuse. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, ciliate. Anthers 3. Stigmas 3. Ovary umbonate, glabrous. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. China. Hainan.

Oligostachyum oedogonatum (Z. P. Wang & G. H. Ye) Q. F. Zhang & K. F. Huang. *Wuyi Sci. J.* 2: 92 (1982).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006).

TYPE from China. **Basionym or Replaced Name:** *Pleioblastus oedogonatus* Z.P. Wang & G.H. Ye, *J. Nanjing Univ., Nat. Sci. Ed.* 1981(1): 96, f. 3 (1981). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: China: Fujian: Chong'an, 18 May 1980, *Wang Zhengping et al.* 8055 (HT: NJU).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 159).

Derivation (Clifford & Bostock 2007): L. *-atum*, possessing. Nodes swollen thereby resembling the filamentous alga *Oedogonium*.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms 450 cm long, 8 mm diam., woody. Culm-internodes terete, 33 cm long, dark green or grey, distally mealy. Culm-nodes with distinct supra-nodal ridge. Lateral branches dendroid. Branch complement several, with subequal branches. Culm-sheaths present, purple, pubescent, auriculate, setose on shoulders. Culm-sheath ligule 3 mm high, entire. Culm-sheath blade linear or lanceolate, erect or spreading. Leaves 2–3 per branch. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs setose. Leaf-sheath auricles falcate. Ligule an eciliate membrane, 2 mm long, obtuse. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades linear or lanceolate, 13–25 cm long, 7–39 mm wide. Leaf-blade venation with 10–16 secondary veins. Leaf-blade surface glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes, bracteate at branch bases. Racemes 1, single, 4–6 cm long, bearing few fertile spikelets, bearing 2–3 fertile spikelets on each. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 15 mm long, glabrous or pubescent.

Fertile Spikelets. Spikelets with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 15–50 mm long, breaking up at maturity, disarticulating below each fertile floret. Rachilla internodes 2–3.5 mm long, pubescent.

Glumes. Glumes two or several, 1–3 empty glumes, persistent, similar, shorter than spikelet. Lower glume lanceolate, chartaceous. Upper glume ovate, 11 mm long, chartaceous, 7–9 -veined.

Florets. Fertile lemma ovate, 13–16 mm long, chartaceous, without keel, 7–11 -veined, more than 3-veined. Lemma surface pilose. Lemma margins ciliate. Lemma apex setaceously acuminate. Palea 8–10 mm long. Palea keels ciliate, adorned above, with 0.66 of their length adorned. Palea apex emarginate or obtuse. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3. Anthers 3(–5), 4–5 mm long. Stigmas 3.

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

Country /Province /State. China. China Southeast. Zhejiang.

Oligostachyum paniculatum G. H. Ye & Z. P. Wang. *J. Nanjing Univ., Nat. Sci. Ed.* 26(3): 485 (1990).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006).

TYPE from China.

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 161).

Derivation (Clifford & Bostock 2007): L. *paniculus*, panicle; *-ata*, indicating connection. Inflorescence a panicle.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms 200–300 cm long, 5–10 mm diam., woody. Culm-internodes terete, 15–25 cm long, distally glabrous. Culm-nodes with distinct supra-nodal ridge. Lateral branches dendroid. Culm-sheaths present, tardily deciduous, glabrous, without auricles. Culm-sheath ligule 0.5–1 mm high, ciliate. Leaves 2–3 per branch. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs lacking. Leaf-sheath auricles

absent. Ligule an eciliate membrane, 1–1.5 mm long, pubescent on abaxial surface, obtuse. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 15 cm long, 10 mm wide. Leaf-blade surface scabrous, rough abaxially, glabrous. Leaf-blade apex acuminate, apiculate.

Inflorescence. Inflorescence a panicle, bracteate at branch bases. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, ciliate.

Fertile Spikelets. Spikelets with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, with hairs extending 115 mm beyond apex, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 6 mm long, pubescent.

Glumes. Glumes two or several, 2–3 empty glumes, persistent, similar, shorter than spikelet. Lower glume lanceolate, chartaceous. Upper glume ovate, chartaceous.

Florets. Fertile lemma ovate, 13 mm long, chartaceous, without keel, 7–13 -veined, more than 3-veined. Lemma surface scabrous. Lemma apex acuminate, mucronate. Palea keels ciliate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, lanceolate, 2–2.5 mm long. Anthers 3, 4 mm long. Stigmas 3.

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

Country /Province /State. **China.** China Southeast.
Guangxi.

Oligostachyum puberulum (T.H.Wen) G. H. Ye & Z. P. Wang. *J. Nanjing Univ., Nat. Sci. Ed.* 26(3): 486 (1990).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006).

TYPE from China.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. pubes*, hair of adulthood; *-ula*, diminutive. Plant covered in whole or part with short hairs.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms woody. Culm-internodes terete, yellow, antrorsely scabrous. Culm-nodes with distinct supra-nodal ridge. Lateral branches dendroid. Branch complement several. Culm-sheaths present, setose on shoulders, shoulders with straight hairs. Leaves 2–3 per branch. Leaf-sheaths scaberulous, glabrous on surface, outer margin hairy. Leaf-sheath oral hairs setose, erect or spreading. Leaf-sheath auricles absent or falcate. Ligule a ciliolate membrane, truncate or obtuse. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades linear or lanceolate, 9–19 cm long, 10–18 mm wide. Leaf-blade surface puberulous, hairy abaxially. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 11–13 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 60 mm long, 20–30 mm wide, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes two or several, 2–3 empty glumes, persistent, similar, shorter than spikelet. Lower glume lanceolate, chartaceous. Upper glume ovate, 9–12 mm long, chartaceous, 7–9 -veined. Upper glume apex acuminate.

Florets. Fertile lemma ovate, 12 mm long, 4 mm wide, chartaceous, without keel, 15–16 -veined, more than 3-veined. Lemma lateral veins with cross-veins. Lemma surface puberulous, hairy above. Lemma margins ciliolate, hairy above. Lemma apex acuminate. Palea 10 mm long, 9 -veined. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3 or many (3–5), 2.5 mm long, veined, ciliate. Anthers 3, 4 mm long. Stigmas 2–3. Ovary glabrous or pubescent on apex.

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

Country /Province /State. **China.** China Southeast.
Guangxi.

Oligostachyum scabriflorum (McCl.) Z.P. Wang & G.H. Ye. *J. Nanjing Univ., Nat. Sci.*, 1: 98 (1982).

Accepted by: W.D. Clayton & K. Harman, *GrassBase* (2008) and online, U. Quattrocchi, *CRC World Dictionary of Grasses* (2006), S.-L. Chen et al, *Flora of China* 22 (Poaceae) (2006).

TYPE from China. **Basionym or Replaced Name:** *Semiarundinaria scabriflora* McClure, *Lingnan Univ. Sci. Bull.* 9: 52 (1940). T: <Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: China: Guangxi: forest slopes below 1100 m, 13 April 1933, W.T. Tsang 22097 (HT: US).

Recent Synonyms: *Sinobambusa exaurita* W.T. Lin, *Acta Phytotax. Sin.*, 26(3): 228 (1988). *Sinobambusa sulcata* W.T. Lin & Z.M. Wu, *J. Bamboo Res.*, 11(1): 33 (1992).

Acidosasa heterolodicula (W.T. Lin & Z.J. Feng) W.T. Lin, *Bull. Bot. Res., Harbin* 12(4): 352 (1992); *Acidosasa macula* W.T. Lin & Z.M. Wu, *J. Bamboo Res.* 11(1): 36 (1992).

Indosasa angustifolia W.T. Lin, *Acta Phytotax. Sin.*, 26(3): 225 (1988).

Indosasa breviligulata W.T. Lin & Z.M. Wu, *J. Bamboo Res.*, 11(1): 33 (1992).

Indosasa macula W.T. Lin & Z.M. Wu, *Acta Phytotax. Sin.*, 26(3): 227 (1988).

Oligostachyum fujianense Z.P. Wang & G.H. Ye, *J. Nanjing Univ., Nat. Sci.*, 1: 97 (1982).

Pseudosasa flexuosa T.P. Yi & X.M. Zhou, *J. Bamboo Res.* 15(3): 1–4, f. 1 (1996).

Illustrations (Books): S.-L. Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 161 as *Oligostachyum scabriflorum* var. *scabriflorum*).

Derivation (Clifford & Bostock 2007): *L. scaber*, rough; *flos*, flower. Spikelets with scabrous glumes and/or lemmas.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms 100–150 cm long, 4–8 mm diam., woody. Culm-internodes terete, 10–13 cm long, distally glabrous. Lateral branches dendroid. Branch complement three, with 1 branch dominant. Culm-sheaths present, deciduous, coriaceous, glabrous, hairy on margins, without auricles, glabrous on shoulders. Culm-sheath ligule 0.5–1 mm high, ciliolate. Culm-sheath blade lanceolate, spreading or reflexed. Leaves 2–3 per branch. Leaf-sheaths glabrous on surface, outer margin glabrous or hairy. Leaf-sheath oral hairs lacking. Leaf-sheath auricles absent. Ligule an eciliate membrane or a ciliolate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades deciduous at the ligule, lanceolate, 8–13 cm long, 8–23 mm wide. Leaf-blade venation with 6–8 secondary veins. Leaf-blade surface scabrous, rough abaxially, puberulous, hairy abaxially. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle or comprising only a few spikelets, comprising 2–6 fertile spikelets. Panicle open, 12–16 cm long, bearing few spikelets. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 10–20 mm long, glabrous.

Fertile Spikelets. Spikelets comprising 6–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 35–60 mm long, 4–5 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 5.5 mm long, scaberulous, pubescent, hairy at tip.

Glumes. Glumes two or several, 3 empty glumes, persistent, similar, shorter than spikelet. Lower glume lanceolate or ovate, chartaceous, 1-keeled. Lower glume surface asperulous. Lower glume apex acute or acuminate. Upper glume lanceolate or ovate, chartaceous, 1-keeled. Upper glume primary vein ciliolate. Upper glume surface asperulous. Upper glume apex acute.

Florets. Fertile lemma ovate, 18 mm long, chartaceous, without keel, 12–16 -veined, more than 3-veined. Lemma lateral veins with cross-veins. Lemma surface scabrous, puberulous or pilose, hairy at base. Lemma margins eciliate or ciliolate, hairy above. Lemma apex acuminate. Palea 12 mm long. Palea keels eciliate. Palea surface scaberulous, puberulous, hairy on back and on margins. Palea apex emarginate or truncate or obtuse. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, ciliate. Anthers 3, 6 mm long. Stigmas 3. Ovary glabrous. Caryopsis with adherent pericarp, apex unappendaged.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. China. China Southeast.

Fujian, Guangdong, Guangxi, Hunan, Jiangxi.

Oligostachyum scopulum (McCl.) Z.P. Wang & G.H. Ye. *J. Nanjing Univ., Nat. Sci. Ed.* 1982(1): 98 (1982).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006).

TYPE from China. **Basionym or Replaced Name:** *Semiarundinaria scopula* McClure, *Lingnan Univ. Sci. Bull.* 9: 53 (1940). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: T: (US-18374, US-3157327). T COLLECTION: *F.A. McClure LU 18374*, 28 Aug 1929, China (US-2803009, US-2803010).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. a small broom. There is a brush-like row of cilia along each keel of the exerted palea.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Butt sheaths absent. Culms erect, 300–500 cm long, 15 mm diam., woody. Culm-internodes terete, thin-walled, distally mealy. Culm-nodes swollen, glabrous. Lateral branches dendroid, erect or ascending. Branch complement three, with 1 branch dominant, thinner than stem. Culm-sheaths present, tardily deciduous, pubescent, hairy at the base, with reflexed hairs, glabrous on margins or hairy on margins, without auricles, glabrous on shoulders. Culm-sheath ligule 1–2 mm high, entire or ciliate. Culm-sheath blade lanceolate, deciduous, erect or reflexed, pubescent. Leaves cauline, 5–9 per branch. Leaf-sheaths striately veined, glabrous on surface. Leaf-sheath oral hairs lacking. Ligule a ciliate membrane, scaberrulous on abaxial surface, truncate. Leaf-blade base simple or broadly rounded, with a brief petiole-like connection to sheath, petiole glabrous. Leaf-blades lanceolate or oblong, 5.5–17 cm long, 8–21 mm wide. Leaf-blade surface glabrous. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, fasciculate, with spathaceous subtending bracts, without axillary buds at base of spikelet, with ultimate bract subtending a compact bracteolate fascicle of spikelets, prophyllate below lateral spikelets.

Fertile spikelets pedicelled. Pedicels present, 5–15 mm long, glabrous to pubescent.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 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 linear, laterally compressed, 40–70 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes curved, 4–5 mm long, pilose, hairy at tip.

Glumes. Glumes several, 3–5 empty glumes, persistent, similar, shorter than spikelet. Lower glume lanceolate, 2.5–4.5 mm long, chartaceous, 1-keeled. Lower glume primary vein ciliate. Lower glume apex acute. Upper glume lanceolate, 2.5–4.5 mm long, chartaceous, 1-keeled. Upper glume primary vein ciliate. Upper glume apex acute.

Florets. Basal sterile florets 1. Fertile lemma elliptic, 7.5–9 mm long, chartaceous, without keel, more than 3-veined. Lemma lateral veins obscure. Lemma apex obtuse, mucronate. Palea keels ciliate. Palea surface pubescent, hairy on back. Palea apex obtuse. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, 2–3 mm long, ciliate. Anthers 3, anther tip smooth. Stigmas 3. Ovary umbonate, glabrous. Caryopsis with adherent pericarp.

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

Country /Province /State. China. Hainan.

Oligostachyum shiuyingianum (Chia & But) Ye & Wang. *J. Nanjing Univ. Nat. Sci.* 26:486 (1990).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006).

TYPE from China. **Basionym or Replaced Name:** *Arundinaria shiuyingiana* L.C. Chia & But, *Kew Bull.* 37(4): 591, f. 1 (1983)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: China: Guangdong: Hong Kong New Territories, below 100 m, 21 June 1981, *N. Zhu* 2862 (HT: ?; IT: US).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 162).

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms 400–600 cm long, 10–20 mm diam. Culm-internodes terete. Lateral branches dendroid. Branch complement three. Culm-sheaths present, deciduous, brown, hispid, truncate at apex, without auricles, setose on shoulders. Culm-sheath ligule ciliolate. Culm-sheath blade lanceolate, erect. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs scanty. Leaf-sheath auricles absent. Ligule a ciliolate membrane, truncate. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades deciduous at the ligule, lanceolate, 12–20 cm long, 8–13 mm wide. Leaf-blade surface glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, bearing few fertile spikelets. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–13 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed, 30–80 mm long, 4.5–5 mm wide, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes two, persistent, similar, shorter than spikelet. Lower glume elliptic, 7–9 mm long, chartaceous. Lower glume apex acuminate. Upper glume elliptic, 10–12 mm long, chartaceous. Upper glume apex acute.

Florets. Fertile lemma ovate, 15–17 mm long, chartaceous, without keel, 13 -veined, more than 3-veined. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 2–3 mm long overall. Palea 12–14 mm long. Palea keels ciliolate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3. Anthers 3. Stigmas 3. Ovary glabrous. Caryopsis with adherent pericarp, apex unappendaged.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. China. Hainan, China Southeast.
Hong Kong.

Oligostachyum spongiosum (C.D.Chu, C.S.Chao) Q.F.Zheng, Y.M.Lin. *Fl. Fujianica* 6: 83 (1995).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006) (as *Acidosas bilamina*), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006) (as *Acidosas bilamina*).

TYPE from China. **Basionym or Replaced Name:** *Arundinaria spongiosa* C.D. Chu & C.S. Chao, *J. Nanjing Technol. Coll. Forest Prod.* 1981(3): 33, f. 1 (1981). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: China: Guangxi: Lingshui, broad-leaved forests below 800 m, W.Y. Hsiung & C.S. Chao 77528 (HT: NFU).

Recent Synonyms: *Acidosasa bilamina* W.T. Lin & Z.M. Wu, *J. South China Agr. Univ.* 14(3): 113 (1993).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. spongey. Spikelets somewhat turgid.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 1000 cm long, 40–60 mm diam., woody. Culm-internodes terete, 20–40 cm long, distally mealy. Lateral branches dendroid. Branch complement three. Culm-sheaths present, brown, hispid, with dark brown hairs, hairy on margins, without auricles, glabrous on shoulders. Culm-sheath ligule 1 mm high, ciliolate. Culm-sheath blade triangular, as wide as sheath at base, erect, 1.5–3 cm long. Leaves 3–5 per branch. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs lacking. Leaf-sheath auricles absent. Ligule a ciliolate membrane, 2–2.5 mm long. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades deciduous at the ligule, lanceolate, 9–17 cm long, 10–20 mm wide. Leaf-blade venation with 8–10 secondary veins. Leaf-blade surface glabrous. Leaf-blade apex acuminate. Flowering specimens unknown.

Flower and Fruit. $2n = 48$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. China. China Southeast.
Guangdong, Guangxi.

Oligostachyum sulcatum Z.P. Wang & G.H. Ye. *J. Nanjing Univ.*, Nat. Sci. Ed. 1982(1): 96, f. 1 (1982).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006).

TYPE from China.

Recent Synonyms: *Sinobambusa parvifolia* T.H. Wen & S.Y. Chen, *J. Bamboo Res.*, 6(3): 31 (1987).

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms erect, 1000–1200 cm long, 40–62 mm diam., woody. Culm-internodes terete, thin-walled, 37.5 cm long, distally mealy. Lateral branches dendroid, ascending. Branch complement three. Culm-sheaths present, coriaceous, green, hispid, hairy on margins, without auricles, glabrous on shoulders. Culm-sheath ligule 3.5 mm high, ciliolate. Culm-sheath blade lanceolate or narrowly ovate, erect or spreading. Leaves 3–5 per branch. Leaf-sheaths deciduous, 9–16 cm long, glabrous on surface. Leaf-sheath oral hairs lacking. Ligule a ciliolate membrane, 1–1.5 mm long. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate. Leaf-blade venation with distinct cross veins.

Inflorescence. Inflorescence composed of racemes, bracteate at pedicel base. Racemes bearing 2–3 fertile spikelets on each. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 10–15 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 linear, laterally compressed, 15–37 mm long, 1.5–3 mm wide, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3–5 mm long, chartaceous, without keels. Lower glume lateral veins obscure. Lower glume surface scabrous. Lower glume apex acute. Upper glume elliptic, 7–10 mm long, chartaceous, without keels, 9 -veined. Upper glume surface scabrous. Upper glume apex acute.

Florets. Fertile lemma 11–13 mm long, chartaceous, without keel, 9–15 -veined, more than 3-veined. Lemma lateral veins with cross-veins. Lemma surface scabrous. Lemma apex acuminate, mucronate. Palea 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3. Anthers 3. Stigmas 3. Caryopsis with adherent pericarp, apex unappended.

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

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. China. China Southeast.

Oligostachyum wuyishanicum S.S. You & K.F. Huang. *J. Bamboo Res.*, 11(4): 8 (1992).

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

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: China: Fujian: Wuyi-shan, S.S. *You 90115* (HT: FJFC).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-icum*, belonging to. From Wuyi Shan, Fujian Province, China.

Classification. Subfamily Bambusoideae. Tribe: Arundinarieae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes elongated, leptomorph. Butt sheaths absent. Culms 300–500 cm long, 7–11 mm diam., woody. Culm-internodes terete, distally mealy. Culm-nodes swollen. Lateral branches dendroid. Branch complement three, with subequal branches. Culm-sheaths present, deciduous, coriaceous, without auricles, glabrous on shoulders. Culm-sheath ligule 2–5 mm high. Culm-sheath blade triangular, spreading or reflexed. Leaves 2–3 per branch. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs lacking. Leaf-sheath auricles absent. Ligule a ciliolate membrane, 2 mm long. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades deciduous at the ligule, lanceolate, 10–16 cm long, 11–15 mm wide. Leaf-blade venation with 10–12 secondary veins. Leaf-blade surface pilose, hairy abaxially. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, bearing 3–4 fertile spikelets on each. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 4–10 mm long.

Fertile Spikelets. Spikelets comprising 5–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 15–35 mm long, 3–4 mm wide, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes two, persistent, similar, shorter than spikelet. Lower glume lanceolate, 3–7 mm long, chartaceous, 7–9 -veined. Lower glume apex acuminate. Upper glume lanceolate, 9–10 mm long, chartaceous, 9–11 -veined. Upper glume apex acute.

Florets. Fertile lemma lanceolate, 11–13 mm long, chartaceous, without keel, 9–11 -veined, more than 3-veined. Lemma apex acuminate. Palea 8–9 mm long. Palea keels ciliate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3. Anthers 3–5. Stigmas 3. Caryopsis with adherent pericarp, apex unapunged.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. China. China Southeast.
Fujian.

Olmecla clarkiae (G. Davidse & R.W. Pohl) Ruiz-Sanchez, Sosa & Mejía Saules. *Taxon* 60(1): 93 (2011).

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

TYPE from Mexico. **Basionym or Replaced Name:** *Aulonemia clarkiae* G. Davidse & R.W. Pohl, *Novon* 2(2): 84 (1992). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *D.E. Breedlove & G. Davidse 55085*, 8 Nov 1981, Mexico: Chiapas: Mun. Jitolol: 5 km SE of Jitolol along road to Bochil, in trees, open forest with *Pinus*, *Quercus*, *Nyssa*, *Liquidambar*, and *Brunellia*, culms to 8 m tall, elev. 1600 m (MO-2990943; IT: CAS-671245, CAS-671246, CAS-671247, CAS-671248, MO-2990941, MO-2990944, US-2960276).

Illustrations (Journals): *Novon* (2: 86, Fig. 2 (1992)).

Derivation (Clifford & Bostock 2007): in honor of Lynn Gail Clark (1956-) United States botanist.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes short, pachymorph, scaly. Butt sheaths absent. Culms erect, pendulous at the tip, 500–800 cm long, 10–16 mm diam., woody. Culm-internodes terete, thin-walled, mid-green. Lateral branches dendroid, intravaginal. Bud complement 1. Branch complement one, solitary. Culm-sheaths present, persistent, glabrous or pilose, without auricles, setose on shoulders, shoulders with 8–15 mm long hairs. Culm-sheath ligule 0.8–2 mm high. Culm-sheath blade lanceolate, spreading or reflexed. Leaves 4–8 per branch. Leaf-sheaths pilose, hairs tawny, outer margin hairy. Leaf-sheath oral hairs setose, 7–15 mm long. Leaf-sheath auricles falcate (on one side), 0.5–1 mm long. Ligule a ciliate membrane, 0.5–1 mm long. Collar with external ligule. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades linear or lanceolate, 10–36 cm long, 9–15 mm wide. Leaf-blade venation with obscure cross veins. Leaf-blade surface scabrous, rough adaxially, puberulous, hairy abaxially. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle, without bracts or bracteate at branch bases (lowest branch). Panicle open, pyramidal, 10–33 cm long. Primary panicle branches spreading, 1 -nate, sparsely divided, branching divaricately, 7–15 cm long. Panicle axis puberulous. Panicle branches pubescent in axils, with prominent pulvini. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 2–8 mm long, glabrous.

Fertile Spikelets. Spikelets comprising 0 basal sterile florets (both florets fertile) or 1 basal sterile florets, 1–2 fertile florets, with a barren rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets, or of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear or lanceolate, subterete, 19–25 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 2.5–6 mm long, sparsely hairy.

Glumes. Glumes persistent, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 3–5 mm long, 0.6–0.7 length of upper glume, membranous, without keels, 3 -veined. Lower glume margins ciliate. Lower glume apex acute, awned, 1 -awned, awn 2–5.5 mm long. Upper glume lanceolate, 5–7.2

mm long, 0.33–0.5 length of adjacent fertile lemma, membranous, without keels, 5–7 -veined. Upper glume margins ciliate. Upper glume apex acute, awned, 1 -awned, awn 2.5–4.5 mm long.

Florets. Basal sterile florets absent or 1, barren, with palea, separately deciduous. Lemma of lower sterile floret similar to fertile lemma, lanceolate, 9.5–10.5 mm long, 11–13 -veined, ciliate on margins, fringed above, awned. Awn of lower sterile floret 3–5.5 mm long. Palea of lower sterile floret 1.5–2 mm long, pubescent. Fertile lemma lanceolate, 13–15 mm long, chartaceous, without keel, 11–13 -veined, more than 3-veined. Lemma lateral veins with cross-veins. Lemma surface pubescent, hairy above or at base. Lemma margins ciliate, hairy above. Lemma apex acute, awned, 1 -awned. Principal lemma awn 4–5 mm long overall. Palea 1 length of lemma, 4 -veined. Palea surface glabrous or pubescent, hairy on flanks, hairy above. Rhachilla extension 9–12.5 mm long, pubescent.

Flower and Fruit. Lodicules 3, lanceolate, 2–2.5 mm long, veined, ciliate. Anthers 3, 8.5–9.5 mm long. Stigmas 2. Ovary glabrous. Caryopsis with adherent pericarp.

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

Country /Province /State. Mexico. Southeast Mexico. **Mesoamerica.** Honduras. Chiapas.

Olmecca fulgor (T.R. Soderstrom) Ruiz-Sanchez, Sosa & Mejía Saules. *Brittonia* 40(1): 22 (1988).

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

TYPE from Mexico. **Basionym or Replaced Name:** *Aulonemia fulgor* T.R. Soderstrom, *Brittonia* 40(1): 22 (1988). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Mexico, Tuxtepec: *Soderstrom* 2236 (US holo, CANB, CHAPA, K, LE, MEXU, MO, NY, P, PRE, US).

Illustrations (Books): E.J.Judziewicz et al, *American Bamboos* (1999) (171, Fig. 81).

Derivation (Clifford & Bostock 2007): L. lightning. Culms rapidly growing.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, pluricaespitose. Rhizomes short, pachymorph. Stolons present. Butt sheaths absent. Culms scandent, 300–600 cm long, 5–10 mm diam., woody. Culm-internodes terete, thin-walled, distally glabrous. Culm-nodes without obvious supra-nodal ridge. Lateral branches dendroid, intravaginal. Bud complement 1. Branch complement one, solitary. Culm-sheaths present, persistent, auriculate, setose on shoulders, shoulders with 10–20 mm long hairs. Culm-sheath ligule ciliolate. Culm-sheath blade lanceolate, reflexed, glabrous on surface, acuminate. Leaves 4–6 per branch. Leaf-sheaths glabrous on surface or pilose, with tubercle-based hairs. Leaf-sheath oral hairs setose. Ligule an eciliate membrane. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades drooping, filiform or linear, 20–25 cm long, 10 mm wide, concolorous. Leaf-blade midrib prominent beneath. Leaf-blade venation with 8 secondary veins, with distinct cross veins. Leaf-blade surface glabrous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 10–20 cm long. Primary panicle branches 2–6 cm long. Panicle axis glabrous. Panicle branches pubescent in axils, with prominent pulvini. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, glabrous.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear or lanceolate, subterete, 20 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes elongated below proximal fertile floret, pubescent.

Glumes. Glumes persistent, dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 4–5 mm long, membranous, without keels, 1(–3) -veined. Lower glume lateral veins absent or distinct. Lower glume margins ciliolate. Lower glume apex acuminate, mucronate. Upper glume lanceolate, 6–7 mm long, 0.66 length of adjacent fertile lemma, membranous, without keels, 5–7 -veined. Upper glume margins ciliolate. Upper glume apex acuminate.

Florets. Fertile lemma lanceolate, 10–11 mm long, chartaceous, without keel, 9 -veined, more than 3-veined. Lemma lateral veins without cross-veins or with cross-veins. Lemma margins ciliolate. Lemma apex acute, awned, 1 -awned. Principal lemma awn 1–2 mm long overall. Palea 4–6 -veined. Palea keels ciliolate, adorned above. Palea surface puberulous, hairy on flanks. Rhachilla extension 0.5 length of fertile floret.

Flower and Fruit. Lodicules 3, 1.5–1.7 mm long, veined, ciliate. Anthers 3, 6–7 mm long. Stigmas 2. Caryopsis with adherent pericarp, glabrous.

Distribution (TDWG). Continent. North America.

Country /Province /State. Mexico. Gulf (Mexico), Southwest Mexico.
Veracruz. Oaxaca.

Olmea recta T.R. Soderstrom. *Phytologia*, 51(2): 161 (1982).

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

TYPE from Mexico. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *H.E. Moore & M. Cetto 6268*, Mexico: Veracruz (US-2307907).

Illustrations: None found.

Images: E.J.Judziewicz, E.J., *American Bamboos* (1999);.

Derivation (Clifford & Bostock 2007): L. upright. Panicle branches erect or spike-like.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, culms solitary. Rhizomes elongated, pachymorph. Butt sheaths absent. Culms geniculately ascending, 1000–1500 cm long, 45–50 mm diam., woody. Culm-internodes terete, thick-walled, distally pubescent. Culm-nodes with distinct supra-nodal ridge. Lateral branches dendroid. Bud complement 1. Branch complement one, solitary. Culm-sheaths present, persistent, hispid, with dark brown hairs, setose on shoulders. Culm-sheath ligule 4–5 mm high. Culm-sheath blade linear, erect (deciduous), 30–35 cm long, pubescent. Leaves cauline, 8–12 per branch. Leaf-sheaths outer margin hairy. Leaf-sheath oral hairs setose, erect, 30–40 mm long. Ligule a ciliate membrane, 1–2 mm long. Leaf-blades 20–30 cm long, 10–28 mm wide. Leaf-blade surface pilose, sparsely hairy. Leaf-blade margins scaberrulous.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 40–60 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 10–20 mm long.

Fertile Spikelets. Spikelets comprising 5–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 20–30 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas, glabrous or pubescent.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 4.1 mm long, 0.9–1 length of upper glume, chartaceous, 1-keeled. Upper glume lanceolate, 4.7 mm long, chartaceous, without keels.

Florets. Fertile lemma lanceolate, 8 mm long, chartaceous, without keel, 7–11 -veined, more than 3-veined. Lemma apex acute. Palea linear, 1.1 length of lemma, chartaceous, 6 -veined. Palea surface pubescent, hairy on back. Palea apex pubescent. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, oblong, 2 mm long, membranous, veined, ciliate. Anthers 3, 5.3–6 mm long. Stigmas 2. Caryopsis with fleshy pericarp, orbicular, isodiametric, 25 mm long. Endosperm evanescent.

Distribution (TDWG). Continent. North America.

Country /Province /State. Mexico. Gulf (Mexico).
Veracruz.

Olmea reflexa T.R. Soderstrom. *Phytologia*, 51(2): 161 (1982).

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

TYPE from Mexico. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *D.E. Breedlove 32844*, 31 Jan 1973, Mexico: Chiapas (US-2886115).

Illustrations (Books): E.J.Judziewicz et al, *American Bamboos* (1999) (247, Fig. 156).

Images: E.J.Judziewicz, E.J., *American Bamboos* (1999);.

Derivation (Clifford & Bostock 2007): L. bent sharply backwards. Panicle branches reflexed.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, culms solitary. Rhizomes elongated, pachymorph. Butt sheaths absent. Culms geniculately ascending, 600–1200 cm long, 20 mm diam., woody. Culm-internodes terete, solid. Culm-nodes flush with internodes. Lateral branches dendroid. Bud complement 1. Branch complement one, solitary. Culm-sheaths present, persistent, green or brown, hispid, with dark brown hairs, setose on shoulders, shoulders with 20–30 mm long hairs. Culm-sheath ligule 1–2 mm high, ciliolate. Culm-sheath blade linear, spreading or reflexed, 10–17 cm long, pubescent. Leaves cauline, 6–8 per branch. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs setose, erect, 20 mm long. Ligule a ciliolate membrane, 3–4 mm long, brown. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.1–0.2 cm long. Leaf-blades lanceolate or oblong, 10–12 cm long, 20–25 mm wide. Leaf-blade surface pilose, sparsely hairy, hairy abaxially. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, 24 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 10–20 mm long.

Fertile Spikelets. Spikelets comprising 6–12 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 30–40 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes eventually visible between lemmas, pubescent.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 4–5 mm long, 0.8–0.9 length of upper glume, chartaceous, 1-keeled, 1 -veined. Lower glume apex acute. Upper glume lanceolate, 5–6 mm long, 0.75 length of adjacent fertile lemma, chartaceous, 1-keeled, 5 -veined. Upper glume apex acute.

Florets. Fertile lemma elliptic, 7–8 mm long, chartaceous, without keel, 7–8 -veined, more than 3-veined. Lemma apex acute. Palea linear, 6–7 mm long, 0.9 length of lemma, chartaceous, 2 -veined. Palea surface pubescent, hairy on back. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, oblong, 1.2–1.4 mm long, membranous, veinless, ciliate. Anthers 3, 1.3 mm long. Stigmas 2–3. Caryopsis with fleshy pericarp, orbicular, isodiametric, 17 mm long. Endosperm evanescent.

Distribution (TDWG). Continent. North America.

Country /Province /State. Mexico. Gulf (Mexico), Southeast Mexico.

Veracruz. Chiapas.

Olmeca zapotecorum Ruiz-Sanchez, Sosa & Mejía Saules. *Taxon* 60(1): 93–96, f. 3. (2011).

TYPE from Mexico. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Oaxaca, municipio de Santa maria Guienagate, Chayotepec, cima del cerro Chayotepec, 1502 m, 28 Mar 2010, E. Ruiz-Sanches, V. Sosa & M.T. Mejia-Saules 265 (HT: XAL; IT: MEXU).

Illustrations (Journals): *Taxon* (60: 94, Fig.3 (2011)).

Habit, Vegetative Morphology. Perennial, woody bamboo, pluricaespitose. Rhizomes short, pachymorph. Butt sheaths absent. Culms rambling or scandent, 650–800 cm long, 7–10 mm diam., woody. Culm-internodes terete, thin-walled, 12–32 cm long, mid-green. Culm-nodes with distinct supra-nodal ridge. Lateral branches dendroid, intravaginal, ascending or spreading. Bud complement 1. Branch complement one, solitary. Culm-sheaths present, persistent, 7–12 cm long, 3 times as long as wide, hispid, with tawny hairs, glabrous on margins, auriculate, with 2.9–5 mm high auricles, with 1.3–2.6 mm wide auricles, setose on shoulders, shoulders with straight hairs, shoulders with 12–19 mm long hairs. Culm-sheath ligule ciliolate. Culm-sheath blade triangular, erect or reflexed, 4.5–11 cm long, glabrous on surface, attenuate. Leaves 9–13 per branch. Leaf-sheaths without keel, hirsute, hairs tawny. Leaf-sheath oral hairs setose, 12–22 mm long, pale. Leaf-sheath auricles erect, 0.5–1 mm long. Ligule an eciliate membrane, 0.2–0.5 mm long, truncate. Collar with external ligule. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.3 cm long. Leaf-blades linear or lanceolate, 20–30 cm long, 15–25 mm wide, mid-green and glaucous, discolorous with last colour beneath. Leaf-blade surface glabrous. Leaf-blade apex attenuate. Flowering specimens unknown.

Distribution (TDWG). Continent. North America.

Country /Province /State. Mexico.

Oaxaca.

Oloptum miliaceum (L.) Röser & H. R. Hamasha. *Pl. Syst. Evol.* 298: 351–367 (2012).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online (as *Oryzopsis*), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002) (as *Piptatherum*), E.Edgar, & H.Connor, *Flora of New Zealand Gramineae* 5 (2000), T.G.Tutin et al, *Flora Europaea* 5 (1980), W.D.Clayton & N.Snow, *Key to Pacific Grasses* (2010) (as *Oryzopsis*).

TYPE from Europe. **Basionym or Replaced Name:** *Agrostis miliacea* L., *Sp. Pl.* 1: 61 (1753). T:<Type of Basionym>; *fide* TROPICOS and Kew Synonymy Database: HT: *van Royen s.n.*, Europe (L; T: LINN-84.2).

Recent Synonyms: *Oryzopsis miliacea* (L.) Asch. & Schweinf., *Mem. Inst. Egypt.* 2:169 (1887). *Piptatherum miliaceum* (L.) Coss., *Notes Crit.* 129 (1812).

Oryza thomasi.

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 2 Pooideae (2012) (481, as *Piptatherum*), T. Cope & A. Gray, *Grasses of the British Isles* (3, as *Piptatherum*), N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 348 as var. *miliaceum*), L.Boulos, *Flora of Egypt* 4 (2005) (as *Oryzopsis miliacea*), N.L.Bor, *Gramineae in Flora of Iraq* (1968) (415, Pl. 156 as *Oryzopsis miliacea*), J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (111, Fig. 72), C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952) (184, Pl 53 as *Oryzopsis miliacea*), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler., *Grasses of New South Wales*, 4th edn (2008) (342), 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) (150, as subsp. *miliaceum* and subsp. *thomasi*), E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (201, Fig. 58), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (233, Fig. 62 as *Oryzopsis*), E.Hafliger & E.Schultz, *Grass Weeds, CIBA-GEIGY* (2:110(1980) as *Oryzopsis miliacea*).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);, L.Boulos, *Flora of Egypt* 4 (2005); (as *Oryzopsis miliacea*).

Derivation (Clifford & Bostock 2007): L. *-acea*, resembling. Resembling *Milium*.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 100–150 cm long. Ligule an eciliate membrane. Leaf-blades flat or convolute, 15–30 cm long, 5–10 mm wide, coriaceous, stiff. Leaf-blade surface ribbed, scaberulous, rough adaxially. Leaf-blade margins scaberulous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 20–40 cm long. Primary panicle branches 4–8 -nate, whorled at most nodes. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

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

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 3 mm long, 1 length of upper glume, membranous, without keels, 3 -veined. Lower glume apex acuminate. Upper glume elliptic, 3 mm long, 1.2 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma ovate, dorsally compressed, 2.5 mm long, coriaceous, dark brown, shiny, without keel, 3 -veined, 0–3 -veined. Lemma margins convolute, covering most of palea. Lemma apex obtuse, awned, 1 -awned. Principal lemma awn flexuous, 3–5 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. $n = 12$ (2 refs TROPICOS). $2n = 24$ (2 refs TROPICOS, FNA).

Distribution (TDWG). Continent. Europe, Africa, Temperate Asia, Australasia (*), North America (*), South America.

Region. Northern Europe (*), Southwestern Europe, Southeastern Europe.

Country /Province /State. : Great Britain (*). : Balears, Corsica, France, Portugal, Sardinia, Spain. : Albania, Greece, Italy, Crete, Sicily, Turkey Europe, Yugoslavia. **Northern Africa, Macaronesia.** Egypt, Morocco, Tunisia. Azores, Canary Is, Madeira. **Western Asia, Arabian Peninsula.** Iran, Iraq, Sinai (as *Oryzopsis*). **Australia** (*), **New Zealand** (*). Western Australia (*), South Australia (*), New South Wales

(*), Victoria (*), Tasmania (*). New Zealand North I, New Zealand South I. Hawaii (*). **Northeast USA, Southwestern USA.** Arizona, California. **Southern South America.** Argentina Northeast, Chile Central, Chile South.

South-West. Southern. Coast, Tablelands, Western Slopes, Western Plains. Buenos Aires, Distrito Federal, La Pampa. Valparaíso, Santiago. Magellanes.

Olyra amapana T.R. Soderstrom & F.O. Zuloaga. *Smithsonian Contrib. Bot.*, 69: 5 (1989).

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

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *J.M. Pires et al.* 51536, 6 May 1961, Brazil: Amapá?(IAN; IT: NY, U, US-2381088, US-2574029).

Illustrations (Journals): *Smithsonian Contributions to Botany* (69 : 6 (1989)).

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

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 45–50 cm long, woody. Culm-internodes thin-walled, distally pubescent. Culm-nodes brown, pubescent. Leaves cauline. Leaf-sheaths ribbed, pubescent. Ligule an eciliate membrane, 0.5–0.7 mm long. Leaf-blade base broadly rounded, asymmetrical, with a brief petiole-like connection to sheath, petiole 0.3–0.4 cm long, petiole pubescent. Leaf-blades lanceolate, 14.5–17 cm long, 35–42 mm wide. Leaf-blade venation parallel. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle, terminal and axillary. Panicle contracted, linear, 2.7–4 cm long, 1–1.5 cm wide, bearing few spikelets (1–4 female). Primary panicle branches bearing spikelets almost to the base. Sexes segregated, on unisexual branches, with male below. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets pedicelled. Pedicels present, (female) clavate, angular.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 11 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 11 mm long, 1 length of upper glume, herbaceous, without keels, 7 -veined. Lower glume apex caudate, awned, 1 -awned, awn 3–20 mm long. Upper glume elliptic, 10.3 mm long, 1.1 length of adjacent fertile lemma, herbaceous, without keels, 7 -veined. Upper glume surface asperulous, rough above. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma elliptic, dorsally compressed, 9.7 mm long, indurate, pallid, shiny, without keel, 7 -veined, more than 3-veined. Lemma surface smooth, pubescent, hairy all along. Lemma margins involute. Lemma apex acute. Palea indurate, without keels.

Flower and Fruit. Lodicules 3. Anthers 3, 3 mm long. Stigmas 2. Disseminule comprising a floret.

Male spikelets distinct from female, 1 flowered, lanceolate, 4–6.6 mm long, hairy. Male spikelet glumes absent. Male spikelet lemma 3–5 -veined, muticous.

Distribution (TDWG). Continent. South America.

Country /Province /State. Brazil. Brazil North.

Amapá, Amazonas, Rondonia.

Olyra bahiensis R.P Oliveira & Longhi-Wagner. *Revista Brasil.Bot.*, 28 (4) 835 (2005).

Illustrations (Journals): *Revista Brasil. Bot.* (28: 837, fig.1 (2005)).

Derivation (Clifford & Bostock 2007): L. *-ense*, denoting origin. From Bahia Province, Brazil.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 27–50(–100) cm long, 1–3 mm diam., woody. Culm-internodes thin-walled, distally pubescent. Culm-nodes pubescent. Lateral branches lacking. Leaves cauline, 6–11 per branch. Leaf-sheaths pilose, outer margin hairy. Ligule a ciliate membrane, 0.3–0.5 mm long. Leaf-blade base broadly rounded, asymmetrical, with a brief petiole-like connection to sheath, petiole 0.1–0.4 cm long, petiole pubescent. Leaf-blades lanceolate or ovate, 6.5–12(–15) cm long, 12–23(–47) mm wide. Leaf-blade venation parallel. Leaf-blade surface

hirsute, hairy abaxially. Leaf-blade margins scabrous. Leaf-blade apex acute. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle, terminal. Panicle contracted, lanceolate, 13–18(–21) cm long, 1–2(–3) cm wide. Primary panicle branches bearing 1 fertile spikelets on each lower branch. Panicle axis pubescent. Sexes segregated, on unisexual branches, with male below. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets pedicelled, 2 in a cluster. Pedicels present, (female) columnar, angular, scabrous, glabrous, tip widened.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, dorsally compressed, 13–18(–21) mm long, 2.5–2.8 mm wide, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 6.5–8 mm long, 1 length of upper glume, herbaceous, without keels, (5–)7–9 -veined. Lower glume surface puberulous. Lower glume apex attenuate, awned, 1 -awned, awn 7–14 mm long. Upper glume ovate, 6.5–8 mm long, 1.1–1.2 length of adjacent fertile lemma, herbaceous, without keels, (5–)7–9 -veined. Upper glume surface puberulous. Upper glume apex acuminate, muticous or awned, 1 -awned, awn 2–3 mm long.

Florets. Fertile florets female. Fertile lemma elliptic, dorsally compressed, 5.8–6.5 mm long, 1.6–1.8 mm wide, indurate, pallid, without keel, more than 3-veined. Lemma surface smooth, pilose, hairy all along. Lemma margins involute. Lemma apex acuminate. Palea indurate, without keels.

Flower and Fruit. Anthers 3.

Male spikelets distinct from female, 1 flowered, lanceolate, 4–5.7 mm long, hairy. Male spikelet glumes absent. Male spikelet lemma 4–5.7 mm long, 3–5(–7) -veined, muticous.

Distribution (TDWG). Continent. South America.

Country /Province /State. Brazil. Brazil Northeast.
Bahia.

Olyra buchtienii Hack. *Fedde, Repert.* xi. 20 (1912).

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

TYPE from Bolivia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Buchtien 1157*, Oct 1907, Bolivia: prope Mapiri (W; IT: F, US(2)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Otto Buchtien (1859–1946) German botanist.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 200–300 cm long, woody. Culm-internodes thin-walled, distally glabrous. Culm-nodes brown, glabrous or pubescent. Leaves cauline. Leaf-sheaths 13–20 cm long. Ligule an eciliate membrane, 3–5 mm long, brown. Leaf-blade base asymmetrical, with a brief petiole-like connection to sheath, petiole 0.4–0.6 cm long, petiole glabrous or pubescent. Leaf-blades lanceolate, 20–30 cm long, 35–73 mm wide. Leaf-blade venation parallel. Leaf-blade surface glabrous. Leaf-blade margins scaberulous. Leaf-blade apex acute. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle, terminal and axillary. Panicle open, obovate, 6–12 cm long, 15 cm wide. Primary panicle branches spreading, whorled at most nodes, bearing 1–2 fertile spikelets on each lower branch, bearing spikelets almost to the base. Sexes segregated, on bisexual branches, with male below. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets pedicelled. Pedicels present, (female) clavate, angular, 6–30 mm long, scabrous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, dorsally compressed, 28–38 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 38–38 mm long, 1.3–1.4 length of upper glume, herbaceous, without keels, 9–15 -veined. Lower glume surface pubescent or hispid, inner surface pubescent. Lower glume apex setaceously

acuminate, awned, 1 -awned, awn 3–20 mm long. Upper glume elliptic, 20–29 mm long, 2.2–2.6 length of adjacent fertile lemma, herbaceous, without keels, 7–9 -veined. Upper glume lateral veins with cross-veins. Upper glume surface pubescent or hispid, inner surface pubescent. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma lanceolate, dorsally compressed, 9–11 mm long, indurate, pallid, shiny, without keel, more than 3-veined. Lemma surface smooth, glabrous. Lemma margins involute. Lemma apex acute. Palea indurate, without keels.

Flower and Fruit. Lodicules 3. Anthers 3, 2.7–3.3 mm long. Stigmas 2. Disseminule comprising a floret.

Male spikelets distinct from female, 1 flowered, elliptic, 5.4–10.7 mm long, glabrous or hairy. Male spikelet glumes absent. Male spikelet lemma 3–5 -veined, awned, with 3 mm long awn.

Distribution (TDWG). Continent. South America.

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

Olyra caudata Trin. *Linnaea*, 10: 292 (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 Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *E.F. Poeppig s.n.*, 1834, Peru: Tocache, sylvis densis (LE-TRIN-1118.01 (fragm., US-2877958)).

Illustrations (Books): S.A.Renvoize, *Gramineas de Bolivia* (1998) (57, Fig 9), J.A.Steyermark et al, *Flora of the Venezuelan Guayana* Vol. 8 (2004) (169, Fig. 121), E.J.Judziewicz et al, *American Bamboos* (1999) (291, Fig. 176), E.Judziewicz, *Flora of the Guianas*, 187. *Poaceae* (1990) (351, Fig 65).

Illustrations (Journals): *Ruizia* (13:40, Fig.3a-c (1993)).

Derivation (Clifford & Bostock 2007): *L. cauda*, tail; -*ata*, possessing. Apex of the sterile lemma long, drawn out.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 100–250 cm long, woody. Culm-internodes thin-walled. Culm-nodes pubescent. Leaves cauline. Leaf-sheaths glabrous on surface to pilose, outer margin hairy. Leaf-sheath auricles erect. Ligule a ciliolate membrane, 5–10 mm long, pubescent on abaxial surface. Leaf-blade base broadly rounded, asymmetrical, with a brief petiole-like connection to sheath, petiole 0.5–0.8 cm long, petiole pilose. Leaf-blades lanceolate or ovate, 18–30 cm long, 10–20 mm wide. Leaf-blade venation parallel. Leaf-blade surface scabrous, glabrous to pilose. Leaf-blade margins scabrous. Leaf-blade apex acuminate. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle, terminal or terminal and axillary. Panicle open, obovate, effuse, 15–20 cm long, 10–20 cm wide. Primary panicle branches spreading, whorled at most nodes, bearing 1 fertile spikelets on each lower branch, bearing spikelets almost to the base. Panicle branches bearded in axils. Sexes segregated, on bisexual branches, with male below. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets pedicelled. Pedicels present, (female) linear, angular, scabrous, glabrous or ciliate, tip widened.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, dorsally compressed, 30–48 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes elongated below proximal fertile floret. Rhachilla elongation 0.4 mm long.

Glumes. Glumes deciduous, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 30–48 mm long, 1 length of upper glume, membranous, without keels, 9 -veined. Lower glume lateral veins with cross-veins. Lower glume surface pilose, inner surface pilose. Lower glume apex caudate, awned, 1 -awned, awn 20–30 mm long. Upper glume ovate, 30–48 mm long, 3.5–5 length of adjacent fertile lemma, membranous, without keels, 9 -veined. Upper glume lateral veins with cross-veins. Upper glume surface pilose, inner surface pilose. Upper glume apex caudate, awned, 1 -awned, awn 20–30 mm long.

Florets. Fertile florets female. Fertile lemma ovate, dorsally compressed, 8.2–10 mm long, indurate, grey to light brown, shiny, without keel, more than 3-veined. Lemma surface smooth, with distinct germination flap, glabrous. Lemma margins involute. Lemma apex acute. Palea indurate, without keels.

Flower and Fruit. Lodicules 3. Anthers 3. Stigmas 2. Caryopsis with adherent pericarp, ovoid, 6–6.8 mm long. Embryo 0.11–0.13 length of caryopsis. Hilum linear, 1 length of caryopsis. Disseminule comprising a floret.

Male spikelets distinct from female, 1 flowered, lanceolate, 3.3–4.8 mm long, glabrous. Male spikelet glumes absent. Male spikelet lemma 3 -veined, muticous.

Distribution (TDWG). Continent. South America.

Country /Province /State. Mesoamerica, Northern South America, Western South America, Brazil. Costa Rica, Panama. French Guiana, Guyana, Surinam, Venezuela. Bolivia, Colombia, Ecuador, Peru. Brazil West Central, Brazil North.

Roraima, Para, Amapa, Amazonas, Acre, Rondonia. Mato Grosso. Acre, Amazonas, Pará, Roraima, Rondonia.

Olyra ciliatifolia Raddi. *Agrost. Bras.* 19. (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).

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *G. Raddi s.n.*, Brazil: Rio de Janeiro: Serra da Estrela, Rio de Janeiro (PI; IT: FI, US-2879005 (fragm. ex PI)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, Aristidoideae a Pharoideae (2012) (70), S.A.Renvoize, *Gramineas de Bolivia* (1998) (57, Fig. 7), S.A.Renvoize, *The Grasses of Bahia*, 1984 (22, Fig. 5), J.A.Steyermarck et al, *Flora of the Venezuelan Guayana* Vol. 8 (2004) (170, Fig. 123), E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (115, Fig. 22), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (188, Fig. 37).

Derivation (Clifford & Bostock 2007): *L. cilium*, eyelid; *-ata*, possessing; *folium*, leaf. Leaf-blades hairy.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 50–130 cm long, woody. Culm-internodes thin-walled, distally pubescent. Culm-nodes swollen, purple. Leaves cauline. Leaf-sheaths glabrous on surface to pilose. Leaf-sheath auricles erect. Ligule a ciliolate membrane, 2 mm long. Leaf-blade base broadly rounded, asymmetrical, with a brief petiole-like connection to sheath, petiole 0.2 cm long, petiole pilose. Leaf-blades lanceolate or ovate, 9–24 cm long, 36–85 mm wide. Leaf-blade venation parallel. Leaf-blade surface scabrous. Leaf-blade margins ciliate. Leaf-blade apex acuminate. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle, terminal and axillary. Peduncle hispid above. Panicle open, pyramidal, 9.5–19 cm long, 3.5–10 cm wide. Primary panicle branches whorled at lower nodes, bearing 1 fertile spikelets on each lower branch, bearing spikelets almost to the base. Panicle branches scabrous. Sexes segregated, on unisexual branches or bisexual branches, with male below. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets pedicelled, 2 in a cluster. Pedicels present, (female) columnar, angular, glabrous or ciliate, tip widened.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 1.6–2.3 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 10–12 mm long, 1.2–1.3 length of upper glume, herbaceous, without keels, 5–7 -veined. Lower glume lateral veins with cross-veins. Lower glume surface glabrous, inner surface pilose (near apex). Lower glume apex attenuate, awned, 1 -awned, awn 10–12 mm long. Upper glume ovate, 7.7–10.2 mm long, 1.2–1.5 length of adjacent fertile lemma, herbaceous, without keels, 5–7 -veined. Upper glume lateral veins with cross-veins. Upper glume surface glabrous, inner surface pilose (near apex). Upper glume apex attenuate.

Florets. Fertile florets female. Fertile lemma elliptic, dorsally compressed, 6.5–7 mm long, indurate, pallid, shiny, without keel, 5–7 -veined, more than 3-veined. Lemma surface smooth, pubescent, hairy all along. Lemma margins involute. Lemma apex acuminate. Palea indurate, without keels.

Flower and Fruit. Lodicules 3. Anthers 3, 2–4 mm long. Stigmas 2. Caryopsis with adherent pericarp, ellipsoid, 4.3–5 mm long, light brown. Hilum linear, 1 length of caryopsis. Disseminule comprising a floret.

Male spikelets distinct from female, 1 flowered, lanceolate, 5 mm long, glabrous or hairy. Male spikelet glumes absent. Male spikelet lemma 3 -veined, muticous.

$n = 11$ (1 ref TROPICOS).

Distribution (TDWG). Continent. South America.

Country /Province /State. Caribbean, Northern South America, Western South America, Brazil, Southern South America. Trinidad-Tobago. French Guiana, Guyana, Venezuela. Bolivia, Colombia. Brazil West Central, Brazil Northeast, Brazil Southeast, Brazil North, Brazil South. Paraguay.

Roraima, Para, Amapa, Mato Grosso, Goias, Bahia, Maranhao, Piaui, Minas Gerais, Rio de Janeiro, Espirito Santo, Sao Paulo Parana, Catarina, Rio Grande do Sul. Distrito Federal, Mato Grosso, Goiás, Mato Grosso do Sul. Bahia, Ceará, Maranhão, Sergipe. Acre, Amazonas, Pará. Minas Gerais, Rio de Janeiro, Sao Paulo. Paraná. Corrientes, Misiones.

Olyra davidseana E.J.Judziewicz & F.O.Zuloaga. *Syst. Bot.*, 17(1): 27 (1992).

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

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *G.T. Prance & N.T. Silva* 58735, 14 Aug 1964, Brazil: Par? km. 100 on Belém-Brasília highway, forest (IAN; IT: MO-2230030, MO-2780048, NY, US-2473819).

Illustrations (Journals): *Systematic Botany* (17: 26, Fig.1 (1992)).

Derivation (Clifford & Bostock 2007): in honor of Gerrit Davidse (1942-) Netherlands-born United States botanist.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 75 cm long, woody. Culm-internodes thin-walled, scaberulous. Culm-nodes purple, glabrous. Lateral branches sparse, arising from mid culm. Leaves cauline, 4–7 per branch. Leaf-sheaths glabrous on surface, outer margin hairy. Ligule a ciliate membrane. Leaf-blade base broadly rounded, symmetrical, with a brief petiole-like connection to sheath, petiole 0.2–0.4 cm long, petiole pubescent. Leaf-blades oblong or ovate, 10–14 cm long, 30–40 mm wide. Leaf-blade venation parallel. Leaf-blade surface glabrous. Leaf-blade margins scabrous, ciliate, hairy at base. Leaf-blade apex acuminate. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, dense, 3–5 cm long, 1.5–2 cm wide. Primary panicle branches appressed, whorled at lower nodes, 1–1.5 cm long. Panicle branches angular, scabrous. Sexes segregated, on unisexual branches, with male below. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets pedicelled. Pedicels present, (female) clavate, scabrous, glabrous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, dorsally compressed, 13–16 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes deciduous, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 13–16 mm long, 1 length of upper glume, membranous, without keels, 9 -veined. Lower glume surface scabrous, rough on veins. Lower glume apex attenuate. Upper glume ovate, 13–16 mm long, 2 length of adjacent fertile lemma, membranous, without keels, 7 -veined. Upper glume lateral veins with cross-veins. Upper glume surface scabrous, rough on veins. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma elliptic or oblong, dorsally compressed, 6–7 mm long, 2.7–3 mm wide, indurate, pallid, shiny, without keel, more than 3-veined. Lemma surface smooth. Lemma margins involute, ciliate, hairy below. Lemma hairs 1–1.5 mm long. Lemma apex acute. Palea 1 length of lemma, indurate, without keels.

Flower and Fruit. Lodicules 3, elliptic, 1 mm long. Anthers 3, 2–3 mm long, purple. Stigmas 2. Caryopsis with adherent pericarp.

Male spikelets distinct from female, 1 flowered, lanceolate, 6–8 mm long, glabrous. Male spikelet glumes absent. Male spikelet lemma 3 -veined.

Distribution (TDWG). Continent. South America.

Country /Province /State. Brazil. Brazil North.

Amazonas, Pará.

Olyra ecaudata Doell. *Mart. Fl. Bras.* ii. II. 326. (1877).

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

TYPE from French Guiana. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *F.R. Leprieur 547*, French Guiana: Cayenne (KR(fragm., US-2877952); IT: P).

Illustrations (Books): S.A.Renvoize, *Gramineas de Bolivia* (1998) (52, Fig 8), S.A.Renvoize, *The Grasses of Bahia*, 1984 (25, Fig. 6).

Illustrations (Journals): *Ruizia* (13:40, Fig.31 (1993)).

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

(*Smith. Contrib. Bot.* No. 69 : 16 (1989)).

Derivation (Clifford & Bostock 2007): *L. e-*, without; *cauda*, tail. Glume apices attenuated but not long and narrow.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial. Rhizomes short. Culms geniculately ascending, 300–400 cm long, woody. Culm-internodes thin-walled, distally glabrous or pubescent. Culm-nodes brown, pubescent or bearded. Leaves cauline, 5–7 per branch. Leaf-sheaths glabrous on surface or pilose, outer margin hairy. Ligule a ciliolate membrane, 0.8–1.1 mm long, brown. Leaf-blade base cordate, symmetrical, with a brief petiole-like connection to sheath, petiole 0.3–0.5 cm long, petiole pubescent. Leaf-blades lanceolate or ovate, 21–35 cm long, 50–75 mm wide, stiff, dark green. Leaf-blade venation parallel. Leaf-blade surface glabrous or pilose, hairy adaxially. Leaf-blade margins ciliate, hairy at base. Leaf-blade apex acute or acuminate. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Synflorescence on a separate leafless culm.

Inflorescence a panicle, terminal and axillary. Peduncle glabrous or pubescent above. Panicle open, ovate, effuse, 10–20 cm long, 10–25 cm wide. Primary panicle branches spreading, whorled at lower nodes, 10–15 cm long, bearing 2–6 fertile spikelets on each lower branch, bearing spikelets almost to the base. Panicle branches scabrous, pilose, bearded in axils. Sexes segregated, on bisexual branches, with male below. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets pedicelled, 1–2 in a cluster. Pedicels present, (female) clavate, angular.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, dorsally compressed, 8–11.6 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 8–11.6 mm long, 1 length of upper glume, herbaceous, without keels, 5–10 -veined. Lower glume lateral veins with cross-veins. Lower glume surface pilose, inner surface pilose (at apex). Lower glume apex acuminate, muticous or awned, 1 -awned, awn 3–6 mm long. Upper glume ovate, 8–11.6 mm long, 1.2–1.4 length of adjacent fertile lemma, herbaceous, without keels, 7–11 -veined. Upper glume lateral veins with cross-veins. Upper glume surface pilose, hairy on veins, inner surface pilose (at apex). Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma ovate, dorsally compressed, 6.6–8.3 mm long, indurate, pallid, without keel, 7–8 -veined, more than 3-veined. Lemma surface pitted, glabrous. Lemma margins involute. Lemma apex obtuse. Palea indurate, 4 -veined, without keels. Palea apex excavated.

Flower and Fruit. Lodicules 3. Anthers 3, 3.3–4.3 mm long. Stigmas 2. Caryopsis with adherent pericarp, ellipsoid, 4.8 mm long, light brown. Disseminule comprising a floret.

Male spikelets distinct from female, 1 flowered, lanceolate, 7.5–11 mm long. Male spikelet glumes absent. Male spikelet lemma 3 -veined, awned, with 5 mm long awn.

Distribution (TDWG). Continent. South America.

Country /Province /State. Mesoamerica, Northern South America, Western South America, Brazil. Costa Rica, Nicaragua, Panama. French Guiana, Surinam. Bolivia, Colombia, Ecuador, Peru. Brazil Northeast, Brazil North.

Para, Amapa, Bahia. Bahia. Acre, Amazonas, Pará.

Olyra fasciculata Trin. *Mem. Acad. Petersb. Ser. 6.* 3:(2)113 (1834).

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

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Pohl s.n.*, Brazil: V. spp. Bahiens (LE).

Recent Synonyms: *Olyra heliconia*.

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, Aristidoideae a Pharoideae (2012) (71), S.A.Renvoize, *Gramineas de Bolivia* (1998) (52, Fig 8), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (174, Fig. 35).

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (*Smith. Contrib. Bot.* No. 69 : 16 (1989)).

Derivation (Clifford & Bostock 2007): *L. fascis*, bundle; *-ulus*, diminutive. *-ata*, possessing. With spikelets or branches clustered in the inflorescence.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms scandent or erect, 150–300 cm long, woody. Culm-nodes glabrous. Lateral branches sparse. Leaves cauline. Leaf-sheaths glabrous on surface or pilose. Ligule a ciliolate membrane, 1–4 mm long, truncate. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades lanceolate or ovate, 24–32 cm long, 50–132 mm wide. Leaf-blade venation parallel, with distinct cross veins. Leaf-blade apex acute. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle. Peduncle pubescent above. Panicle open, ovate, 20–30 cm long, 16–25 cm wide. Primary panicle branches drooping, whorled at lower nodes, 16–25 cm long, bearing spikelets almost to the base. Panicle branches scabrous. Sexes segregated, on bisexual branches, with male below. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets pedicelled. Pedicels present, cuneate, angular, ciliate.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 22–33 mm long, 2.9–3.2 mm wide, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, 0.8–1 mm long.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 22–33 mm long, 1.3–1.6 length of upper glume, herbaceous, without keels, 5–9 -veined. Lower glume lateral veins with cross-veins. Lower glume surface glabrous to pubescent, hairy above. Lower glume apex acuminate or caudate, muticous or awned, 1 -awned. Upper glume ovate, 17–20 mm long, 1.8 length of adjacent fertile lemma, herbaceous, without keels, 7–9 -veined. Upper glume lateral veins with cross-veins. Upper glume surface glabrous to puberulous, hairy above. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma elliptic, dorsally compressed, 9–11.5 mm long, indurate, pallid, without keel, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface pitted, with distinct germination flap. Lemma margins involute. Lemma apex acute. Palea elliptic, involute, 1 length of lemma, indurate, without keels. Palea apex obtuse.

Flower and Fruit. Lodicules 3, cuneate, membranous, veined. Anthers 3, 7.6–8.5 mm long. Stigmas 2. Caryopsis with adherent pericarp, fusiform, 6.8 mm long. Hilum linear, 1 length of caryopsis. Endosperm farinose. Disseminule comprising a floret.

Male spikelets distinct from female, 1 flowered, separately deciduous, lanceolate, 8–13 mm long. Male spikelet glumes absent. Male spikelet lemma 3 -veined, awned.

$n = 7$ (1 ref TROPICOS).

Distribution (TDWG). Continent. South America.

Country /Province /State. Mesoamerica, Northern South America, Western South America, Brazil, Southern South America. Panama. Bolivia, Peru. Brazil Southeast, Brazil North, Brazil South. Argentina Northwest.

Amazonas, Acre, Rondonia, Minas Gerais, Rio de Janeiro, Espirito Santo, Sao Paulo Parana, Catarina, Rio Grande do Sul. Paraná. Jujuy, Salta, Tucuman. Misiones.

Olyra filiformis Trin. *Mem. Acad. Petersb. Ser. VI. iii. II. 115.* (1834).

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

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: *Riedel s.n. [L. Riedel 162, 183]*, 1831, Brazil: Bahia (LE-TRIN-1121.01 (& fig.); IT: GH, US-2877951 (fragm. ex LE-TRIN-1121.01)).

Illustrations (Books): S.A.Renvoize, *The Grasses of Bahia*, 1984 (25, Fig. 6).

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (*Smith. Contrib. Bot.* No. 69 : 36 (1989)).

Derivation (Clifford & Bostock 2007): *L. filum*, thread; *forma*, shape. Pedicels or peduncles thread-like.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms scandent, 40–125 cm long, woody, without nodal roots or rooting from lower nodes. Culm-internodes thin-walled, distally glabrous or pilose. Culm-nodes pubescent or bearded. Leaves cauline. Leaf-sheaths pilose. Leaf-sheath auricles erect. Ligule an eciliate membrane, 0.5–1.8 mm long, pubescent on abaxial surface. Leaf-blade base asymmetrical, with a brief petiole-like connection to sheath, petiole 0.2 cm long, petiole pilose. Leaf-blades lanceolate or oblong, 11–14 cm long, 12–28 mm wide. Leaf-blade venation parallel. Leaf-blade surface scaberulous or scabrous, rough on both sides, hispid, hairy adaxially. Leaf-blade margins scabrous. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle, terminal and axillary. Panicle contracted, linear, 5–10 cm long, 0.7–2 cm wide. Primary panicle branches appressed, bearing 1 fertile spikelets on each lower branch, bearing spikelets almost to the base. Sexes segregated, on bisexual branches, with male below. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets sessile and pedicelled, 2 in a cluster. Pedicels present, (female) clavate, angular, pubescent.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 17–24 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 17–24 mm long, 1.2–1.3 length of upper glume, herbaceous, pallid, without keels, 7–9 -veined. Lower glume lateral veins with cross-veins. Lower glume surface asperulous, inner surface pilose (at apex). Lower glume apex attenuate, awned, 1 -awned, awn 6 mm long. Upper glume lanceolate, 13–20 mm long, 1.9–2.4 length of adjacent fertile lemma, herbaceous, pallid, without keels, 7–9 -veined. Upper glume lateral veins with cross-veins. Upper glume surface asperulous, inner surface pilose (at apex). Upper glume apex attenuate, awned, 1 -awned, awn 6 mm long.

Florets. Fertile florets female. Fertile lemma lanceolate, dorsally compressed, 6.8–8.5 mm long, indurate, pallid, without keel, 5 -veined, more than 3-veined. Lemma surface pitted, glabrous. Lemma margins involute. Lemma apex acute. Palea indurate, without keels.

Flower and Fruit. Lodicules 3. Anthers 3, 1.8–2.5 mm long. Stigmas 2. Caryopsis with adherent pericarp, fusiform, 4.8–5.5 mm long, light brown. Disseminule comprising a floret.

Male spikelets distinct from female, 1 flowered, lanceolate, 4.3–5.7 mm long, glabrous or hairy. Male spikelet glumes absent. Male spikelet lemma 3 -veined, muticous.

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

Country /Province /State. Brazil. Brazil Northeast.

Bahia. Bahia.

Olyra glaberrima Raddi. *Agrost. Bras.* 19. (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).

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *G. Raddi s.n.*, Brazil: Rio de Janeiro: Corcovado (PI; IT: US-2877950 (fragm.)).

Recent Synonyms: *Olyra semiovata*.

Illustrations (Books): L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (174, Fig. 35).

Illustrations (Journals): Hoehnea (40: 349, fig. 16 (2013)).

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (*Smith. Contrib. Bot.* No. 69 : 53 (1989)).

Derivation (Clifford & Bostock 2007): L. most free of hairs. Plant glabrous.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms geniculately ascending, 60–200 cm long, woody. Culm-internodes thin-walled, distally glabrous or pubescent, with reflexed hairs. Culm-nodes swollen, purple, glabrous. Leaves cauline. Leaf-sheaths ribbed, hispid, outer margin hairy. Ligule a ciliate membrane, 0.5–0.8 mm long. Leaf-blade base broadly rounded, asymmetrical, with a brief petiole-like connection to sheath, petiole 0.3–0.7 cm long, petiole pubescent. Leaf-blades lanceolate or ovate, 17–27 cm long, 4–8.5 mm wide. Leaf-blade venation parallel. Leaf-blade surface glabrous. Leaf-blade margins scabrous. Leaf-blade apex acuminate. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle, terminal and axillary. Peduncle glabrous. Panicle open, pyramidal, effuse, 9–23 cm long, 5–18 cm wide. Primary panicle branches spreading, whorled at lower nodes, bearing 1 fertile spikelets on each lower branch, bearing spikelets almost to the base. Panicle branches scabrous, glabrous in axils. Sexes segregated, on unisexual branches or bisexual branches, with male below. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets pedicelled. Pedicels present, (female) clavate, angular, scabrous, glabrous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 15–23 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 15–23 mm long, 1.5–1.7 length of upper glume, herbaceous, without keels, 5–9 -veined. Lower glume lateral veins with cross-veins. Lower glume surface scabrous. Lower glume apex acuminate, awned, 1 -awned, awn 5–11 mm long. Upper glume lanceolate, 10–14 mm long, 1.5–1.6 length of adjacent fertile lemma, herbaceous, without keels, 5–7 -veined. Upper glume lateral veins with cross-veins. Upper glume surface asperulous. Upper glume apex acuminate, mucous or awned.

Florets. Fertile florets female. Fertile lemma elliptic, dorsally compressed, 6.5–8.6 mm long, indurate, pallid, shiny, without keel, 5 -veined, more than 3-veined. Lemma surface smooth, pubescent, hairy above or below. Lemma margins involute. Lemma apex acute. Palea indurate, 2 -veined, without keels. Palea apex undifferentiated or pubescent.

Flower and Fruit. Lodicules 3. Anthers 3, 3–6 mm long. Stigmas 2. Caryopsis ellipsoid, 4.5–5.4 mm long, light brown. Disseminule comprising a floret.

Male spikelets distinct from female, 1 flowered, lanceolate, 7.3–12 mm long, glabrous. Male spikelet glumes absent. Male spikelet lemma 3 -veined, awned, with 1–2 mm long awn.

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

Country /Province /State. Mexico. Northeast Mexico, Southwest Mexico, Southeast Mexico. Mesoamerica, Western South America, Brazil. Brazil Northeast, Brazil Southeast, Brazil South.

Ceara, Rio Grande do Norte, Paraiba, Pernambuco, Alagoas, Sergipe, Minas Gerais, Rio de Janeiro, Espirito Santo, Catarina, Rio Grande do Sul. Bahia, Pernambuco. Espirito Santo, Rio de Janeiro, Sao Paulo. Santa Catarina. San Luis Potosi. Oaxaca. Campeche, Chiapas, Quintana Roo, Tabasco, Yucatan.

Olyra holttumiana T.R. Soderstrom & F.O. Zuloaga. *Kew Bull.*, 41(3): 722 (1986).

Accepted by: R.J.Soreng et al., *Catalogue of 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 Panama. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *R. Dressler* 4288, 3 Mar 1973, Panama: Panam? La Eneida: region of Cerro Jefe, in forest, stems arching, to 2 m long (US-2685261; IT: K, LE (2 sheets), MO-2153860, MO-3501553, PMA).

Illustrations (Books): E.J.Judziewicz et al, *American Bamboos* (1999) (288, Fig. 174).

Illustrations (Journals): *Kew Bulletin* (41: 72x, Fig.1 (1986)).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Richard Eric Holttum (1895–1990) English botanist.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial. Culms erect, 200 cm long, woody. Culm-internodes thin-walled, distally glabrous. Culm-nodes purple, glabrous. Leaves cauline. Leaf-sheaths glabrous on surface, outer margin hairy. Leaf-sheath auricles erect. Ligule a ciliolate membrane, 7–8 mm long, purple. Leaf-blade base broadly rounded, asymmetrical, with a brief petiole-like connection to sheath, petiole 0.4–0.7 cm long, petiole pubescent. Leaf-blades lanceolate or oblong, 24–35 cm long, 68–90 mm wide. Leaf-blade venation parallel. Leaf-blade surface pubescent, hairy on both sides. Leaf-blade apex acuminate. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle, terminal and axillary. Panicle open, ovate, 15–18 cm long, 20 cm wide. Primary panicle branches ascending, whorled at lower nodes, bearing 1 fertile spikelets on each lower branch, bearing spikelets almost to the base. Panicle branches scabrous. Sexes segregated, on bisexual branches, with male below. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets pedicelled, 2 in a cluster. Pedicels present, (female) clavate, angular.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 35–50 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 35–50 mm long, 1 length of upper glume, herbaceous, without keels, 15 -veined. Lower glume lateral veins with cross-veins. Lower glume surface asperulous. Lower glume apex caudate, awned, 1 -awned, awn 20 mm long. Upper glume elliptic, 35–50 mm long, 2.4–3.1 length of adjacent fertile lemma, herbaceous, without keels, 11 -veined. Upper glume lateral veins with cross-veins. Upper glume surface asperulous. Upper glume apex caudate, awned, 1 -awned, awn 11 mm long.

Florets. Fertile florets female. Fertile lemma elliptic, dorsally compressed, 14.5–15.8 mm long, indurate, pallid, shiny, without keel, 11 -veined, more than 3-veined. Lemma surface smooth, glabrous. Lemma margins involute. Lemma apex acute. Palea indurate, without keels.

Flower and Fruit. Lodicules 3, 1.8 mm long. Anthers 3. Stigmas 2. Disseminule comprising a floret.

Male spikelets distinct from female, 1 flowered, lanceolate, 10.2–10.4 mm long, glabrous. Male spikelet glumes absent. Male spikelet lemma 7–9 -veined, muticous.

Distribution (TDWG). Continent. South America.

Country /Province /State. Mesoamerica. Panama.

Olyra humilis Nees. *Agrost. Bras.* 304. (1829).

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

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: LT: *F. Sellow s.n.*, Brazil: habitat ad ripas Taquari fluminis (B; IT: US-2877946 (fragm.)). LT designated (as holotype) by Soderstrom & Zuloaga, *Smithsonian Contr. Bot.* 69: 24 (1989).

ST: *Martius s.n.*, Nov., Brazil: ad Sebastianopolin in sylvis editoribus udis (M).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, Aristidoideae a Pharoideae (2012) (72), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (174, Fig. 35), R.Pilger, *Die Natürlichen Pflanzenfamilien* 14e (1940).

Illustrations (Journals): *Hoehnea* (40: 351, fig. 17 (2013)).

Derivation (Clifford & Bostock 2007): L. low growing. Short-statured in comparison with related species often prostrate.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short or elongated. Culms erect or geniculately ascending, 25–100 cm long, woody. Culm-internodes thin-walled, distally glabrous or hispid. Culm-nodes swollen, brown, glabrous. Leaves cauline. Leaf-sheaths ribbed, glabrous on surface or pilose, outer margin hairy. Ligule a ciliolate membrane, 0.4 mm long. Leaf-blade base broadly rounded, asymmetrical, with a brief petiole-like connection to sheath, petiole 0.2 cm long, petiole pilose. Leaf-blades

lanceolate or ovate, 4.3–11.5 cm long, 10–22 mm wide, glaucous. Leaf-blade venation parallel. Leaf-blade surface smooth or scabrous, rough adaxially, glabrous. Leaf-blade margins scabrous. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle, terminal and axillary. Panicle open, pyramidal, 4–9 cm long, 1–5.5 cm wide. Primary panicle branches ascending, whorled at lower nodes, bearing 1 fertile spikelets on each lower branch, bearing spikelets almost to the base. Panicle branches scabrous. Sexes segregated, on bisexual branches, with male below. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets pedicelled, 2 in a cluster. Pedicels present, (female) clavate, angular, smooth, glabrous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 14–21 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 14–21 mm long, 1.3–1.8 length of upper glume, membranous, without keels, 5–7 -veined. Lower glume lateral veins with cross-veins. Lower glume surface smooth or asperulous, inner surface glabrous or pilose. Lower glume apex acuminate, awned, 1 -awned, awn 4–10 mm long. Upper glume elliptic, 11–11.5 mm long, 1.2–1.8 length of adjacent fertile lemma, membranous, without keels, 5–7 -veined. Upper glume lateral veins with cross-veins. Upper glume apex acuminate to setaceous acuminate.

Florets. Fertile florets female. Fertile lemma elliptic, dorsally compressed, 6–9.8 mm long, indurate, pallid, shiny, without keel, 5 -veined, more than 3-veined. Lemma surface pilose, hairy above or below. Lemma margins involute. Lemma apex acute. Palea indurate, 2 -veined, without keels. Palea apex pubescent.

Flower and Fruit. Lodicules 3. Anthers 3, 3.6–5.2 mm long. Stigmas 2. Caryopsis with adherent pericarp, ellipsoid, 5 mm long, light brown. Hilum linear, 1 length of caryopsis. Disseminule comprising a floret.

Male spikelets distinct from female, 1 flowered, lanceolate, 8.5–11 mm long, glabrous. Male spikelet glumes absent. Male spikelet lemma 3 -veined, awned, with 2–2.5 mm long awn.

Distribution (TDWG). Continent. South America.

Country /Province /State. Mesoamerica, Brazil, Southern South America. Brazil West Central, Brazil Northeast, Brazil Southeast, Brazil South. Paraguay.

Goiás, Minas Gerais, Rio de Janeiro, Espírito Santo, São Paulo Paraná, Catarina, Rio Grande do Sul. Distrito Federal, Goiás. Bahia. Minas Gerais. Paraná, Rio Grande do Sul. Corrientes, Misiones.

Olyra juruana Mez. *Notizbl. Bot. Gart. Berlin*, vii. 45 (1917).

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

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *E. Ule* 5469, 25 Apr 1901, Brazil: Amazonas (B (fragm., US-2877945)).

Illustrations: None found.

Illustrations (Journals): *Ruizia* (13:40, Fig.3k (1993)).

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

(*Smith. Contrib. Bot.* No. 69 : 36 (1989)).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating location. From the River Juruá, Department Amazonas, Brazil.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms geniculately ascending, 35–110 cm long, woody. Culm-internodes thin-walled, distally glabrous. Culm-nodes constricted, brown, bearded. Leaves cauline, 5–7 per branch. Leaf-sheaths ribbed, hispid. Ligule a ciliate membrane, 0.4–0.7 mm long, brown. Leaf-blade base broadly rounded, asymmetrical, with a brief petiole-like connection to sheath, petiole 0.3–0.5 cm long, petiole pubescent. Leaf-blades lanceolate or ovate, 14–20 cm long, 45–59 mm wide. Leaf-blade venation parallel. Leaf-blade surface glabrous. Leaf-blade margins glabrous or ciliate. Leaf-blade apex acute. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle, terminal or terminal and axillary. Peduncle hirsute above. Panicle open, pyramidal, 6–14 cm long, 1–4 cm wide. Primary panicle branches bearing spikelets almost to

the base. Panicle branches scabrous. Sexes segregated, on bisexual branches, with male below. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets pedicelled. Pedicels present, (female) clavate, angular.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 13.5–18.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 13.5–18.5 mm long, 1.1–1.2 length of upper glume, herbaceous, without keels, 7–11 -veined. Lower glume lateral veins with cross-veins. Lower glume surface asperulous, rough at apex. Lower glume apex acuminate, muticous. Upper glume lanceolate, 12–16 mm long, 1.3–1.4 length of adjacent fertile lemma, herbaceous, without keels, 7–11 -veined. Upper glume lateral veins with cross-veins. Upper glume surface scabrous, rough at apex. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma lanceolate, dorsally compressed, 8.8–10.7 mm long, indurate, pallid, without keel, 5 -veined, more than 3-veined. Lemma surface pilose, hairy all along. Lemma margins involute. Lemma apex acuminate. Palea indurate, 2 -veined, without keels. Palea apex excavated.

Flower and Fruit. Lodicules 3. Anthers 3. Stigmas 2. Caryopsis with adherent pericarp, ellipsoid, 6–6.5 mm long, light brown. Hilum linear, 1 length of caryopsis. Disseminule comprising a floret.

Male spikelets distinct from female, 1 flowered, lanceolate, 4.2–6.7 mm long, hairy. Male spikelet glumes absent. Male spikelet lemma 3 -veined, muticous.

Distribution (TDWG). Continent. South America.

Country /Province /State. Western South America, Brazil. Peru. Brazil North.

Acre, Pará.

***Olyra latifolia* L. Syst. ed. 10: 1261 (1759).**

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

TYPE from Jamaica. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: LT: *Sloane, Voy. Jamaica, 107, t. 64, f. 2 (1707)*, LT designated by Jarvis & al. in *Regnum Veg.* 127: 70 (1993). LT: *Sloane s.n.*, Jamaica (HS 2: 7, BM-SL). LT designated by Hitchcock, *Contr. U.S. Natl. Herb.* 12: 124, 132 (1908), but ineffective as this was not original material (*fide* Linnaean Plant Name Database).

Recent Synonyms: *Olyra cordifolia*. *Olyra scabra*.

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, Aristidoideae a Pharoideae (2012) (72), H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (109, Fig. 34), F.N.Hepper, *F.W.T.A.* 3(2) (1972) (363, Fig.419), R.M.Phill, F.T.E.A., *Gramineae* (1(1970):18, Fig.6), G.V.Pope et al., *Flora Zambesiaca* 10 (1(1971):24, T. 6), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (452, Fig 376), G.E.Gibbs Russell et al, *Grasses of Southern Africa* (1990) (227, Fig 144), S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (7, Fig 3), R.McVaugh, *Flora Nova-Galiciana* Vol.14 *Gramineae* (1983), A.S.Hitchcock, *Manual of the Grasses of the West Indies* (1936) (369, Fig. 339), S.A.Renvoize, *Gramineas de Bolivia* (1998) (50, Fig 7), S.A.Renvoize, *The Grasses of Bahia*, 1984 (25, Fig. 6), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (185, Fig. 36), W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (340, Fig 125).

Illustrations (Journals): *Ruizia* (13:40, Fig.3 d-e (1993)), *Rodriguesia* (60: 763, Fig. 7 (2009)).

Images: E.J.Judziewicz, E.J., *American Bamboos* (1999);, G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012)

(*Smith. Contrib. Bot.* No. 69 : 16 (1989)).

Derivation (Clifford & Bostock 2007): *L. latus*, broad; *folium*, leaf. Leaf-blades broad or relatively broad with respect to related species.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms scandent or erect, 60–400 cm long, woody, without nodal roots. Culm-internodes striate, distally glabrous or pubescent. Culm-nodes glabrous or pubescent. Lateral branches sparse. Leaves cauline. Leaf-sheaths narrower than blade at the collar, glabrous on surface or pubescent. Ligule an eciliate membrane, 1–5 mm long, truncate. Leaf-blade base

broadly rounded, with a brief petiole-like connection to sheath. Leaf-blades oblong to ovate, 10–20 cm long, 30–60 mm wide. Leaf-blade venation parallel, with distinct cross veins. Leaf-blade apex acuminate (abruptly). Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle. Peduncle pubescent above. Panicle open, ovate, 7–25 cm long. Primary panicle branches bearing spikelets almost to the base. Panicle branches smooth, pubescent. Sexes segregated, on bisexual branches, with male below. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets pedicelled. Pedicels present, cuneate, angular, glabrous or ciliate.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, dorsally compressed, 5–12 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, subequal in width, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 1.2 length of upper glume, herbaceous, without keels, 7–9 -veined. Lower glume primary vein eciliate or ciliate (sometimes). Lower glume lateral veins without connecting veins or with cross-veins. Lower glume surface glabrous to pubescent. Lower glume apex caudate, awned, 1 -awned, awn 3–20 mm long. Upper glume ovate, 1.2 length of adjacent fertile lemma, herbaceous, without keels, 7–9 -veined. Upper glume primary vein eciliate or ciliate. Upper glume lateral veins without cross-veins or with cross-veins (10 X lens). Upper glume surface glabrous to puberulous. Upper glume apex caudate, muticous or awned, 1 -awned, awn 0–7 mm long.

Florets. Fertile florets female. Fertile lemma elliptic, dorsally compressed, 5–6 mm long, indurate, pallid, shiny, without keel, more than 3-veined. Lemma lateral veins obscure. Lemma surface with distinct germination flap. Lemma margins involute. Lemma apex obtuse. Palea elliptic, involute, 1 length of lemma, indurate, without keels. Palea surface smooth. Palea apex obtuse.

Flower and Fruit. Lodicules 3, cuneate, membranous, veined. Anthers 3. Stigmas 2. Caryopsis with adherent pericarp, oblong, flattened, 2.5–3 mm long, dark brown. Embryo 0.2 length of caryopsis. Hilum linear, 0.8 length of caryopsis. Endosperm farinose. Disseminule comprising a floret.

Male spikelets distinct from female, 1 flowered, 5.5–8 mm long. Male spikelet glumes absent. Male spikelet lemma 3 -veined, awned, with 3–4 mm long awn.

$n = 11$ (1 ref TROPICOS). $2n = 22$ (1 ref TROPICOS).

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.** Ghana, Guinea, Ivory Coast, Liberia, Nigeria, Senegal, Sierre Leone. Cameroon, Congo, Gabon, Bioko, DRC. Ethiopia (inc. Eritrea), Sudan. Angola, Malawi, Mozambique, Zambia, Zimbabwe. Kwazulu-Natal, Eastern Cape. Madagascar. **Mexico.** Central Mexico, Northeast Mexico, Gulf (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. Cuba, Dominican Republic, Haiti, Jamaica, Leeward Is, Windward Islands, Puerto Rico, Trinidad-Tobago. French Guiana, Guyana, Surinam. Bolivia, Colombia, Ecuador, Peru. Brazil West Central, Brazil Northeast, Brazil North.

Para, Amapa, Amazonas, Acre, Rondonia, Mato Grosso, Bahia. Mato Grosso, Mato Grosso do Sul. Bahia, Ceará, Maranhão, Pernambuco, Sergipe. Acre, Amapa, Espirito Santo, Rio de Janeiro, Sao Paulo. Rio Grande do Sul. Corrientes, Misiones. Puebla. San Luis Potosi, Tamaulipas. Veracruz. Colima, Guerrero, Jalisco, Michoacan, Nayarit, Oaxaca. Campeche, Chiapas, Quintana Roo, Tabasco, Yucatan.

Olyra latispicula T.R. Soderstrom & F.O. Zuloaga. *Smithsonian Contrib. Bot.*, 69: 35 (1989).

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

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: T.R. Soderstrom, G.F. Russell & J. Hage 2208, 13 May 1976, Brazil: Bahia: Mun. Porto Seguro: Parque Nacional Monte Pascoal, located 14 km E of BR 101 at a point 13 km N of Itamaraj? forest on slopes of Monte Pascoal at elev. 320 m, small short-rhizomatous clumps at edge of trail leading to summit of Monte Pascoal. Culms delicate and fragile, with blades quite asymmetric like those of *Lithachne pauciflora*, becoming progressively smaller from the base of the culm upward. Only a few plants in flower, the lower

branches that bear the male spikelets maroon and the male spikelets reddish or bronze, female spikelets broad with a scabrous anthoecium (CEPEC; IT: MO-3743360,S-2810481, U, US-2810482, US-2810483).

Illustrations: None found.

Illustrations (Journals): *Smithsonian Contributions to Botany* (69: 37 (1989)).

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

(*Smith. Contrib. Bot.* No. 69 : 36 (1989)).

Derivation (Clifford & Bostock 2007): *L. latus*, broad; *spica*, thorn; *-ula*, diminutive. Spikelets broad.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial. Rhizomes short. Culms geniculately ascending, 70 cm long, woody. Culm-internodes thin-walled, distally pubescent, with reflexed hairs. Culm-nodes swollen, purple, glabrous. Leaves cauline, 10–15 per branch. Leaf-sheaths striately veined, glabrous on surface or pubescent. Ligule a ciliate membrane, 0.3–0.4 mm long. Leaf-blade base broadly rounded, symmetrical, with a brief petiole-like connection to sheath, petiole 0.3–0.4 cm long, petiole pubescent. Leaf-blades lanceolate or ovate, 9–11 cm long, 22–38 mm wide. Leaf-blade venation parallel. Leaf-blade surface glabrous. Leaf-blade margins scabrous, glabrous or ciliate. Leaf-blade apex acuminate. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle, terminal and axillary. Peduncle 8–10 cm long, pubescent above. Panicle open, pyramidal, 5–9 cm long, 1–3 cm wide. Primary panicle branches ascending, whorled at lower nodes, bearing spikelets almost to the base. Sexes segregated, on unisexual branches or bisexual branches, with male below. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets pedicelled, 2 in a cluster. Pedicels present, (female) clavate, angular, smooth, glabrous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 14.8–15.8 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes elongated below proximal fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 14.8–15.8 mm long, 2.2–2.5 length of upper glume, herbaceous, without keels, 5 -veined. Lower glume lateral veins with cross-veins. Lower glume surface asperulous. Lower glume apex caudate, awned, 1 -awned, awn 5–8 mm long. Upper glume ovate, 6.6 mm long, 1.2 length of adjacent fertile lemma, herbaceous, without keels, 5 -veined. Upper glume lateral veins with cross-veins. Upper glume surface smooth, glabrous. Upper glume apex acute.

Florets. Fertile florets female. Fertile lemma ovate, dorsally compressed, gibbous, 5.5 mm long, indurate, pallid, without keel, 5 -veined, more than 3-veined. Lemma lateral veins with cross-veins. Lemma surface scabrous, with 2 longitudinal grooves. Lemma margins involute. Lemma apex acute. Palea indurate, without keels.

Flower and Fruit. Lodicules 3. Anthers 3, 2.2 mm long. Stigmas 2. Disseminule comprising a floret.

Male spikelets distinct from female, 1 flowered, lanceolate, 4.3 mm long, glabrous. Male spikelet glumes absent. Male spikelet lemma 3 -veined, muticous.

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

Country /Province /State. **Brazil.** Brazil Northeast.

Bahia.

Olyra longifolia H. B. & K. *Nov. Gen. et Sp.* i. 198. (1815).

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

TYPE from Venezuela. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *F.W.H.A. von Humboldt & A. Bonpland* 903, May, Venezuela: (P; IT: B-W-171026, US (fragm.)).

Illustrations (Books): J.A.Steyermark et al, *Flora of the Venezuelan Guayana* Vol. 8 (2004) (170, Fig. 122).

Derivation (Clifford & Bostock 2007): *L. longus*, long; *folium*, leaf. With long leaf-blades.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms scandent or erect, 30–500 cm long, woody. Culm-nodes pubescent. Lateral branches sparse. Leaves cauline. Leaf-sheaths ribbed,

pubescent. Ligule an eciliate membrane, 0.3–0.6 mm long, truncate. Leaf-blade base simple or broadly rounded, with a brief petiole-like connection to sheath. Leaf-blades lanceolate, 5.5–21 cm long, 12–57 mm wide. Leaf-blade venation parallel, with distinct cross veins. Leaf-blade surface hispid, hairy abaxially. Leaf-blade apex acuminate. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle, terminal and axillary. Peduncle pubescent above. Panicle spiciform, linear, 3.5–7.5 cm long, 1–2 cm wide. Panicle branches scabrous. Sexes segregated, on unisexual branches, with male conjugate. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets pedicelled. Pedicels present, cuneate, angular.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 17–22 mm long, 2.4–3 mm wide, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 17–22 mm long, 1.1–1.2 length of upper glume, herbaceous, without keels, 7–13 -veined. Lower glume lateral veins with cross-veins. Lower glume surface glabrous. Lower glume apex caudate, awned, 1 -awned. Upper glume ovate, 15–18 mm long, 2–3 length of adjacent fertile lemma, herbaceous, without keels, 7–13 -veined. Upper glume lateral veins with cross-veins. Upper glume surface glabrous. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma obovate, dorsally compressed, 5.2–6.6 mm long, indurate, pallid, without keel, 7 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface with distinct germination flap, puberulous, hairy above. Lemma margins involute. Lemma apex acute. Palea elliptic, involute, 1 length of lemma, indurate, without keels. Palea apex obtuse.

Flower and Fruit. Lodicules 3, cuneate, membranous, veined. Anthers 3, 2–3 mm long. Stigmas 2. Caryopsis with adherent pericarp, obovoid, 3.8–4.2 mm long, dark brown. Embryo 0.2 length of caryopsis. Hilum linear, 1 length of caryopsis. Endosperm farinose. Disseminule comprising a floret.

Male spikelets distinct from female, 1 flowered, separately deciduous, lanceolate, 5.3–7.3 mm long. Male spikelet glumes absent. Male spikelet lemma 3 -veined, muticous.

Distribution (TDWG). Continent. South America.

Country /Province /State. Northern South America, Western South America, Brazil. French Guiana, Guyana, Surinam, Venezuela. Bolivia, Colombia, Ecuador, Peru. Brazil Northeast, Brazil North.

Para, Amapa, Amazonas, Acre, Rondonia, Maranhao, Piaui. Maranhão. Amapa, Amazonas, Pará, Roraima.

Olyra lorentensis Mez. *Notizbl. Bot. Gart. Berlin*, vii. 47 (1917).

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

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *E. Ule* 6224, Jun 1902, Peru: Loreto (B (fragm., US-2877942); IT: K).

Illustrations: None found.

Illustrations (Journals): *Smithsonian Contributions to Botany* (69: 44 (1989)), *Hoehnea* (40: 353, fig.18 (2013)).

Images: E.J.Judziewicz, E.J., *American Bamboos* (1999);.

Derivation (Clifford & Bostock 2007): *L. -ensis*, denoting origin. From Loreto Department, Peru.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms geniculately ascending, 30–60 cm long, woody. Culm-internodes thin-walled, distally pubescent. Culm-nodes swollen, brown, pubescent. Leaves cauline, 5–15 per branch. Leaf-sheaths pubescent, with tubercle-based hairs, outer margin hairy. Ligule a ciliate membrane, 0.5 mm long. Leaf-blade base broadly rounded, asymmetrical, with a brief petiole-like connection to sheath, petiole 0.2–0.3 cm long, petiole pilose. Leaf-blades lanceolate or ovate, 11–15 cm long, 35–58 mm wide. Leaf-blade venation parallel, with distinct cross veins. Leaf-blade surface glabrous, hairless except near base. Leaf-blade margins ciliate, hairy at base. Leaf-blade apex acuminate. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Synflorescence on a separate leafless culm.

Inflorescence a panicle, terminal and axillary. Panicle open, ovate, 6–12 cm long, 5–14 cm wide. Primary panicle branches whorled at lower nodes, bearing 1 fertile spikelets on each lower branch, bearing spikelets almost to the base. Panicle branches smooth or scabrous, bearded in axils. Sexes segregated, on unisexual branches or bisexual branches, with male below. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets pedicelled. Pedicels present, (female) clavate, angular.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 13–18 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes elongated below proximal fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 13–18 mm long, 1 length of upper glume, herbaceous, without keels, 5–9 -veined. Lower glume lateral veins with cross-veins. Lower glume surface scabrous, rough above. Lower glume apex acuminate, awned, 1 -awned, awn 6–8 mm long. Upper glume ovate, 13–18 mm long, 1.7–2.2 length of adjacent fertile lemma, herbaceous, without keels, 5–9 -veined. Upper glume lateral veins with cross-veins. Upper glume surface scabrous, rough above. Upper glume apex acuminate, awned, 1 -awned, awn 4–6 mm long.

Florets. Fertile florets female. Fertile lemma elliptic, dorsally compressed, 7.8–8.1 mm long, indurate, pallid, without keel, 3 -veined, 0–3 -veined. Lemma surface pilose, hairy all along. Lemma margins involute. Lemma apex acuminate. Palea indurate, 2 -veined, without keels.

Flower and Fruit. Lodicules 3. Anthers 3. Stigmas 2. Caryopsis with adherent pericarp, fusiform, 4.5 mm long. Hilum linear, 1 length of caryopsis. Disseminule comprising a floret.

Male spikelets distinct from female, 1 flowered, lanceolate, 2.5–3.3 mm long, glabrous. Male spikelet glumes absent. Male spikelet lemma 3 -veined, awned, with 1–2 mm long awn.

Distribution (TDWG). Continent. South America.

Country /Province /State. Western South America, Brazil. Bolivia, Colombia, Peru. Brazil North. Amazonas, Acre, Rondonia. Amapa, Amazonas, Pará, Rondonia.

Olyra maranonensis Swallen. *Phytologia*, xiv. 86 (1966).

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

TYPE from Peru. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *J.J. Wurdack 1936*, 20 Sep 1962, Peru: Amazonas (US-2382316).

Illustrations: None found.

Illustrations (Journals): *Ruizia* (13:40, Fig.3j (1993)).

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Rmo Maraqsñ, Peru.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 50–100 cm long, woody. Culm-internodes thin-walled, distally glabrous. Culm-nodes swollen, purple, glabrous. Leaves cauline. Leaf-sheaths glabrous on surface or pubescent, outer margin glabrous or hairy. Ligule a ciliate membrane, 0.5 mm long. Leaf-blade base asymmetrical, with a brief petiole-like connection to sheath, petiole 0.3 cm long, petiole glabrous. Leaf-blades lanceolate, 18–23 cm long, 36–40 mm wide. Leaf-blade venation parallel. Leaf-blade surface glabrous. Leaf-blade margins scaberulous. Leaf-blade apex acuminate. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle, terminal. Panicle open, pyramidal, 13 cm long, 4 cm wide. Primary panicle branches whorled at lower nodes, bearing 1 fertile spikelets on each lower branch, bearing spikelets almost to the base. Panicle branches scabrous, glabrous in axils. Sexes segregated, on unisexual branches or bisexual branches, with male below. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets pedicelled. Pedicels present, (female) clavate, angular, scaberulous, glabrous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 11–25 mm long, 2.5–2.7 mm wide, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 11–25 mm long, 1.1–2 length of upper glume, herbaceous, without keels, 5 -veined. Lower glume lateral veins with cross-veins. Lower glume surface scabrous, rough above, glabrous, inner surface glabrous. Lower glume apex acuminate, awned, 1 -awned, awn 5–10 mm long. Upper glume elliptic, 10–13 mm long, 1.3–1.7 length of adjacent fertile lemma, herbaceous, without keels, 7 -veined. Upper glume lateral veins with cross-veins. Upper glume surface asperulous, rough above, inner surface glabrous. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma elliptic, dorsally compressed, 7.5 mm long, indurate, pallid, shiny, without keel, more than 3-veined. Lemma surface smooth, pubescent, hairy above or below. Lemma margins involute. Lemma apex acute. Palea indurate, without keels.

Flower and Fruit. Lodicules 3. Anthers 3. Stigmas 2. Disseminule comprising a floret.

Male spikelets distinct from female, 1 flowered, lanceolate, 3.5–4.7 mm long, hairy. Male spikelet glumes absent. Male spikelet lemma 3 -veined, awned.

Distribution (TDWG). Continent. South America.

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

Olyra obliquifolia Steud. Syn. Pl. Gram. 36. (1853).

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

TYPE from Surinam. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: A. Kappler 1472, Feb-Mar 1844, Surinam: in sylvis humidis distr. Para (P; IT: MO-2097532, US-2877937 (fragm.)).

Illustrations (Books): E.J.Judziewicz et al, *American Bamboos* (1999) (291, Fig. 176), E.Judziewicz, *Flora of the Guianas*, 187. *Poaceae* (1990) (351, Fig 65).

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (*Smith. Contrib. Bot.* No. 69 : 53 (1989)).

Derivation (Clifford & Bostock 2007): *L. obliquus*, oblique; *folium*, leaf. Leaf-blade assymetric.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial. Rhizomes short. Culms erect or geniculately ascending, 30–200 cm long, woody. Culm-internodes thin-walled, distally glabrous or pilose, with reflexed hairs. Culm-nodes swollen, purple, pubescent. Leaves cauline, 5–9 per branch. Leaf-sheaths ribbed, glabrous on surface or pilose, outer margin glabrous or hairy. Leaf-sheath auricles erect. Ligule a ciliolate membrane, 3–3.5 mm long, pubescent on abaxial surface. Leaf-blade base broadly rounded, asymmetrical, with a brief petiole-like connection to sheath, petiole 0.2–0.4 cm long, petiole pilose. Leaf-blades oblong, 16–30 cm long, 40–90 mm wide. Leaf-blade venation parallel. Leaf-blade surface glabrous. Leaf-blade margins scaberrulous, glabrous or ciliate. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle, terminal and axillary. Peduncle hispid above. Panicle open, corymbose, 12–16 cm long, 12–20 cm wide, contracted about primary branches. Primary panicle branches spreading, whorled at most nodes, bearing 1–4 fertile spikelets on each lower branch, bearing spikelets almost to the base. Panicle axis bearing deciduous branches. Panicle branches hispid. Sexes segregated, on bisexual branches, with male below. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets pedicelled, 2–4 in a cluster. Pedicels present, (female) cuneate, angular, puberulous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 13–17 mm long, 3.4–4 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes elongated below proximal fertile floret. Rhachilla elongation 0.6–1 mm long.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 13–17 mm long, 1 length of upper glume, herbaceous, without keels, 7–9 -veined. Lower glume lateral veins with cross-veins. Lower glume surface glabrous or pilose, inner surface glabrous. Lower glume apex acuminate, muticous. Upper glume elliptic, 13–15 mm long, 1.3–1.4 length of adjacent fertile lemma, herbaceous, without keels, 7–9 -veined. Upper glume lateral veins with cross-veins. Upper glume surface glabrous or pilose, inner surface pilose. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma lanceolate, dorsally compressed, 9.2–11.5 mm long, 3.1–3.4 mm wide, indurate, pallid, without keel, more than 3-veined. Lemma surface pitted, glabrous. Lemma margins involute. Lemma apex acute. Palea indurate, without keels.

Flower and Fruit. Lodicules 3. Anthers 3, 4 mm long. Stigmas 2. Caryopsis with adherent pericarp, ovoid, 5.8 mm long, dark brown. Hilum linear, 1 length of caryopsis. Disseminule comprising a floret.

Male spikelets distinct from female, 1 flowered, lanceolate, 5.5–5.7 mm long, glabrous or hairy. Male spikelet glumes absent. Male spikelet lemma 3 -veined, muticous.

Distribution (TDWG). Continent. South America.

Country /Province /State. Northern South America, Brazil. French Guiana, Guyana, Surinam. Brazil Northeast, Brazil North.

Para, Amapa, Amazonas, Acre, Rondonia. Maranhão. Amapa, Pará.

Olyra retrorsa T.R. Soderstrom & F.O. Zuloaga. *Smithsonian Contrib. Bot.*, 69: 54 (1989).

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

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Brazil: Mato Grosso: Rio Verde, Apr. 1918, *Kuhlmann 1868* (HT: RB; IT: IAN, RB).

Illustrations: None found.

Illustrations (Journals): *Smithsonian Contributions to Botany* (69: 55 (1989)).

Derivation (Clifford & Bostock 2007): L. turned backwards. Hairs on adaxial surface of palea retrorsely disposed.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial. Culms erect, woody. Culm-internodes thin-walled, distally pubescent. Culm-nodes swollen, brown, glabrous. Leaves cauline. Leaf-sheaths pilose. Leaf-sheath auricles erect. Ligule a ciliate membrane, 2.5–4 mm long, pubescent on abaxial surface. Leaf-blade base cordate, symmetrical, with a brief petiole-like connection to sheath, petiole 0.2–0.3 cm long, petiole pilose. Leaf-blades drooping, lanceolate, 10.5–13.3 cm long, 27–34 mm wide. Leaf-blade venation parallel. Leaf-blade surface glabrous, hairless except near base. Leaf-blade margins smooth or scaberrulous. Leaf-blade apex acuminate. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle, terminal and axillary. Panicle contracted, oblong, 13.8 cm long, 1–2 cm wide. Primary panicle branches not whorled, bearing 1–4 fertile spikelets on each lower branch, bearing spikelets almost to the base. Panicle branches scabrous. Sexes segregated, on unisexual branches or bisexual branches, with male below. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets sessile and pedicelled, 2 in a cluster. Pedicels present, (female) linear, angular, ciliate, tip widened.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 13.8 mm long, 3.1 mm wide, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 13.8 mm long, 1.1–1.2 length of upper glume, herbaceous, without keels, 5–7 -veined. Lower glume lateral veins with cross-veins. Lower glume surface scabrous, rough above, glabrous, inner surface pilose. Lower glume apex caudate, muticous. Upper glume elliptic, 11.6–12.8 mm long, 1.4–1.5 length of adjacent fertile lemma, herbaceous, without keels, 5–7 -veined. Upper glume lateral veins with cross-veins. Upper glume surface scabrous, rough above, inner surface pilose. Upper glume apex caudate.

Florets. Fertile florets female. Fertile lemma lanceolate, dorsally compressed, 8.5–8.7 mm long, 2.9 mm wide, indurate, light brown, without keel, 5 -veined, more than 3-veined. Lemma surface pitted. Lemma margins involute. Lemma apex acuminate, pubescent. Palea indurate, 2 -veined, without keels. Palea apex pubescent (retrorsely).

Flower and Fruit. Lodicules 3. Anthers 3, 3.1 mm long. Stigmas 2. Disseminule comprising a floret.

Male spikelets distinct from female, 1 flowered, lanceolate, 9–9.7 mm long, glabrous. Male spikelet glumes absent. Male spikelet lemma 3 -veined, awned, with 1–2 mm long awn.

Distribution (TDWG). Continent. South America.

Country /Province /State. Brazil. Brazil West Central.

Mato Grosso.

Olyra standleyi Hitchcock. *Proc. Biol. Soc. Wash.* xl. 86. (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 Costa Rica. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *P.C. Standley & R. Torres 50932*, 6 Mar 1926–7 Mar 1926, Costa Rica: Cartago (US-1307238).

Illustrations: None found.

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (*Smith. Contrib. Bot.* No. 69 : 53 (1989)).

Derivation (Clifford & Bostock 2007): in honor of Paul Carpenter Standley (1884–1963) United States botanist.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial. Rootstock evident. Rhizomes short. Culms scandent, 200–300 cm long, 5–10 mm diam., woody. Culm-internodes thin-walled, 20–35 cm long, distally glabrous. Culm-nodes swollen, brown, glabrous or pubescent. Leaves cauline. Leaf-sheaths ribbed, glabrous on surface or pilose, with tubercle-based hairs. Leaf-sheath auricles erect. Ligule an eciliate membrane, 1 mm long. Leaf-blade base cordate, symmetrical, with a brief petiole-like connection to sheath, petiole 0.3–0.5 cm long, petiole glabrous or pilose. Leaf-blades oblong or ovate, 14–30 cm long, 40–70 mm wide, glaucous. Leaf-blade venation parallel. Leaf-blade surface glabrous. Leaf-blade margins glabrous or ciliate, hairy at base. Leaf-blade apex acute or acuminate. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle, terminal and axillary. Peduncle glabrous or pilose above. Panicle open, globose, 9–17 cm long, 5–25 cm wide. Primary panicle branches ascending or spreading, whorled at lower nodes or whorled at most nodes, bearing 1–3 fertile spikelets on each lower branch, bearing spikelets almost to the base. Panicle branches secund, pubescent, bearded in axils. Sexes segregated, on bisexual branches, with male below. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets pedicelled, 2 in a cluster. Pedicels present, (female) cuneate, angular.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 18–25 mm long, 2.2–3 mm wide, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 18–25 mm long, 1.3–1.5 length of upper glume, herbaceous, mid-green or light brown or purple, without keels, 5–7 -veined. Lower glume lateral veins with cross-veins. Lower glume surface glabrous or hispid, inner surface pilose. Lower glume apex attenuate, muticous. Upper glume lanceolate, 12.5–19 mm long, 1.5–2 length of adjacent fertile lemma, herbaceous, mid-green or light brown or purple, without keels, 5–7 -veined. Upper glume lateral veins with cross-veins. Upper glume surface glabrous or hispid, inner surface pilose. Upper glume apex attenuate.

Florets. Fertile florets female. Fertile lemma lanceolate, dorsally compressed, 8–9.5 mm long, 1.9–2.5 mm wide, indurate, pallid, without keel, 5–7 -veined, more than 3-veined. Lemma surface pitted. Lemma margins involute. Lemma apex obtuse. Palea indurate, 4 -veined, without keels.

Flower and Fruit. Lodicules 3, 1 mm long. Anthers 3, 5–7 mm long. Stigmas 2. Caryopsis with adherent pericarp, fusiform, 6.3 mm long, light brown. Hilum linear, 1 length of caryopsis. Disseminule comprising a floret.

Male spikelets distinct from female, 1 flowered, lanceolate, 10–14 mm long, glabrous or hairy. Male spikelet glumes absent. Male spikelet lemma 3 -veined, awned.

Distribution (TDWG). Continent. South America.

Country /Province /State. Mesoamerica, Northern South America, Western South America. Costa Rica, Panama. Venezuela. Colombia.

Olyra tamanquareana T.R. Soderstrom & F.O. Zuloaga. *Smithsonian Contrib. Bot.*, 69: 58 (1989).

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

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: K. Kubitzki, C.E. Calderón & H.H. Popeno 79–252, 12 Sep 1979, Brazil: Amazonas: Rio Negro, Ilha Tamanquar? downstream near Santa Isabel do Rio Negro (Tapuruquara), growing in dense forest, transition of igap?and terra firme. Robust olyroid grass with strong rhizome, growing in clumps, mixed with *Pariana* sp., spikelets white (INPA; IT: K, MO-3743367, LE, NY, SI, U, US-3109247).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. -ana, indicating location. From Ilha Tamanquare, Amazonas, Brazil.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial, caespitose. Rootstock evident. Culms erect, 60–120 cm long, woody. Culm-internodes thin-walled, distally glabrous. Culm-nodes constricted, brown, glabrous. Leaves cauline. Leaf-sheaths ribbed, puberulous, outer margin hairy. Leaf-sheath auricles erect. Ligule a ciliolate membrane, 3 mm long. Leaf-blade base asymmetrical, with a brief petiole-like connection to sheath, petiole 0.4 cm long, petiole pilose. Leaf-blades lanceolate, 13–25 cm long, 30–55 mm wide. Leaf-blade venation parallel. Leaf-blade surface smooth, glabrous. Leaf-blade margins smooth. Leaf-blade apex acuminate. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle, terminal and axillary, deciduous as a whole. Peduncle hispid above. Panicle contracted, linear. Primary panicle branches indistinct the panicle almost racemose, bearing 1 fertile spikelets on each lower branch, bearing spikelets almost to the base. Panicle branches hispid. Sexes segregated, on bisexual branches, with male below. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets pedicelled, 4 in a cluster. Pedicels present, (female) clavate, angular, ciliate.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 35 mm long, 4.2 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes elongated below proximal fertile floret. Rhachilla elongation 1–1.2 mm long.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 35 mm long, 1 length of upper glume, herbaceous, without keels, 9–13 -veined. Lower glume lateral veins with cross-veins. Lower glume surface asperulous to scabrous, inner surface pilose. Lower glume apex acuminate, muticous. Upper glume elliptic, 35 mm long, 2.7 length of adjacent fertile lemma, herbaceous, without keels, 9–11 -veined. Upper glume lateral veins with cross-veins. Upper glume surface asperulous to scabrous, inner surface pilose. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma lanceolate, dorsally compressed, 13–13.2 mm long, indurate, pallid or purple, mottled with last colour, without keel, 5 -veined, more than 3-veined. Lemma surface pitted, glabrous. Lemma margins involute. Lemma apex acute. Palea indurate, without keels.

Flower and Fruit. Lodicules 3. Anthers 3, 1.8 mm long. Stigmas 2. Caryopsis with adherent pericarp, fusiform, 9 mm long, light brown. Hilum linear, 1 length of caryopsis. Disseminule comprising a floret.

Male spikelets distinct from female, 1 flowered, lanceolate, 5 mm long, hairy. Male spikelet glumes absent. Male spikelet lemma 3 -veined, muticous.

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

Country /Province /State. **Brazil.** Brazil North.

Amazonas.

Olyra taquara Swallen. *Phytologia*, xiv. 86 (1966).

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

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: A. Macedo 4386, 25 Jul 1956, Brazil: Goiás (US-2434254; IT: US-2434255).

Illustrations: None found.

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

(*Smith. Contr. Bot.* No. 69 : 62 (1989)).

Derivation (Clifford & Bostock 2007): one of the spellings for the Brazilian vernacular name for a number of woody grasses.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial. Rhizomes short. Culms erect, robust, 200–350 cm long, 5–10 mm diam., woody. Culm-internodes thin-walled. Culm-nodes swollen, purple, glabrous or pubescent. Leaves cauline. Leaf-sheaths ribbed, glabrous on surface to pubescent. Ligule an eciliate membrane, 0.7–1.4 mm long, brown. Leaf-blade base cordate, symmetrical, with a brief petiole-like connection to sheath, petiole 0.3–0.4 cm long, petiole pubescent. Leaf-blades reflexed, lanceolate or ovate, 21–32 cm long, 56–80 mm wide. Leaf-blade venation parallel. Leaf-blade surface glabrous or pubescent, hairy abaxially. Leaf-blade margins scabrous. Leaf-blade apex acuminate. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle, terminal and axillary. Panicle open, corymbose, 10–23 cm long, 10–30 cm wide, contracted about primary branches. Primary panicle branches ascending or spreading, whorled at lower nodes, 13–20 cm long, bearing 2–4 fertile spikelets on each lower branch, bearing spikelets almost to the base. Panicle branches pilose, bearded in axils. Sexes segregated, on bisexual branches, with male below. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets pedicelled, 2 in a cluster. Pedicels present, (female) clavate, angular.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 16–20.5 mm long, 2.2–3 mm wide, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 16–20.5 mm long, 1.2–1.3 length of upper glume, herbaceous, without keels, 5 -veined. Lower glume lateral veins with cross-veins. Lower glume surface scabrous, rough above, inner surface pubescent. Lower glume apex attenuate, awned, 1 -awned, awn 1–6 mm long. Upper glume elliptic, 12.6–17.7 mm long, 1.5–1.9 length of adjacent fertile lemma, herbaceous, without keels, 5 -veined. Upper glume lateral veins with cross-veins. Upper glume surface scabrous, rough above, inner surface pubescent. Upper glume apex attenuate, awned, 1 -awned, awn 1–4 mm long.

Florets. Fertile florets female. Fertile lemma lanceolate, dorsally compressed, 8.4–9.2 mm long, indurate, pallid, without keel, 5 -veined, more than 3-veined. Lemma surface pitted, glabrous. Lemma margins involute. Lemma apex acute, without ornament. Palea indurate, without keels.

Flower and Fruit. Lodicules 3. Anthers 3. Stigmas 2. Caryopsis with adherent pericarp, fusiform, 6.2 mm long, light brown. Hilum linear, 1 length of caryopsis. Disseminule comprising a floret.

Male spikelets distinct from female, 1 flowered, lanceolate, 10.4–14.1 mm long, glabrous. Male spikelet glumes absent. Male spikelet lemma 3 -veined, awned, with 1 mm long awn.

Distribution (TDWG). Continent. South America.

Country /Province /State. Brazil. Brazil West Central, Brazil North.

Mato Grosso, Goias. Distrito Federal, Mato Grosso, Goiás, Mato Grosso do Sul. Pará.

Olyra wurdackii Swallen. *Phytologia*, xiv. 85 (1966).

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

TYPE from Venezuela. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: J.J. Wurdack & L.S. Adderley 43540, 21 Jul 1959, Venezuela: Amazonas (US-2307270, US-2307269).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of John Julius Wurdack (1921–) United States botanist.

Classification. Subfamily Bambusoideae. Tribe: Olyreae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 100–400 cm long, woody. Culm-internodes thin-walled, distally pubescent. Culm-nodes swollen, pubescent. Leaves cauline. Leaf-sheaths pubescent. Leaf-sheath auricles erect. Ligule an eciliate membrane or a ciliate membrane, 4–8 mm long, brown. Leaf-blade base broadly rounded, symmetrical, with a brief petiole-like connection to sheath, petiole glabrous. Leaf-blades lanceolate, 26 cm long, 52 mm wide, glaucous. Leaf-blade venation parallel. Leaf-blade surface glabrous. Leaf-blade margins ciliate, hairy at base. Monoecious, with male and female spikelets in the same inflorescence.

Inflorescence. Inflorescence a panicle, terminal and axillary. Panicle open, ovate, 15–30 cm long, 20–25 cm wide. Primary panicle branches ascending, whorled at lower nodes, bearing 2–5 fertile spikelets on each lower branch, bearing spikelets almost to the base. Panicle branches villous. Sexes segregated, on

bisexual branches, with male below. Spikelets solitary. Fertile spikelets pedicelled. Male spikelets pedicelled. Pedicels present, (female) linear, angular, ciliate, tip widened.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 7–7.5 mm long, 2.2–2.5 mm wide, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes elongated below proximal fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 7–7.5 mm long, 1 length of upper glume, herbaceous, without keels, 9 -veined. Lower glume lateral veins with cross-veins. Lower glume surface smooth or scabrous, inner surface pilose. Lower glume apex acuminate, muticous. Upper glume elliptic, 7–7.5 mm long, 1.3–1.4 length of adjacent fertile lemma, herbaceous, without keels, 7–9 -veined. Upper glume lateral veins with cross-veins. Upper glume surface smooth to scabrous, inner surface pilose. Upper glume apex acuminate.

Florets. Fertile florets female. Fertile lemma ovate, dorsally compressed, 5.5 mm long, indurate, pallid, shiny, without keel, more than 3-veined. Lemma surface smooth, glabrous. Lemma margins involute. Lemma apex acute. Palea indurate, without keels. Palea surface pubescent, hairy on back, hairy above, with turgid hairs.

Flower and Fruit. Lodicules 3. Anthers 3, 4–4.3 mm long. Stigmas 2. Disseminule comprising a floret. Male spikelets distinct from female, 1 flowered, lanceolate, 8.9–11.5 mm long, glabrous. Male spikelet glumes absent. Male spikelet lemma 3 -veined, awned, with 2.5–4 mm long awn.

Distribution (TDWG). Continent. South America.

Country /Province /State. Northern South America, Brazil. Venezuela. Brazil North. Amazonas.

Oncorachis macrantha (Trinius) Morrone & Zuloaga. *Taxon* 58: 372 (2009).

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

TYPE from Brazil. **Basionym or Replaced Name:** *Panicum macranthum* Trin., *Gram. Panic.* 209 (1826). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *G.H. von Langsdorff s.n.*, Brazil: Lagon Santa: in campis glareosis (LE-TRIN-0802.01 (& fig.); IT: US-974708 (fragm. ex LE)).

Recent Synonyms: *Streptostachys macrantha* (Trinius) F.O. Zuloaga & T.R. Soderstrom, *Smithsonian Contrib. Bot.*, 59: 50: (1985).

Illustrations: None found.

Illustrations (Journals): *Ann. Missouri Bot. Gard.* (78: 361, Fig.1 (1991) as *Streptostachys*).

Derivation (Clifford & Bostock 2007): Gk. *makros*, large; *anthos*, flower. Spikelets large.

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Arthropogoninae.

Habit, Vegetative Morphology. Perennial. Cataphylls evident (villous). Rhizomes short. Butt sheaths persistent and investing base of culm, with curly dead sheaths. Culms 50–70 cm long. Culm-internodes 5–15 cm long. Culm-nodes brown, glabrous or pubescent. Leaf-sheaths 6–14 cm long, glabrous on surface or pubescent. Ligule a fringe of hairs, 0.5–1 mm long. Leaf-blade base cordate. Leaf-blades lanceolate or ovate, 7–14 cm long, 7–13 mm wide. Leaf-blade surface glabrous or hirsute. Leaf-blade margins ciliate. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Peduncle 16–35 cm long. Panicle open, oblong, 5–10 cm long, 1.5–4 cm wide. Primary panicle branches whorled at lower nodes. Panicle branches stiff, glabrous in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, clavate, 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 elliptic, with obtuse base, dorsally compressed, 5.9–6.8 mm long, 2.1–2.5 mm wide, falling entire. Spikelet callus square, incorporating lowest rhachilla internode with adnate lower glume or supplemented by thickened base of upper glume, 0.5 mm long. Rhachilla internodes elongated between glumes or elongated below basal sterile floret. Rhachilla elongation stout.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 2.3–3.5 mm long, 0.33–0.5 length of spikelet, membranous, without keels, 1–3 -veined. Lower glume primary

vein smooth or scaberulous. Lower glume lateral veins absent or distinct. Lower glume apex acute. Upper glume ovate, 5–5.8 mm long, 0.8 length of spikelet, membranous, without keels, 5–7 -veined. Upper glume lateral veins transversely connected at apex. Upper glume surface glabrous or hispidulous, hairy above. 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 or coriaceous, 3–5 -veined, with veins transversely connected at apex, glabrous or hispidulous, acute. Palea of lower sterile floret hyaline. Fertile lemma ovate, 5.1–5.9 mm long, indurate, shiny, without keel, 5 -veined, more than 3-veined. Lemma surface papillose, pubescent. Lemma margins involute. Lemma apex obtuse. Palea 1 length of lemma, indurate, without keels.

Flower and Fruit. Lodicules 2, cuneate, fleshy. Caryopsis with adherent pericarp, ellipsoid, dorsally compressed, 3.6 mm long. Embryo 0.4 length of caryopsis. Hilum linear, 1 length of caryopsis.

Distribution (TDWG). Continent. South America.

Country /Province /State. Brazil, Southern South America. Brazil West Central. Paraguay. Goiás. Distrito Federal, Goiás.

Oncorachis ramosa F.O. Zuloaga & T.R. Soderstrom. *Smithsonian Contrib. Bot.*, 59: 52 (1985).

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

TYPE from Brazil. **Basionym or Replaced Name:** *Streptostachys ramosa* F.O. Zuloaga & T.R. Soderstrom, *Smithsonian Contrib. Bot.*, 59: 52 (1985). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *G. Davidse, T.P. Ramamoorthy & D.M. Vital 12216*, 8 Apr 1976, Brazil: Bahi? 22 km S of the Rio Galheirão along highway BR-020, elev. 860 m, treeless cerrado grasslands, perennial, stigmas purple (MO-2400694; IT: NY, SP).

Illustrations (Books): S.A.Renvoize, *The Grasses of Bahia*, 1984 (184, Fig. 69 as *Streptostachys*).

Derivation (Clifford & Bostock 2007): *L. ramus*, branch; *-osa*, abundance. Inflorescences or culms much branched.

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Arthropogoninae.

Habit, Vegetative Morphology. Perennial. Cataphylls evident (villous). Rhizomes short. Butt sheaths villous. Basal innovations flabellate. Culms erect, 150–200 cm long. Culm-internodes 8–20 cm long. Culm-nodes purple, glabrous or pubescent. Leaf-sheaths 15–40 cm long, longer than adjacent culm internode, keeled, glabrous on surface or pubescent, outer margin hairy. Ligule a fringe of hairs or absent, 0.8–2.5 mm long. Leaf-blade base cordate. Leaf-blades linear or lanceolate, 35–62 cm long, 10–14 mm wide, stiff. Leaf-blade surface glabrous or pubescent, hairy on both sides. Leaf-blade margins ciliate. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 30–45 cm long, 15–30 cm wide. Primary panicle branches not whorled or whorled at lower nodes or whorled at most nodes. Panicle branches stiff, pubescent in axils, with prominent pulvini. 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 elliptic, with obtuse base, dorsally compressed, 6.9–9.3 mm long, 2.1–2.5 mm wide, falling entire. Spikelet callus square, incorporating lowest rhachilla internode with adnate lower glume or supplemented by thickened base of upper glume, 0.5 mm long. Rhachilla internodes elongated between glumes or elongated below basal sterile floret. Rhachilla elongation stout.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 2.2–4.4 mm long, 0.33–0.5 length of spikelet, membranous, without keels, 3 -veined. Lower glume surface pubescent, hairy at apex. Lower glume apex acute. Upper glume ovate, 5.3–8.1 mm long, 0.75–0.9 length of spikelet, membranous, without keels, 5 -veined. Upper glume apex obtuse or 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, 3–5 -veined, acute. Palea of lower sterile floret hyaline. Fertile lemma elliptic or ovate, 5.4–7.9 mm long, indurate, pallid or light brown, shiny, without keel. Lemma surface papillose, pubescent. Lemma margins involute. Lemma apex obtuse. Palea 1 length of lemma, indurate, without keels.

Flower and Fruit. Lodicules 2, cuneate, fleshy. Caryopsis with adherent pericarp, ellipsoid, dorsally compressed, 3.8 mm long, green (olivaceous). Embryo 0.4 length of caryopsis. Hilum linear, 1 length of caryopsis.

Distribution (TDWG). Continent. South America.

Country /Province /State. Brazil. Brazil West Central, Brazil Northeast.

Mato Grosso, Goias, Bahia, Minas Gerais, Rio de Janeiro, Espirito Santo. Goiás. Bahia.

Ophiuros bombaiensis Bor. *Kew Bull.* 1951, 167 (1951).

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

Illustrations (Books): G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (Fig. 95).

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (Pl. 23).

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

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

Habit, Vegetative Morphology. Annual. Culms erect, 25–35 cm long. Leaf-sheaths glabrous on surface, outer margin hairy. Ligule an eciliate membrane, 1 mm long. Leaf-blades 10–15 cm long, 4–8 mm wide. Leaf-blade venation with obscure cross veins. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes, terminal and axillary. Peduncle widened at apex. Racemes 1, single, smoothly terete, bilateral, 5–8 cm long. Rhachis fragile at the nodes, subcylindrical and excavated. Spikelet packing abaxial, regular, 2 -rowed. Rhachis internodes oblong, 3 mm long. Rhachis internode tip transverse, crateriform. Spikelets sunken, in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, fused to internode, united wholly.

Sterile Spikelets. Companion sterile spikelets represented by barren pedicels.

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, 2.5 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus base truncate, with central peg, attached transversely.

Glumes. Glumes dissimilar, reaching apex of florets, firmer than fertile lemma. Lower glume oblong, 1 length of spikelet, coriaceous, 2-keeled, keeled above, keeled laterally, winged on keel, winged narrowly, winged near apex, 7 -veined. Lower glume surface smooth or cancellate. Lower glume apex obtuse. Upper glume elliptic, membranous, 3 -veined. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret lanceolate, hyaline. Fertile lemma lanceolate, 2 mm long, hyaline, without keel. Palea hyaline.

Flower and Fruit. Anthers 3, 1.5 mm long.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. Indian Subcontinent. India.

Maharashtra, Tamilnadu.

Ophiuros exaltatus (L.) Kuntze. *Rev. Gen. Pl.* 2:780 (1891).

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

TYPE from India. **Basionym or Replaced Name:** *Aegilops exaltata* L., *Mant. Pl.* 2: 575 (1771). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: India.

Illustrations (Books): C-C Hsu, *Taiwan Grasses* (1975) (as *Rottboellia exaltata*), N.L.Bor, *The grasses of Burma, Ceylon, India and Pakistan* (1960) (as *Rottboellia exaltata*), K.M.Mathew, *Illustrations on the Flora of Tamilnadu Carnatic* (1982) (Pl. 899 & 900 as *Rottboellia exaltata*), E.E.Henty, *A Manual of the Grasses of New Guinea* (1969) (82, Pl. 30 as *O. tongcalingii*), C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952) (313, Pl. 92), J.R.Wheeler et al, *Flora of the Kimberley Region* (1992) (1193, Fig. 338), J.C.Tothill, & J.B.Hacker. *The grasses of southern Queensland* (1983) (as *O.*

megaphyllus), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 900), E.Hafliger & E.Schultz, Grass Weeds, CIBA-GEIGY (1:119(1980) as *Rottboellia exaltata*), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Fig. 96).

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Pl. 23).

Derivation (Clifford & Bostock 2007): L. lofty. Culms tall.

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

Habit, Vegetative Morphology. Perennial. Culms robust, 150–200(–400) cm long. Lateral branches ample. Leaf-sheaths pilose, with tubercle-based hairs, outer margin hairy. Ligule an eciliate membrane. Leaf-blades elliptic, 50–100 cm long, 20–40 mm wide. Leaf-blade surface pilose, hairy on both sides. Leaf-blade margins spinulose.

Inflorescence. Synflorescence compound, fasciculate, 10–30 cm long.

Inflorescence composed of racemes, terminal and axillary, subtended by a spatheole. Spatheole linear, 3–6 cm long. Peduncle widened at apex. Racemes 1, single, smoothly terete, bilateral, 7–10 cm long. Rhachis fragile at the nodes, subcylindrical and excavated. Spikelet packing abaxial, regular, 2 -rowed. Rhachis internodes oblong, 3.5–4 mm long. Rhachis internode tip transverse, crateriform. Spikelets sunken, in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, fused to internode, united wholly.

Sterile Spikelets. Companion sterile spikelets represented by barren pedicels.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets oblong, dorsally compressed, 3.5–4 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus base truncate, with central peg, attached transversely.

Glumes. Glumes dissimilar, reaching apex of florets, firmer than fertile lemma. Lower glume oblong, 1 length of spikelet, coriaceous, without keels, keel-less except near apex, 7–9 -veined. Lower glume surface smooth or areolate. Lower glume apex obtuse. Upper glume elliptic, membranous, 1–3 -veined. Upper glume apex obtuse.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret ovate, hyaline. Fertile lemma ovate, hyaline, without keel. Palea hyaline.

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

Country /Province /State. **Western Indian Ocean.** Mauritius (*), Seychelles (*). **China.** China South Central, Hainan, China Southeast. **Indian Subcontinent, Indo-China, Malesia, Papuasia.** India, Sri Lanka. Laos, Myanmar, Thailand, Vietnam. Java, Lesser Sunda Is, Malaya, Philippines. New Guinea West Papua (Irian Jaya). New Guinea. **Australia.** Western Australia, Northern Territory, Queensland. **Caribbean.** Jamaica (as *Rottboellia exaltata*).

Fujian, Guangdong, Guangxi, Yunnan. Assam. Madhya Pradesh, Tamilnadu, Uttah Pradesh. Kimberley, Ereman. Darwin & Gulf, Victoria R & Barkly Tableland. North, Central. Distrito Federal (*).

Ophiuros megaphyllus Stapf ex Haines. *Bot. Bihar Orissa* 5: 1058 (1924).

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

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: In marshy places Tarai and Duars, probably in Puinea, Fl. Dec.,.

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (831, Fig. 63), J.C.Tothill,& J.B.Hacker. *The grasses of southern Queensland* (1983) (314).

Derivation (Clifford & Bostock 2007): Gk. *megas*, large; *phyllon*, leaf. Leaf-blades large.

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

Habit, Vegetative Morphology. Perennial. Culms robust, 150–200(–400) cm long. Leaf-sheaths pilose, with tubercle-based hairs, outer margin hairy. Ligule an eciliate membrane. Leaf-blades lanceolate, tapering towards tip, 15–100 cm long, 10–40 mm wide. Leaf-blade surface pubescent, hairy on both sides. Leaf-blade margins spinulose.

Inflorescence. Synflorescence compound, fastigiate.

Inflorescence composed of racemes, terminal and axillary, subtended by a spatheole. Spatheole linear. Peduncle widened at apex. Racemes 1, single, smoothly terete, bilateral, 7–10 cm long. Rhachis fragile at

the nodes, subcylindrical and excavated. Spikelet packing abaxial, regular, 2 -rowed. Rhachis internodes oblong, 2–4 mm long. Rhachis internode tip transverse, crateriform. Spikelets sunken, in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, fused to internode, united wholly.

Sterile Spikelets. Companion sterile spikelets represented by barren pedicels.

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, 2–4 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus base truncate, with central peg, attached transversely.

Glumes. Glumes dissimilar, reaching apex of florets, firmer than fertile lemma. Lower glume oblong, 1 length of spikelet, coriaceous, 2-keeled, keeled above, keeled laterally, 7–9 -veined. Lower glume surface smooth. Lower glume apex obtuse. Upper glume elliptic, membranous, 1–3 -veined. Upper glume apex obtuse.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret lanceolate, hyaline. Fertile lemma lanceolate, 2–4 mm long, hyaline, without keel. Palea hyaline.

Flower and Fruit. Anthers 3.

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

Country /Province /State. **Indian Subcontinent, Indo-China.** Assam, Eastern Himalaya. Myanmar, Thailand.

Darjeeling. Meghalaya.

Ophiuros papillosus Hochst. *Flora*, xxvii. 248. (1844).

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, Ethiopia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Ethiopia: In provincia Sennaar habitat, *Th. Kotschyi* 192 (IT:K) "in pll. exsicc. Florae Aethiopiae Th. Kotschy nr. 192".

Illustrations (Books): S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (366, Fig 152).

Derivation (Clifford & Bostock 2007): *L. papilla*, nipple; *-osa*, abundance. With papillae on the glumes or lemmas.

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

Habit, Vegetative Morphology. Annual. Culms 45–100 cm long. Ligule an eciliate membrane. Leaf-blade base broadly rounded. Leaf-blades lanceolate, 7–25 cm long, 8–20 mm wide. Leaf-blade surface pilose, with tubercle-based hairs. Leaf-blade margins cartilaginous, ciliate.

Inflorescence. Synflorescence compound, fasciculate, 30–60 cm long.

Inflorescence composed of racemes, terminal and axillary, subtended by a spatheole, embraced at base by subtending leaf. Spatheole linear. Racemes 1, single, smoothly terete, bilateral, 3–7 cm long. Rhachis fragile at the nodes, subcylindrical and excavated. Spikelet packing abaxial, regular, 2 -rowed. Rhachis internodes oblong, 2.5–3 mm long. Rhachis internode tip transverse, crateriform. Spikelets sunken, in pairs. Fertile spikelets sessile, 1 in the cluster. Companion sterile spikelets pedicelled, 1 in the cluster. Pedicels present, fused to internode, united wholly.

Sterile Spikelets. Companion sterile spikelets represented by barren pedicels.

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, 2.5–3 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus base truncate, with central peg, attached transversely.

Glumes. Glumes dissimilar, reaching apex of florets, firmer than fertile lemma. Lower glume oblong, 1 length of spikelet, coriaceous, without keels, keel-less except near apex, 9 -veined. Lower glume surface smooth or areolate. Lower glume apex obtuse. Upper glume elliptic, membranous, 3 -veined. Upper glume apex obtuse.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret oblong, 4 mm long, hyaline, 2 -veined. Fertile lemma linear, hyaline, without keel, 0 -veined, 0–3 -veined, without veins. Palea hyaline.

Distribution (TDWG). Continent. Africa.

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

Oplismenopsis najada (Hack. & Arech.) L. Parodi. *Not. Mus. La Plata, Bot.*, ii. 4 (1937).

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

TYPE from Uruguay. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: IT: *J. Arechavaleta s.n.*, Mar 1887, Uruguay: (US-80945 (fragm. ex W)). IT?: *J. Arechavaleta s.n.*, Uruguay: Depto. San Jos? Laguanas del Arazati, Arroyo Pavón (SI).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, Aristidoideae a Pharoideae (2012) (341), E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (436, Fig. 152), A.Burkat, *Flora Ilustrada de Entre Rios (Argentina)*, Pt II, Gramineas (1969) (333, Fig. 137), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (496, Fig. 128), B.Rosengurtt, *Gramineas Uruguayas I* (1970) (323, Fig. 137).

Derivation (Clifford & Bostock 2007): L. Naiad, a river nymph. Growing in swamps and pools.

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Arthropogoninae.

Habit, Vegetative Morphology. Perennial. Culms prostrate, 30–60 cm long, 4–12 mm diam., spongy, rooting from lower nodes. Leaf-sheaths inflated. Ligule a ciliolate membrane, 1–1.5 mm long. Leaf-blade base broadly rounded. Leaf-blades lanceolate or oblong, (1–)3–14 cm long, 10–27 mm wide. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Racemes 5–20, borne along a central axis, flexuous, unilateral, 2.5–12 cm long. Central inflorescence axis 10–20 cm long. Rhachis angular. Spikelet packing adaxial, lax. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 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 lanceolate, dorsally compressed, 6–8.5 mm long, falling entire.

Glumes. Glumes similar, reaching apex of florets or shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 0.33–0.5 length of spikelet, membranous, without keels, 3 -veined. Lower glume apex acuminate, awned, 1 -awned, awn 3 mm long. Upper glume elliptic, 6–8.5 mm long, 1.25 length of adjacent fertile lemma, membranous, without keels, 5–7 -veined. Upper glume apex acuminate, awned, 1 -awned, awn 3–5 mm long.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret elliptic, 6–8 mm long, 0.9–1 length of spikelet, membranous, 5 -veined, acute or acuminate, muticous or awned. Awn of lower sterile floret 0–1 mm long. Fertile lemma elliptic, 5–6.5 mm long, coriaceous, shiny, without keel, 5 -veined, more than 3-veined. Lemma margins involute. Lemma apex acute. Palea coriaceous.

Flower and Fruit. Hilum linear.

Distribution (TDWG). Continent. South America.

Country /Province /State. Brazil, Southern South America. Brazil South. Argentina Northeast, Uruguay.

Sao Paulo Parana. Rio Grande do Sul. Buenos Aires, Corrientes, Distrito Federal, Entre Rios, Santa Fe.

Oplismenus aemulus (R.Br.) Roem. & Schult. *Syst.* ii. 487 (1817).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Australia. **Basionym or Replaced Name:** *Orthopogon aemulus* R. Br., *Prodr.* 194 (1810). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Brown 6132*, Australia: 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) (309), J.C.Tothill, & J.B.Hacker. *The grasses of southern Queensland* (1983) (316), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989) (215, Fig. 34).

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

Derivation (Clifford & Bostock 2007): L. , more or less equalling. Subtending glumes more or less equal.

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

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

Country /Province /State. **Indo-China, Papuasia.** Thailand. New Guinea West Papua (Irian Jaya). New Guinea. **Australia, New Zealand.** Queensland, New South Wales, Victoria. Niue, New Caledonia, Samoa. Marquesas, Society Is.

North, Central, South East. Coast, Tablelands, Western Slopes, Western Plains.

Oplismenus burmannii (Retz.) P.Beauv. *Agrost.* 54 , 169 (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), J.F.Veldkamp, *Poaceae ms (Flora Malesiana)*, N.L.Bor, *Grasses of Burma, Ceylon, India and Pakistan* (1960), N.Tsvelev, *Grasses of the Soviet Union* (1983), W.D.Clayton & N.Snow, *Key to Pacific Grasses* (2010).

TYPE from India. **Basionym or Replaced Name:** *Panicum burmannii* Retz., *Observ. Bot.* 3: 10 (1783). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Koenig s.n.*, India: Madras (LD; IT: BM (4 sheets), C).

Illustrations (Books): J.Bosser, *Graminees des Paturage et des Cultures a Madagascar* (1969) (355, Fig. 133), H.J.Noltie, *The Grasses of Bhutan* (2000) (683, Fig. 37), H.B.Gilliland, *Grasses of Malaya* (1971) (Pl. 11), H.Duistermaat, *Field Guide to the Grasses of Singapore* (2005) (97, Fig. 94), J.A.Steyermark et al, *Flora of the Venezuelan Guayana* Vol. 8 (2004) (173, Fig. 125), W.Burger, *Flora Costaricensis* 15, *Gramineae: Fieldiana Botany New Series* 4 (1980) (343, Fig. 126), E.Hafliger & E.Schultz, *Grass Weeds*, CIBA-GEIGY (1:70(1980)), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (Fig. 149).

Illustrations (Journals): *Ruizia* (13:298, Fig 36e-g (1993)).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);, G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (Pl. 23).

Derivation (Clifford & Bostock 2007): in honor of Nicolaus Lorenz Burmann (1734–1793) Dutch botanist.

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

Habit, Vegetative Morphology. Annual. Culms prostrate, 10–60 cm long. Ligule a ciliate membrane. Leaf-blades lanceolate or ovate, 1–9 cm long, 5–20 mm wide. Leaf-blade venation with obscure cross veins.

Inflorescence. Inflorescence composed of racemes. Racemes 3–8, borne along a central axis, unilateral, 0.5–2.5 cm long. Central inflorescence axis 2–11 cm long. Rhachis angular, pilose on surface. Spikelet packing contiguous. Spikelets in pairs. Fertile spikelets sessile and pedicelled, 2 in the cluster, subequal or the lower smaller. 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, laterally compressed, 2.5–3.5 mm long, falling entire.

Glumes. Glumes similar or dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, 0.5–0.75 length of spikelet, herbaceous, 1-keeled, 5 -veined. Lower glume surface pubescent. Lower glume apex acute, awned, 1 -awned, awn 2.5–20 mm long, awn without vesture (but scaberulous). Upper glume ovate, herbaceous, 1-keeled, 5–7 -veined. Upper glume surface pubescent. Upper glume apex obtuse, muticous or awned, awn 0–4 mm long.

Florets. Basal sterile florets 1, barren, with palea or without significant palea. Lemma of lower sterile floret ovate, 1 length of spikelet, membranous, 1-keeled, 7–11 -veined, pubescent, without hair tufts or with a transverse fringe of hair, emarginate, mucronate. Fertile lemma oblong, dorsally compressed, 2–2.5 mm

long, coriaceous, shiny, without keel, 7 -veined, more than 3-veined. Lemma margins involute. Lemma apex acute, laterally pinched. Palea involute, coriaceous, without keels.

Flower and Fruit. $n = 9$ (1 ref TROPICOS), or 10 (1 ref TROPICOS). $2n = 36$ (1 ref TROPICOS), or 45 (1 ref TROPICOS).

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

Country /Province /State. **Macaronesia, West Tropical Africa, West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Southern Africa, Western Indian Ocean.** Cape Verde. Ghana, Guinea, Ivory Coast, Liberia, Nigeria, Senegal. Burundi, Central African Republic, Cameroon, Congo, Gabon, Annobon, Principe & Sao Tome, Bioko. Ethiopia (inc. Eritrea), Socotra, Sudan. Kenya, Tanzania. Malawi, Mozambique, Zambia, Zimbabwe. Namibia, Botswana, Limpopo. Mauritius, Madagascar, Reunion. **Caucasus, Arabian Peninsula.** Transcaucasus. Oman. **Indian Subcontinent, Indo-China, Malesia, Papuasia.** Bangladesh, Eastern Himalaya, India, Pakistan, Sri Lanka. Andaman Is, Myanmar, Thailand, Vietnam. Borneo, Java, Lesser Sunda Is, Moluccas, Sumatra, Sulawesi, Malaya, Philippines. New Guinea. **Australia.** Northern Territory, Queensland. **North-central Pacific.** Tonga. Hawaii. **Mexico.** 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, Panama. Cuba, Dominican Republic, Haiti, Jamaica, Windward Islands, Puerto Rico. Venezuela. Bolivia, Colombia, Ecuador, Peru. Brazil Northeast.

Darjeeling, Bhutan, Sikkim. Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura. Andhra Pradesh, Bihar, Chandigarh, Chattisgarh, Dadra-Nagar-Haveli, Delhi, Diu, Daman, Goa, Gujarat, Haryana, Jharkhand, Kerala, Karaikal, Karnataka. Mahe, Madhya Pradesh, Maharashtra, Orissa, Pondicherry, Punjab, Rajasthan, Tamilnadu, Uttah Pradesh, West Bengal, Yanam. Himachal Pradesh, Jammu Kashmir, Uttaranchal. Darwin & Gulf. North, Central. Ceará, Maranhão. Distrito Federal, Mexico State, Morelos, Puebla. Aguascalientes, Chihuahua, Durango, Guanajuato, Queretaro, San Luis Potosi, Tamaulipas, Zacatecas. Veracruz. Baja California Sur, Sinaloa, Sonora. Colima, Guerrero, Jalisco, Michoacan, Nayarit, Oaxaca. Campeche, Chiapas, Yucatan.

Oplismenus compositus (L.) P.Beauv. *Agrost.* 54, 169. (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), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.Koyama, *Grasses of Japan and its neighboring regions* (1987), W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).

TYPE from Sri Lanka. **Basionym or Replaced Name:** *Panicum compositum* L., *Sp. Pl.* 1: 57 (1753). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: LT: *Herb. Hermann* 42, v. 3, fol. 45, (BM-SL). LT designated by Hitchcock, U.S.D.A. Bull. 772: 238 (1920); also Davey & Clayton, Kew Bull. 33: ? (1978).

Illustrations (Books): R.M.Phill, F.T.E.A., *Gramineae* (3(1982):543, Fig.129), G.V.Pope et al., *Flora Zambesiaca* 10, J.Bosser, *Graminees des Paturage et des Cultures a Madagascar* (1969) (355, Fig. 133), T.Koyama, *Grasses of Japan and its neighbouring regions* (1987) (353, Fig. 137), C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (544), C-C Hsu, *Taiwan Grasses* (1975) (564, Pl. 1433 as var. *compositus*), K.M.Matthew, Illustrations on the *Flora of Tamilnadu Carnatic* (1982) (Pl. 901 & 902), H.J.Noltie, *The Grasses of Bhutan* (2000) (683, Fig. 37), H.B.Gilliland, *Grasses of Malaya* (1971) (170, Fig. 34), H.Duistermaat, *Field Guide to the Grasses of Singapore* (2005) (97, Fig. 95), E.E.Henty, *A Manual of the Grasses of New Guinea* (1969) (134, Pl. 52), Flora of Australia Oceanic Islands Poaceae 50(1993) & 49(1994) (50:509 Fig.93 (1993)), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), A.S.Hitchcock, *Manual of the Grasses of the West Indies* (1936) (323, Fig. 295 as *O. setarius*), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (835, Fig.172 as *O. setarius*), A.L.Cabrera, *Flora de la Provincia de Buenos Aires, IV Pt 2 Gramineas* (1970) (517, Fig. 135 as *O. setarius*), B.Rosengurt, *Gramineas Uruguayas I* (1970) (323, Fig. 137 as *O. setarius*), A.Burkat, *Flora Illustrada de Entre Rios (Argentina)*, Pt II, Gramineas (1969) (335, Fig. 138 as *O. setarius*), R.Pilger, *Die Natürlichen Pflanzenfamilien* 14e (1940) (48, Fig. 25), S-L Chen et al, *Flora of*

China, Illustrations, Poaceae (2007) (Figs. 706/708 as *Oplismenus compositus* var. *intermedius* & *O. compositus* var. *compositus* & *O. compositus* var. *submuticus* & *Oplismenus compositus* var. *owatarii*), E. Hafliger & E. Schultz, Grass Weeds, CIBA-GEIGY (1:71(1980)), G.G. Potgar, C.B. Salunkhe & S.R. Yadav, Grasses of Maharashtra (2012) (Fig. 150).

Illustrations (Journals): *Ruizia* (13:298, Fig 36m (1993)).

Images: H.B. Gilliland et al., *Flora of Malaya Vol. 3 Grasses* (1971);.

Derivation (Clifford & Bostock 2007): *L. composito*, bring together. Inflorescence with many short branches.

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

Habit, Vegetative Morphology. Perennial. Culms prostrate, 15–150 cm long. Ligule a ciliate membrane. Leaf-blades lanceolate or ovate, 2–15 cm long, 8–25 mm wide. Leaf-blade venation with obscure cross veins.

Inflorescence. Inflorescence composed of racemes. Racemes 4–12, borne along a central axis, unilateral, 2.5–11 cm long (lowest). Central inflorescence axis 5–25 cm long. Rhachis angular, glabrous on surface or pilose on surface. Spikelet packing lax, regular, 2 -rowed. Spikelets in pairs. Fertile spikelets sessile and pedicelled, 2 in the cluster, subequal or the lower smaller. 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, laterally compressed, 2.5–4 mm long, falling entire.

Glumes. Glumes similar or dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, 0.5–0.75 length of spikelet, herbaceous, 1-keeled, 5 -veined. Lower glume surface glabrous or pubescent. Lower glume apex acute, awned, 1 -awned, awn 3–10 mm long, awn viscid. Upper glume ovate, herbaceous, 1-keeled, 5–7 -veined. Upper glume surface glabrous or pubescent. Upper glume apex obtuse, mucous or awned, awn 0–4 mm long.

Florets. Basal sterile florets 1, barren, with palea or without significant palea. Lemma of lower sterile floret ovate, 1 length of spikelet, membranous, 1-keeled, 7–11 -veined, glabrous or pubescent, emarginate, mucronate. Fertile lemma oblong, dorsally compressed, 2–2.5 mm long, coriaceous, shiny, without keel, 7 -veined, more than 3-veined. Lemma margins involute. Lemma apex acute, laterally pinched. Palea involute, coriaceous, without keels.

Flower and Fruit. Hilum linear, 0.5 length of caryopsis.

$n = 9$ (1 ref TROPICOS), or 20 (2 refs TROPICOS).

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

Country /Province /State. Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Western Indian Ocean. Eritrea, Ethiopia (inc. Eritrea), Socotra, Sudan. Kenya, Tanzania, Uganda. Malawi, Mozambique, Zambia, Zimbabwe. Mauritius, Madagascar, Seychelles. Western Asia, Arabian Peninsula, China, Eastern Asia. Iran. Oman. China South Central, Hainan, China Southeast, Tibet. Japan Kyushu. Japan, Kazan-retto, Nansei-Shoto, Ogasawara-shoto, Taiwan. Indian Subcontinent, Indo-China, Malesia, Papuasia. Bangladesh, Eastern Himalaya, Pakistan, Sri Lanka. Andaman Is, Cambodia, Laos, Myanmar, Thailand, Vietnam. Java, Lesser Sunda Is, Malaya, Moluccas, Philippines, Sulawesi, Sumatra, Christmas I. New Guinea West Papua (Irian Jaya). New Guinea, Solomon Is. Australia. Northern Territory, Queensland. Southwestern Pacific, South-central Pacific, Northwestern Pacific, North-central Pacific. Fiji (*), Niue (*), New Caledonia (*), Samoa, Tonga, Vanuatu. Cook Is (*), Marquesas (& as *O. setarius*), Pitcairn Is, Society Is, Tuamotu Is, Tubuai Is. Caroline Is (*), Marianas, Marshall Is. Hawaii (*). Mexico. Central Mexico, Northeast Mexico, Gulf (Mexico), Northwest Mexico, Southwest Mexico, Southeast Mexico. Mesoamerica, Caribbean, Western South America. Costa Rica, Guatemala, Panama. Bahamas, Bermuda, Cuba, Dominican Republic, Haiti, Jamaica, Leeward Is, Windward Islands, Puerto Rico, Trinidad-Tobago. Colombia, Ecuador, Peru.

Fujian, Guangdong, Guangxi, Jiangxi, Zhejiang. Guizhou, Sichuan, Yunnan. Darjeeling, Bhutan, Sikkim. Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura. Andhra Pradesh, Bihar, Chandigarh, Chattisgarh, Dadra-Nagar-Haveli, Delhi, Diu, Daman, Goa, Gujarat, Haryana, Jharkhand, Kerala, Karaikal, Karnataka, Mahe, Madhya Pradesh, Maharashtra, Orissa, Pondicherry, Punjab, Rajasthan, Tamilnadu, Uttar Pradesh, West Bengal, Yanam. Himachal Pradesh, Jammu Kashmir, Uttaranchal. Darwin & Gulf. North, Central. Distrito Federal. Santa Catarina. Mexico State, Morelos, Puebla. Guanajuato, Queretaro, Tamaulipas. Veracruz. Sinaloa, Colima, Guerrero, Jalisco, Michoacan, Nayarit, Oaxaca. Chiapas.

Oplismenus flavicomus Mez. *Notizbl. Bot. Gart. Berlin*, vii. 55 (1917).

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

TYPE from Madagascar. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Forsyth-Major 208*, Madagascar (B; IT: G).

Illustrations: None found.

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

Habit, Vegetative Morphology. Annual. Culms prostrate, 100 cm long. Culm-internodes distally glabrous. Culm-nodes glabrous. Leaves cauline. Leaf-sheaths striately veined, outer margin hairy. Leaf-sheath oral hairs pubescent. Ligule an eciliate membrane, 0.5 mm long. Leaf-blades lanceolate, 8–12 cm long, 7–20 mm wide, fleshy. Leaf-blade venation with obscure cross veins. Leaf-blade surface pilose. Leaf-blade margins scaberulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 6–9, borne along a central axis, unilateral, 1–2 cm long. Central inflorescence axis 15–23 cm long, pilose. Rhachis angular, puberulous on surface and pilose on surface. Spikelet packing contiguous. Spikelets in pairs. Fertile spikelets sessile and pedicelled, 2 in the cluster, subequal or the lower smaller. 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, laterally compressed, 4–6 mm long, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet or reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 0.9 length of upper glume, 0.6 length of spikelet, herbaceous, 1-keeled, 5 -veined. Lower glume surface pilose. Lower glume apex acute, awned, 1 -awned, awn 4–7 mm long, awn without vestiture (but scaberulous). Upper glume ovate, herbaceous, 1-keeled, 5 -veined. Upper glume surface pilose. Upper glume apex acute, mucronate, awn 0.5–1 mm long.

Florets. Basal sterile florets 1, barren, with palea or without significant palea. Lemma of lower sterile floret ovate, 1 length of spikelet, membranous, 1-keeled, 7 -veined, pilose (sparsely), hairy above, acute, mucronate. Fertile lemma oblong, dorsally compressed, 5 mm long, coriaceous, shiny, without keel, 5 -veined, more than 3-veined. Lemma margins involute. Lemma apex acute. Palea involute, coriaceous, without keels.

Flower and Fruit. Anthers 3, 1.3–2 mm long.

Distribution (TDWG). Continent. Africa.

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

Oplismenus fujianensis S.L. Chen & Y.X. Jin. *Acta Phytotax. Sin.*, 22(6): 469 (1984).

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

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: China, Fujian, Nanning: Univ. Xiamen. 452 (PE holo).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 707).

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

Habit, Vegetative Morphology. Perennial. Culms erect or geniculately ascending, robust, 40–50 cm long. Leaf-sheaths subequal to internodes, pilose, with tubercle-based hairs. Ligule a ciliate membrane. Leaf-blade base cordate or amplexicaul, asymmetrical. Leaf-blades lanceolate or ovate, 5–10 cm long, 15–25 mm wide. Leaf-blade surface pubescent, densely hairy, hairy on both sides. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Racemes 4–12, borne along a central axis, unilateral, 2–5 cm long. Central inflorescence axis 10–15 cm long, pilose. Rhachis angular. Spikelet packing regular, 2 -rowed. Spikelets in pairs. Fertile spikelets sessile and pedicelled, 2 in the cluster, subequal or the lower smaller. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate or ovate, laterally compressed, 2.5–5 mm long, falling entire.

Glumes. Glumes shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, 0.5–0.66 length of spikelet, herbaceous, 1-keeled, 3–5 -veined. Lower glume apex acute. Upper glume ovate, herbaceous, 1-keeled. Upper glume apex obtuse, awned, 1 -awned, awn 0.5 mm long.

Florets. Basal sterile florets 1, barren, with palea. Lemma of lower sterile floret ovate, 1 length of spikelet, membranous, 1-keeled, 7–9 -veined. Fertile lemma oblong, dorsally compressed, 2–2.5 mm long, coriaceous, without keel, more than 3-veined. Lemma margins involute. Lemma apex acute, laterally pinched. Palea involute, coriaceous, without keels.

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

Country /Province /State. **China.** China Southeast.
Fujian.

Opismenus hirtellus (L.) P.Beauv. *Ess. Agrost.*:54, 170 (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), J.F.Veldkamp, *Poaceae* ms (*Flora Malesiana*), W.D.Clayton & N.Snow, *Key to Pacific Grasses* (2010).

TYPE from Jamaica. **Basionym or Replaced Name:** *Opismenus setarius*, *Panicum hirtellum* L., *Syst. Nat.* (ed. 10) 870 (1759). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: LT: *Browne s.n.*, Jamaica (LINN-80.28). LT designated by Hitchcock, *Contr. U.S. Natl. Herb.* 12: 119 (1908).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, *Aristidoideae* a *Pharoideae* (2012) (342 & 343), H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (244, Fig. 172), W. Robyns (1929 and 1934). *Flora Agrostologique du Congo Belge et du Ruanda-Urundi*, I. Maydees et *Andropogonees* and II. *Panicees*. Bruxelles, Goemaere (149, Pl. 33), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (364, Fig. 313), G.E.Gibbs Russell et al, *Grasses of Southern Africa* (1990) (228, Fig. 145), S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (193, Fig. 80), E.E.Henty, *A Manual of the Grasses of New Guinea* (1969) (134, Pl. 52), N.Walsh & T.Entwistle, *Flora of Victoria* Vol 2 (1994) (583, Fig. 118), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989) (215, Fig. 34 as var. *imbecillis*), *Flora of Australia Oceanic Islands Poaceae* 50(1993) & 49(1994) (49: 468 Fig.95 (1993)), 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) (554, Fig. 22 as subsp. *imbecillis*), W.L.Wagner et al., *Manual of the Flowering Plants of Hawai'i*, Vol. 2 (1990) (1564, Pl. 232), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 25 *Poaceae*, part 2 (2003) (391), F.W.Gould, *The Grasses of Texas* (1975) (530, Fig. 278), A.S.Hitchcock, *Manual of the Grasses of the West Indies* (1936) (324, Fig. 296), S.A.Renvoize, *Gramineas de Bolivia* (1998) (379, Fig. 80), S.A.Renvoize, *The Grasses of Bahia*, 1984 (110, Fig. 39), J.A.Steyermark et al, *Flora of the Venezuelan Guayana* Vol. 8 (2004) (173, Fig. 125), E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (438, Fig. 153), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (835, Fig. 172), W.Burger, *Flora Costaricensis* 15, *Gramineae: Fieldiana Botany New Series* 4 (1980) (343, Fig. 126), F.O.Zuloaga et al, *Flora del Paraguay* 23 (1994) (201, Fig. 201 & 206, Fig. 37 as ssp. *setarius*), B.Rosengurtt, *Gramineas Uruguayas* I (1970) (323, Fig. 137), G.Harling & C.Persson, *Flora of Ecuador* (2006) (78: 9, Fig. 1 (2006)), E.Judziewicz, *Flora of the Guianas*, 187. *Poaceae* (1990) (356, Fig 66), E.Hafliger & E.Schultz, *Grass Weeds*, CIBA-GEIGY (1:72(1980)).

Illustrations (Journals): *Ruizia* (13:298, Fig 36n (1993)).

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. hirtus*, hairy; *-ellus*, diminutive. Plants with slightly hairy leaves or spikelets.

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

Habit, Vegetative Morphology. Perennial. Culms prostrate, 15–100 cm long, rooting from lower nodes. Ligule a ciliate membrane. Leaf-blades lanceolate to ovate, 1–13 cm long, 4–20 mm wide. Leaf-blade venation with obscure cross veins.

Inflorescence. Inflorescence composed of racemes. Racemes 3–9, borne along a central axis, unilateral, 0.5–3 cm long. Central inflorescence axis 3–15 cm long. Rhachis angular, glabrous on surface or pilose on

surface. Spikelet packing contiguous, regular, 2 -rowed. Spikelets in pairs. Fertile spikelets sessile and pedicelled, 2 in the cluster, subequal or the lower smaller. 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, laterally compressed, 2–4 mm long, falling entire.

Glumes. Glumes similar or dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, 0.5–0.7 length of spikelet, herbaceous, 1-keeled, 5 -veined. Lower glume surface glabrous or pubescent. Lower glume apex acute, awned, 1 -awned, awn 3–14 mm long, awn viscid. Upper glume ovate, herbaceous, 1-keeled, 5–7 -veined. Upper glume surface glabrous or pubescent. Upper glume apex obtuse, mucicous or awned, awn 2–4 mm long.

Florets. Basal sterile florets 1, barren, with palea or without significant palea. Lemma of lower sterile floret ovate, 1 length of spikelet, membranous, 1-keeled, 7–11 -veined, glabrous or pubescent, emarginate, mucronate. Fertile lemma oblong, dorsally compressed, 2–2.5 mm long, coriaceous, shiny, without keel, 7 -veined, more than 3-veined. Lemma margins involute. Lemma apex acute, laterally pinched. Palea involute, coriaceous, without keels.

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

Country /Province /State. **Macaronesia, West Tropical Africa, West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Southern Africa, Western Indian Ocean.** Cape Verde, Madeira. Ghana, Guinea, Ivory Coast, Nigeria, Senegal, Sierre Leone, Togo. Burundi, Central African Republic, Cameroon, Congo, Gabon, Annobon, Principe & Sao Tome, Bioko, Rwanda. Eritrea, Ethiopia (inc. Eritrea), Sudan. Kenya, Tanzania, Uganda. Angola, Malawi, Zambia, Zimbabwe. Limpopo, North-West, Mpumalanga, Swaziland, Kwazulu-Natal, Western Cape, Eastern Cape. Mauritius, Madagascar, Rodrigues. **Arabian Peninsula.** Yemen. **Indian Subcontinent, Malesia, Papuasias.** Borneo, Java, Moluccas, Philippines, Sulawesi. New Guinea West Papua (Irian Jaya). New Guinea, Solomon Is. **Australia, New Zealand.** Western Australia, Northern Territory, Queensland, New South Wales, Victoria, Lord Howe-Norfolk Is. Kermadec Is, New Zealand North I, New Zealand South I. **Southwestern Pacific, South-central Pacific, Northwestern Pacific, North-central Pacific.** Fiji, Niue, New Caledonia, Samoa, Tonga, Vanuatu. Marquesas, Pitcairn Is, Society Is, Tubuai Is. Caroline Is, Marianas. Hawaii (*). **South-central USA, Southeastern USA, Mexico.** Texas. Alabama, Florida, Georgia, Louisiana, 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.** Belize, Costa Rica, El Salvador, Honduras, Nicaragua, Panama. Aruba, Bermuda, Cuba, Dominican Republic, Haiti, Jamaica, Leeward Is, Windward Islands, Puerto Rico, Trinidad-Tobago, Venezuelan and Netherlands Antilles. French Guiana, Guyana, Surinam, Venezuela. Bolivia, Colombia, Ecuador, Galapagos. Brazil West Central, Brazil Northeast, Brazil Southeast, Brazil North, Brazil South. Argentina Northeast, Argentina Northwest, Paraguay, Uruguay.

Kimberley. Darwin & Gulf. North, Central, South East. Coast, Tablelands, Western Slopes. Distrito Federal, Goiás. Alagoas, Bahia, Ceará, Fernando do Noronha, Maranhão, Pernambuco, Paraíba, Piauí, Rio Grande do Norte (RN), Sergipe. Acre. Rio de Janeiro, Sao Paulo. Paraná. Catamarca, Jujuy, Salta, Tucuman. Buenos Aires, Chaco, Corrientes, Entre Rios, Formosa, Misiones, Santa Fe. Morelos, Puebla, Tlaxcala. Aguascalientes, Hidalgo, Neuvo Leon, Queretaro, San Luis Potosi, Tamaulipas. Veracruz. Baja California, Sonora. Colima, Jalisco, Michoacan, Oaxaca. Campeche, Chiapas, Quintana Roo.

Oplismenus imbecillis (R. Br.) Roem. & Schult. *Syst. Veg.* 2: 487 (1817).

TYPE from Australia. **Basionym or Replaced Name:** *Orthopogon imbecillis* R. Br., *Prodr.* 194 (1810). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Australia: New South Wales: Port Jackson, *Brown 6133* (HT: BM; IT: E, LE) 'Sattelberg bei Finschhafen im Walde.'

Illustrations (Books): S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (309).

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

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

Country /Province /State. **Papuasias. Australia, New Zealand.** Queensland, New South Wales, Victoria.

North, South East. Coast.

Oplismenus mollis (Domin) Clifford & Evans ex B.K. Simon. *Austrobaileya* 8: 209 (2010).

TYPE from Australia. **Basionym or Replaced Name:** *Oplismenus undulatifolius* var. *mollis* Domin, *Biblioth. Bot.* 85: 329 (1915). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: *Domin s.n.*, Australia: Sud-Queensland: Tambourine Mts. (PR?). ST: *Guilfoyle s.n.*, Australia: New South Wales: Tweed River (PR?).

Illustrations (Books): S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler,, *Grasses of New South Wales*, 4th edn (2008) (309, as *O.undulatifolius*).

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

Distribution (TDWG). Continent. Australasia.

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

North, Central, South East. Coast.

Oplismenus patens Honda. Fedde, *Repert.* 20: 360 (1924).

Accepted by: S-L Chen et al, *Flora of China* 22 (Poaceae) (2006).

TYPE from Japan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: LT: *Uchiyama s.n.*, LT designated by Scholz, Phan. Monogr. 13: 87 (1981). ST: *Kuroiwa s.n.*, (TI?).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 707 as *Oplismenus patens* var. *patens*).

Derivation (Clifford & Bostock 2007): *L. pateo*, lie open. Inflorescence or culm branches diverging at near right angles from the parent axis.

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

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. China, Eastern Asia. China South Central, Hainan, China Southeast. Japan, Taiwan.

Fujian, Guangdong. Yunnan.

Oplismenus thwaitesii Hook. f. *Trim. Fl. Ceylon*, v. 169. (1900).

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 Sri Lanka. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: IT: *G.H.K. Thwaites 3964 (C.P.)*, Mar 1868, Sri Lanka (US-1298769).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of George Henry Kendrick Thwaites (1812–1882) English-born botanist, sometime Superintendent Botanic Gardens, Paradeniya, Sri Lanka.

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

Habit, Vegetative Morphology. Annual. Culms prostrate, 10–25 cm long. Ligule a ciliate membrane. Leaf-blades lanceolate or ovate, 1–3 cm long, 2.5–5 mm wide. Leaf-blade venation with obscure cross veins.

Inflorescence. Inflorescence composed of racemes. Racemes 3–4, borne along a central axis, unilateral, 1–2 cm long. Central inflorescence axis 3–6 cm long. Rhachis angular, glabrous on surface. Spikelet packing lax. Spikelets in pairs. Fertile spikelets sessile and pedicelled, 2 in the cluster, subequal or the lower smaller. 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, laterally compressed, 2.5–3.5 mm long, falling entire.

Glumes. Glumes similar or dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, 0.5–0.75 length of spikelet, herbaceous, 1-keeled, 5 -veined. Lower glume surface pubescent. Lower glume apex acute, awned, 1 -awned, awn 0.5–1.5 mm long, awn without vestiture (but scaberulous). Upper glume ovate, herbaceous, 1-keeled, 5–7 -veined. Upper glume surface pubescent. Upper glume apex obtuse, muticous or mucronate.

Florets. Basal sterile florets 1, barren, with palea or without significant palea. Lemma of lower sterile floret ovate, 1 length of spikelet, membranous, 1-keeled, 7–11 -veined, pubescent, emarginate, mucronate. Fertile lemma oblong, dorsally compressed, 2–2.5 mm long, coriaceous, shiny, without keel, 7 -veined, more than 3-veined. Lemma margins involute. Lemma apex acute, laterally pinched. Palea involute, coriaceous, without keels.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. Indian Subcontinent. Sri Lanka.

Oplismenus undulatifolius (Ard.) Roemer & Schultes, non P.Beauv.(1812), nom nud. *Syst. Veg.*, 2: 482 (1817).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006), N.L.Bor, *Grasses of Burma, Ceylon, India and Pakistan* (1960), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983), T.Koyama, *Grasses of Japan and its neighboring regions* (1987).

TYPE from Italy (cv). **Basionym or Replaced Name:** *Panicum undulatifolium* Ard., *Animad. Spec. Alt.* 14, pl. 4 (1764). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Arduino s.n.*, (M; IT: C).

Illustrations (Books): G.Hegi, *Flora von Mitteleuropa* 1 (1909) (as *Hoplismenus undulatifolius*), T.Koyama, *Grasses of Japan and its neighbouring regions* (1987) (355, Fig 138), C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (546), C-C Hsu, *Taiwan Grasses* (1975) (as var. *japonica*), K.M.Matthew, *Flora Palni Hills* (1996) (849, Pl 849), T.A.Cope, *Flora of Pakistan* 143: *Poaceae* (1982) (187, Fig 20), H.J.Noltie, *The Grasses of Bhutan* (2000) (683, Fig. 37), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989) (215, Fig. 34 as var. *mollis*), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 706 as *Oplismenus undulatifolius* var. *undulatifolius*), E.Hafliger & E.Schultz, *Grass Weeds*, CIBA-GEIGY (1:73(1980)).

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

Derivation (Clifford & Bostock 2007): *L. undulatus*, wavy; *folium*, leaf. The surface of the leaf-blade assumes the form of shallow waves.

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

Habit, Vegetative Morphology. Perennial. Culms prostrate, 15–50 cm long. Ligule a ciliate membrane. Leaf-blades lanceolate or ovate, 1–7 cm long, 4–15 mm wide. Leaf-blade venation with obscure cross veins.

Inflorescence. Inflorescence composed of racemes. Racemes 5–11, borne along a central axis, cuneate, unilateral, 0.5–1 cm long, bearing few fertile spikelets, bearing 2–6 fertile spikelets on each (in a fascicle). Central inflorescence axis 2–8 cm long. Rhachis angular, glabrous on surface or pilose on surface. Spikelet packing crowded. Spikelets in pairs. Fertile spikelets sessile and pedicelled, 2 in the cluster, subequal or the lower smaller. 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, laterally compressed, 2.5–4 mm long, falling entire.

Glumes. Glumes similar or dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, 0.5–0.75 length of spikelet, herbaceous, 1-keeled, 5 -veined. Lower glume surface glabrous or pubescent. Lower glume apex acute, awned, 1 -awned, awn 7–14 mm long, awn viscid. Upper glume ovate, herbaceous, 1-keeled, 5–7 -veined. Upper glume surface glabrous or pubescent. Upper glume apex obtuse, mucous or awned, awn 0–4 mm long.

Florets. Basal sterile florets 1, barren, with palea or without significant palea. Lemma of lower sterile floret ovate, 1 length of spikelet, membranous, 1-keeled, 7–11 -veined, glabrous or pubescent, emarginate, mucronate. Fertile lemma oblong, dorsally compressed, 2–2.5 mm long, coriaceous, shiny, without keel, 7 -veined, more than 3-veined. Lemma margins involute. Lemma apex acute, laterally pinched. Palea involute, coriaceous, without keels.

Flower and Fruit. $2n = 12$ (1 ref TROPICOS).

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

Region. Southwestern Europe, Southeastern Europe, Middle Europe.

Country /Province /State. : Switzerland. : Spain. : Italy, Yugoslavia. **West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Southern Africa, Western Indian Ocean.** Ethiopia (inc. Eritrea). Kenya, Tanzania. Malawi, Mozambique, Zambia, Zimbabwe. Botswana, Limpopo, Mpumalanga, Swaziland, Kwazulu-Natal, Western Cape, Eastern Cape. Madagascar. **Caucasus, Western Asia, China, Eastern Asia.** China South Central, China North-Central, China Southeast. Japan Hokkaido, or Honshu, or Shikoku, or Kyushu. Japan, Taiwan. **Indian Subcontinent, Indo-China, Malesia, Papuasias.** Eastern Himalaya, Pakistan, Sri Lanka, West Himalaya. Thailand. Borneo, Java, Lesser Sunda Is, Moluccas, Philippines, Sulawesi. New Guinea West Papua (Irian Jaya). New Guinea. **Australia.** Queensland, New South Wales. Hawaii (*).

Hebei, Shaanxi, Shandong, Shanxi. Anhui, Fujian, Guangdong, Guangxi, Henan, Hunan, Jiangsu, Jiangxi, Zhejiang. Guizhou, Hubei, Sichuan, Yunnan. Bhutan. Punjab, Uttar Pradesh. North, Central, South East. Coast.

Orcuttia californica Vasey. *Bull. Torrey Bot. Club*, xiii. 219 (1886).

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

TYPE from Mexico. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: C.R. Orcutt 1439, 21 Apr 1886, Mexico: Baja California Norte: near San Quintin Bay (US-81384; IT: ARIZ, DS, MEXU, MO-1837553, UC).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 25 *Poaceae*, part 2 (2003) (293).

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

Classification. Subfamily Chloridoideae. Tribe: Paniceae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Annual, caespitose. Culms prostrate, 5–15(–20) cm long. Leaves without demarcation between sheath and blade. Leaf-sheaths viscid. Ligule absent. Leaf-blades 1–2 cm long, 2–3 mm wide, viscid, aromatic. Leaf-blade surface pilose, sparsely hairy.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, bilateral, 3–6 cm long. Rhachis angular, pubescent on surface. Spikelet packing broadside to rhachis, distant (below). Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 5–15(–25) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–12 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 2–3(–4) mm long, 1 length of upper glume, chartaceous, without keels, 5–9 -veined. Lower glume apex dentate, 2–5 -fid. Upper glume lanceolate, 2–3(–4) mm long, 0.5–0.75 length of adjacent fertile lemma, chartaceous, without keels, 5–9 -veined. Upper glume apex dentate, 2–5 -fid.

Florets. Fertile lemma oblong, 5 mm long, chartaceous, keeled, 15 -veined, more than 3-veined. Lemma lateral veins prominent. Lemma apex lobed, 5 -fid, with simple equal lobes, incised 0.33 of lemma length, mucronate, 5 -awned. Palea 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules absent. Anthers 3, 2 mm long. Stigmas 2, sparsely hairy. Caryopsis with adherent pericarp, ellipsoid, laterally compressed, 1.5–1.8 mm long, dark brown. Embryo 0.75 length of caryopsis.

$2n = 32$ (1 ref TROPICOS).

Distribution (TDWG). Continent. North America.

Country /Province /State. Southwestern USA, Mexico. California. Northwest Mexico.

Baja California.

Orcuttia inaequalis Hoover. *Madrono*, iii. 229 (1936).

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

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *R.F. Hoover* 582, 28 May 1935, USA: California: Stanislaus Co.: Montpellier (UC; IT: US-1645282).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 25 *Poaceae*, part 2 (2003) (293).

Classification. Subfamily Chloridoideae. Tribe: Paniceae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect or geniculately ascending, 2–15 cm long. Leaves without demarcation between sheath and blade. Leaf-sheaths viscid. Ligule absent. Leaf-blades 1–2 cm long, 2–3 mm wide, viscid, aromatic. Leaf-blade surface pilose, sparsely hairy.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, bilateral, 3–6 cm long. Rhachis angular, pubescent on surface. Spikelet packing broadside to rhachis. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 5–15(–25) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4–10 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 1 length of upper glume, chartaceous, without keels, 5–9 -veined. Lower glume apex dentate, 2–5 -fid. Upper glume lanceolate, 0.5–0.75 length of adjacent fertile lemma, chartaceous, without keels, 5–9 -veined. Upper glume apex dentate, 2–5 -fid.

Florets. Fertile lemma oblong, 3–4 mm long, chartaceous, keeled, 15 -veined, more than 3-veined. Lemma lateral veins prominent. Lemma apex lobed, 5 -fid, with outer lobes shorter, incised 0.33 of lemma length, mucronate, 5 -awned. Palea 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules absent. Anthers 3. Stigmas 2, sparsely hairy. Caryopsis with adherent pericarp.

$2n = 24$ (1 ref TROPICOS).

Distribution (TDWG). Continent. North America.

Country /Province /State. Southwestern USA. California.

Orcuttia pilosa Hoover. *Bull. Torr. Bot. Cl.* lxxviii. 155 (1941).

Accepted by: R.J.Soreng et al., *Catalogue of 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: *Hoover* 3624, 10 Jul 1938, USA: California: Stanislaus Co.: E of Waterford (UC; IT: DS, US-1789361, US-1815889).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 25 *Poaceae*, part 2 (2003) (293).

Derivation (Clifford & Bostock 2007): *L. pilus*, a hair; *-osa*, abundance. The whole plant or any of its organs invested with long spreading hairs.

Classification. Subfamily Chloridoideae. Tribe: Paniceae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect or geniculately ascending or decumbent, 5–20(–35) cm long. Lateral branches lacking. Leaves without demarcation between sheath and blade. Leaf-sheaths viscid, pilose. Ligule absent. Leaf-blades 1–2 cm long, 3–5(–8) mm wide, viscid, aromatic. Leaf-blade surface pilose, sparsely hairy.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, bilateral, 5–10 cm long. Rhachis angular. Spikelet packing broadside to rhachis, crowded (above) or distant (below). Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 10–40 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the

upper sterile. Spikelets ovate, laterally compressed, 10–15 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3 mm long, 1 length of upper glume, chartaceous, without keels, 5–9 -veined. Lower glume apex dentate, 3 -fid. Upper glume lanceolate, 3 mm long, 0.5–0.75 length of adjacent fertile lemma, chartaceous, without keels, 5–9 -veined. Upper glume apex dentate, 3 -fid.

Florets. Fertile lemma oblong, 4–5 mm long, chartaceous, keeled, 15 -veined, more than 3-veined. Lemma lateral veins prominent. Lemma apex lobed, 5 -fid, with simple equal lobes, incised 0.33–0.5 of lemma length, awned, 5 -awned. Principal lemma awn 0.5 mm long overall. Lateral lemma awns present, arising on apex of lobes, subequal to principal. Palea 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules absent. Anthers 3, 2.5–3 mm long, pallid. Stigmas 2, sparsely hairy. Caryopsis with adherent pericarp, ellipsoid, laterally compressed, 2 mm long, light brown, smooth. Embryo 0.75 length of caryopsis.

$2n = 30$ (1 ref TROPICOS).

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

Country /Province /State. Southwestern USA. California.

Orcuttia tenuis Hitchcock. *Am. Journ. Bot.* xxi. 131. (1934).

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

TYPE from USA. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: A. Eastwood 1013, 29 Jun 1912, USA: California: Shasta Co.: Goose Valley (US-734402; IT: CAS, MO-848913, RM, UC). = Amer. Grass Nat. Herb. 686.

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 25 *Poaceae*, part 2 (2003) (293).

Derivation (Clifford & Bostock 2007): L. thin. Culms, leaf-blades or pedicels, slender.

Classification. Subfamily Chloridoideae. Tribe: Paniceae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Annual, culms solitary. Culms erect or geniculately ascending, 5–15(–25) cm long. Lateral branches sparse, arising from upper culm. Leaves without demarcation between sheath and blade. Leaf-sheaths viscid. Ligule absent. Leaf-blades 1–2 cm long, 1.5–2 mm wide, viscid, aromatic. Leaf-blade surface pilose, sparsely hairy.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, bilateral, 5–10 cm long. Rhachis angular. Spikelet packing broadside to rhachis, lax. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 5–20 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, 12–15 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 3–6 mm long, 1 length of upper glume, chartaceous, without keels, 5–9 -veined. Lower glume apex dentate, 2–5 -fid. Upper glume lanceolate, 3–6 mm long, 0.75–1 length of adjacent fertile lemma, chartaceous, without keels, 5–9 -veined. Upper glume apex dentate, 2–5 -fid.

Florets. Fertile lemma oblong, 4.5–6 mm long, chartaceous, keeled, 15 -veined, more than 3-veined. Lemma lateral veins prominent. Lemma apex lobed, 5 -fid, with simple equal lobes, incised 0.5 of lemma length, mucronate. Palea 1 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules absent. Anthers 3, 3 mm long, pallid. Stigmas 2, sparsely hairy. Caryopsis with adherent pericarp, oblong, laterally compressed, 3 mm long, light brown, smooth. Embryo 0.9 length of caryopsis.

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

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

Country /Province /State. Southwestern USA. California.

Orcuttia viscida (Hoover) J.R. Reeder. *Phytologia*, 47(3): 221 (1980).

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

TYPE from USA. **Basionym or Replaced Name:** *Orcuttia californica* var. *viscida* Hoover, *Bull. Torrey Bot. Club* 68(3): 155 (1941). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: Hoover 3709, 30 Jul 1938, USA: California: Sacramento Co.: S of Folsom (UC; IT: DS, US-1789362).

Illustrations (Books): M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 25 *Poaceae*, part 2 (2003) (293).

Derivation (Clifford & Bostock 2007): L. sticky. Plant sticky to touch.

Classification. Subfamily Chloridoideae. Tribe: Paniceae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Annual. Culms erect or geniculately ascending, 3–10 cm long. Lateral branches lacking. Leaves without demarcation between sheath and blade. Leaf-sheaths viscid. Ligule absent. Leaf-blades 2–4 mm wide, viscid, aromatic. Leaf-blade surface pilose.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, bilateral, 3–5 cm long, bearing few fertile spikelets, bearing 6–20 fertile spikelets on each. Rhachis angular. Spikelet packing broadside to rhachis, crowded. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 5–15 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, 5–12 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume lanceolate, 5–6 mm long, 1 length of upper glume, chartaceous, without keels, 5–9 -veined. Lower glume apex lobed, 3 -fid, setaceously acuminate. Upper glume lanceolate, 5–6 mm long, chartaceous, without keels, 5–9 -veined. Upper glume apex lobed, 3 -fid, setaceously acuminate.

Florets. Fertile lemma oblong, 6–7 mm long, chartaceous, keeled, 15 -veined, more than 3-veined. Lemma lateral veins prominent. Lemma apex lobed, 5 -fid, with outer lobes shorter, incised 0.5 of lemma length, awned, 5 -awned. Principal lemma awn 1–2 mm long overall. Palea 0.75 length of lemma, 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules absent. Anthers 3, 2 mm long. Stigmas 2, sparsely hairy. Caryopsis with adherent pericarp, ellipsoid, laterally compressed, 2.3–2.5 mm long, light brown. Embryo 1 length of caryopsis.

$2n = 28$ (1 ref TROPICOS).

Distribution (TDWG). Continent. North America.

Country /Province /State. Southwestern USA. California.

Oreobambos buchwaldii K. Schum. *Notizbl. Bot. Gart. Berlin*, i. 178 (1896).

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: HT: Buchwald 233, no date, Tanzania (B (destroyed); IT: US-2876343).

Illustrations (Books): R.M.Phill, F.T.E.A., *Gramineae*, G.V.Pope et al., *Flora Zambesiaca* 10 (1(1971):20, t.4).

Derivation (Clifford & Bostock 2007): in honor of Johannes Buchwald (1869–1927) German botanist.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes short, pachymorph. Butt sheaths absent. Culms geniculately ascending, 450–1800 cm long, 50–100 mm diam., woody. Culm-internodes thin-walled, mid-green. Lateral branches dendroid. Branch complement two or three, in an irregular line, with 1 branch dominant. Culm-sheaths present, pilose, with dark brown hairs, without auricles, setose on shoulders. Culm-sheath blade linear. Leaves cauline. Leaf-sheath oral hairs lacking. Ligule an eciliate membrane. Leaf-blade base broadly rounded, with a brief petiole-like connection to sheath. Leaf-blades deciduous at the ligule, lanceolate to oblong, 10–35 cm long, 25–60 mm wide, light green or glaucous. Leaf-blade venation with obscure cross veins. Leaf-blade apex acuminate.

Inflorescence. Synflorescence bractiferous, clustered at the nodes, in oblong clusters, 1.5–2 cm long, dense, with spathaceous subtending bracts (an involucre of dark brown bracts 8–14 mm long), with axillary buds at base of spikelet, prophyllate below lateral spikelets, leafless between clusters.

Fertile Spikelets. Spikelets comprising 2 fertile florets, with a barren rhachilla extension. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed or subterete, 12–15 mm long, falling entire.

Glumes. Glumes one the lower absent or obscure, shorter than spikelet, similar to fertile lemma in texture, shiny. Upper glume ovate, 9–11 mm long, 0.8–0.9 length of adjacent fertile lemma, chartaceous, dark brown, without keels, 11–18 -veined. Upper glume apex obtuse.

Florets. Fertile lemma ovate, 10–13.5 mm long, chartaceous, without keel, 11–23 -veined, more than 3-veined. Lemma lateral veins with cross-veins. Lemma margins convolute. Lemma apex obtuse. Palea 5–11 -veined. Palea keels scaberrulous. Rhachilla extension 0.5 length of fertile floret, pubescent.

Flower and Fruit. Lodicules absent. Anthers 6, anther tip apiculate. Stigmas 1, papillose. Ovary umbonate, pubescent on apex. Caryopsis with free soft pericarp, hairy at apex, apex umbonate.

Distribution (TDWG). Continent. Africa.

Country /Province /State. East Tropical Africa, South Tropical Africa. Tanzania, Uganda. Malawi, Zambia, Zimbabwe.

Oreochloa blanka Deyl. *Op. Bot. Cech.* iii. 244 (1946).

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).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): from Pic Blanc, in the High Pyrenees.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Rhizomes short. Culms 5–25 cm long. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 0.2–1 mm long. Leaf-blades filiform, involute, 2–10 cm long, 0.5–1 mm wide, stiff. Leaf-blade venation with continuous uniform subepidermal sclerenchyma layer on the underside.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, oblong, unilateral, 1–1.5 cm long. Rhachis glabrous on surface. Spikelet packing broadside to rhachis, crowded, regular, 2 -rowed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 3–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2.5–3.5 mm long, 1 length of upper glume, membranous, 1-keeled, keeled above, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume ovate, 2.5–3.5 mm long, 0.7–0.9 length of adjacent fertile lemma, membranous, 1-keeled, keeled above, 1–3 -veined. Upper glume lateral veins absent or obscure. Upper glume apex acute.

Florets. Fertile lemma ovate, 3.5–4 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface pubescent, hairy below. Lemma hairs 0.4–0.8 mm long. Lemma apex acute, mucous or mucronate. Palea keels ciliate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Hilum elliptic.

Distribution (TDWG). Continent. Europe.

Region. Southwestern Europe.

Country /Province /State. : France, Spain.

Oreochloa confusa (Coincy) Rouy. *Fl. France*, xiv. 168 (1913).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, T.G.Tutin et al, *Flora Europaea* 5 (1980).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. confused. Likely to be mistaken for another species.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes elongated. Culms 5–20 cm long. Leaf-sheaths longer than adjacent culm internode, glabrous on surface. Ligule an eciliate membrane, 2–4 mm long. Leaf-blades flat or convolute, 2–6 cm long, 0.5–1 mm wide, firm. Leaf-blade surface scabrous.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, oblong, unilateral, 1–1.5 cm long. Rhachis glabrous on surface. Spikelet packing broadside to rhachis, crowded, regular, 2 -rowed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 3–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2–3 mm long, 1 length of upper glume, membranous, 1-keeled, keeled above, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume ovate, 2–3 mm long, 0.5–0.66 length of adjacent fertile lemma, membranous, 1-keeled, keeled above, 1–3 -veined. Upper glume lateral veins absent or obscure. Upper glume apex acute.

Florets. Fertile lemma ovate, 4–4.5 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface puberulous, hairy below. Lemma apex acute. Palea keels ciliate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Hilum elliptic.

Distribution (TDWG). Continent. Europe.

Region. Southwestern Europe.

Country /Province /State. : Spain.

Oreochloa disticha (Wulf) Link. *Hort. Berol.* i. 44 (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 Europe. **Basionym or Replaced Name:** *Poa disticha* Wulfen, *Misc. Austriac.* 2: 74 (1781). T:<Type of Basionym>: *vide* TROPICOS and Kew Synonymy Database: Europe, se: Hall. hist. helv. num. 1447 cited [Austria or Hungary],.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk *distichos*, in two rows. Spikelets borne in two rows on the spike.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 6–20(–30) cm long. Leaf-sheaths glabrous on surface or pilose. Ligule an eciliate membrane, 2–3(–6) mm long, obtuse or acute. Leaf-blades filiform, convolute, 10–15 cm long, 0.2–0.6 mm wide. Leaf-blade surface glabrous or pilose.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, oblong, unilateral, 0.9–1.4 cm long. Rhachis pubescent on surface. Spikelet packing broadside to rhachis, crowded, regular, 2 -rowed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes pilose.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 3.5–4 mm long, 1 length of upper glume, membranous, 1-keeled, keeled above, 1 -veined. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 3.5–4 mm long, 0.8 length of adjacent fertile lemma, membranous, 1-keeled, keeled above, 1 -veined. Upper glume lateral veins absent. Upper glume apex acute.

Florets. Fertile lemma ovate, 4–5 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma surface pilose, hairy below. Lemma apex acute, muticous or mucronate. Palea keels ciliate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Hilum elliptic.

Distribution (TDWG). Continent. Europe.

Region. Middle Europe, Southwestern Europe, Southeastern Europe, Eastern Europe.

Country /Province /State. : Austria, Czechoslovakia, Germany, Poland, Switzerland. : France. : Italy, Romania, Yugoslavia. Northwest European Russia, Ukraine.

Oreochloa seslerioides (All.) Richt. *Pl. Europ. i.* 78 (1890).

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:** *Poa seslerioides* All., *Fl. Pedem.* 2: 246 (1785). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Italy,.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resembling. Similar to *Sesleria* usually with respect to habit or inflorescence.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, culms solitary or caespitose, clumped loosely. Rhizomes elongated. Culms 15–40 cm long. Leaf-sheaths mostly shorter than adjacent culm internode, glabrous on surface. Ligule an eciliate membrane, 1–1.5 mm long. Leaf-blades flat or convolute, 4–10 cm long, 1–2 mm wide, firm. Leaf-blade surface smooth.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, oblong, unilateral, 0.5–1.5 cm long, 0.5–1.2 mm wide. Rhachis glabrous on surface. Spikelet packing broadside to rhachis, crowded, regular, 2 -rowed. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong.

Fertile Spikelets. Spikelets comprising 3–7 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet. Lower glume ovate, 2–3 mm long, 1 length of upper glume, membranous, 1-keeled, keeled above, 1–3 -veined. Lower glume lateral veins absent or obscure. Lower glume apex acute. Upper glume ovate, 2–3 mm long, 0.5–0.66 length of adjacent fertile lemma, membranous, 1-keeled, keeled above, 1–3 -veined. Upper glume lateral veins absent or obscure. Upper glume apex acute.

Florets. Fertile lemma ovate, 4–4.5 mm long, membranous, much thinner on margins, keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma surface puberulous, hairy below. Lemma apex acute. Palea keels ciliate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Hilum elliptic.

Distribution (TDWG). Continent. Europe.

Region. Southwestern Europe, Southeastern Europe.

Country /Province /State. : France. : Italy.

Oreopoa anatolica H.Scholz & Parolly. *Willdenowia* 34(1): 146 (-148; fig.) (2004).

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, Beydaglari: Doring, Parolly & Tolimar P6358 (B holo, E, ISTE).

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Poeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms erect, 9–13(–15) cm long, 0.5–0.8 mm diam., 1–2 -noded. Culm-internodes striate, distally glabrous. Leaves mostly basal. Ligule an eciliate membrane, 0.2–0.6 mm long, erose. Leaf-blades filiform or linear, convolute, 15–30 cm long, 0.5–1 mm wide, stiff, grey-green. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, pyramidal, 3–6 cm long, 2–5 cm wide, bearing few spikelets, with spikelets clustered towards branch tips. Primary panicle branches spreading, 1–3 -nate, 1–2.5 cm long, bearing 1–3 fertile spikelets on each lower branch. Panicle branches flexuous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 3–5(–6) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, (4–)5–7(–8) mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet, similar to fertile lemma in texture. Lower glume elliptic, 2–2.5 mm long, 0.75 length of upper glume, membranous, much thinner on margins, without keels, 1(–3) -veined. Lower glume lateral veins absent. Lower glume apex erose, acute. Upper glume elliptic, 2.5–3.5 mm long, 1 length of adjacent fertile lemma, membranous, with hyaline margins, without keels, 3 -veined. Upper glume apex erose, obtuse.

Florets. Fertile lemma elliptic, 2.5–3.5 mm long, membranous, much thinner on margins, purple, without keel, 5(–7) -veined, more than 3-veined. Lemma apex erose, acute. Apical sterile florets resembling fertile though underdeveloped.

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

Country /Province /State. Western Asia. Turkey.

Orinus alticulmus L.B. Cai & Tong Lin Zhang. *Novon* 18: 275 (2008).

Illustrations (Journals): *Novon* (18: 276, fig.1 (2008)).

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes elongated, scaly. Culms erect, (28–)40–75 cm long, 1.3–2.2 mm diam., 5–6 -noded. Culm-nodes pubescent. Leaf-sheaths longer than adjacent culm internode, glabrous on surface. Ligule an eciliate membrane, 1 mm long, lacerate. Leaf-blades flat or involute, 8–14 cm long, 2–3.5 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence composed of racemes. Racemes 4–7, borne along a central axis, unilateral, 1.5 cm long. Central inflorescence axis 5–20 cm long. Spikelet packing broadside to rachis. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–6 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, 8–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Rachilla internodes 1 mm long, pubescent.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 4–5 mm long, 0.8 length of upper glume, membranous, much thinner on margins, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface glabrous. Lower glume apex obtuse. Upper glume lanceolate, 4.5–6 mm long, 1 length of adjacent fertile lemma, herbaceous, with membranous margins, 1-keeled, 3 -veined. Upper glume surface glabrous. Upper glume apex obtuse.

Florets. Fertile lemma lanceolate, 4.5–5.5 mm long, chartaceous, keeled, distinctly keeled, 3 -veined, 0–3 -veined. Lemma midvein pubescent. Lemma surface pubescent, hairy all along, hairy on veins. Lemma apex acute. Palea lanceolate, 1.1 length of lemma. Palea keels pubescent. Palea apex emarginate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 1.5–2.4 mm long, purple. Caryopsis with adherent pericarp, oblong, 2.2–2.6 mm long, light brown.

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

Country /Province /State. China. Qinghai.

Orinus anomala P. C. Keng. *Acta Bot. Sin.* ix. 68 (1960).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006).

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: China: Sichuan: mountain slopes, July 1940, K.L. Chu 7469 (HT: NJU).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *anomalos*, irregular. Diverging from the normal, often with respect to number of lemmas in the spikelet or otherwise unusual for the genus in some respect.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated, scaly. Culms erect, 37–50 cm long, 1 mm diam., 4–5 -noded. Culm-internodes distally pubescent. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs scanty or ciliate. Ligule an eciliate membrane, 0.5 mm long, erose, truncate. Leaf-blades erect, involute, 7–12 cm long, 2–3.5 mm wide, coriaceous. Leaf-blade surface glabrous or pilose, sparsely hairy, hairy adaxially. Leaf-blade apex attenuate.

Inflorescence. Inflorescence composed of racemes. Racemes borne along a central axis, erect, unilateral, 3.5–4 cm long, bearing 7–9 fertile spikelets on each. Central inflorescence axis 10 cm long. Rhachis angular, scaberulous on margins. Spikelet packing broadside to rhachis. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 0.6–1.2 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 oblong, laterally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 1.5 mm long, pubescent, hairy above.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 3–3.5 mm long, 0.75 length of upper glume, membranous, 1-keeled, 1 -veined or 3 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent or distinct. Lower glume apex acuminate. Upper glume ovate, 4–4.5 mm long, 0.8–0.9 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex acuminate.

Florets. Fertile lemma oblong, 5 mm long, chartaceous, keeled, 3 -veined, 0–3 -veined. Lemma midvein scaberulous, pubescent, hairy below. Lemma margins ciliate, hairy below. Lemma apex acute. Palea 1 length of lemma, 2 -veined. Palea keels scaberulous. Palea apex emarginate. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, cuneate, 0.5 mm long, fleshy. Anthers 3, linear, 2 mm long, yellow. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. China. China South Central, Qinghai. Sichuan.

Orinus kokonorica (Hao) Keng. *Claves Gen. & Spec. Gramin. Sinic.* 176 (1957).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006).

TYPE from China. **Basionym or Replaced Name:** *Cleistogenes kokonorica* K.S. Hao, *Bot. Jahrb. Syst.* 68(5): 582 (1938). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: China: Qinghai: 'Tsi-gi-gan-ba-Gebiet, scheint dort eine reine Formation zu bilden', 3340 m, 24 Aug. 1930, *Hopkingson* 998 (HT: B).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 637).

Derivation (Clifford & Bostock 2007): L. -ica, belonging to. From Koko Nor, now Ching Hai Su, China.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated, scaly. Butt sheaths persistent and investing base of culm, with compacted dead sheaths. Culms erect, 40 cm long. Culm-internodes distally glabrous. Leaf-sheaths smooth or scaberulous. Ligule an eciliate membrane, 1.5 mm long, lacerate. Leaf-blades 8–15 cm long, 3–6 mm wide. Leaf-blade surface glabrous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence composed of racemes. Racemes borne along a central axis, erect, unilateral, 5 cm long. Central inflorescence axis 20 cm long. Rhachis angular. Spikelet packing broadside to rhachis. Spikelets 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 oblong, laterally compressed, 5–6 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 lanceolate, 3.5–4 mm long, 0.8–0.9 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 4–4.5 mm long, 1 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume lateral veins prominent. Upper glume apex acute.

Florets. Fertile lemma elliptic, 4.5 mm long, chartaceous, keeled, 3 -veined, 0–3 -veined. Lemma surface villous, hairy at base. Lemma margins villous. Lemma apex entire or dentate, 2 -fid, acute, mucronate. Palea 2 -veined. Apical sterile florets resembling fertile though underdeveloped.

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

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. China. China North-Central, Qinghai.
Gansu.

Orinus longiglumis X. Su & L.B. Cai. *Ann. Bot Fenn.* 46: 144–145 (2009).

Illustrations: None found.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Orinus thoroldii (Stapf ex Hemsl.) Bor. *Kew Bull.* 1951, 454 (1952).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006), N.L.Bor, *Grasses of Burma, Ceylon, India and Pakistan* (1960).

TYPE from China. **Basionym or Replaced Name:** *Diplachne thoroldii* Stapf ex Hemsl., *J. Linn. Soc., Bot.* 30(206): 121 (1894). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: China: Xizang: 4800 m, 1892, *Thorold 120* (HT: K).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 652).

Derivation (Clifford & Bostock 2007): in honor of William Grant Thorold (fl. 1890) British surgeon-naturalist who collected in Tibet, China and Ghana.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Perennial. Cataphylls evident. Rhizomes elongated. Culms erect, 30–50 cm long. Ligule an eciliate membrane, 1 mm long, lacerate. Leaf-blades flat or involute, 10–15 cm long, 2–4 mm wide, glaucous. Leaf-blade surface ribbed, hirsute. Leaf-blade apex attenuate, hardened.

Inflorescence. Inflorescence composed of racemes. Racemes 4–8, borne along a central axis, deflexed to erect, unilateral, 1–7 cm long. Central inflorescence axis 7–15 cm long. Rhachis angular. Spikelet packing broadside to rhachis. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, oblong, 0.5–1 mm long, glabrous.

Fertile Spikelets. Spikelets comprising 2–3(–4) fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 7–9 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 4–5 mm long, 0.8 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume primary vein scabrous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 5–6 mm long, 1 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume surface scabrous, rough on veins. Upper glume margins eciliate or ciliate. Upper glume apex acute.

Florets. Fertile lemma elliptic, 5.5–6 mm long, chartaceous, mid-green to black, keeled, 3 -veined, 0–3 -veined. Lemma surface pilose, hairy all along, hairy on back. Lemma apex acute, muticous or mucronate. Palea lanceolate, 0.8 length of lemma, 2 -veined. Palea keels ciliate. Palea surface pilose. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 2, cuneate, fleshy. Anthers 3, 2.5–2.75 mm long. Caryopsis with adherent pericarp, fusiform, isodiametric, biconvex, 2.5 mm long. Embryo 0.33 length of caryopsis. Hilum elliptic.

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

Country /Province /State. Western Asia, China. Iran. Qinghai, Tibet, Xinjiang. **Indian Subcontinent.** Nepal, Pakistan, West Himalaya.
Jammu Kashmir.

Orinus tibeticus N.X. Zhao. *Acta Bot. Yunnan.* 16(3): 228, f. 1 (1994).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: China: Xizang: Dingjie Xian, Duozhazhong-Dingjie, in sbulosis et montibus, 4400 m, 16 July 1960, *G.X. Fu & J.W. Zhang 0107B* (HT: PE; IT: SCBI).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. -ica*, belonging to. From Tibet Autonomous region, China.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated, scaly. Culms erect, 15–35 cm long. Culm-internodes distally pilose. Leaf-sheaths pilose, outer margin hairy. Leaf-sheath oral hairs ciliate. Ligule an eciliate membrane, 1 mm long, lacerate. Leaf-blades linear or lanceolate, 2–8 cm long, 2–4 mm wide. Leaf-blade surface ribbed, hirsute, hairy on both sides. Leaf-blade apex attenuate, hardened.

Inflorescence. Inflorescence composed of racemes. Racemes 4–8, borne along a central axis, unilateral, 3–5 cm long. Central inflorescence axis (3.5–)5–9 cm long. Rhachis angular. Spikelet packing broadside to rhachis. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 5–8 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 8–11 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume lanceolate, 4.5–5.5 mm long, 0.9 length of upper glume, membranous, much thinner on margins, purple, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume surface glabrous or pilose. Lower glume apex acute. Upper glume lanceolate, 5–6 mm long, 1 length of adjacent fertile lemma, membranous, with hyaline margins, purple, without keels, 3 -veined. Upper glume surface glabrous or pilose. Upper glume apex acute.

Florets. Fertile lemma elliptic, 5–6 mm long, chartaceous, keeled, lightly keeled, 3 -veined, 0–3 -veined. Lemma surface pilose, hairy all along, hairy on back. Lemma apex acute. Palea 2 -veined. Palea keels ciliate. Palea surface pubescent. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Anthers 3, 3 mm long. Caryopsis with adherent pericarp, oblong.

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

Country /Province /State. China. Tibet.

Oropetium aristatum (Stapf) Pilger. *Engl. Bot. Jahrb.* lxxiv. 14 (1947).

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

Basionym or Replaced Name: *Lepturella aristata* Stapf, *Bull. Soc. Bot. France: Mem.* 8: 222 (1912).

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (220, Fig. 144 as *Leturella*).

Derivation (Clifford & Bostock 2007): *L. arista*, bristle; *-ata*, possessing. The apices of lemmas, paleas or glumes drawn out into a distinct awn.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Annual, cushion forming. Culms erect, 5–10 cm long. Ligule a ciliolate membrane. Leaf-blades involute, 1–2 cm long, 0.5 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, smoothly terete, 1–2 cm long. Rhachis fragile at the nodes, subcylindrical and excavated. Spikelet packing adaxial, regular, 2 -rowed. Rhachis internodes linear, 3 mm long. Spikelets sunken, 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 lanceolate, dorsally compressed, 3–3.5 mm long, falling entire, deciduous with accessory branch structures. Floret callus pubescent.

Glumes. Glumes dissimilar, reaching apex of florets, firmer than fertile lemma, recurved at apex. Lower glume linear, 0.5–0.7 mm long, 0.2 length of upper glume, hyaline, without keels, 0 -veined. Lower glume lateral veins absent. Upper glume lanceolate, 3–3.5 mm long, 1 length of adjacent fertile lemma, coriaceous, without keels, 3 -veined. Upper glume lateral veins ribbed. Upper glume apex acuminate, awned, 1 -awned, awn 5–6 mm long.

Florets. Fertile lemma oblong, 3–3.5 mm long, hyaline, without keel, 3 -veined, 0–3 -veined. Lemma apex dentate, 2 -fid, awned, 1 -awned. Principal lemma awn from a sinus, 2–2.5 mm long overall. Palea hyaline, 2 -veined. Palea apex with excurrent keel veins.

Flower and Fruit. Caryopsis with tardily free pericarp, fusiform, 2 mm long.

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

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

Oropetium capense Stapf. Dyer, *Fl. Cap.* vii. 742. (1900).

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

TYPE from South Africa. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: *MacOwen s.n.*, South Africa: Somerset Division: near Somerset East ST: *Burchell 2057*, South Africa: Griqualand West: on the Asbestos Mountains (K). ST: *Burchell 2091*, South Africa: plains at the foot of Asbestos Mountains between Kloof village and Witte Water ST: *Dinter s.n.*, Namibia: Hereroland.

Illustrations (Books): G.V.Pope et al., *Flora Zambesiaca* 10 (2(1999):32, t. 14), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (204, Fig. 180), G.E.Gibbs Russell et al, *Grasses of Southern Africa* (1990) (229, Fig. 146), S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (99, Fig 41).

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

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

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Culms erect, 3–14 cm long. Ligule a ciliolate membrane. Leaf-blades filiform, flat or conduplicate or convolute, 1–4 cm long, 0.5–1.2 mm wide, stiff. Leaf-blade apex obtuse or acute.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, straight or arcuate, smoothly terete, 1.5–10 cm long. Rhachis fracturing into irregular segments, subcylindrical and excavated, 0.5–1 mm wide. Spikelet packing adaxial, regular, 2 -rowed. Spikelets sunken, 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 lanceolate, dorsally compressed, 2–3(–4) mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent.

Glumes. Glumes deciduous, dissimilar, exceeding apex of florets, firmer than fertile lemma, parallel to lemmas or recurved at apex. Lower glume oblong, 0.1–0.4 mm long, 0.2 length of upper glume, hyaline, without keels, 0 -veined. Lower glume lateral veins absent. Lower glume apex truncate. Upper glume lanceolate, 2–3(–4) mm long, 1.3–1.6 length of adjacent fertile lemma, herbaceous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 1.5–2(–2.5) mm long, membranous, without keel, 3 -veined, 0–3 -veined. Lemma apex dentate, 2 -fid, mucronate. Palea hyaline, 2 -veined.

Flower and Fruit. Caryopsis with tardily free pericarp, fusiform, 1–1.5 mm long.

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

Country /Province /State. Northern Africa, Macaronesia, West Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Southern Africa. Morocco. Canary Is. Mali. Eritrea, Ethiopia (inc. Eritrea), Somalia. Kenya, Tanzania. Angola, Mozambique, Zimbabwe. Namibia, Botswana, Limpopo, North-West, Gauteng, Mpumalanga, Free State, Kwazulu-Natal, Lesotho, Northern Cape, Western Cape, Eastern Cape. **Arabian Peninsula.** Oman, Saudi Arabia.

Oropetium minimum (Hochst.) Pilger. *Engl. Bot. Jahrb.* lxxiv. 14 (1947).

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

TYPE from Ethiopia. **Basionym or Replaced Name:** *Chaetostichium minimum*, *Chaetostichium majusculum*, *Lepturus minimus* Hochst., *Flora* 38: 332 (1855). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Schimper 1145*, 1853, Ethiopia: Semien, Jaja (STR; IT: P).

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (220, Fig. 145 as *Chaetostichium majusculum*), R.M.Phillips, F.T.E.A., *Gramineae* (2(1974):308, Fig. 85), S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (99, Fig. 41), T.A.Cope, in M.Thulin, *Poaceae* (Gramineae). *Flora of Somalia* (1995) (173, Fig. 87).

Illustrations (Journals): *Hooker's Icones Plantarum* (t.3341 (1937) as *Chaetostichium*).

Derivation (Clifford & Bostock 2007): L. least. Smallest of the known species.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 5–15 cm long. Ligule a ciliate membrane. Leaf-blades flat or conduplicate or convolute, 2–5 cm long, 0.5–1 mm wide. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, arcuate or flexuous or watch-spring spiralled, smoothly terete, unilateral or bilateral, 3–8 cm long. Rhachis fracturing into irregular segments, semiterete, 1 mm wide. Spikelet packing adaxial, regular, 2 -rowed. Spikelets sunken, 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 lanceolate, dorsally compressed, 2.5–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent.

Glumes. Glumes deciduous, dissimilar, exceeding apex of florets, firmer than fertile lemma, parallel to lemmas or recurved at apex. Lower glume oblong, 0.5 mm long, 0.1–0.2 length of upper glume, hyaline, without keels, 0 -veined. Lower glume lateral veins absent. Lower glume apex truncate. Upper glume lanceolate, 2.5–4 mm long, 1.2–1.3 length of adjacent fertile lemma, herbaceous, without keels, (1–)3 -veined. Upper glume apex acuminate, awned, 1 -awned, awn 2–18 mm long.

Florets. Fertile lemma elliptic or oblong, (1.5–)2–3 mm long, membranous, without keel, 3 -veined, 0–3 -veined. Lemma apex dentate, 2 -fid, mucronate. Palea hyaline, 2 -veined.

Flower and Fruit. Caryopsis with tardily free pericarp, ellipsoid or oblong, 1.2–2 mm long.

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

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

Country /Province /State. Northeast Tropical Africa, East Tropical Africa. Chad, Ethiopia (inc. Eritrea), Somalia. Kenya, Tanzania. **Arabian Peninsula.** Saudi Arabia, Yemen.

Oropetium roxburghianum (Schult.) S.M. Phillips. *Kew Bull.*, 30(3): 469 (1975).

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

Basionym or Replaced Name: *Lepturus roxburghianus* Steud., *Syn. Pl. Glumac.* 1: 357 (1854).

Illustrations (Books): G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Fig. 231).

Derivation (Clifford & Bostock 2007): L. -ana, indicating connection. In honor of John Roxburgh (fl. 1770's-1820's) sometime Overseer, Botanic Garden, Calcutta.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Culms erect, 10–25 cm long. Ligule an eciliate membrane. Leaf-blades filiform, convolute, 1–4 cm long, 0.2–0.5 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, smoothly terete, 4–10 cm long. Rhachis fracturing into irregular segments, subcylindrical and excavated. Spikelet packing adaxial, regular, 2 -rowed. Spikelets sunken, solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with a barren rhachilla extension or with diminished florets at the apex. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent.

Glumes. Glumes deciduous, dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume oblong, 0.75 mm long, 0.2–0.4 length of upper glume, hyaline, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex truncate. Upper glume lanceolate, 2–4 mm long, 1–1.6 length of adjacent fertile lemma, coriaceous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma oblong, 2–2.5 mm long, hyaline, without keel, 3 -veined, 0–3 -veined. Lemma surface pubescent, hairy below. Lemma apex dentate, 2–3 -fid. Palea hyaline, 2 -veined. Rhachilla extension 0.1 length of fertile floret. Apical sterile florets 1 in number, male, oblong, 1.5–2 mm long.

Flower and Fruit. Anthers 3, 0.5–1 mm long. Caryopsis with tardily free pericarp, fusiform, 1 mm long.

Distribution (TDWG). Continent. Tropical Asia.
Country /Province /State. Indian Subcontinent. India.
Andhra Pradesh. Madhya Pradesh, Maharashtra, Rajasthan, Tamilnadu.

Oropetium thomaeum (L.f.) Trin. *Fund. Agrost.* 98. t. 3 (1820).

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

TYPE from India. **Basionym or Replaced Name:** *Nardus thomaea* L. f., *Suppl. Pl.* 105 (1781 [1782]).
T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: India: xerophytic; a very short-lived monsoon plant, *Koenig* (HT: LINN).

Illustrations (Books): K.M.Matthew, *Illustrations on the Flora of Tamilnadu Carnatic* (1982) (Pl. 903), T.A.Cope, *Flora of Pakistan* 143: *Poaceae* (1982) (114, Fig. 13), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (Fig. 232).

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (Pl. 23).

Derivation (Clifford & Bostock 2007): L. from Mt St. Thomae near Tranquebar, India.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Annual, caespitose. Butt sheaths persistent and investing base of culm, with fibrous dead sheaths. Culms erect, 3–5 cm long. Ligule a ciliolate membrane. Leaf-blades filiform, flat or conduplicate or convolute, 1.5–3 cm long, 0.3–0.8 mm wide, stiff. Leaf-blade apex obtuse or acute.

Inflorescence. Inflorescence composed of racemes, embraced at base by subtending leaf. Racemes 1, single, sinuous, smoothly terete, bilateral, 1–4 cm long. Rhachis tough, subcylindrical and excavated, 0.5–1 mm wide. Spikelet packing adaxial, regular, 2 -rowed. Spikelets sunken, 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 lanceolate, dorsally compressed, (1.8–)2–2.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus pubescent.

Glumes. Glumes deciduous, dissimilar, exceeding apex of florets, firmer than fertile lemma, parallel to lemmas or recurved at apex. Lower glume oblong, 0.4 mm long, 0.2 length of upper glume, hyaline, without keels, 0 -veined. Lower glume lateral veins absent. Lower glume apex truncate or acute. Upper glume lanceolate, (1.8–)2–2.5 mm long, 2.5–3 length of adjacent fertile lemma, herbaceous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma obovate, 0.7–1 mm long, membranous, without keel, 1(–3) -veined, 0–3 -veined, one-veined or several-veined. Lemma apex dentate, 2 -fid, mucronate. Palea hyaline, 2 -veined.

Flower and Fruit. Caryopsis with tardily free pericarp, obovoid, 0.5–0.8 mm long.

$2n = 18$ (1 ref TROPICOS).

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

Country /Province /State. Northeast Tropical Africa, East Tropical Africa. Ethiopia (inc. Eritrea), Somalia. Kenya, Tanzania. **Arabian Peninsula.** Saudi Arabia. **Indian Subcontinent, Indo-China.** India, Pakistan. Myanmar, Vietnam.

Andhra Pradesh, Bihar, Gujarat, Haryana, Karnataka, Kerala. Madhya Pradesh, Maharashtra, Rajasthan, Tamilnadu, Uttah Pradesh.

Oropetium villosulum Stapf ex Bor. *Kew Bull.* 1949, 571 (1950).

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

Illustrations (Books): G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (Fig. 233).

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, *Grasses of Maharashtra* (2012) (Pl. 23).

Derivation (Clifford & Bostock 2007): L. *villi*, long weak hairs; *-osa*, abundance; *-ula*, diminutive; Sparsely hairy.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Annual, caespitose. Culms erect, 1–5 cm long. Culm-nodes glabrous. Ligule a ciliolate membrane. Leaf-blades involute, 1–3 cm long, 0.5 mm wide, stiff. Leaf-blade surface pubescent, hairy on both sides. Leaf-blade apex acute.

Inflorescence. Inflorescence composed of racemes, deciduous as a whole, embraced at base by subtending leaf. Racemes 1, single, smoothly terete, bilateral, 1.5 cm long. Rhachis tough, subcylindrical and excavated. Spikelet packing adaxial, regular, 2 -rowed. Spikelets sunken, solitary. Fertile spikelets sessile.

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

Glumes. Glumes two or one the lower absent or obscure, deciduous, dissimilar, exceeding apex of florets, firmer than fertile lemma. Lower glume orbicular, 0–1 mm long, 0–0.5 length of upper glume, hyaline, without keels, 0 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume elliptic, 2 mm long, 1.3 length of adjacent fertile lemma, coriaceous, with hyaline margins, without keels, 3 -veined. Upper glume lateral veins ribbed. Upper glume apex obtuse.

Florets. Fertile lemma elliptic, 1.5 mm long, membranous, without keel, 3 -veined, 0–3 -veined. Lemma surface pilose, hairy above. Lemma apex truncate. Palea 1 length of lemma, hyaline, 2 -veined. Palea surface pilose.

Flower and Fruit. Anthers 3, 0.33 mm long. Caryopsis with tardily free pericarp.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. Indian Subcontinent. India.

Andhra Pradesh, Bihar. Madhya Pradesh, Maharashtra, Orissa.

Ortachne breviseta Hitchc. *Journ. Wash. Acad. Sc.* xvii. 141. (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 Chile. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *E. Werderman* 669, Mar 1925, Chile: Llanquihue: Volcán Yates, alt. ca. 1300 m (GH; IT: MO-956281, US (ex GH)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 2 Pooideae (2012) (453), M.N.Corrêa, *Flora Patagonica* Parte III, Gramineae (1978) (328, Fig. 224).

Derivation (Clifford & Bostock 2007): *L. brevis*, short; *seta*, bristle. Lower glume shortly awned.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Culms erect, 15–33 cm long, 0.5–1 mm diam., 1–2 -noded. Leaves mostly basal. Ligule an eciliate membrane, 0.5–2 mm long, obtuse. Leaf-blades erect, filiform or aciculate, conduplicate, 2–7 cm long, 0.5 mm wide, stiff. Leaf-blade apex acute, pungent.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 2–7 cm long, 0.5–1 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, 2–4 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, subterete, 3.8–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, 0.5 mm long, pilose, acute.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume oblong, 3.7–4.3 mm long, 1–1.1 length of upper glume, hyaline, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex emarginate or truncate. Upper glume oblong, 3.5–4 mm long, 0.8–0.9 length of adjacent fertile lemma, hyaline, without keels, 0–1 -veined. Upper glume primary vein absent or distinct. Upper glume lateral veins absent. Upper glume apex entire or erose, obtuse.

Florets. Fertile lemma elliptic, 3.8–5 mm long, membranous, purple, keeled, 3 -veined, 0–3 -veined. Lemma midvein pubescent. Lemma margins ciliate. Lemma apex dentate, 2 -fid, acuminate, awned, 1 -awned. Principal lemma awn curved, 4–4.5 mm long overall. Palea 1 length of lemma, 2 -veined, without keels. Palea surface pilose, hairy on back.

Flower and Fruit. Lodicules 2, 0.8–1.4 mm long, membranous, truncate. Anthers 3, 1.5 mm long. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. South America.

Country /Province /State. Southern South America. Argentina South, Chile South.

Chubut, Neuquén, Río Negro. Rest of Chile- Biobio, La Auracania, Maule, O'Higgins, Santado, Valpariso. Los Lagos.

Ortachne erectifolia (Swallen) Clayton. *Kew Bull.*, 40(4): 729 (1985).

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

TYPE from Colombia. **Basionym or Replaced Name:** *Muhlenbergia erectifolia* Swallen, *J. Wash. Acad. Sci.* 21(1): 15 (1931). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *E.P. Killip & Albert C. Smith 17470*, 17 Jan 1927, Colombia: Dept. Norte de Santander: Páramo de Santurban (US-1353062; IT: BM, LE).

Illustrations (Journals): *Ruizia* (13:85, Fig 9g-h (1993) as *Lorenzochloa*).

Derivation (Clifford & Bostock 2007): *L. erectus*, tending towards being erect; *folium*, leaf. With at least some leaf-blades erect.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 15–35 cm long. Leaves mostly basal. Ligule an eciliate membrane, 2–4 mm long. Leaf-blades erect, filiform, involute, 5–15 cm long, 0.5–1 mm wide, stiff. Leaf-blade surface scabrous. Leaf-blade apex acute, pungent.

Inflorescence. Inflorescence a panicle. Panicle open, linear, 5–8 cm long. Panicle branches with prominent pulvini. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, 1–4 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, subterete, 2.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, pubescent, acute.

Glumes. Glumes persistent, similar, shorter than spikelet, similar to fertile lemma in texture. Lower glume oblong, 1–1.5 mm long, 1 length of upper glume, membranous, without keels, 1(–3) -veined. Lower glume lateral veins absent or obscure. Lower glume apex emarginate or truncate. Upper glume oblong, 1–1.5 mm long, 0.5 length of adjacent fertile lemma, membranous, without keels, 1(–3) -veined. Upper glume apex emarginate or truncate.

Florets. Fertile lemma elliptic, 2.5 mm long, membranous, without keel, 5 -veined, more than 3-veined. Lemma midvein pubescent, hairy below. Lemma lateral veins obscure. Lemma margins eciliate or ciliate. Lemma apex acuminate, awned, 1 -awned. Principal lemma awn 3–5 mm long overall. Palea 0.9 length of lemma, 2 -veined, without keels. Palea surface glabrous or pubescent, hairy on back.

Flower and Fruit. Lodicules 3, elliptic, membranous. Anthers 3, 0.6–0.8 mm long. Caryopsis with adherent pericarp, fusiform, 1.2–1.5 mm long, dark brown.

Distribution (TDWG). Continent. South America.

Country /Province /State. Mesoamerica, Northern South America, Western South America. Costa Rica. Venezuela. Colombia, Ecuador, Peru.

Ortachne rariflora (Hook.f.) D.K.Hughes. *Kew Bull.* 1923, 302 (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.

TYPE from Falkland Islands. **Basionym or Replaced Name:** *Muhlenbergia rariflora* Hook. f., *Fl. Antarct.* 2: 371, t. 131 (1846). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: LT: *C. Darwin [529]*, Dec 1834, Cape Tres Montes (K; ILT: US (fragm. ex K)). LT designated by D. M. Porter, *Bot. J. Linn. Soc.* 93: 34 (1986). ILT: *C. Darwin [529]*, Dec 1834, Fl. Aust. Patch-cove 2000 ft. Cape Tres-Montes S. America (CGE).

Recent Synonyms: *Stipa rariflora* (Hook. f.) Benth., *Journ. Linn. Soc.* 19: 81. (1881).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 2 Pooideae (2012) (454), H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (123, Fig.48 as *Stipa retorta*),

E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (198, Fig. 56 as *Orthacne*), M.N.Correa, *Flora Patagonica* Parte III, Gramineae (1978) (328, Fig 223).

Derivation (Clifford & Bostock 2007): *L. rarus*, far apart; *flos*, flower. With florets well separated on the rachilla.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated. Culms erect, 12–44 cm long, 0.5–1 mm diam., 1–2 -noded. Leaves mostly basal. Ligule an eciliate membrane, 0.6–1.5 mm long, truncate. Leaf-blades erect, filiform, convolute, 5–7.5 cm long, 0.7–4 mm wide, stiff. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, dense, 6–9 cm long, 2–4 cm wide. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, 2–8 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, subterete, 3.8–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus evident, 0.5 mm long, pubescent, acute.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma. Lower glume oblong, 3.5–4.2 mm long, 1–1.1 length of upper glume, hyaline, purple, without keels, 0–1 -veined. Lower glume lateral veins absent. Lower glume apex emarginate or truncate. Upper glume oblong, 3.2–4 mm long, 0.8–0.9 length of adjacent fertile lemma, hyaline, without keels, 0–1 -veined. Upper glume primary vein absent or distinct. Upper glume lateral veins absent. Upper glume apex entire or erose, obtuse.

Florets. Fertile lemma elliptic, 3.8–5 mm long, membranous, purple, keeled, 5 -veined, more than 3-veined. Lemma midvein scabrous. Lemma lateral veins obscure. Lemma surface scaberulous, rough above. Lemma apex dentate, 2 -fid, acuminate, awned, 1 -awned. Principal lemma awn curved or flexuous, 38–52 mm long overall. Palea 1 length of lemma, 2 -veined, without keels. Palea surface scaberulous.

Flower and Fruit. Lodicules 3, membranous, obtuse. Anthers 3, 1.7 mm long. Caryopsis with adherent pericarp, fusiform, 3 mm long, dark brown, rugose. Hilum linear, 1 length of caryopsis.

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

Region. Northern Europe (*).

Country /Province /State. : GB Aliens (Ryves et al). **Southern South America.** Argentina South, Chile South.

Río Negro, Tierra del Fuego. Chiloe, Aisen, Magellanes. Los Lagos, Aisen, Magellanes.

Orthoclada africana C.E.Hubb. *Hook. Ic. Pl.* v. t. 3419 p. 2. (1940).

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

TYPE from Zambia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Paterson s.n.*, Feb 1939, Zambia: Mwinilunga District: Luakera Falls, north of Mwinilunga, in evergreen vegetation by river (K; IT: MO-1713813, MO-1713814, US-1869407).

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (138, Fig. 62), R.M.Pollhill, F.T.E.A., *Gramineae* (1(1970):164, Fig. 53), G.V.Pope et al., *Flora Zambesiaca* 10 (1(1971):140, T. 36).

Illustrations (Journals): *Hooker's Icones Plantarum* (t.3419 (1940)).

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

Classification. Subfamily Panicoideae. Tribe: Zeugiteae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms 80–180 cm long. Leaf-sheaths pilose, with hooked hairs. Ligule a ciliolate membrane, 0.3 mm long. Leaf-blade base broadly rounded, with a false petiole. Leaf-blades lanceolate or oblong, 12–25 cm long, 20–50 mm wide. Leaf-blade venation with distinct cross veins. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, effuse, 25–35 cm long, evenly furnished. Primary panicle branches whorled at most nodes. Panicle branches capillary, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform.

Fertile Spikelets. Spikelets comprising 2–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 8–12 mm long, falling entire.

Glumes. Glumes similar, shorter than spikelet, similar to fertile lemma in texture. Lower glume lanceolate, 3.5–5 mm long, 1 length of upper glume, herbaceous, 1-keeled, 3 -veined. Lower glume

primary vein scaberulous. Lower glume surface asperulous. Lower glume apex acute. Upper glume ovate, 3.5–5 mm long, 0.8 length of adjacent fertile lemma, herbaceous, 1-keeled, 5 -veined. Upper glume primary vein scaberulous. Upper glume surface asperulous, rough on veins. Upper glume apex acute.

Florets. Fertile lemma elliptic, 4.5–5.5 mm long, herbaceous, keeled, 5–7 -veined, more than 3-veined. Lemma midvein scaberulous. Lemma apex obtuse. Palea fused below to rhachilla internode, oblong, 1 length of lemma, 2 -veined. Palea keels scaberulous. Apical sterile florets 1 in number, barren, linear, 0–2 mm long.

Flower and Fruit. Lodicules 2. Anthers 3, 2–3 mm long. Caryopsis with adherent pericarp. Embryo 0.25 length of caryopsis. Hilum punctiform.

Distribution (TDWG). Continent. Africa.

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

Orthoclada laxa (Rich.) Beauv. *Agrost.* 69. t. 14. f. 70 (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).

TYPE from French Guiana. **Basionym or Replaced Name:** *Aira laxa* Rich., *Actes Soc. Hist. Nat. Paris* 1: 106 (1792). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Leblond s.n.*, French Guiana: Cayenne (P-LA; IT AAU (photo), US-2808819 (fragm. ex P-LA)).

Illustrations (Books): A.S.Hitchcock, *Manual of the Grasses of the West Indies* (1936) (57, Fig. 231), S.A.Renvoize, *Gramineas de Bolivia* (1998) (259, Fig. 51), S.A.Renvoize, *The Grasses of Bahia*, 1984 (37, Fig. 11), J.A.Steyermark et al, *Flora of the Venezuelan Guayana* Vol. 8 (2004) (175, Fig. 127), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (188, Fig. 37 & 197, Fig. 40), W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (347, Fig. 127), G.Harling & C.Persson, *Flora of Ecuador* (2006) (57: 10, Fig. 1 (1997)), E.Judziewicz, *Flora of the Guianas*, 187. *Poaceae* (1990) (360, Fig. 67).

Illustrations (Journals): *Ruizia* (13:220, Fig 24a-b (1993)), *Rodriguesia* (63: 949, Fig. 7 (2012)).

Derivation (Clifford & Bostock 2007): L. loose. Inflorescence much branched either as a single panicle or from branching of the culms.

Classification. Subfamily Panicoideae. Tribe: Zeugiteae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes absent. Culms erect or decumbent, 50–120 cm long, rooting from lower nodes. Leaf-sheaths pilose, with hooked hairs. Ligule a ciliolate membrane. Leaf-blade base simple, with a false petiole. Leaf-blades lanceolate or oblong, 10–20 cm long, 17–25 mm wide. Leaf-blade venation with distinct cross veins. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, effuse, 10–35 cm long, with spikelets clustered towards branch tips. Primary panicle branches not whorled. Panicle branches capillary, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform.

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 lanceolate, laterally compressed, 8–10 mm long, falling entire.

Glumes. Glumes similar, shorter than spikelet, similar to fertile lemma in texture. Lower glume lanceolate, 3.5–5 mm long, 1 length of upper glume, herbaceous, 1-keeled, 3 -veined. Lower glume primary vein scaberulous. Lower glume surface asperulous. Lower glume apex acute. Upper glume ovate, 3.5–5 mm long, 0.8 length of adjacent fertile lemma, herbaceous, 1-keeled, 5 -veined. Upper glume primary vein scaberulous. Upper glume surface asperulous, rough on veins. Upper glume apex acute.

Florets. Fertile lemma ovate, 5–6 mm long, herbaceous, keeled, 5–7 -veined, more than 3-veined. Lemma midvein scaberulous. Lemma apex acuminate. Palea fused below to rhachilla internode, oblong, 1 length of lemma, 2 -veined. Palea keels scaberulous. Apical sterile florets 1 in number, barren, linear, 0–2 mm long.

Flower and Fruit. Lodicules 2. Anthers 2, 0.5–1 mm long. Caryopsis with adherent pericarp. Embryo 0.25 length of caryopsis. Hilum punctiform.

$2n = 24$ (1 ref TROPICOS).

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

Country /Province /State. Mexico. Gulf (Mexico), Southwest Mexico, Southeast Mexico. Mesoamerica, Caribbean, Northern South America, Western South America, Brazil. Costa Rica, Guatemala, Honduras, Nicaragua, Panama. Leeward Is, Trinidad-Tobago. French Guiana, Guyana, Surinam, Venezuela. Bolivia, Colombia, Ecuador, Peru. Brazil West Central, Brazil Northeast, Brazil North.

Roraima, Para, Amapa, Amazonas, Acre, Rondonia, Bahia, Catarina, Rio Grande do Sul. Mato Grosso. Bahia. Acre, Amazonas, Rondonia. Tamaulipas. Oaxaca. Chiapas.

Oryza alta Swallen. *Publ. Carnegie Inst. Wash.* No. 461:156. (1936).

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Obidos: Swallen 5116 (US iso).

Illustrations: None found.

Habit, Vegetative Morphology. Perennial. Culms -400 cm long. Leaf-blades -50 mm wide.

Distribution (TDWG). Continent. South America.

Country /Province /State. Mesoamerica, Northern South America, Western South America, Brazil, Southern South America. Belize. Guyana. Colombia. Paraguay.

Oryza australiensis Domin. *Biblioth. Bot.* 1 v. 333 (1915).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), N.L.Bor, *Grasses of Burma, Ceylon, India and Pakistan* (1960).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Australia, Sturt's Creek: *Mueller* (K iso).

Illustrations (Books): N.L.Bor, *The grasses of Burma, Ceylon, India and Pakistan* (1960) (603, Fig 69), C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952) (15, Pl 1), A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (363, Fig 49), D.Sharp & B.K.Simon, *AusGrass*. *Grasses of Australia*. CD-Rom Version 1.0. (2002).

Illustrations (Journals): *Hooker's Icones Plantarum* (t.3232(1934)).

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

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

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes elongated, scaly. Butt sheaths papery, pallid. Culms erect, 100–180(–220) cm long, 4–8 mm diam. Culm-nodes constricted, pallid or brown. Leaf-sheaths narrower than blade at the collar, keeled, smooth, glabrous on surface, outer margin glabrous. Leaf-sheath auricles absent (sometimes subauriculate). Ligule an eciliate membrane, 2–3 mm long, entire (often split), truncate. Leaf-blades 10–30 cm long, 3–10 mm wide. Leaf-blade surface scaberulous. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Peduncle smooth. Panicle open, lanceolate or elliptic, 20–45 cm long. Primary panicle branches ascending. Panicle branches angular, scabrous, hispid. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, angular, scabrous, ciliate (short and stiff), tip cupuliform, bibracteate.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, compressed strongly, rostrate, 6–9 mm long, 2–3.2 mm wide, falling entire. Spikelet callus glabrous, base truncate.

Glumes. Glumes both absent or obscure.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea. Lemma of lower sterile floret lanceolate, 1.4–1.6 mm long, 0.2 length of fertile lemma, herbaceous, 1-keeled (slightly), 1 -veined, without lateral veins, acute. Lemma of upper sterile floret lanceolate, 1.4–1.6 mm long, 1 length of lower sterile floret, herbaceous, acute. Fertile lemma oblong, laterally compressed, 6 mm long, coriaceous, keeled, 5 -veined, more than 3-veined. Lemma midvein hispid (short). Lemma surface scabrous, hispidulous. Lemma margins involute, ciliate. Lemma apex caudate, awned, 1 -awned. Principal lemma

awn flat below, 5–30 mm long overall. Palea oblong, 1 length of lemma, coriaceous, thinner on margins, 3 -veined, without keels. Palea surface scabrous, pubescent. Palea apex acuminate.

Flower and Fruit. Lodicules 2, lanceolate, membranous. Anthers 6, 3.5–5.5 mm long. Stigmas 2. Disseminule comprising a floret.

$2n = 24$ (1 ref TROPICOS).

Distribution (TDWG). Continent. Australasia.

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

Kimberley. Victoria R & Barkly Tableland, Central Australia. North, Central.

Oryza barthii A.Chevalier. *Bull. Mus. Hist. Nat. Paris*, xvi. 405. (1910).

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 *O. breviligulata*).

TYPE from Chad. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: Chevalier 9615, Chad (P; IT: K, L).

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962), R.M.Phill, F.T.E.A., *Gramineae*, G.V.Pope et al., *Flora Zambesiaca* 10 (1(1971):33, t. 8), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955), S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995), R.Pilger, *Die Naturlichen Pflanzenfamilien* 14d (1956) (150, Fig. 40), E.Hafliger & E.Schultz, *Grass Weeds*, CIBA-GEIGY (2:107(1980)).

Derivation (Clifford & Bostock 2007): in honor of Jean-Baptiste Barth (1806–1817) French botanist.

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms geniculately ascending or decumbent, 60–120 cm long, spongy, 3–8 -noded, rooting from lower nodes. Leaf-sheaths smooth, glabrous on surface. Leaf-sheath auricles erect. Ligule an eciliate membrane, 2–6 mm long, truncate or obtuse. Leaf-blades 15–45 cm long, 4–13 mm wide. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, obovate, 20–35 cm long, 3–7.5 cm wide. Primary panicle branches appressed or ascending. Panicle branches angular, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, angular, 1–6 mm long, smooth or scaberulous, tip cupuliform, bibracteate.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 7–11 mm long, 2.5–3.4 mm wide, falling entire. Spikelet callus glabrous, base truncate, attached obliquely.

Glumes. Glumes both absent or obscure.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea. Lemma of lower sterile floret lanceolate, 2.5–4.5 mm long, 0.3–0.4 length of fertile lemma, membranous, 1 -veined, without lateral veins, smooth or scaberulous, acute. Fertile lemma elliptic, laterally compressed, 7–11 mm long, coriaceous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy above. Lemma surface reticulate, glabrous or hispid. Lemma margins involute. Lemma apex rostrate, awned, 1 -awned. Principal lemma awn (65–)80–160(–190) mm long overall (pink), limb scabrous. Palea elliptic, 1 length of lemma, coriaceous, 3 -veined, 1-keeled. Palea keels scabrous. Palea apex acute.

Flower and Fruit. Lodicules 2, lanceolate, membranous. Anthers 6. Stigmas 2. Caryopsis with adherent pericarp. Disseminule comprising a floret.

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, Gambia, Ghana, Guinea, Mali, Mauritania, Senegal, Sierra Leone, Niger. Central African Republic, Gabon, Rwanda, DRC. Ethiopia (inc. Eritrea), Sudan. Tanzania, Uganda. Angola, Zambia, Zimbabwe. Botswana.

Oryza brachyantha A.Chevalier & Roehrich. *Compt. Rend.* clix. 561. (1914).

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 Egypt & Sudan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: *Chevalier s.n.*, Sudan: western Sudan, Ségou

ST: *Schweinfurth s.n.*, Egypt: pays des Djurs.

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962), R.M.Pohill, F.T.E.A., *Gramineae*, G.V.Pope et al., *Flora Zambesiaca* 10 (1(1971):33, t. 8).

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

Habit, Vegetative Morphology. Annual, caespitose. Culms decumbent or prostrate, 30–80(–100) cm long, 3–6(–8) -noded, rooting from lower nodes. Leaf-sheaths smooth, glabrous on surface. Leaf-sheath auricles falcate. Ligule an eciliate membrane, 1–2 mm long, entire or lacerate, truncate. Leaf-blades 7–19 cm long, 1–5 mm wide. Leaf-blade surface smooth or scaberulous, rough adaxially. Leaf-blade margins scaberulous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 13–30 cm long, 2.5–5 cm wide. Primary panicle branches appressed or ascending. Panicle branches angular, smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, angular, 1.5–2.5 mm long, scaberulous, tip cupuliform.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 6.5–9.25 mm long, 1.25–1.5 mm wide, falling entire. Spikelet callus glabrous, base truncate, attached obliquely.

Glumes. Glumes both absent or obscure.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea. Lemma of lower sterile floret subulate, 1.3–2.5 mm long, 0.2–0.3 length of fertile lemma. Fertile lemma elliptic, laterally compressed, 6.5–9.25 mm long, chartaceous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy above. Lemma surface reticulate, glabrous or hispidulous. Lemma margins involute. Lemma apex rostrate, awned, 1 -awned. Principal lemma awn straight or flexuous, 70–170 mm long overall, limb scabrous. Palea elliptic, 1 length of lemma, chartaceous, 3 -veined, 1-keeled. Palea keels scabrous. Palea apex acute.

Flower and Fruit. Lodicules 2, lanceolate, membranous. Anthers 6. Stigmas 2. Caryopsis with adherent pericarp, ellipsoid, 4–4.75 mm long, dark brown. Disseminule comprising a floret.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West Tropical Africa, West-Central Tropical Africa, Northeast Tropical Africa, South Tropical Africa. Guinea, Mali, Sierre Leone. DRC. Sudan. Zambia.

Oryza eichingeri Peter. *Fedde, Repert. Beih.* 40: 1. *Anhang*, 74 (1930).

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 Tanzania. **Basionym or Replaced Name:** *Oryza rhizomatis* Vaughan, *Bot. J. Linn. Soc.*, 103(2): 160 (1989). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Tanzania, E. Usambara Mts.: *Peter 16357*; Tanzania, E. Usambara Mts.: *Peter 18623*.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Alfons Eichinger (1883-) German botanist.

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Butt sheaths papery, pallid. Culms erect, 60–100 cm long, 2–3 mm diam. Culm-nodes constricted, pallid or brown. Leaf-sheaths narrower than blade at the collar, keeled, smooth, glabrous on surface. Leaf-sheath oral hairs ciliate. Leaf-sheath auricles falcate. Ligule an eciliate membrane, 1–3 mm long, entire, truncate. Leaf-blades 10–25 cm long, 3–10 mm wide, glaucous. Leaf-blade surface smooth or scabrous. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Peduncle antrorsely scabrous above. Panicle open, lanceolate, 10–25 cm long. Primary panicle branches ascending. Panicle branches angular, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, angular, scaberulous, tip cupuliform.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic (narrowly), laterally

compressed, rostrate, 4.5–5.8 mm long, 1.5–1.8 mm wide (3 times longer than wide), falling entire. Spikelet callus glabrous, base truncate, attached transversely.

Glumes. Glumes both absent or obscure.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea. Lemma of lower sterile floret lanceolate, 0.2 length of fertile lemma, membranous, 1 -veined, without lateral veins, acute. Fertile lemma elliptic, laterally compressed, 4.5–5.8 mm long, coriaceous, keeled, 5 -veined, more than 3-veined. Lemma midvein spinulose. Lemma surface reticulate, hispidulous. Lemma margins involute. Lemma apex rostrate, awned, 1 -awned. Principal lemma awn 5–20 mm long overall. Palea elliptic, 1 length of lemma, coriaceous, 3 -veined, 1-keeled. Palea keels scabrous. Palea apex acute.

Flower and Fruit. Lodicules 2, lanceolate, membranous. Anthers 6. Stigmas 2. Caryopsis with adherent pericarp. Disseminule comprising a floret.

$2n = 24$ (1 ref TROPICOS).

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

Country /Province /State. **West Tropical Africa, West-Central Tropical Africa, East Tropical Africa.** Ivory Coast. DRC. Kenya, Tanzania, Uganda. **Indian Subcontinent.** Sri Lanka.

Oryza glaberrima Steud. *Syn. Pl. Gram.* 3 (1854).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006), N.L.Bor, *Grasses of Burma, Ceylon, India and Pakistan* (1960).

TYPE from Guinea. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Jardin s.n.*, Guinee (P).

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 243, 246).

Derivation (Clifford & Bostock 2007): L. most free of hairs. Plant glabrous.

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

Habit, Vegetative Morphology. Annual. Culms erect or geniculately ascending, 90–150 cm long. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 1.5–2 mm long, truncate. Leaf-blades 20–30 cm long, 10–15 mm wide. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, linear, equilateral or nodding, 15–25 cm long. Primary panicle branches appressed or ascending. Panicle branches angular, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, angular, scaberulous, tip cupuliform, bibracteate.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or oblong, laterally compressed, 7–8 mm long, persistent on plant. Spikelet callus glabrous.

Glumes. Glumes both absent or obscure.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea. Lemma of lower sterile floret lanceolate, 2–4 mm long, 0.3–0.5 length of fertile lemma, membranous, 1 -veined, without lateral veins, acute. Fertile lemma elliptic, laterally compressed, 7–8 mm long, coriaceous, keeled, 5 -veined, more than 3-veined. Lemma midvein eciliate. Lemma surface reticulate, glabrous. Lemma margins involute. Lemma apex rostrate, muticous. Palea elliptic, 1 length of lemma, coriaceous, 3 -veined, 1-keeled. Palea keels smooth. Palea apex acute.

Flower and Fruit. Lodicules 2, lanceolate, membranous. Anthers 6. Stigmas 2. Caryopsis with adherent pericarp. Disseminule comprising a floret.

$2n = 24$ (1 ref TROPICOS).

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

Country /Province /State. **West Tropical Africa, West-Central Tropical Africa, Northeast Tropical Africa.** Guinea, Senegal. Cameroon. Chad. **China.** China South Central, Hainan. Yunnan. Madhya Pradesh.

Oryza glumaepatula Steud. *Syn. Pl. Glumac.* 1: 3. (1855) [1853].

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Surinam (cult.). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Hostman 1195*, Surinam (P; IT: K, US (fragm.)).

Illustrations: None found.

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

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

Country /Province /State. **Northern South America.** Surinam.

Oryza grandiglumis (Doell.) Prodoehl. *Bot. Archiv*, i. 233. (1922).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), N.L.Bor, *Grasses of Burma, Ceylon, India and Pakistan* (1960).

TYPE from Brazil. **Basionym or Replaced Name:** *Oryza sativa* var. *grandiglumis* Döll, *Ver. Nat. Jahresber.* 36: 50 (1870). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: T: *Luschnath s.n.*, Brazil: in valle Broco HT: *Riedel 1261*, Brazil (M?; IT: K).

20.

Illustrations (Books): S.A.Renvoize, *Gramineas de Bolivia* (1998) (Fig. 12), E.Judziewicz, *Flora of the Guianas*, 187. *Poaceae* (1990) (363, Fig 68).

Illustrations (Journals): *Ruizia* (13:62, Fig. 7c-d (1993)).

Derivation (Clifford & Bostock 2007): *L. grandis*, large; *gluma*, husk. Glumes and/or lemmas large.

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

Habit, Vegetative Morphology. Annual, caespitose. Rhizomes short. Butt sheaths papery, pallid. Culms erect, 200 cm long, 4–9 mm diam. Culm-nodes constricted, pallid or brown. Leaf-sheaths narrower than blade at the collar, keeled, smooth, glabrous on surface. Leaf-sheath oral hairs ciliate. Leaf-sheath auricles falcate (small). Ligule an eciliate membrane, 4–6 mm long, entire (often split), truncate. Leaf-blades linear to lanceolate, 15–36 cm long, 1.5–4.5 mm wide. Leaf-blade surface scaberulous or scabrous. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Peduncle antrorsely scabrous above. Panicle open, lanceolate or elliptic, 15–40 cm long. Primary panicle branches ascending. Panicle branches angular, scabrous, hispid. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, angular, scabrous, ciliate (short and stiff), tip cupuliform, bibracteate.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, laterally compressed, compressed strongly, rostrate, 7–9 mm long, 4–6 mm wide, falling entire. Spikelet callus glabrous, base truncate.

Glumes. Glumes both absent or obscure.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea. Lemma of lower sterile floret lanceolate, 1 length of fertile lemma, coriaceous, 1-keeled, 1 -veined, without lateral veins, with 2 longitudinal grooves, scabrous, hispidulous, ciliolate on midvein, awned. Awn of lower sterile floret 0.5–9 mm long. Lemma of upper sterile floret lanceolate, 1 length of lower sterile floret, coriaceous, rugose throughout, pubescent, ciliolate on midvein, awned. Awn of upper sterile floret 0.5–9 mm long. Fertile lemma elliptic, laterally compressed, 6–8 mm long, coriaceous, keeled, 5 -veined, more than 3-veined. Lemma midvein spinulose. Lemma surface reticulate, hispidulous. Lemma margins involute. Lemma apex rostrate, awned, 1 -awned. Principal lemma awn 1–18 mm long overall. Palea elliptic, 1 length of lemma, indurate, thinner on margins (narrow hyaline margin), 3 -veined, 1-keeled. Palea keels scabrous. Palea surface scabrous. Palea apex acuminate.

Flower and Fruit. Lodicules 2, lanceolate, membranous. Anthers 6. Stigmas 2. Disseminule comprising a floret.

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

Country /Province /State. **Northern South America, Western South America, Brazil.** French Guiana, Guyana, Surinam. Bolivia, Colombia, Peru. Brazil North.

Para, Amapa, Amazonas, Acre, Rondonia. Mato Grosso. Amazonas.

Oryza granulata Nees et Arn. ex Watt. *Dict. Econ. Prod. India* 5: 500 (1891).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: *Wight 2345*.

Illustrations: None found.

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

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

Country /Province /State. **Indian Subcontinent, Indo-China, Malesia.** Nepal, Sri Lanka. Laos, Myanmar, Thailand. Philippines.

Oryza latifolia Desv. *Journ. Bot.* 1: 77 (1808).

Accepted by: R.J.Soreng et al., *Catalogue of 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).

TYPE from Puerto Rico. **Basionym or Replaced Name:** *Oryza alta* Swallen, *Publ. Carnegie Inst. Wash.* No. 461:156. (1936). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Desvaux Herb. s.n.*, Puerto Rico (P-Juss).

Recent Synonyms: *Oryza alta* Swallen, *Publ. Carnegie Inst. Wash.* No. 461:156. (1936). 20.

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, Aristidoideae a Pharoideae (2012) (244), S.A.Renvoize, *Gramineas de Bolivia* (1998) (66, Fig. 12), J.A.Steyermark et al, *Flora of the Venezuelan Guayana* Vol. 8 (2004) (177, Fig. 128), E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (158, Fig. 39), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (564, Fig. 121), A.Burkat, *Flora Illustrada de Entre Rios (Argentina)*, Pt II, Gramineas (1969), E.Judziewicz, *Flora of the Guianas*, 187. *Poaceae* (1990) (363, Fig 68), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 244).

Illustrations (Journals): *Ruizia* (13:62, Fig. 7e (1993)).

Derivation (Clifford & Bostock 2007): *L. latus*, broad; *folium*, leaf. Leaf-blades broad or relatively broad with respect to related species.

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

Habit, Vegetative Morphology. Perennial. Rhizomes short. Culms erect, 100–300 cm long. Culm-nodes glabrous. Leaf-sheaths 22–42 cm long, smooth. Ligule an eciliate membrane, 1–7 mm long, obtuse. Leaf-blades lanceolate, 25–72 cm long, 10–40 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, 20–50 cm long, contracted about primary branches. Primary panicle branches whorled at most nodes, 14–25 cm long. Panicle branches angular. Spikelets appressed, solitary. Fertile spikelets pedicelled. Pedicels present, linear, angular, 1–6 mm long, tip cupuliform or lobed.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 5–9 mm long, 2.5–2.8 mm wide, falling entire. Spikelet callus glabrous, base truncate.

Glumes. Glumes both absent or obscure.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea. Lemma of lower sterile floret linear, 2.5–4.5 mm long, 0.5 length of fertile lemma, 1 -veined, without lateral veins, acute. Fertile lemma oblong, laterally compressed, 5–9 mm long, coriaceous, keeled, 5 -veined, more than 3-veined. Lemma midvein spinulose. Lemma surface granulose. Lemma margins interlocking with palea margins. Lemma apex rostrate, awned, 1 -awned. Principal lemma awn 8–10 mm long overall, limb scabrous. Palea elliptic, coriaceous, 3 -veined, 1-keeled. Palea keels spinulose. Palea surface granular. Palea apex acute, awned, awns 0.5–1 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 6, 3.5–4 mm long. Stigmas 2. Caryopsis with adherent pericarp, oblong, 6–6.5 mm long. Disseminule comprising a floret.

$2n = 48$ (3 refs TROPICOS).

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

Country /Province /State. **China.** China North-Central. **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. Cuba, Dominican Republic, Haiti, Puerto Rico, Trinidad-Tobago. French Guiana, Surinam, Venezuela. Bolivia, Colombia, Ecuador. Brazil Northeast, Brazil Southeast, Brazil North, Brazil South. Argentina Northeast.

Beijing. Para, Amapa, Bahia, Maranhao, Piaui, Sao Paulo Parana, Catarina, Rio Grande do Sul. Mato Grosso do Sul. Alagoas, Bahia, Ceará, Fernando do Noronha, Maranhão, Pernambuco, Paraíba, Piaui, Rio Grande do Norte (RN), Sergipe. Amazonas, Pará. Paraná. Chaco, Corrientes, Entre Rios, Formosa. Veracruz. Sinaloa. Colima, Guerrero, Jalisco, Nayarit. Campeche, Chiapas, Tabasco, Yucatan.

Oryza longiglumis Jansen. *Reinwardtia*, ii. 312 (1953).

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

TYPE from Papua New Guinea. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: IT: *L.J. Brass 8721*, Jan 1937, Papua New Guinea: New Guinea, Western Highlands Dist. (L, US-1723658).

Illustrations: None found.

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

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

Habit, Vegetative Morphology. Perennial. Culms erect, 60–120 cm long. Culm-nodes glabrous. Ligule an eciliate membrane, 2–3 mm long, trilobed. Leaf-blades 15–30 cm long, 6–8 mm wide. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle, embraced at base by subtending leaf. Panicle contracted, lanceolate or elliptic, 10–20 cm long. Primary panicle branches ascending, 2–3 -nate. Panicle branches angular, smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, angular, 4–12 mm long, tip cupuliform or lobed.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 7–8 mm long, 1.5–2 mm wide, falling entire. Spikelet callus glabrous, base truncate.

Glumes. Glumes both absent or obscure.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea. Lemma of lower sterile floret subulate, 10–14 mm long, 1.4–1.8 length of fertile lemma, without lateral veins. Fertile lemma elliptic, laterally compressed, 7–8 mm long, coriaceous, keeled, 5 -veined, more than 3-veined. Lemma midvein spinulose. Lemma surface scabrous, rough on veins. Lemma margins interlocking with palea margins. Lemma apex rostrate, awned, 1 -awned. Principal lemma awn 15–26 mm long overall, limb scabrous. Palea elliptic, coriaceous, 3 -veined, 1-keeled. Palea keels spinulose. Palea surface granular. Palea apex acute.

Flower and Fruit. Lodicules 2, membranous. Stigmas 2. Caryopsis with adherent pericarp. Disseminule comprising a floret.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. Papuasiasia. New Guinea PNG. New Guinea.

Oryza longistaminata A.Chevalier & Roehrich. *Compt. Rend.* clix. 561. (1914).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), J.F.Veldkamp, *Poaceae ms (Flora Malesiana)*.

TYPE from Chad. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: LT: *Chevalier 10306*, Chad (P).

Illustrations (Books): R.M.Phill, F.T.E.A., *Gramineae*, G.V.Pope et al., *Flora Zambesiaca* 10 (1(1971):33, t. 8), G.E.Gibbs Russell et al, *Grasses of Southern Africa* (1990) (230, Fig 147), J.Bosser, *Graminees des Paturage et des Cultures a Madagascar* (1969) (58, Fig 10), S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (11, Fig 5), T.A.Cope, in M.Thulin, *Poaceae* (Gramineae). *Flora of Somalia* (1995) (152, Fig 74), M.E.Barkworth et al, *Flora of North America north of Mexico Vol 24 Poaceae*, part 1 (2007) (39).

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

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated. Culms geniculately ascending or decumbent, 70–120 cm long, 5–10 mm diam., spongy, (2–)4–10 -noded, rooting from lower nodes. Leaf-sheaths smooth, glabrous on surface. Leaf-sheath auricles erect, 10–15 mm long. Ligule an eciliate membrane, 15–45 mm long, entire or lacerate, acute. Leaf-blades 10–75 cm long, 5–25 mm wide. Leaf-blade midrib indistinct or evident. Leaf-blade surface scaberulous, rough adaxially. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic or oblong, 16–40 cm long, 1.5–8 cm wide. Primary panicle branches appressed or ascending. Panicle branches angular, scaberulous, glabrous in axils or pubescent in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, angular, 0.5–4(–7) mm long, smooth or scaberulous, tip cupuliform, bibracteate.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 7–12 mm long, 2–3 mm wide, falling entire. Spikelet callus glabrous, base truncate, attached obliquely.

Glumes. Glumes both absent or obscure.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea. Lemma of lower sterile floret lanceolate, (2–)2.5–3.8(–4.5) mm long, 0.3–0.4 length of fertile lemma, membranous, 1 -veined, without lateral veins, acute or acuminate. Fertile lemma elliptic, laterally compressed, 7–12 mm long, coriaceous, keeled, 5 -veined, more than 3-veined. Lemma midvein spinulose. Lemma surface reticulate, hispid. Lemma margins involute. Lemma apex rostrate, awned, 1 -awned. Principal lemma awn (26–)40–75 mm long overall, limb scabrous. Palea elliptic, 0.9 length of lemma, coriaceous, 3 -veined, 1-keeled. Palea keels scabrous. Palea apex acute.

Flower and Fruit. Lodicules 2, lanceolate, membranous. Anthers 6, 4.5–5.5 mm long. Stigmas 2. Caryopsis with adherent pericarp, ellipsoid, 7.5–8.5 mm long. Disseminule comprising a floret.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West Tropical Africa, West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Southern Africa, Western Indian Ocean. Benin, Ghana, Guinea, Ivory Coast, Liberia, Mali, Nigeria, Senegal, Sierre Leone. Cameroon, Gabon, DRC. Ethiopia (inc. Eritrea), Somalia, Sudan. Kenya, Tanzania, Uganda. Angola, Malawi, Mozambique, Zambia, Zimbabwe. Namibia, Botswana, Limpopo. Madagascar.

Oryza malampuzhaensis Krish. et Chand. *Sci. & Cult.* 23: 310 (1957).

TYPE from India. **Basionym or Replaced Name:** Madras, Western Ghats.

Illustrations: None found.

Habit, Vegetative Morphology. Perennial. Culms erect or floating (in deep water).

Fertile Spikelets. Spikelets 4.9–5.5 mm long, 2.1–2.5 mm wide.

Flower and Fruit. Anthers 2.4–3.3 mm long.

$2n = 48$.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. Indian Subcontinent. India.

Tamilnadu.

Oryza meridionalis N.Q. Ng. *Bot. J. Linn. Soc.* 82: 328 (1981).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002).

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Australia, Darwin: IRR1 101147 (K holo).

Illustrations (Books): A.Wilson (ed.), *Flora of Australia*, Vol 44A. *Poaceae* (2009) (363, Fig 49).

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

Derivation (Clifford & Bostock 2007): *L. meridies*, meridian; *-ale*, pertaining to. Occurring on the same meridian that is from North and South Carolina.

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

Habit, Vegetative Morphology. Annual. Rhizomes absent. Culms erect or geniculately ascending, 100–200 cm long. Ligule membranous, acute. Leaf-blades 18–30 cm long, 9–12 mm wide. Leaf-blade surface scabrous, rough adaxially.

Inflorescence. Inflorescence a panicle. Panicle open (seldom) or contracted, 11–24 cm long.

Fertile Spikelets. Spikelets 7.2–9.6 mm long, 2–2.8 mm wide.

Florets. Lemma apex awned. Principal lemma awn 7–13 mm long overall.

Flower and Fruit. Anthers 1.5–2.5 mm long.

$2n = 24$.

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

Country /Province /State. **Papuasiasia.** New Guinea. **Australia.** Northern Territory, Queensland. Kimberley. Darwin & Gulf. North.

Oryza meyeriana (Zoll. & Mor.) Baill. *Hist. des pl.* xii. 166 (1894).

Accepted by: W.D. Clayton & K. Harman, *GrassBase* (2008) and online, U. Quattrocchi, *CRC World Dictionary of Grasses* (2006), S.-L. Chen et al, *Flora of China* 22 (Poaceae) (2006), J. F. Veldkamp, Poaceae ms (*Flora Malesiana*), N. L. Bor, *Grasses of Burma, Ceylon, India and Pakistan* (1960) (as *O. granulata*).

TYPE from Indonesia. **Basionym or Replaced Name:** *Oryza granulata*, *Padia meyeriana* Zoll. & Moritz, *Syst. Verz.* 103 (1846). T: <Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: IT: *H. Zollinger* 718, 27 Nov 1842, Indonesia: Java: in dumetis prope Tjikoyam (L, LE, US-80325 (fragm.)). cited 1987 by H. Duistermaat.

Illustrations (Books): H. J. Noltie, *The Grasses of Bhutan* (2000) (516, Fig. 9 as var. *granulata*), S.-L. Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 243 as subsp. *granulata*).

Derivation (Clifford & Bostock 2007): L. *-ana*, indicating connection. In honor of Ernst Heinrich Friedrich Meyer (1791–1858) German botanist who collected in South Africa.

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms erect, 60–70(–100) cm long. Culm-nodes glabrous. Leaf-sheaths 6–8 cm long, striately veined, smooth, glabrous on surface. Leaf-sheath auricles erect. Ligule an eciliate membrane, 1–2 mm long, white. Leaf-blade base broadly rounded, with a brief petiole-like connection to sheath. Leaf-blades linear or lanceolate, 15–22 cm long, 16–20 mm wide. Leaf-blade surface scaberulous. Leaf-blade margins scaberulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, linear, 3–4 cm long, bearing few spikelets. Primary panicle branches appressed, simple, 2–3 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, angular, bibracteate.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or ovate, laterally compressed, 5–5.5 mm long, falling entire.

Glumes. Glumes both absent or obscure.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea. Lemma of lower sterile floret linear or lanceolate, 0.4–1 mm long, membranous. Fertile lemma elliptic, laterally compressed, 5–5.5 mm long, coriaceous, keeled, 5 -veined, more than 3-veined. Lemma surface granulate. Lemma margins interlocking with palea margins. Lemma apex acute, mucicous. Palea elliptic, 5 mm long, coriaceous, 5 -veined, 1-keeled. Palea surface smooth. Palea apex acute.

Flower and Fruit. Lodicules 2, membranous. Anthers 6. Stigmas 2. Caryopsis with adherent pericarp. Disseminalule comprising a floret.

$2n = 24$ (1 ref TROPICOS).

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

Country /Province /State. **China.** China South Central, Hainan, China Southeast. **Indian Subcontinent, Indo-China, Malesia.** Eastern Himalaya, Sri Lanka. Andaman Is, Myanmar, Thailand, Vietnam. Borneo, Java, Malaya, Moluccas, Philippines, Sumatra.

Guangdong, Guangxi. Yunnan. Sikkim.

Oryza minuta J. & C. Presl. *Rel. Haenk.* i. 208. (1830).

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

TYPE from Philippines. **Basionym or Replaced Name:** *Oryza officinalis* Wall. ex Watt, *Dict. Econ. Prod.* 5:501 (1891). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Haenke s.n.*, Philippines (PR).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (516, Fig. 9), H.B.Gilliland, *Grasses of Malaya* (1971) (103 Fig. 17), 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);, H.B.Gilliland et al., *Flora of Malaya Vol. 3 Grasses* (1971);.

Derivation (Clifford & Bostock 2007): L. very small. Smaller than usual in some respect.

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending or decumbent, 120–150 cm long. Leaf-sheaths smooth, glabrous on surface. Leaf-sheath auricles absent. Ligule an eciliate membrane, 5 mm long, erose. Leaf-blades 25–50 cm long, 10–20 mm wide. Leaf-blade surface scaberulous. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle, comprising 6–20 fertile spikelets. Panicle open, ovate, 10–15 cm long. Primary panicle branches drooping, whorled at lower nodes, simple, 10–15 cm long. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, angular.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or ovate, laterally compressed, 4–5 mm long, 2.5 mm wide, falling entire.

Glumes. Glumes both absent or obscure.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea. Lemma of lower sterile floret lanceolate, 1.5 mm long, 1 -veined, acuminate. Fertile lemma oblong or orbicular, laterally compressed, 4 mm long, coriaceous, dark brown or black, keeled, 5 -veined, more than 3-veined. Lemma midvein spinulose. Lemma surface scabrous or reticulate. Lemma margins interlocking with palea margins. Lemma apex awned, 1 -awned. Principal lemma awn 3–18 mm long overall. Palea elliptic, coriaceous, 3 -veined, 1-keeled. Palea keels spinulose. Palea surface scaberulous. Palea apex acute, awned, awns 1 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 6, 2.5 mm long. Stigmas 2. Caryopsis with adherent pericarp. Disseminule comprising a floret.

$2n = 12$ (1 ref TROPICOS), or 24 (1 ref TROPICOS).

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

Country /Province /State. Indian Subcontinent, Indo-China, Malesia, Papuasias. Eastern Himalaya. Myanmar, Thailand. Borneo, Java, Lesser Sunda Is, Moluccas, Sumatra, Malaya, Philippines, Sulawesi. New Guinea PNG. New Guinea. **Australia.** Northern Territory, Queensland.

Darjeeling, Bhutan, Sikkim. Assam. Kerala. Darwin & Gulf. North.

Oryza neocaledonica P. Morat. *Bull. Mus. Nation. Hist. Nat., B, Adansonia, Ser.* 4, 16(1): 3 (1994).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), W.D.Clayton & N.Snow, *Key to Pacific Grasses* (2010).

TYPE from New Caledonia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Veillon 7573*, 22 Sep 1992, Nouvelle Calédonie: Pouembout, forêt galerie, vers 200 m, forêt sclérophylle, en sous-bois, substrat schistes, sol hydromorphe, petite population en touffes éparées, cultivée et fleurie en serra, ?l'ORSTROM, fleur rosée, fruit bruns (P; IT: K, L, MO-4660140, NOU, NSW, P).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From New Caledonia.

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes short. Culms geniculately ascending, 60–80 cm long. Culm-nodes glabrous. Lateral branches lacking. Leaf-sheath oral

hairs scanty. Leaf-sheath auricles absent. Ligule a ciliolate membrane, 0.5–1 mm long. Leaf-blades 17–21 cm long, 7–11 mm wide. Leaf-blade surface smooth or scaberulous, rough on both sides. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle, comprising 7–40 fertile spikelets. Panicle open, lanceolate or ovate, 30–55 cm long, 3–8 cm wide, bearing few spikelets. Primary panicle branches simple. Panicle branches scabrous, rough distally. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, sinuous, bibracteate.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or oblong, laterally compressed, 7–9 mm long, 1.5–1.8 mm wide, falling entire.

Glumes. Glumes both absent or obscure.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea. Lemma of lower sterile floret linear, 2–2.3 mm long, 0.33 length of fertile lemma, coriaceous, 1 -veined. Fertile lemma oblong, laterally compressed, 7–8 mm long, 3.5 mm wide, coriaceous, red (pink), keeled, 5 -veined, more than 3-veined. Lemma surface granulose, hispidulous (spinulose), with hooked hairs. Lemma margins interlocking with palea margins. Lemma apex acute, muticous. Palea elliptic, 7 mm long, coriaceous, 3 -veined, 1-keeled. Palea apex acute.

Flower and Fruit. Lodicules 2, 0.8 mm long, membranous. Anthers 6, 2.8–3 mm long, yellow. Stigmas 2. Caryopsis with adherent pericarp, lanceolate or ovoid, 5–6 mm long, dark brown. Embryo 0.2 length of caryopsis. Hilum linear. Disseminule comprising a floret.

Distribution (TDWG). Continent. Pacific.

Country /Province /State. Southwestern Pacific. New Caledonia.

Oryza nivara Sharma & Shastri. *Indian J. Genet. Pl. Breed.* 25: 161 (1965).

Accepted by: U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: India: Sharma 152 (K iso).

Illustrations (Journals): *Indian J. Genet. Pl. Breed.* (25, Figs 1 & 2 (1965)).

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

Habit, Vegetative Morphology. Annual. Culms -200 cm long.

Inflorescence. Panicle open (seldom) or contracted.

Fertile Spikelets. Spikelets 6–10.4 mm long, 1.9–3.4 mm wide.

Florets. Lemma apex awned. Principal lemma awn 40–100 mm long overall.

Flower and Fruit. Anthers 1.5–3 mm long.

$n = 12$ (1 ref TROPICOS). $2n = 24$.

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

Country /Province /State. China. China South Central. **Indian Subcontinent, Indo-China.** Assam, Bangladesh, India, Nepal, Sri Lanka. Cambodia, Laos, Myanmar, Thailand, Vietnam. Yunnan.

Oryza officinalis Wall. ex G. Watt. *Dict. Econ. Prod. India* 5: 501 (1891).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Wallich* 8635, (CAL; IT: K, W).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 243).

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending or decumbent, robust, 120–150 cm long. Leaf-sheaths smooth, glabrous on surface. Leaf-sheath auricles absent. Ligule an eciliate membrane, 3–5 mm long, erose, obtuse. Leaf-blades 25–50 cm long, 10–20 mm wide. Leaf-blade surface scaberulous, rough on both sides. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle, comprising 6–20 fertile spikelets. Panicle open, ovate, 20–40 cm long. Primary panicle branches spreading or drooping, 2–4 -nate, whorled at lower nodes, simple, 10–

15 cm long. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, angular, 0.5 length of fertile spikelet.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or ovate, laterally compressed, 4–5 mm long, 2–2.4 mm wide, falling entire.

Glumes. Glumes both absent or obscure.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea. Lemma of lower sterile floret lanceolate, 1.5 mm long, 0.3–0.4 length of spikelet, 1 -veined, without lateral veins, acuminate. Lemma of upper sterile floret lanceolate, 1.5 mm long, 1 length of lower sterile floret. Fertile lemma oblong or orbicular, laterally compressed, 4–5 mm long, coriaceous, dark brown or black, keeled, 5 -veined, more than 3-veined. Lemma midvein spinulose. Lemma surface scabrous and reticulate. Lemma margins interlocking with palea margins. Lemma apex awned, 1 -awned. Principal lemma awn 3–18 mm long overall. Palea elliptic, coriaceous, 3 -veined, 1-keeled. Palea keels spinulose. Palea surface scaberulous. Palea apex acute, awned, awns 1 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 6, 2.5 mm long. Stigmas 2. Caryopsis with adherent pericarp. Disseminule comprising a spikelet.

$2n = 24$ (3 refs TROPICOS).

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

Country /Province /State. **China.** China South Central, Hainan, China Southeast. **Indian Subcontinent, Indo-China, Malesia, and Papuasias.** Eastern Himalaya, India, Nepal, Sri Lanka. Cambodia, Laos, Myanmar, Thailand, Vietnam. Borneo, Java, Malaya, Singapore, Sumatra. New Guinea PNG. New Guinea.

Guangdong, Guangxi. Yunnan.

***Oryza punctata* Kotzchy ex Steud. *Syn. Pl. Gram.* 3. (1854).**

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

TYPE from Sudan. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Kotschy 136*, Sudan (P; IT: K).

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (127, Fig.451), R.M.Phill, F.T.E.A., *Gramineae* (1(1970):29, Fig.10), G.V.Pope et al., *Flora Zambesiaca* 10 (1(1971):33, T. 8), J.Bosser, *Graminees des Paturage et des Cultures a Madagascar* (1969) (58, Fig. 10), E.Hafliger & E.Schultz, *Grass Weeds*, CIBA-GEIGY (2:108(1980)).

Derivation (Clifford & Bostock 2007): *L. pungo*, prick; *-ata*, possessing. Glumes spotted with color.

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending or decumbent, 50–120(–150) cm long, 3–6 mm diam., spongy, 3–5 -noded. Leaf-sheaths smooth, glabrous on surface. Leaf-sheath auricles falcate. Ligule an eciliate membrane, 3–10 mm long, entire or lacerate, truncate or obtuse or acute. Leaf-blades 15–45 cm long, 1–25 mm wide. Leaf-blade surface scaberulous, rough on both sides. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 15–35 cm long, 3–17 cm wide. Primary panicle branches ascending or spreading. Panicle branches angular, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, angular, 2–5 mm long, scaberulous, tip cupuliform.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, laterally compressed, 4.9–6.2 mm long, 1.9–2.6 mm wide (2.5 times longer than wide), falling entire. Spikelet callus glabrous, base truncate, attached transversely.

Glumes. Glumes both absent or obscure.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea. Lemma of lower sterile floret lanceolate, 1–1.5 mm long, 0.2 length of fertile lemma, membranous, 1 -veined, without lateral veins, acute. Fertile lemma elliptic, laterally compressed, 4.9–6.2 mm long, coriaceous, keeled, 5 -veined, more than 3-veined. Lemma midvein spinulose. Lemma surface reticulate, glabrous or hispid. Lemma margins involute. Lemma apex rostrate, awned, 1 -awned. Principal lemma awn straight or flexuous, (10–

)20–75 mm long overall, limb scabrous. Palea elliptic, 0.9 length of lemma, coriaceous, 3 -veined, 1-keeled. Palea keels scabrous. Palea apex acute.

Flower and Fruit. Lodicules 2, lanceolate, membranous. Anthers 6. Stigmas 2. Caryopsis with adherent pericarp. Disseminule comprising a floret.

$n = 24$ (1 ref TROPICOS). $2n = 24$ (1 ref TROPICOS), or 48 (1 ref TROPICOS).

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

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, Ivory Coast, Nigeria. DRC. Sudan. Kenya, Tanzania, Uganda. Angola, Malawi, Zambia, Zimbabwe. Swaziland, Kwazulu-Natal. Madagascar. **Indo-China.** Thailand.

Oryza rhizomatis Vaughan. *Bot.J. Linn. Soc.* 103 (2): 160, f.1 (1990).

TYPE from Sri Lanka. **Basionym or Replaced Name:** Hambantota: Rahuna Wildlife Sanctuary, S. Balendira, A.S.U. Hyanaga & D.A. Vaughan 105660. HT: IRRIT: L, P, PDA.

Illustrations: None found.

Habit, Vegetative Morphology. Perennial. Rhizomes short. Culms erect, 100–300 cm long.

Inflorescence. Panicle open. Primary panicle branches not whorled.

Fertile Spikelets. Spikelets 6.8 mm long, 2.2 mm wide.

Flower and Fruit. Anthers 2.3–4 mm long.

$2n = 24$.

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

Country /Province /State. Indian Subcontinent. Sri Lanka.

Oryza ridleyi Hook. f. *Fl. Brit. Ind.* vii. 93. (1896).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), J.F.Veldkamp, *Poaceae* ms (*Flora Malesiana*).

TYPE from Malaysia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: T: *Keah s.n.*, (L). ; Malay Peninsula: Pahang, in dense thickets, *Ridley* (HT: ?; ST?: L).

Illustrations (Books): N.L.Bor, *Gramineae* in *Flora of Iraq* (1968) (103, Fig 17).

Images: H.B.Gilliland et al., *Flora of Malaya Vol. 3 Grasses* (1971);.

Derivation (Clifford & Bostock 2007): in honor of Henry Nicholas Ridley (1855–1956) English-born Malayan botanist.

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

Habit, Vegetative Morphology. Perennial. Culms geniculately ascending or decumbent, 100–150 cm long. Leaf-sheaths smooth, glabrous on surface. Ligule an eciliate membrane, 3–5 mm long. Leaf-blades 15–30 cm long, 15–25 mm wide. Leaf-blade surface smooth. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 25–35 cm long, 10–15 cm wide. Primary panicle branches ascending, simple, 6–12 cm long. Panicle branches scaberulous. Spikelets appressed. Fertile spikelets pedicelled. Pedicels present, linear, angular, tip cupuliform.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 8.9 mm long, 2.5 mm wide, falling entire. Rhachilla internodes elongated below proximal fertile floret. Rhachilla elongation 0.6 mm long.

Glumes. Glumes both absent or obscure.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea. Lemma of lower sterile floret subulate, 6–7.5 mm long, 0.8 length of fertile lemma, scaberulous. Fertile lemma elliptic, laterally compressed, 7–8 mm long, coriaceous, keeled, 5 -veined, more than 3-veined. Lemma midvein spinulose. Lemma surface scaberulous, rough on veins. Lemma margins interlocking with palea margins. Lemma apex awned, 1 -awned. Principal lemma awn 4–8 mm long overall. Palea elliptic, 9 mm long, coriaceous, 3 -veined, 1-keeled. Palea keels spinulose. Palea apex acuminate, with excurrent keel veins.

Flower and Fruit. Lodicules 2, membranous. Anthers 6. Stigmas 2. Caryopsis with adherent pericarp. Disseminule comprising a floret.

$n = 24$ (1 ref TROPICOS).

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

Country /Province /State. **Indo-China, Malesia, Papuasias.** Cambodia, Myanmar, Thailand. Borneo, Sumatra, Malaya, Singapore. New Guinea West Papua (Irian Jaya). New Guinea.

Oryza rufipogon Griff. *Notul.* 3: 5; *Ic. Pl. Asiat.* 145. f. 2 (1851).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: NT: *Tim s.n.*, Bangladesh (CAL, K). NT designated by Sharma & Shastri, *Indian J. Genet. Pl. Breed.* 25(20): 157–167 (1965).

Recent Synonyms: *Oryza glumipatula* Steud., *Syn. Pl. Gram.* 3 (1854). *Oryza jeyporensis* Govindasw. & Krishnam., sine descr lat., *Sci. & Cult.* 14: 236 (1958).

Illustrations (Books): E.E.Henty, *A Manual of the Grasses of New Guinea* (1969) (123, Pl. 47), J.R.Wheeler et al, *Flora of the Kimberley Region* (1992) (1189, Fig 337), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007), S.A.Renvoize, *Gramineas de Bolivia* (1998) (66, Fig. 12), J.A.Steyermark et al, *Flora of the Venezuelan Guayana* Vol. 8 (2004) (177, Fig. 129), E.Judziewicz, *Flora of the Guianas*, 187. *Poaceae* (1990) (363, Fig. 68), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 245), E.Hafliger & E.Schultz, Grass Weeds, CIBA-GEIGY (2:109(1980)), G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Fig. 287).

Images: G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Pl. 23).

Derivation (Clifford & Bostock 2007): *L. rufus*, reddish; Gk. *pogon*, beard. Awns reddish-brown.

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated, spongy. Culms geniculately ascending or decumbent, 30–100 cm long, spongy. Leaf-sheaths smooth, glabrous on surface. Leaf-sheath auricles erect. Ligule an eciliate membrane, 12–17 mm long, lacerate. Leaf-blades 20–40 cm long, 5–10 mm wide. Leaf-blade surface scabrous. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, linear, nodding, 10–20 cm long. Primary panicle branches appressed, simple. Panicle branches scabrous. Spikelets appressed, solitary. Fertile spikelets pedicelled. Pedicels present, linear, angular, tip cupuliform.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 8–9 mm long, 2–2.5 mm wide, falling entire. Rhachilla internodes elongated below proximal fertile floret. Rhachilla elongation stout, 0.5 mm long.

Glumes. Glumes both absent or obscure.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea. Lemma of lower sterile floret linear or oblong, 2.4 mm long, 1 -veined. Fertile lemma oblong, laterally compressed, 7 mm long, coriaceous, keeled, 5 -veined, more than 3-veined. Lemma midvein spinulose. Lemma surface scaberulous or reticulate. Lemma margins interlocking with palea margins. Lemma apex awned, 1 -awned. Principal lemma awn 40–100 mm long overall, limb scabrous. Palea elliptic, 7 mm long, coriaceous, 3 -veined, 1-keeled. Palea surface scabrous. Palea apex acute, muticous or awned, awns 0–6 mm long.

Flower and Fruit. Lodicules 2, membranous. Anthers 6, 3.5–7.4 mm long. Stigmas 2. Caryopsis with adherent pericarp. Disseminule comprising a floret.

$n = 12$ (2 refs TROPICOS). $2n = 24$ (2 refs TROPICOS).

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

Country /Province /State. **China, Eastern Asia.** China South Central, Hainan, China Southeast. Taiwan. **Indian Subcontinent, Indo-China, Malesia, Papuasias.** Bangladesh, India, Sri Lanka. Cambodia, Myanmar, Thailand, Vietnam. Java, Malaya, Singapore, Sumatra. New Guinea West Papua (Irian Jaya).

New Guinea. **Australia.** Western Australia, Northern Territory, Queensland. **Southeastern USA, Mexico.** Florida. Southwest Mexico. **Mesoamerica, Caribbean, Northern South America, Western South America, Brazil.** Costa Rica, Honduras, Panama. Cuba, Dominican Republic. French Guiana, Guyana, Surinam, Venezuela. Bolivia, Ecuador, Peru. Brazil West Central, Brazil North.

Guangdong, Guangxi. Yunnan. Kerala. Maharashtra, Orissa, Tamilnadu. Kimberley. Darwin & Gulf, Victoria R & Barkly Tableland. North, Central. Mato Grosso, Mato Grosso do Sul. Amapa, Amazonas. Buenos Aires, Misiones. Oaxaca.

Oryza sativa L. *Sp. Pl.* 333. (1753).

Accepted by: R.J.Soreng et al., *Catalogue of New World Grasses* (2000–2003) and online, W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), D.Sharp, D. & B.K.Simon, *AusGrass* (2002), S-L Chen et al, *Flora of China* 22 (Poaceae) (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*), N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), T.G.Tutin et al, *Flora Europaea* 5 (1980), N.Tsvelev, *Grasses of the Soviet Union* (1983), T.Koyama, *Grasses of Japan and its neighboring regions* (1987), W.D.Clayton & N.Snow, Key to Pacific Grasses (2010).

TYPE from India. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: LT: (LINN-460.1). LT designated by Meikle, Fl. Cyprus 2: 1716 (1985). LT: India (LINN-460.1). LT designated by Duistermaat, Blumea 32: 174 (1987).

Illustrations (Books): G.Hegi, *Flora von Mitteleuropa* 1 (1909), N.N.Tsvelev, *Grasses of the Soviet Union* (1983) (913 (601), Pl.11), R.M.Phill, F.T.E.A., *Gramineae*, G.V.Pope et al., *Flora Zambesiaca* 10 (1971):33, T. 8), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (32, Fig. 2), J.Bosser, *Graminees des Paturage et des Cultures a Madagascar* (1969) (27, Fig 5), L.Boulos, *Flora of Egypt* 4 (2005) (128, Fig. 36), N.L.Bor, *Gramineae in Flora of Iraq* (1968) (49, Pl. 14), C-C Hsu, *Taiwan Grasses* (1975) (220), K.M.Matthew, *Flora Palni Hills* (1996) (850, Pl. 850), H.J.Noltie, *The Grasses of Bhutan* (2000) (516, Fig. 9), H.Duistermaat, *Field Guide to the Grasses of Singapore* (2005) (93, Fig. 93), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler., *Grasses of New South Wales*, 4th edn (2008) (310), 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) (41), F.W.Gould, *The Grasses of Texas* (1975) (43, Fig. 7), A.S.Hitchcock, *Manual of the Grasses of the West Indies* (1936) (146, Fig. 92 & as *O. perennis*), S.A.Renvoize, *Gramineas de Bolivia* (1998) (66, Fig. 12), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (564 & 578, Fig. 121 & 125), A.Burkat, *Flora Illustrada de Entre Rios (Argentina)*, Pt II, Gramineas (1969) (38, Fig. 6), W.Burger, *Flora Costaricensis* 15, Gramineae: *Fieldiana Botany New Series* 4 (1980) (349, Fig. 128), B.Rosengurt, *Gramineas Uruguayas I* (1970) (277, Fig. 114), E.Judziewicz, *Flora of the Guianas*, 187. *Poaceae* (1990) (363, Fig. 68), R.Pilger, *Die Natürlichen Pflanzenfamilien* 14d (1956) (147, Fig. 37), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 243).

Illustrations (Journals): *Ruizia* (13:62, Fig. 7a-b (1993)).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);, L.Boulos, *Flora of Egypt* 4 (2005);, G.G.Potgar, C.B.Salunkhe & S.R.Yadav, Grasses of Maharashtra (2012) (Pl. 23).

Derivation (Clifford & Bostock 2007): L. cultivated. Crop species.

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

Habit, Vegetative Morphology. Annual. Culms erect or geniculately ascending, 45–180 cm long, 3–20 -noded. Leaf-sheaths smooth, glabrous on surface. Leaf-sheath auricles erect. Ligule an eciliate membrane, 15–30 mm long, entire or lacerate, acute. Leaf-blades 12–65 cm long, 4–18 mm wide. Leaf-blade surface scaberulous, rough adaxially, glabrous or pubescent. Leaf-blade margins scabrous. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate, equilateral or nodding, 20–50 cm long. Primary panicle branches appressed or ascending or spreading. Panicle branches angular, scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, linear, angular, 2–4 mm long, scaberulous, tip cupuliform, bibracteate.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-

flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or oblong, laterally compressed, 8–11 mm long, 2.5–3.5 mm wide, persistent on plant. Spikelet callus glabrous, base truncate, attached obliquely.

Glumes. Glumes both absent or obscure.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea. Lemma of lower sterile floret lanceolate, 2–3 mm long, 0.25(–0.5) length of fertile lemma, membranous, 1 -veined, without lateral veins, acute. Fertile lemma elliptic, laterally compressed, 8–11 mm long, coriaceous, keeled, 5 -veined, more than 3-veined. Lemma midvein ciliate, hairy above. Lemma surface reticulate, glabrous or hispid. Lemma margins involute. Lemma apex rostrate, muticous or awned, 1 -awned. Principal lemma awn 0–160 mm long overall, limb scabrous. Palea elliptic, 1 length of lemma, coriaceous, 3 -veined, 1-keeled. Palea keels scabrous. Palea apex acute.

Flower and Fruit. Lodicules 2, lanceolate, membranous. Anthers 6. Stigmas 2. Caryopsis with adherent pericarp. Disseminule comprising a floret.

$n = 12$ (2 refs TROPICOS). $2n = 12$ (1 ref TROPICOS), or 24 (20 refs TROPICOS), or 36 (1 ref TROPICOS).

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

Region. Northern Europe, Middle Europe, Southwestern Europe, Southeastern Europe, Eastern Europe.

Country /Province /State. : GB Aliens (Ryves et al). : Czechoslovakia, Hungary. : France, Portugal, Spain. : Albania, Bulgaria, Greece, Italy, Romania, Yugoslavia. Krym, East European Russia, South European Russia, Northwest European Russia, Ukraine. **Northern Africa, West Tropical Africa, West-Central Tropical Africa, Northeast Tropical Africa, East Tropical Africa, South Tropical Africa, Southern Africa, Western Indian Ocean.** Egypt (+), Libya. Somalia, Sudan. Mozambique. Mauritius (+), Madagascar (+), Seychelles. Russian Far East, **Middle Asia, Caucasus, Western Asia, Arabian Peninsula, China, Eastern Asia.** Amur, Primorye. Kazakhstan, Turkmenistan, Tadzhikistan, Uzbekistan. Iraq. China South Central, Hainan, China Southeast. Japan Hokkaido, or Honshu, or Shikoku, or Kyushu. Japan, Nansei-Shoto, Taiwan. **Indian Subcontinent, Indo-China, Malesia, Papuasias.** Bangladesh, Eastern Himalaya, Pakistan, Sri Lanka, West Himalaya. Andaman Is, Cambodia, Laos, Myanmar, Thailand, Vietnam. Borneo, Java, Lesser Sunda Is, Sumatra, Malaya, Philippines. New Guinea. **Australia** (*). Western Australia (*), Northern Territory (*), Queensland (*). **Southwestern Pacific, Northwestern Pacific, North-central Pacific.** Fiji (*), New Caledonia. **North-central USA, Southwestern USA, South-central USA, Southeastern USA, Mexico.** Missouri. California, Utah. Texas. Arkansas, Florida, Louisiana. 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, Guatemala, Nicaragua, Panama. Jamaica (*). French Guiana, Guyana, Venezuela. Bolivia, Colombia, Ecuador, Peru. Argentina Northeast, Chile Central, Paraguay, Uruguay.

Fujian, Guangdong, Guangxi. Yunnan. Darjeeling, Bhutan, Sikkim. Kimberley, South-West. Darwin & Gulf. North. Western Slopes, Western Plains. Distrito Federal (*). Paraná, Santa Catarina. Entre Rios. Santiago, O'Higgins, Maule, Biobio. Mexico State, Morelos, Puebla. Tamaulipas. Veracruz. Sinaloa. Colima, Guerrero, Jalisco, Michoacan, Nayarit, Oaxaca. Campeche, Chiapas, Quintana Roo.

Oryza sp. (Australian O. rufipogon - Jpn1)

Illustrations: None found.

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

Habit, Vegetative Morphology. Perennial, short-lived. Culms erect, 160–180 cm long, 3 mm diam., spongy or compressible, 4–6 -noded. Leaf-sheaths scaberulous (at margins), glabrous on surface, outer margin glabrous, inner surface glabrous. Ligule 15–18 mm long, entire or lacerate, acuminate.

Oryza sp. (perennial O. meridionalis - Jpn 2)

Illustrations: None found.

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

Habit, Vegetative Morphology. Perennial, short-lived. Culms erect.

Oryza schweinfurthiana Prod. Bot. Arch. 1: 231 (1922).

TYPE from Central African Republic. **Basionym or Replaced Name:** Ghasi-Quelgebeit, im Lande der Niam-Niam, *Schweinfurth* 3691.

Illustrations: None found.

Habit, Vegetative Morphology. Perennial. Culms erect.

Flower and Fruit. $2n = 48$.

Distribution (TDWG). Continent. Africa.

Country /Province /State. West Tropical Africa, West-Central Tropical Africa, Northeast Tropical Africa, South Tropical Africa, Western Indian Ocean. Benin, Ghana, Ivory Coast. Cameroon, Congo, DRC. Chad. Angola, Mozambique, Zambia, Zimbabwe. Swaziland. Madagascar.

Oryza schlechteri Pilger. Engl. Jahrb. 111. 168. (1914).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from Papua new Guinea. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *F.R.R. Schlechter 16684*, Oct 1907, Papua New Guinea: (B; IT: L, US-80326 (fragm. ex B), US-1612304).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Friedrich Richard Rudolf Schlechter (1872–1925) German-born botanist and traveller.

Classification. Subfamily Ehrhartoideae. Tribe: Oryzeae.

Habit, Vegetative Morphology. Annual. Culms erect, 30–90 cm long. Ligule an eciliate membrane, 1–2 mm long. Leaf-blades 20–30 cm long, 5–10 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, dense, 3–6 cm long. Primary panicle branches spreading. Panicle branches angular. Spikelets spreading, solitary. Fertile spikelets pedicelled. Pedicels present, linear, angular, 1 mm long, tip cupuliform.

Fertile Spikelets. Spikelets comprising 2 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets orbicular, laterally compressed, gibbous, 1.5–1.7 mm long, falling entire. Spikelet callus glabrous, base truncate.

Glumes. Glumes both absent or obscure.

Florets. Basal sterile florets 2 or more, similar, barren, without significant palea. Lemma of lower sterile floret lanceolate, 0.2 mm long, 0.1 length of fertile lemma, 1 -veined, without lateral veins, acute. Fertile lemma orbicular, laterally compressed, gibbous, 1.5–1.7 mm long, coriaceous, keeled, 5 -veined, more than 3-veined. Lemma surface striate. Lemma margins interlocking with palea margins. Lemma apex rostrate, muticous. Palea elliptic, coriaceous, 3 -veined, 1-keeled. Palea surface smooth. Palea apex acute.

Flower and Fruit. Lodicules 2, membranous. Stigmas 2. Caryopsis with adherent pericarp. Disseminule comprising a floret.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. Papuasias. New Guinea West Papua (Irian Jaya). New Guinea.

Oryzidium barnardii C.E.Hubb. & Schweickerdt. *Kew Bull.* 1936, 328. (1936).

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

TYPE from South Africa. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: T: *Barnard s.n.*, Ovamboland, Tamansu.

Illustrations (Books): G.V.Pope et al., *Flora Zambesiaca* 10 (3(1989):59, t. 14), L.K.A. Chippindall, *Grasses and Pastures of South Africa* (1955) (426, Fig 354), G.E.Gibbs Russell et al, *Grasses of Southern Africa* (1990) (231, Fig 148).

Derivation (Clifford & Bostock 2007): in honor of Petrus Johannes Barnard (1935–) South African biologist.

Classification. Subfamily Panicoideae. Tribe: Paniceae. Subtribe Incertae Sedis.

Habit, Vegetative Morphology. Perennial. Culms decumbent, 80–150 cm long, spongy, rooting from lower nodes. Ligule a fringe of hairs, 1–2 mm long. Leaf-blades 3–11 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 10–25 cm long. Primary panicle branches appressed. Panicle branches stiff, straight. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, filiform, angular, 0.5–4 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 lanceolate, dorsally compressed, 8–10 mm long, falling entire, deciduous with the pedicel, pedicel base truncate. Rhachilla internodes elongated below proximal fertile floret. Rhachilla elongation slender.

Glumes. Glumes dissimilar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate (rarely) or oblate, 1–2(–5) mm long, 0.1–0.2 length of spikelet, membranous, without keels, 0–3 -veined. Lower glume apex obtuse or acute. Upper glume elliptic, chartaceous, without keels, 7 -veined. Upper glume lateral veins ribbed. Upper glume surface scabrous, rough on veins. Upper glume apex attenuate, awned, 1 -awned, awn 10–18 mm long.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret lanceolate, 8–9 mm long, 0.9 length of spikelet, chartaceous, 5 -veined, acuminate. Fertile lemma elliptic, 4–5 mm long, coriaceous, without keel, 7 -veined, more than 3-veined. Lemma margins involute. Lemma apex acuminate. Palea coriaceous.

Flower and Fruit. Lodicules 2, cuneate, fleshy.

Distribution (TDWG). Continent. Africa.

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

***Oryzopsis aequiglumis* Duthie ex Hook.f. *Fl. Brit. India* 7:234 (1896).**

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

Basionym or Replaced Name: *Piptatherum aequiglume*, *Oryzopsis fasciculata*.

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (516, Fig. 9), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 260 as *Piptatherum*).

Derivation (Clifford & Bostock 2007): *L. aequus*, equal; *gluma*, husk. Glumes subequal.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Culms 85–130 cm long. Ligule an eciliate membrane. Leaf-blades 15–30 cm long, 5–7 mm wide. Leaf-blade surface scaberulous, rough on both sides.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 15–30 cm long. Primary panicle branches ascending or spreading, 7–15 cm long. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 6.5–9 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 1 length of upper glume, membranous, without keels. Lower glume apex acuminate. Upper glume elliptic, 6.5–9 mm long, membranous, without keels. Upper glume apex acuminate.

Florets. Fertile lemma lanceolate, dorsally compressed, 5–6.5 mm long, coriaceous, dark brown, shiny, without keel. Lemma surface pubescent. Lemma margins convolute, covering most of palea. Lemma hairs 0.3 mm long. Lemma apex acute, awned, 1 -awned. Principal lemma awn straight, 8–11 mm long overall, persistent or deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Anthers 3, 3.5–4 mm long, anther tip penicillate. Caryopsis with adherent pericarp.

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

Country /Province /State. Western Asia, China. Afghanistan, Iran. China South Central, Tibet. Indian Subcontinent. Eastern Himalaya, Pakistan, West Himalaya.

Sichuan, Yunnan. Bhutan. Uttah Pradesh. Himachal Pradesh.

Oryzopsis alpestris Grig. *Trudy Kazhikistanskoi Bazy* 8: 579 (1938).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *Piptatherum alpestre*).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: "Declivia septentrionalia jugi Hissar. In valle fl. Jagnob superioris. 16 VIII 1934. Alt. 3000m., no. 207.", *E. Grigorjev*. 207.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. alpes*, high mountain; *-estre*, place of growth. Growing on high mountains.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 15–35 cm long. Leaf-sheaths smooth. Ligule an eciliate membrane, 2–5 mm long. Leaf-blades flat or convolute, 0.8–2.5 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 4–10 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, dorsally compressed, 5–7 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, membranous, purple, without keels. Lower glume apex acute. Upper glume ovate, 5–7 mm long, membranous, without keels. Upper glume apex acute.

Florets. Fertile lemma lanceolate, dorsally compressed, 3.8–4.2 mm long, coriaceous, without keel. Lemma surface pubescent, hairy below. Lemma margins convolute, covering most of palea. Lemma apex obtuse, awned, 1 -awned. Principal lemma awn 2–3.5 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Middle Asia. Turkmenistan.

Oryzopsis angustifolia (Regel) Kitamura. *Fl. Afghan.* : 4 (1960).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *Piptatherum angustifolium*).

TYPE from Afghanistan. **Basionym or Replaced Name:** *Piptatherum angustifolium* Munro ex Boiss., *Fl. Orient.* 5: 508 (1884). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: IT: *J.E.T.Aitchison* 196.527, Dec. 1879, Afghanistan: Kurrum Valley : Biankhel, Alikhel (LE). ST: *Aitchinson* 827, Hab. in pinetis vallis Kurrum Affghaniae ad Biankhel et Alikhel ST: *Aitchinson* 196, Hab. in pinetis vallis Kurrum Affghanie ad Biankhel et Alikhel ST: *J.E.T. Aitchison*, 1879, Afghanistan: Karum Valley (IST: US (fragm.)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. angustus*, narrow; *folium*, leaf. Leaf-blades narrow.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Basal innovations intravaginal. Culms geniculately ascending, 30–60 cm long, 4 -noded. Leaf-sheaths smooth. Ligule an eciliate membrane, 3–6 mm long, 2–4 mm long on basal shoots, acute. Leaf-blades involute, 10–20 cm long, 1–2.5 mm wide, grey-green. Leaf-blade surface smooth or scaberulous, rough abaxially, puberulous, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 10–17 cm long, 3–10 cm wide. Primary panicle branches spreading or reflexed, 2 -nate, 5–8 cm long, with lower 0.5 length of panicle. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 4–5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus curved, glabrous, obtuse, disarticulating transversely, with elliptic scar.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, membranous, without keels, 5 -veined. Lower glume apex acute. Upper glume ovate, 4–5 mm long, membranous, without keels, 3–5 -veined. Upper glume apex acute.

Florets. Fertile lemma elliptic, widest at 0.5–0.55 of its length from base, dorsally compressed, 2.5–3 mm long, 1.2–1.5 mm wide, coriaceous, without keel. Lemma surface with basal hair tufts near margin, bearing 2 hair tufts in all. Lemma margins convolute, covering most of palea. Lemma apex obtuse, without ornament or pubescent, awned, 1 -awned. Principal lemma awn 1–2.5 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Lodicules 3, 0.7–0.9 mm long. Anthers 3, 1.5–1.7 mm long, anther tip smooth. Caryopsis with adherent pericarp, ellipsoid, 1.5–2.1 mm long. Embryo 0.33 length of caryopsis. Hilum linear, 0.8–0.9 length of caryopsis.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Middle Asia, Western Asia. Turkmenistan. Iran.

Oryzopsis asperifolia Michx. *Fl. Bor. Am.* i. 51. (1803).

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

TYPE from Canada. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Michaux s.n.*, Canada: in praeruptis et saxosis per tractus montium a sinu Hudsonis ad Canadam (P).

Illustrations (Books): K.F.Best, et al, *Prairie Grasses* (1971) (165), M.E.Barkworth et al, *Flora of North America north of Mexico* Vol 24 *Poaceae*, part 1 (2007) (169).

Derivation (Clifford & Bostock 2007): *L. asper*, rough; *folium*, leaf. Leaf-blades rough.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms geniculately ascending or prostrate, 20–70 cm long. Ligule an eciliate membrane. Leaf-blades flat or revolute, 15–40 cm long, 3–8 mm wide, glaucous. Leaf-blade surface ungrooved, scabrous. Leaf-blade apex abruptly acute.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 5–8 cm long, contracted about primary branches. Primary panicle branches appressed, indistinct the panicle almost racemose, 2–6 cm long. Spikelets appressed, solitary. Fertile spikelets pedicelled. Pedicels present, 3–6 mm long.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, dorsally compressed, 6–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Spikelet callus pubescent. Floret callus pubescent.

Glumes. Glumes persistent, similar, reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 6–8 mm long, 1 length of upper glume, membranous, without keels, 7 -veined. Lower glume apex acute. Upper glume ovate, 6–8 mm long, 1 length of adjacent fertile lemma, membranous, without keels, 7 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, dorsally compressed, 6–8 mm long, coriaceous, pallid or yellow, without keel, 5 -veined, more than 3-veined. Lemma surface pubescent. Lemma margins convolute, covering most of palea. Lemma apex acute, awned, 1 -awned. Principal lemma awn flexuous, 5–10 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. $2n = 48$ (1 ref TROPICOS).

Distribution (TDWG). Continent. North America.

Country /Province /State. Subarctic America, Western Canada, Eastern Canada, Northwest USA, North-central USA, Northeast USA, Southwestern USA, South-central USA. Yukon, Northwest Territories. Alberta, British Columbia, Manitoba, Saskatchewan. New Brunswick, Newfoundland, Nova Scotia, Ontario, Prince Edward I, Quebec. Colorado, Montana, Wyoming. Utah. New Mexico.

Oryzopsis barbellata (Mez) Bor. *K. Danske Vid. Selsk., Biol. Skrift.*, xiv. No. 4 : 7 (1965).

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

TYPE from India. **Basionym or Replaced Name:** *Piptatherum barbellatum* Mez, *Repert. Spec. Nov. Regni Veg.* 17(13–18): 211 (1921). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: T: W. Griffith 6583, India (L).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. barba*, beard; *-ella*, diminutive; *-atum*, possessing. Lemma with short hairs at the apex.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Basal innovations intravaginal. Culms erect, 10–60 cm long, 2–4 -noded. Culm-internodes distally glabrous. Leaf-sheaths smooth or scaberulous. Ligule an eciliate membrane, 1.5–8 mm long, 1–3 mm long on basal shoots, acute. Leaf-blades flat or involute, 3–9 cm long, 0.8–4 mm wide, grey-green. Leaf-blade surface scaberulous, rough abaxially, pilose, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 4–13 cm long, 0.5–11 cm wide. Primary panicle branches appressed or ascending, 1–2 -nate, with lower 0.33–0.5 length of panicle. Panicle branches smooth or scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 6–10 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus curved, glabrous, obtuse, disarticulating transversely, with elliptic scar.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, membranous, without keels, 5–7 -veined. Lower glume apex acute. Upper glume ovate, 6–10 mm long, membranous, without keels, 3–5 -veined. Upper glume apex acute.

Florets. Fertile lemma linear, dorsally compressed, 3.8–6 mm long, 0.8–1 mm wide, coriaceous, without keel. Lemma surface pubescent, hairy above. Lemma margins convolute, covering most of palea. Lemma apex obtuse, awned, 1 -awned. Principal lemma awn 1.5–3 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Lodicules 3, 0.8–1 mm long. Anthers 3, 2.5–3 mm long, yellow or purple, anther tip penicillate. Caryopsis with adherent pericarp, ellipsoid, 3.5 mm long. Embryo 0.25 length of caryopsis. Hilum linear, 0.9 length of caryopsis.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Western Asia. Iran.

Oryzopsis blanchena (Desv. ex Boiss.) D. Heller. *Conspect. Fl. Oriental.*, 6: 72: (1991).

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

Basionym or Replaced Name: *Piptatherum blanchenae* Desv. ex Boiss.,.

Illustrations (Books): N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 349 as *P. blanchenae*).

Derivation (Clifford & Bostock 2007): *L. -ana*, indicating connection. In honor of Charles Isidore Blanche (1823–1887) who collected in Lebanon.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 50–90 cm long, 3–4 -noded. Leaf-sheaths smooth or scaberulous. Ligule an eciliate membrane, 5–10 mm long, obtuse or acute. Leaf-blades 10–20 cm long, 5 mm wide. Leaf-blade surface papillose, rough abaxially.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 6–20 cm long. Primary panicle branches ascending or spreading, 1–2 -nate. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 7–9 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 1 length of upper glume, membranous, purple, without keels, 7–9 -veined. Lower glume apex acuminate. Upper glume elliptic, 7–9 mm long, 2 length of adjacent fertile lemma, membranous, purple, without keels, 5–7 -veined. Upper glume apex acuminate.

Florets. Fertile lemma elliptic, dorsally compressed, 4–5 mm long, coriaceous, shiny, without keel. Lemma margins convolute, covering most of palea. Lemma apex obtuse, awned, 1 -awned. Principal lemma awn straight, 4.5–6 mm long overall, persistent. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Lodicules 3, 1 mm long. Anthers 3, 2.8–3.6 mm long, anther tip smooth. Caryopsis with adherent pericarp, ellipsoid, 3–3.5 mm long.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Western Asia. Palestine, Israel & Jordan, Turkey.

Oryzopsis chinensis Hitchc. *Proc. Biol. Soc. Wash.* xliii. 92. (1930).

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

TYPE from China. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: China: Shansi: collected by mountain path, 1200 m, 18 May 1929, T. Tang 788 (HT: US-1445578).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 259 as *Achnatherum*).

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

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 60–70 cm long, 2 -noded. Leaf-sheaths smooth. Ligule an eciliate membrane, 0.3 mm long. Leaf-blades filiform, involute, 15–25 cm long, 1 mm wide. Leaf-blade surface scabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 15 cm long, with spikelets clustered towards branch tips. Primary panicle branches 2 -nate, 5–7 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, dorsally compressed, 3.5–4 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus curved, glabrous, obtuse, disarticulating transversely, with elliptic scar.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, membranous, without keels. Lower glume apex acute. Upper glume ovate, 3.5–4 mm long, membranous, without keels. Upper glume apex acute.

Florets. Fertile lemma elliptic, dorsally compressed, 2.5 mm long, coriaceous, yellow or light brown, without keel. Lemma surface pubescent. Lemma margins convolute, covering most of palea. Lemma apex obtuse, awned, 1 -awned. Principal lemma awn curved, 5–7 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Lodicules 3. Anthers 3. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. China. Inner Mongolia, China North-Central, Qinghai, China Southeast. Gansu, Hebei, Shaanxi, Shanxi. Henan.

Oryzopsis coerulescens (Desf.) Hack. *Denkschr. Acad. Wien*, 1. 75. (1885).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, T.G.Tutin et al, *Flora Europaea* 5 (1980) (as *Piptatherum*).

Basionym or Replaced Name: *Piptatherum coerulescens*, *Milium caerulescens* Desf., *Fl. Atlant.* 1: 66, t. 12 (1798). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: *Desfontaines*, in *fissuris rupium Atlantis* (P; IST: US (fragm. P-Desf. ex Cossan hb.)).

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (123, Fig.49).

Derivation (Clifford & Bostock 2007): L. *coerulesco*, become bluish. Foliage glaucous.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 50–80 cm long, 3–4 -noded. Culm-internodes scaberulous. Leaf-sheaths scaberulous. Ligule an eciliate membrane, 4–8 mm long, obtuse or acute. Leaf-blades flat or involute, 15–35 cm long, 2–4 mm wide. Leaf-blade surface smooth or scaberulous, rough abaxially, glabrous or pilose, hairy abaxially.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 8–15 cm long. Primary panicle branches ascending or spreading, 1–2 -nate. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then

both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 6–8.2 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 6–8.2 mm long, 1.1–1.2 length of upper glume, membranous, much thinner above, much thinner on margins, mid-green or purple, without keels, 7 -veined. Lower glume apex acuminate. Upper glume elliptic, 5.5–7.2 mm long, membranous, much thinner above, with hyaline margins, mid-green or purple, without keels, 5 -veined. Upper glume apex acuminate.

Florets. Fertile lemma elliptic, dorsally compressed, 4–5 mm long, coriaceous, shiny, without keel. Lemma margins convolute, covering most of palea. Lemma apex obtuse, awned, 1 -awned. Principal lemma awn straight, 1.7–2.2 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Lodicules 3, 1 mm long. Anthers 3, 2–2.5 mm long, anther tip penicillate. Caryopsis with adherent pericarp, ellipsoid, 2.5–3 mm long.

$2n = 24$ (1 ref TROPICOS).

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

Region. Southwestern Europe, Southeastern Europe.

Country /Province /State. : Balears, Corsica, France, Portugal, Sardinia, Spain. : Bulgaria, Greece, Italy, Crete, Sicily, Yugoslavia. **Northern Africa, Macaronesia.** Algeria, Libya, Morocco, Tunisia. Canary Is. **Western Asia.** Iran.

Oryzopsis ferganensis Litv. *Komarov, Fl. URSS*, ii. 116, 742 (1934).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *Piptatherum ferganense*).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: "Asia media. Kirgizstania, in montibus pr. Arslanbob ad tractum Kenkol, nec non pr. Taranbazar, leg. D. Litwinow.", *D. Litwinow. s.n.*.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. *-ensis*, denoting origin. From Fergana Range, Kirgiztan, former Soviet Union.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Culms erect, 50 cm long. Leaves basal and cauline. Ligule an eciliate membrane, 5–6 mm long, obtuse. Leaf-blades 5–10 mm wide. Leaf-blade surface scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle, exerted or embraced at base by subtending leaf. Panicle open, lanceolate, 6–12 cm long. Primary panicle branches 2–3 -nate. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, dorsally compressed, 7 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus curved, glabrous, obtuse, disarticulating transversely, with elliptic scar.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 1 length of upper glume, membranous, without keels, 7 -veined. Lower glume surface asperulous, rough at apex. Lower glume apex acuminate. Upper glume lanceolate, 7 mm long, membranous, without keels, 5 -veined. Upper glume surface asperulous, rough at apex. Upper glume apex acuminate.

Florets. Fertile lemma lanceolate, dorsally compressed, 5 mm long, coriaceous, without keel. Lemma surface pubescent, hairy all along or above. Lemma margins convolute, covering most of palea. Lemma apex obtuse, awned, 1 -awned. Principal lemma awn straight or curved, 8 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Lodicules 3. Anthers 3. Caryopsis with adherent pericarp. Hilum linear.

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

Country /Province /State. **Middle Asia.** Kazakhstan, Turkmenistan, Tadjikistan.

Oryzopsis gracilis (Mez) Pilger. *Notizbl. Bot. Gart. Berlin*, xiv 347 (1939).

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

TYPE from China (Tibetan Autonomous Region). **Basionym or Replaced Name:** *Piptatherum gracile* Mez, *Repert. Spec. Nov. Regni Veg.* 17(486–491): 211 (1921); *Oryzopsis brachyclada*. T:<Type of Basionym>; *fide* TROPICOS and Kew Synonymy Database: IT: *T.T.[Thomson] Herb.Ind. Or. Hook. fil. & Thoms.*, Tibet Occ.: 12–15000' (B; IT: LE, US- (fragm. ex B)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. slender. Culms or inflorescences slender.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 10–55 cm long. Ligule an eciliate membrane. Leaf-blades filiform, flat or involute or convolute, 6–20 cm long, 1–2.5 mm wide. Leaf-blade surface pubescent, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 6–20 cm long, 0.5–1 cm wide. Primary panicle branches appressed or ascending, 2 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 4.5–8.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 1 length of upper glume, membranous, without keels. Lower glume apex acuminate. Upper glume elliptic, 4.5–8.5 mm long, membranous, without keels. Upper glume apex acuminate.

Florets. Fertile lemma linear or lanceolate, dorsally compressed, 3–4.5 mm long, coriaceous, shiny, without keel. Lemma surface pubescent. Lemma margins convolute, covering most of palea. Lemma hairs white, 0.4–0.5 mm long. Lemma apex dentate, 2 -fid, awned, 1 -awned. Principal lemma awn subapical, curved, 3–6 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Anthers 3, 1.7–2.5 mm long, anther tip penicillate. Caryopsis with adherent pericarp.

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

Country /Province /State. Western Asia, China. Afghanistan, Iran. China South Central, Tibet.

Indian Subcontinent. Nepal, Pakistan, West Himalaya.

Sichuan, Yunnan. Himachal Pradesh, Jammu Kashmir, Uttaranchal.

Oryzopsis grandispicula Kuo & Z.L. Wu. *Acta Phytotax. Sin.*, 19(4): 435 (1981).

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

TYPE from China. T:<Type of Basionym>; *fide* TROPICOS and Kew Synonymy Database: China: Xizang: Xizag? Daiduka, rocky slopes, 3700 m, 25 Aug. 1963, *Z.Y. Gin 10210* (HT: NWBI) HT cited as HNWP in Phillips & Wu, *Novon* 15(3): 475 (2005).

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (fig. 263 as *Piptatherum*).

Derivation (Clifford & Bostock 2007): L. *grandis*, large; *spica*, a point; hence, in particular, an ear or spike of grain; -*ula*, diminutive. Spikelets large.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Culms 85–130 cm long. Ligule an eciliate membrane, 4–5 mm long, pubescent on abaxial surface. Leaf-blades 15–30 cm long, 5–7 mm wide. Leaf-blade surface smooth, glabrous.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 15–30 cm long. Primary panicle branches 2–6 in number, ascending or spreading, 7–15 cm long. Panicle branches smooth. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, glabrous.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 8–9 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 1 length of upper glume, membranous, without keels. Lower glume apex acuminate. Upper glume elliptic, 8–9 mm long, membranous, without keels. Upper glume apex acuminate.

Florets. Fertile lemma lanceolate, dorsally compressed, 5–6 mm long, 1 mm wide, coriaceous, dark brown, shiny, without keel. Lemma surface pubescent. Lemma margins convolute, covering most of palea. Lemma hairs 0.3 mm long. Lemma apex acute, awned, 1 -awned. Principal lemma awn straight, 8–11 mm long overall, persistent or deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Anthers 3, 3.5–4 mm long, anther tip penicillate. Caryopsis with adherent pericarp.

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

Country /Province /State. **China.** Tibet.

Oryzopsis hilariae (Pazij) B.P. Uniyal. *B.P. Uniyal, B. Balodi & B. Nath, Grasses of Uttar Pradesh*: 64: (1994).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.L.Bor, *Grasses of Burma, Ceylon, India and Pakistan* (1960) (as *O. humilis*, *O. wendelboi*), N.Tsvelev, *Grasses of the Soviet Union* (1983) (*Piptatherum*).

Basionym or Replaced Name: *Piptatherum hilariae* Pazij, *Not. Syst. Herb. Inst. Bot. & Zool. Acad. Sci. Uzbekistan*. 10: 20 (1948).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor Auguste de St. Hilaire (1779–1853), French naturalist who travelled widely in South America.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms 10–50(–70) cm long. Culm-nodes glabrous. Ligule an eciliate membrane, 2.5–3 mm long. Leaf-blades flat or involute, 5–30 cm long, 1.5–4.5 mm wide. Leaf-blade surface smooth or scaberulous, rough abaxially, glabrous or pubescent, hairy adaxially. Leaf-blade margins scaberulous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, (3–)7–30 cm long. Primary panicle branches appressed, 1.5–5 cm long. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 4–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus obtuse.

Glumes. Glumes persistent, similar, with lower wider than upper, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 4–8 mm long, 1 length of upper glume, membranous, without keels, 5 -veined. Lower glume apex acute. Upper glume elliptic, 4–8 mm long, 1.5–2 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex acute.

Florets. Fertile lemma elliptic or ovate, dorsally compressed, 2.6–4.2 mm long, coriaceous, light brown, without keel. Lemma surface puberulous, hairy below, with conspicuous apical hairs. Lemma margins convolute. Lemma hairs 0.2–0.3 mm long. Lemma apex dentate, 2 -fid, rostrate, awned, 1 -awned. Principal lemma awn subapical, spreading, 1.8–4 mm long overall, not or scarcely exerted from spikelet, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Anthers 3, 1.2–2.75 mm long, anther tip smooth. Caryopsis with adherent pericarp, oblong, isodiametric, 2 mm long. Hilum linear.

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

Country /Province /State. **Middle Asia, Western Asia, China.** Turkmenistan, Tadzhikistan, Afghanistan. Tibet. **Indian Subcontinent.** Pakistan, West Himalaya.

Oryzopsis holciformis (M.Bieb.) Hack. *Denkschr. Acad. Wien*, l. 8. (1885).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), T.G.Tutin et al, *Flora Europaea* 5 (1980) (as *Piptatherum holciforme*), N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *Piptatherum holciforme*).

TYPE from Crimea. **Basionym or Replaced Name:** *Agrostis holciformis* M. Bieb., *Fl. Taur.-Caucas.* 1: 54 (1808). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Habitat in Tauria meridionali, circa pag. Alupkam, *M. Bieberstein s.n.* (HT: FI).

Illustrations (Books): N.N.Tsvelev, *Grasses of the Soviet Union* (1983) (913 (601), Pl.11 as *Piptatherum*), N.Feinbrun-Dothan, *Flora Palaestina* 4 (1986) (Pl. 350 as *Piptatherum holciforme* ssp.

longiglume), S. Phillips, *Poaceae* (Gramineae) in I. Hedberg & S. Edwards, *Flora of Ethiopia and Eritrea* (1995) (14, Fig 7), L. Boulos, *Flora of Egypt* 4 (2005) (133, Fig 38), N. L. Bor, *Gramineae* in *Flora of Iraq* (1968) (413, Pl. 155).

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

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect or geniculately ascending, 40–80 cm long. Ligule an eciliate membrane. Leaf-blades involute or convolute, 15–30 cm long, 1–3 mm wide, coriaceous, stiff. Leaf-blade surface ribbed, smooth or scaberulous, rough on both sides. Leaf-blade margins scaberulous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, effuse, 20–35 cm long, 12–24 cm wide. Primary panicle branches 2-nate, 8–15 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, dorsally compressed, 8–10(–12) mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 8–10(–12) mm long, 1 length of upper glume, membranous, without keels, 5-veined. Lower glume apex acute. Upper glume ovate, 8–10(–12) mm long, 1.1–1.7 length of adjacent fertile lemma, membranous, without keels, 5-veined. Upper glume apex acute.

Florets. Fertile lemma ovate, dorsally compressed, 7 mm long, coriaceous, black, without keel, 5-veined, more than 3-veined. Lemma surface pubescent. Lemma margins convolute, covering most of palea. Lemma apex acute, awned, 1-awned. Principal lemma awn flexuous, 8–13 mm long overall, deciduous. Palea coriaceous, 2-veined, without keels.

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

Region. Southeastern Europe, Eastern Europe.

Country /Province /State. : Albania, Bulgaria, Greece, Romania, Yugoslavia. Krym, Ukraine. Northern Africa, Northeast Tropical Africa. Egypt (as subsp. *holciformis*), Libya. Eritrea, Ethiopia (inc. Eritrea). Middle Asia, Caucasus, Western Asia, Arabian Peninsula. Tadzhikistan. Iran, Iraq. Yemen.

Oryzopsis latifolia Roshev. *Komarov, Fl. URSS*, ii. 116, 743 (1934).

Accepted by: W. D. Clayton & K. Harman, *GrassBase* (2008) and online, N. Tsvelev, *Grasses of the Soviet Union* (1983) (as *Piptatherum latifolium*).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: "Asia media, Tadzhikistania, Distr. Chodshent, prope Ingyrtshak; ...", *O. Knorring*, 8.V.1914.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. latus*, broad; *folium*, leaf. Leaf-blades broad or relatively broad with respect to related species.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, culms solitary or caespitose, clumped loosely. Butt sheaths green or purple. Culms decumbent, 90–120 cm long, 4–6-noded. Culm-internodes distally glabrous. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 3–6 mm long, entire or lacerate, obtuse. Leaf-blades 15–30 cm long, 6–15 mm wide. Leaf-blade surface smooth or scaberulous, rough abaxially.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 15–25 cm long, 4–14 cm wide, with spikelets clustered towards branch tips. Primary panicle branches 2–3-nate, with lower 0.5–0.66 length of panicle. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, dorsally compressed, 8–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus curved, glabrous, obtuse, disarticulating transversely, with elliptic scar.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, membranous, without keels, 7–9-veined. Lower glume apex acute. Upper glume ovate, 8–9 mm long, membranous, without keels, 7–9-veined. Upper glume apex acute.

Florets. Fertile lemma ovate, dorsally compressed, 4.5–5.5 mm long, 2–2.5 mm wide, coriaceous, without keel. Lemma surface pubescent. Lemma margins convolute, covering most of palea. Lemma hairs tawny. Lemma apex obtuse, awned, 1 -awned. Principal lemma awn curved, 12–15 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Lodicules 3, 1–1.2 mm long. Anthers 3, 2.2–2.7 mm long, yellow, anther tip penicillate. Caryopsis with adherent pericarp, ellipsoid or ovoid, 3 mm long. Embryo 0.33 length of caryopsis. Hilum linear, 0.9 length of caryopsis.

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

Country /Province /State. **Middle Asia, Western Asia.** Turkmenistan, Tadjikistan. Iran.

Oryzopsis molinioides (Boiss.) Hack. ex Paulsen. *Kjoeb. Vidensk. Meddel.* 1903, 165 (1903).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.L.Bor, Grasses of Burma, Ceylon, India and Pakistan (1960), N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *Piptatherum*).

Basionym or Replaced Name: *Piptatherum molinioides* Boiss., *Diagn. Pl. Orient., ser. 1*, 1(7): 121 (1846). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Hab. ad fontem Dcheschme Pias dictum montis Kuh-Daena ..., *Kotschy 755a*.

Illustrations (Books): N.L.Bor, *Gramineae* in K.H.Rechinger, *Flora Iranica*. No. 70/30 (1970) (Tab. 57), N.L.Bor, *Gramineae* in *Flora of Iraq* (1968) (417, Pl. 157).

Derivation (Clifford & Bostock 2007): Gk. *-oides*, resembling. Resembling *Molinia*.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Butt sheaths scarious, persistent and investing base of culm, with compacted dead sheaths. Culms erect, 15–45 cm long. Ligule an eciliate membrane. Leaf-blades flexuous, filiform, 3–8 cm long, 1–2 mm wide.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 4–8 cm long, 0.5 cm wide. Primary panicle branches indistinct the panicle almost racemose. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or ovate, dorsally compressed, 9–10 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 1 length of upper glume, membranous, without keels, 3(–5) -veined. Lower glume apex acuminate. Upper glume elliptic, 3 mm long, membranous, without keels, 5(–9) -veined. Upper glume apex acuminate.

Florets. Fertile lemma elliptic, dorsally compressed, 6–6.5 mm long, coriaceous, shiny, without keel. Lemma surface pubescent. Lemma margins convolute, covering most of palea. Lemma hairs yellow. Lemma apex muticous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Anthers 3, anther tip smooth. Caryopsis with adherent pericarp.

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

Country /Province /State. **Caucasus, Western Asia.** Iran, Iraq.

Oryzopsis munroi Stapf. *Fl. Brit. Ind.* vii. 234 (1896).

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

TYPE from India. **Basionym or Replaced Name:** *Piptatherum munroi* (Stapf) Mez, Fedde, Repert. 17: 212 (1921). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: *T. Thomson s.n.*, India: Himalaya, 1829 m (L).

Recent Synonyms: *Oryzopsis geminiramula* Ohwi, *Acta Phytotax. & Geobot., Kyoto*, 17: 14 (1957). *Oryzopsis stewartiana* Bor, *Kew Bull.* 1953, 272 (1953).

Illustrations (Books): H.J.Noltie, *The Grasses of Bhutan* (2000) (516, Fig. 9), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 262 as *Piptatherum*).

Derivation (Clifford & Bostock 2007): in honor of William Munro (1818–1880) Scots-born British soldier and amateur botanist who collected extensively in India.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 20–40 cm long. Culm-nodes glabrous. Lateral branches lacking. Leaf-sheaths smooth. Ligule an eciliate membrane, 2–2.5 mm long, obtuse. Leaf-blades flat or involute, 6–13 cm long, 2–2.5 mm wide, glaucous. Leaf-blade surface scaberulous, rough adaxially or on both sides. Leaf-blade margins scaberulous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, nodding, 7–14 cm long, 1–2 cm wide. Primary panicle branches appressed, 2.5 cm long. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, smooth, tip widened.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic, dorsally compressed, 4–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus obtuse.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 4–4.5 mm long, 1 length of upper glume, membranous, pallid, without keels, 5 -veined. Lower glume apex acuminate. Upper glume elliptic, 4–4.5 mm long, 1.3–1.5 length of adjacent fertile lemma, membranous, pallid, without keels, 3 -veined. Upper glume apex acuminate.

Florets. Fertile lemma lanceolate or oblong, dorsally compressed, 3 mm long, coriaceous, yellow, without keel. Lemma surface puberulous, hairy all along. Lemma margins convolute. Lemma apex acute, awned, 1 -awned. Principal lemma awn 6–10 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Anthers 3, 1.5 mm long, anther tip penicillate.

$n = 12$ (1 ref TROPICOS).

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

Country /Province /State. Western Asia, China. Afghanistan, Iran. China South Central, China North-Central, Qinghai, Tibet, Xinjiang. **Indian Subcontinent.** Eastern Himalaya, Nepal, Pakistan, West Himalaya.

Gansu, Guizhou, Sichuan, Yunnan, Darjeeling, Bhutan, Sikkim. Himachal Pradesh, Jammu Kashmir, Uttaranchal.

Oryzopsis pamiralaica Grig. *Trudy Kadszhikistanskoi Bazy* 8: 582 (1940).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *Piptatherum pamiralaicum*).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: "Declivia septentrionalia jugi Hissar. Systema fluminis Tagob, in fl. Jagnob influentis. In decliviis septentrionalibus vallis fl. Cumarb. Festucetum Francheti-cousinosum. ...", *Grigorjev 169, 2 VIII 1934*.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. -ica, belonging to. From the Pamir Mountains and Alai Range, Tadzhikistan, former Soviet Union.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Basal innovations intravaginal. Culms erect, 10–60 cm long. Leaf-sheaths smooth or scaberulous. Ligule an eciliate membrane, 3–6 mm long, 2–4 mm long on basal shoots, acute. Leaf-blades flat or involute, 3–25 cm long, 1.5–2 mm wide, grey-green. Leaf-blade surface scaberulous, rough abaxially, puberulous, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 6–12 cm long, 1.5–6 cm wide, bearing few spikelets. Primary panicle branches appressed, 1–2 -nate, with lower 0.33–0.5 length of panicle, bearing 1–4 fertile spikelets on each lower branch. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, dorsally compressed, 5–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus curved, glabrous, obtuse, disarticulating transversely, with elliptic scar.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, membranous, without keels, 7 -veined. Lower glume apex acute. Upper glume ovate, 5–6 mm long, membranous, without keels, 5 -veined. Upper glume apex acute.

Florets. Fertile lemma elliptic, widest at 0.55 of its length from base, dorsally compressed, 2.5–3.5 mm long, 1.4–2 mm wide, coriaceous, without keel. Lemma surface pubescent. Lemma margins convolute, covering most of palea. Lemma hairs white or yellow. Lemma apex obtuse, awned, 1 -awned. Principal lemma awn 3–4 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Lodicules 3, 0.7–0.9 mm long. Anthers 3, 1.5 mm long, anther tip penicillate. Caryopsis with adherent pericarp, obovoid, 2–2.2 mm long. Embryo 0.4–0.5 length of caryopsis. Hilum linear, 0.9 length of caryopsis.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Middle Asia, Western Asia. Turkmenistan. Iran.

Oryzopsis paradoxa (L.) Nutt. *Journ. Acad. Philad.* iii. 128. (1823).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, T.G.Tutin et al, *Flora Europaea* 5 (1980) (as *Piptatherum virescens*), N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *Piptatherum virescens* & *P. paradoxum*).

Basionym or Replaced Name: *Piptatherum paradoxum*, *Agrostis paradoxa* L., *Sp. Pl.* 1: 62 (1753). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: LT: *Plukenet, Phytographia* t. 32, f. 2 (1691), Voucher specimen: Herb. Sloane 96: 70 (BM) LT designated by Freitag in Cafferty et al., *Taxon* 49(2): 243 (2000).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *para*, irregular; *doxa*, opinion. Different from the expected in regard to related species.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 60–120 cm long. Leaf-sheaths without keel, glabrous on surface, outer margin hairy. Leaf-sheath oral hairs ciliate. Ligule an eciliate membrane, 0.1–0.5 mm long. Leaf-blades 25–50 cm long, 5–10 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Peduncle smooth or scaberulous above. Panicle open, oblong, 10–20 cm long, bearing few spikelets. Primary panicle branches 2–3 -nate. Panicle axis scabrous. Panicle branches scabrous, bearded in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous, tip widened.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets ovate, dorsally compressed, 7–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus glabrous.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume lanceolate, 7–8 mm long, 1 length of upper glume, membranous, without keels, 3–5 -veined. Lower glume surface scabrous, rough above. Lower glume apex dentate, 2 -fid. Upper glume lanceolate, 7–8 mm long, 1.7–2 length of adjacent fertile lemma, membranous, without keels, 3–5 -veined. Upper glume surface scabrous, rough above. Upper glume apex acute.

Florets. Fertile lemma oblong, dorsally compressed, 4 mm long, coriaceous, dark brown or black, without keel. Lemma surface pubescent. Lemma margins convolute, covering most of palea. Lemma apex obtuse, awned, 1 -awned. Principal lemma awn 15 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Lodicules 2, 0.5 mm long. Anthers 3, 2.5 mm long. Caryopsis with adherent pericarp, fusiform, 4 mm long. Embryo 0.25 length of caryopsis.

Distribution (TDWG). Continent. Europe, Africa.

Region. Southwestern Europe.

Country /Province /State. : France, Portugal, Spain. **Northern Africa.** Morocco, Tunisia.

Oryzopsis platyantha (Nevski) G. Grigorj. *Trudy Tadzhik. Akad. Nauk*, viii. 578 (1940).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *Piptatherum platyanthum*).

Basionym or Replaced Name: *Piptatherum platyanthum* Nevski, *Trudy Bot. Inst. Akad. Nauk S.S.S.R., Ser. 1, Fl. Sist. Vyssh. Rast.* 4: 336–337, f. 15 (1937). T:<Type of Basionym>: *fide* TROPICOS and Kew

Synonymy Database: T: Azerbaijan: Inter lapides sub cacuminibus montium Kuhitang supra pagum Chosdsha-i-fil.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *platys*, flat; *anthos*, flower. Spikelets wider, relative to length, than those of related species.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Basal innovations intravaginal. Culms erect, 10–60 cm long, 2–3 -noded. Culm-internodes distally glabrous. Leaf-sheaths glabrous on surface or puberulous. Ligule an eciliate membrane, 2–6 mm long, 1.5–3.5 mm long on basal shoots, entire or lacerate, obtuse. Leaf-blades flat or involute, 6–15 cm long, 1–4 mm wide, grey-green. Leaf-blade surface smooth or scaberulous, rough abaxially, puberulous, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, 3–10 cm long, 1–2 cm wide. Primary panicle branches 1–2 -nate, with lower 0.33–0.5 length of panicle. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 7–11 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus curved, glabrous, obtuse, disarticulating transversely, with elliptic scar.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, membranous, without keels, 5–7 -veined. Lower glume apex acute. Upper glume ovate, 7–11 mm long, membranous, without keels, 5–7 -veined. Upper glume apex acute.

Florets. Fertile lemma elliptic or ovate, widest at 0.5 of its length from base, dorsally compressed, 4–6 mm long, 1.3–2 mm wide, coriaceous, without keel. Lemma surface pubescent, hairy all along. Lemma margins convolute, covering most of palea. Lemma hairs tawny. Lemma apex obtuse, awned, 1 -awned. Principal lemma awn 2.5–4 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Lodicules 3, 1 mm long. Anthers 3, 2–3 mm long, yellow or purple, anther tip penicillate. Caryopsis with adherent pericarp, ellipsoid, 3.5–4 mm long. Embryo 0.33 length of caryopsis. Hilum linear, 0.9 length of caryopsis.

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

Country /Province /State. Middle Asia, Western Asia. Turkmenistan.

Oryzopsis purpurascens Hack. ex Paulsen. *Kjoeb. Vidensk. Meddel.* 1903, 164. (1903).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *Piptatherum*).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: "... Pamir, on moist slopes near lake Jashil Kul.", *n.* 994.

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. purpurasco*, become purple. Inflorescences reddish-purple.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Basal innovations intravaginal. Culms erect, 15–60 cm long, 3 -noded. Culm-internodes distally glabrous. Leaf-sheaths smooth or scaberulous. Ligule an eciliate membrane, 3–6 mm long, 2–4 mm long on basal shoots, acute. Leaf-blades flat or involute, 3–25 cm long, 1.5–2 mm wide, grey-green. Leaf-blade surface scaberulous, rough abaxially, puberulous, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, elliptic, 7–12 cm long, 2–6 cm wide, bearing few spikelets. Primary panicle branches ascending or spreading, 2–3 -nate, with lower 0.33–0.5 length of panicle, bearing 1–3 fertile spikelets on each lower branch. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 5.5–9 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus curved, glabrous, obtuse, disarticulating transversely, with elliptic scar.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, membranous, without keels, 9 -veined. Lower glume apex acute. Upper glume ovate, 5.5–9 mm long, membranous, without keels, 7 -veined. Upper glume apex acute.

Florets. Fertile lemma elliptic or ovate, widest at 0.5 of its length from base, dorsally compressed, 3.2–4.5 mm long, 1.3–1.5 mm wide, coriaceous, without keel. Lemma surface pubescent. Lemma margins convolute, covering most of palea. Lemma hairs white or yellow. Lemma apex obtuse, awned, 1 -awned. Principal lemma awn 3–4 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Lodicules 3, 1 mm long. Anthers 3, 2–2.5 mm long, yellow, anther tip penicillate. Caryopsis with adherent pericarp, ellipsoid, 2.4–2.6 mm long. Embryo 0.33 length of caryopsis. Hilum linear, 0.9 length of caryopsis.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Middle Asia, Western Asia. Turkmenistan. Iran.

Oryzopsis rechingeri Bor. *K. H. Rechinger, Fl. Iran., Lief. 70, 402 (1970).*

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

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Karl Heinz Rechinger (1906-) Austrian botanist.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Basal innovations intravaginal. Culms geniculately ascending, 8–25 cm long, 2–3 -noded. Culm-internodes distally glabrous. Leaf-sheaths scaberulous. Ligule an eciliate membrane, 3–5 mm long, lacerate, acute. Leaf-blades involute, 3–10 cm long, 1–1.2 mm wide, grey-green. Leaf-blade surface scaberulous, rough abaxially, pubescent, hairy adaxially. Leaf-blade margins scabrous.

Inflorescence. Inflorescence a panicle. Panicle open or contracted, lanceolate or ovate, 3–5 cm long, 1.5–3 cm wide. Primary panicle branches ascending or spreading, 1–3 -nate, with lower 0.33–0.5 length of panicle. Panicle branches smooth or scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 6–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus curved, glabrous, obtuse, disarticulating transversely, with elliptic scar.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, membranous, without keels, 5–6 -veined. Lower glume apex acute. Upper glume ovate, 6–8 mm long, membranous, without keels, 5–6 -veined. Upper glume apex acute.

Florets. Fertile lemma linear or lanceolate, dorsally compressed, 5.5–6 mm long, 0.8–1 mm wide, coriaceous, without keel. Lemma surface villous. Lemma margins convolute, covering most of palea. Lemma hairs 1–2 mm long. Lemma apex obtuse, awned, 1 -awned. Principal lemma awn 3.5 mm long overall, persistent. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Lodicules 3, 1.1–1.3 mm long. Anthers 3, 3.5 mm long, yellow, anther tip penicillate. Caryopsis with adherent pericarp, oblong, 4 mm long. Embryo 0.25 length of caryopsis. Hilum linear, 0.9 length of caryopsis.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Western Asia. Iran.

Oryzopsis sogdiana Grig. *Trudy Kadszhikistanskoi Bazy 8: 576 (1940).*

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *Piptatherum sogdianum*).

T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: "Montes Hissar. Systema fl. Jagnob. In decliviis orientabilibus jugi Ucz-cada. Alt. 3000m. Alopecuretum...", *G. Grigorjev. 174, 5 VIII 1934.*

Illustrations: None found.

Derivation (Clifford & Bostock 2007): from Sogdiana, a district in Central Asia between the Jaxartes and Oxus Rivers, now mostly Turkestan.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 30–120 cm long. Ligule an eciliate membrane, 2–8 mm long. Leaf-blades flexuous, flat or convolute, 1–4 mm wide.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 10–17 cm long. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or ovate, dorsally compressed, 7–9 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 1 length of upper glume, membranous, light green, without keels. Lower glume apex acuminate. Upper glume elliptic, 7–9 mm long, membranous, without keels. Upper glume apex acuminate.

Florets. Fertile lemma elliptic, dorsally compressed, 4.5–5.3 mm long, 0.8–1.4 mm wide, coriaceous, shiny, without keel. Lemma surface pubescent, hairy below. Lemma margins convolute, covering most of palea. Lemma apex awned, 1 -awned. Principal lemma awn 4–7 mm long overall. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Anthers 3, anther tip smooth. Caryopsis with adherent pericarp.

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

Country /Province /State. Middle Asia. Turkmenistan.

Oryzopsis songarica (Trin. & Rupr.) B. Fedtsch. *Rast. Turkest.* 94 (1915).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *Piptatherum songaricum*).

Basionym or Replaced Name: *Urachne songarica* Trin. & Rupr., *Sp. Gram. Stipac.* 15 (1842). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: Meyer, "In rupestribus montium Kurtschum, Arkaul et Dolenkara nec non prope Buchtarminsk..." cited from Mem. Acad. Meyer spec. cited by Ledeb..

ST: *Karelin et Kiril*, In montosis apricis pr. Ajagus et in rupestribus montium Tarbagatai from Mem. Acad. Meyer spec. cited by Ledeb..

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 262 as *Piptatherum*).

Derivation (Clifford & Bostock 2007): L. *-ica*, belonging to. From Soongaria, a far eastern Province of Russia, now Sungaria.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Basal innovations intravaginal. Culms erect, 30–60 cm long, 2–3 -noded. Culm-internodes distally glabrous. Leaf-sheaths glabrous on surface. Ligule an eciliate membrane, 4–7 mm long, 2–4 mm long on basal shoots, entire or lacerate, obtuse or acute. Leaf-blades flat or involute, 5–15 cm long, 2–3 mm wide. Leaf-blade surface scaberulous, rough abaxially, glabrous or puberulous, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 10–20 cm long, 2–9 cm wide. Primary panicle branches 2 -nate, with lower 0.5–0.66 length of panicle. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 6–8 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus curved, glabrous, obtuse, disarticulating transversely, with elliptic scar.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, membranous, without keels, 6–7 -veined. Lower glume apex acute. Upper glume ovate, 6–8 mm long, membranous, without keels, 5 -veined. Upper glume apex acute.

Florets. Fertile lemma ovate, dorsally compressed, 4–4.5 mm long, 1.3–1.6 mm wide, coriaceous, without keel. Lemma surface pubescent, hairy above. Lemma margins convolute, covering most of palea. Lemma apex obtuse, awned, 1 -awned. Principal lemma awn 5–7 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Lodicules 3, 0.5–1 mm long. Anthers 3, 2 mm long, anther tip penicillate. Caryopsis with adherent pericarp. Hilum linear.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Siberia, **Middle Asia, Western Asia, China, Mongolia, Russia.** Altay. Kazakhstan, Turkmenistan, Uzbekistan. Iran. Xinjiang. Mongolia.

Oryzopsis sphacelata (Boiss. & Buhse) Hackel. *Vidensk. Meddel. Nat. For. Kjobenh.* 1903, 165 (1903).

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

Basionym or Replaced Name: *Piptatherum sphacelatum* Boiss. & Buhse, *Essai d'une Nouvelle Agrostographie* 17, 173 (1812).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): L. speckled with brown or black. The apices of the anthoecia are purple or black.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped densely. Culms erect, 20–40 cm long. Culm-internodes smooth, distally glabrous. Lateral branches lacking. Ligule an eciliate membrane. Leaf-blades filiform (on innovations) or linear, flat or conduplicate, 5–10 cm long, 1–2 mm wide. Leaf-blade surface scabrous, rough on both sides, glabrous. Leaf-blade margins scabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, straight, 10–20 cm long. Primary panicle branches appressed, bearing 1–2 fertile spikelets on each lower branch. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets elliptic or oblong, dorsally compressed, 6–7 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 6–7 mm long, 1 length of upper glume, membranous, mid-green and yellow (above), without keels. Lower glume apex acute. Upper glume elliptic, 6–7 mm long, 1.5 length of adjacent fertile lemma, membranous, mid-green and yellow (above), without keels. Upper glume apex acute.

Florets. Fertile lemma elliptic, dorsally compressed, 4.5–5 mm long, 1.25 mm wide, coriaceous, without keel. Lemma surface pubescent, hairy above. Lemma margins convolute. Lemma apex awned, 1 - awned. Principal lemma awn straight, 6 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. **Western Asia.** Iran.

Oryzopsis tibetica (Roshev.) P.C. Kuo. *Fl. Tsinlingensis*, 1(1): 145 (1976).

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

TYPE from China. **Basionym or Replaced Name:** *Piptatherum tibeticum* Roshev., *Bot. Mater. Gerb. Bot. Inst. Komarova Acad. Nauk SSSR* 11: 23 (1949). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: China: Xizang: Kam, between Shin-chaj-tschi and Tscin-tschevan, 31 July 1893, *G.N. Potanin s.n.* (HT: LE) cit. = label.

Illustrations (Books): S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 260 as *Piptatherum*).

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

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms geniculately ascending, 50–100 cm long, 4–5 -noded. Culm-internodes distally glabrous. Leaf-sheaths mostly shorter than adjacent culm internode, glabrous on surface. Ligule an eciliate membrane, 3–5 mm long, obtuse. Leaf-blades 10–20 cm long, 4–5 mm wide. Leaf-blade surface scabrous, glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, effuse, 20 cm long, 14 cm wide. Primary panicle branches 4-nate. Panicle branches scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate or oblong, dorsally compressed, 3.5–4 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume ovate, 3.5–4 mm long, 1 length of upper glume, membranous, without keels, 5–7 -veined. Lower glume lateral veins obscure. Lower glume surface scabrous, rough above or on veins. Lower glume apex acuminate. Upper glume ovate, 3.5–4 mm long, 1.2 length of adjacent fertile lemma, membranous, without keels, 5–7 -veined. Upper glume lateral veins obscure. Upper glume surface scabrous, rough above or on veins. Upper glume apex acuminate.

Florets. Fertile lemma ovate, dorsally compressed, 2.5 mm long, coriaceous, without keel. Lemma surface pubescent. Lemma margins convolute, covering most of palea. Lemma apex awned, 1 -awned. Principal lemma awn curved, 3–5 mm long overall, deciduous, limb scabrous. Palea coriaceous, 2 -veined, without keels.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. China. China South Central, China North-Central, Qinghai, Tibet, Xinjiang. Gansu, Shaanxi. Sichuan, Yunnan.

Oryzopsis vavilovii Roshev. *Bull. Applied Bot., Leningrad*, 1928, xix. No. 1, 123. (1928).

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

Illustrations: None found.

Derivation (Clifford & Bostock 2007): in honor of Nikolai Ivanovich Vavilov (1887–1942) Russian plant geneticist.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Culms erect or geniculately ascending, 40–80 cm long. Culm-internodes smooth, distally glabrous. Ligule an eciliate membrane. Leaf-blades flat or conduplicate, 7–15 cm long, 2–3 mm wide. Leaf-blade surface scaberulous, rough on both sides. Leaf-blade margins scaberulous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence a panicle. Panicle open, linear, 10–20 cm long, 0.5–1 cm wide. Primary panicle branches ascending. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, dorsally compressed, 7.5–8 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 7.5–8 mm long, 1 length of upper glume, membranous, mid-green, without keels. Lower glume apex acuminate. Upper glume elliptic, 7.5–8 mm long, membranous, mid-green, without keels. Upper glume apex acuminate.

Florets. Fertile lemma oblong, dorsally compressed, 6 mm long, 1–1.25 mm wide, coriaceous, without keel. Lemma surface pubescent. Lemma margins convolute. Lemma apex awned, 1 -awned. Principal lemma awn straight, 3–6 mm long overall, deciduous. Palea coriaceous, 2 -veined, without keels.

Flower and Fruit. Anthers 3. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. Temperate Asia.

Country /Province /State. Western Asia. Iran.

Oryzopsis vicaria G. Grigorj. *Trudy Tadzhik. Akad. Nauk*, viii. 574 (1940).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, N.L.Bor, *Grasses of Burma, Ceylon, India and Pakistan* (1960) (as *O.microcarpa*), N.Tsvelev, *Grasses of the Soviet Union* (1983) (as *Piptatherum vicarium*).

Basionym or Replaced Name: *Piptatherum vicarium*, *Oryzopsis microcarpa*.

Illustrations: None found.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 30–60 cm long. Ligule an eciliate membrane. Leaf-blades flat or convolute, 15–30 cm long, 1–4 mm wide. Leaf-blade surface puberulous, hairy adaxially.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 7–25 cm long. Primary panicle branches 2-nate or 3-nate, 3–10 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, dorsally compressed, 5–8 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 1 length of upper glume, membranous, without keels. Lower glume apex acuminate. Upper glume elliptic, 5–8 mm long, membranous, without keels. Upper glume apex acuminate.

Florets. Fertile lemma elliptic, dorsally compressed, 2.5–3.5 mm long, coriaceous, shiny, without keel. Lemma surface glabrous, without hair tufts or with basal hair tufts near margin, bearing 2 hair tufts in all. Lemma margins convolute, covering most of palea. Lemma apex obtuse, awned, 1-awned. Principal lemma awn straight, 2–5.5 mm long overall, deciduous. Palea coriaceous, 2-veined, without keels.

Flower and Fruit. Anthers 3, 1.5–1.7 mm long, anther tip penicillate. Caryopsis with adherent pericarp.

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

Country /Province /State. Middle Asia, Western Asia. Turkmenistan, Tadzhikistan. Iran. **Indian Subcontinent.** Pakistan.

Oryzopsis virescens (Trin.) Beck. *Fl. Nied. Oest.* i. 51 (1890).

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

Basionym or Replaced Name: *Urachne virescens* Trin., *Fund. Agrost.* 110 (1820).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. viresco*, become green. Panicle shiny-green.

Classification. Subfamily Pooideae. Tribe: Stipeae.

Habit, Vegetative Morphology. Perennial, caespitose. Culms 50–70 cm long, 3–4-noded. Leaf-sheaths smooth, outer margin hairy. Ligule an eciliate membrane, 0.2–0.3 mm long, brown, lacerate. Leaf-blades 25 cm long, 7 mm wide.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 8–20 cm long. Primary panicle branches ascending, 1–3-nate. Panicle branches scaberulous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate or ovate, dorsally compressed, 3–4.5 mm long, breaking up at maturity, disarticulating below each fertile floret.

Glumes. Glumes persistent, similar, exceeding apex of florets, thinner than fertile lemma. Lower glume elliptic, 1 length of upper glume, membranous, much thinner on margins, mid-green, without keels, 5-veined. Lower glume apex acuminate. Upper glume elliptic, 3–4.5 mm long, 2 length of adjacent fertile lemma, membranous, with hyaline margins, mid-green, without keels, 3-veined. Upper glume apex acuminate.

Florets. Fertile lemma obovate, dorsally compressed, 3.3–3.8 mm long, coriaceous, shiny, without keel. Lemma surface pilose. Lemma margins convolute, covering most of palea. Lemma apex dentate, 2-fid, awned, 1-awned. Principal lemma awn curved, 10–13 mm long overall, persistent. Palea coriaceous, 2-veined, without keels.

Flower and Fruit. Lodicules 3, 0.7–0.9 mm long. Anthers 3, 2.5–3.2 mm long, anther tip penicillate. Caryopsis with adherent pericarp, obovoid, 2.2–2.5 mm long.

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

Region. Middle Europe, Southwestern Europe, Southeastern Europe, Eastern Europe.

Country /Province /State. : Austria, Czechoslovakia, Hungary. : France. : Bulgaria, Italy, Romania, Turkey Europe, Yugoslavia. Krym, East European Russia, South European Russia, Northwest European Russia, Ukraine. **Caucasus, Western Asia.** Iran.

Osvaldoia valida (Mez) J.R.Grande. *Phytoneuron* 25: 5 (2014).

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

TYPE from Argentina. **Basionym or Replaced Name:** *Panicum validum* Mez, *Engl. Jahrb.* 56: Beibl. 125, 4 (1921). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: *Lorentz Entrer. 1745*, Argentina: Entre Ríos ST: *Lorentz 840*, Sep 1876, Argentina: Concepción del Uruguay, Arroyo de La China (B; IST: BAA-1988 (fragm. ex B), BAF, CORD, US). ST: *Niederlein 200*, Argentina.

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, Aristidoideae a Pharoideae (2012) (368), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (623, Fig. 135), A.Burkat, *Flora Illustrada de Entre Rios (Argentina)*, Pt II, Gramineas (1969) (293, Fig. 114), B.Rosengurt, *Gramineas Uruguayas I* (1970) (330, Fig. 139).

Illustrations (Journals): *Systematic Botany* (14: 224, Fig.3 (1989)), *Taxon* (63 (2): 271 (2014)).

Derivation (Clifford & Bostock 2007): L. robust. Culms erect, stout.

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

Habit, Vegetative Morphology. Perennial, caespitose. Culms robust, 30–150 cm long, 2.5–3.5 mm diam. Culm-internodes elliptical in section, thick-walled, 14.5–26.5 cm long, striate. Culm-nodes purple, glabrous. Leaf-sheaths 13–33 cm long, keeled. Ligule an eciliate membrane, 0.5–0.7 mm long. Leaf-blades 37–90 cm long, 9–11 mm wide. Leaf-blade midrib widened, keeled beneath. Leaf-blade surface glabrous, hairless except near base.

Inflorescence. Inflorescence a panicle. Panicle open, lanceolate or oblong, 17–30 cm long. Primary panicle branches 20 in number, simple. Panicle branches pubescent in axils. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, angular, ciliate.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets ovate, dorsally compressed, 3–3.5 mm long, 1.3–2 mm wide, falling entire.

Glumes. Glumes reaching apex of florets, thinner than fertile lemma. Lower glume ovate, 2–2.5 mm long, 0.66 length of spikelet, membranous, without keels, 1–5 -veined. Lower glume primary vein scaberrulous. Lower glume apex acute, mucicous or mucronate. 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, ovate, 1 length of spikelet, membranous, 5 -veined, acute. Palea of lower sterile floret 1–2 mm long. Fertile lemma lanceolate, dorsally compressed, 3–3.4 mm long, indurate, pallid, shiny, without keel. Lemma margins involute. Palea involute, indurate.

Flower and Fruit. Anthers 0.5–1 mm long.

$2n = 20$ (1 ref TROPICOS).

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

Country /Province /State. **Brazil, Southern South America.** Brazil South. Argentina Northeast, Uruguay.

Catarina, Rio Grande do Sul. Santa Catarina. Entre Rios.

Otachyrium aquaticum T. Sendulsky & T.R. Soderstrom. *Smithsonian Contrib. Bot.*, 57: 4 (1984).

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

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *R.M. Harley et al. 15498*, 25 Jan 1974, Brazil: Bahia (US-2777098; IT: CEPEC, K, NY).

Illustrations (Books): S.A.Renvoize, *The Grasses of Bahia*, 1984 (177, Fig. 66).

Derivation (Clifford & Bostock 2007): L. *aqua*, water; -*ica*, belonging to. Growing in or close to water.

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Otachyriinae.

Habit, Vegetative Morphology. Perennial, caespitose. Rhizomes short. Culms erect, 25–42 cm long. Ligule a ciliate membrane. Leaf-blades filiform, convolute, 10–20 cm long, 1 mm wide. Leaf-blade surface ribbed.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 8–11 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets ovate, laterally compressed, 1.8–2.3 mm long, falling entire.

Glumes. Glumes similar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 0.33 length of spikelet, membranous, without keels, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume ovate, 0.33–0.5 length of adjacent fertile lemma, membranous, without keels, 3 -veined. Upper glume apex obtuse.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret ovate, 1 length of spikelet, membranous, 3 -veined, obtuse. Palea of lower sterile floret winged on keels, pilose. Fertile lemma ovate, 1.8–2.3 mm long, coriaceous, without keel. Lemma margins involute. Lemma apex acute. Palea coriaceous.

Flower and Fruit. Caryopsis with adherent pericarp, ovoid, dorsally compressed, 1 mm long. Embryo 0.5 length of caryopsis.

Distribution (TDWG). Continent. South America.

Country /Province /State. Brazil. Brazil Northeast.

Bahia, Minas Gerais, Rio de Janeiro, Espirito Santo. Bahia.

Otachyrium boliviense Renvoize. *Gram. Bol.* :415 (1998).

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

TYPE from Bolivia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *B. Bruderreck* 307, 4 Dec 1988, Bolivia: Santa Cruz, Prov. Velasco, aprox 400m, San Ignacio 30 km hacia S, entre las comunidades 'Guapomocito' y 'Sand Antonio de Tacoo', bajío pequeño con agua estancada - 15 cm. (LPB; IT: US-3246567).

Illustrations: None found.

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

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Otachyriinae.

Habit, Vegetative Morphology. Perennial. Culms erect, 50–100 cm long, spongy. Culm-nodes bearded. Lateral branches lacking. Leaf-sheaths inflated. Ligule an eciliate membrane, entire. Leaf-blade base cordate. Leaf-blades 15–25 cm long, 5–8 mm wide. Leaf-blade apex acute.

Inflorescence. Inflorescence a panicle. Panicle open, oblong, 13–16 cm long, 5–9 cm wide. Primary panicle branches ascending or spreading. Panicle axis pilose. Spikelets in pairs. Fertile spikelets pedicelled, 2 in the cluster. Pedicels present, unequal.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets ovate, tilted on the pedicel, dorsally compressed, gibbous, 2–3 mm long, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 0.33 length of spikelet, membranous, mid-green or purple. Upper glume orbicular, 0.5 length of spikelet, membranous, mid-green or purple, without keels.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret ovate, 1 length of spikelet, chartaceous, sulcate, acute. Palea of lower sterile floret becoming indurate on keels at maturity, winged on keels (narrowly). Fertile lemma ovate, 2–3 mm long, indurate, pallid or purple, without keel. Lemma margins involute. Palea indurate.

Flower and Fruit. Caryopsis with adherent pericarp.

Distribution (TDWG). Continent. South America.

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

Otachyrium grandiflorum T. Sendulsky & T.R. Soderstrom. *Smithsonian Contrib. Bot.*, 57: 7 (1984).

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

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *H.S. Irwin, R. Souza & R. Reis dos Santos 9515*, 22 Oct 1965, Brazil: Goiás: Chapada dos Veadeiros, 24 km NW of Veadeiros, road to Cavalcante, elev. 1200 m, 14S 47W, rocky creek margin near waterfall (US-2528885; IT: MO-2400649, UB).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. grandis*, large; *flos*, flower. Spikelets with more florets than those of related species.

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Otachyriinae.

Habit, Vegetative Morphology. Perennial. Rhizomes short. Culms erect, 20–50 cm long, 1–1.5 mm diam., without nodal roots. Culm-nodes constricted, pubescent. Lateral branches lacking. Leaves mostly basal. Leaf-sheaths loose, glabrous on surface, outer margin glabrous or hairy. Leaf-sheath oral hairs ciliate. Ligule an eciliate membrane, 0.4 mm long. Leaf-blades convolute, 3–20 cm long, 1 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle, comprising 5–15 fertile spikelets. Panicle open, elliptic, 2–5 cm long, 2–3 cm wide, bearing few spikelets. Panicle axis glabrous. Spikelets in pairs. Fertile spikelets pedicelled, 2 in the cluster. Pedicels present, unequal, 1–5 mm long or 10–20 mm long, 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 or orbicular, dorsally compressed, 4–7.5 mm long, 2–7.5 mm wide, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 0.25 length of spikelet, membranous, without keels, 1–3(–5) -veined. Lower glume apex acute. Upper glume orbicular, 0.33 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 ovate, 1 length of spikelet, chartaceous, 3–7 -veined, acute. Palea of lower sterile floret becoming indurate on keels at maturity, winged on keels or winged on margins. Fertile lemma ovate, 4–7 mm long, chartaceous, pallid or mid-green, shiny, without keel, 3 -veined, 0–3 -veined. Lemma margins involute. Lemma apex acute. Palea chartaceous.

Flower and Fruit. Caryopsis with adherent pericarp, obovoid, 2.5 mm long. Embryo 0.5 length of caryopsis. Hilum elliptic.

Distribution (TDWG). Continent. South America.

Country /Province /State. Northern South America, Brazil. Venezuela. Brazil West Central, Brazil North.

Goiás. Amazonas, Rondonia.

Otachyrium piligerum T. Sendulsky & T.R. Soderstrom. *Smithsonian Contrib. Bot.*, 57: 9 (1984).

Accepted 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), U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *J.F.M. Valls et al. 6009*, 10 Jun 1981, Brazil: Goiás: Mun. Formosa: 24 km ao N da Vila JK, no km 147 da BR-020 (CEN; IT:US-2978071).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. pilus*, a hair; *gero*, carry. Hairy in some respect usually of the spikelet.

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Otachyriinae.

Habit, Vegetative Morphology. Perennial. Culms decumbent, 42–55 cm long, 1–3 mm diam., rooting from lower nodes. Culm-nodes constricted, glabrous or pubescent. Lateral branches ample. Leaves cauline. Leaf-sheaths glabrous on surface or pilose, with simple hairs or tubercle-based hairs, outer margin hairy.

Ligule an eciliate membrane or absent, 0.5 mm long. Leaf-blades lanceolate, 8–15 cm long, 4–8 mm wide. Leaf-blade surface glabrous or pilose, sparsely hairy.

Inflorescence. Inflorescence a panicle, terminal and axillary. Panicle open, ovate, 3–15 cm long, 4–12 cm wide. Primary panicle branches ascending or spreading. Panicle axis pilose. Panicle branches capillary, glabrous. Spikelets in pairs. Fertile spikelets pedicelled, 2 in the cluster. Pedicels present, sinuous, unequal, 2–5 mm long or 20 mm long, 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, gibbous, 1.8–2.2 mm long, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 0.25 length of spikelet, membranous, 1-keeled, 1–3 -veined. Lower glume apex acute. Upper glume ovate, 0.33 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 ovate, 1 length of spikelet, chartaceous, 3 -veined, sulcate, acute. Palea of lower sterile floret becoming indurate on keels at maturity, winged on keels (narrowly). Fertile lemma ovate, 2.6–2.8 mm long, indurate, light brown or dark brown, shiny, without keel, 3 -veined, 0–3 -veined. Lemma margins involute. Lemma apex cuspidate. Palea indurate.

Flower and Fruit. Caryopsis with adherent pericarp, ovoid, plano-convex, 1.8–2 mm long. Embryo 0.5 length of caryopsis. Hilum elliptic.

Distribution (TDWG). Continent. South America.

Country /Province /State. Brazil. Brazil West Central.

Minas Gerais, Rio de Janeiro, Espírito Santo. Goiás.

Otachyrium pterigodium (Trin.) Pilger. *Notizbl. Bot. Gart. Berlin*, xi. 239 (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, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006).

TYPE from Brazil. **Basionym or Replaced Name:** *Panicum pterigodium* Trin., *Gram. Panic.* 227 (1826). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Nees s.n.*, Brazil: Minas Gerais: inter Villa Fanado et Contendas, in campis S. Philippi, (LE-TRIN-0909.01 (& figs.); US (fragm.)).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): Gk. *pteryx*, wing; L. *-odium*, resemblance. Palea of lower floret winged at maturity.

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Otachyriinae.

Habit, Vegetative Morphology. Perennial, caespitose, clumped loosely. Rhizomes elongated. Culms decumbent, 50–55 cm long, 1–2 mm diam., rooting from lower nodes. Culm-nodes constricted, brown or black, glabrous or pubescent. Leaf-sheaths loose, glabrous on surface, outer margin hairy. Leaf-sheath oral hairs bearded, 5 mm long. Ligule a ciliolate membrane, 0.5 mm long. Leaf-blades convolute, 8–17 cm long, 2 mm wide. Leaf-blade surface glabrous.

Inflorescence. Inflorescence a panicle. Panicle contracted, linear, 6–7 cm long, 0.8 cm wide. Primary panicle branches bearing spikelets almost to the base. Panicle axis smooth or scaberulous. Spikelets in pairs. Fertile spikelets pedicelled, 2 in the cluster. Pedicels present, unequal.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets ovate, dorsally compressed, 2 mm long, 1.3 mm wide, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 0.33 length of spikelet, membranous, 1-keeled, 1 -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent. Lower glume apex acute. Upper glume ovate, 0.33 length of spikelet, membranous, 1-keeled, 3 -veined. Upper glume primary vein scaberulous. Upper glume apex acute.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret ovate, 1 length of spikelet, chartaceous, without keels, 3 -veined, acute. Palea of lower sterile floret becoming indurate on keels at maturity, winged on keels or winged on margins. Fertile lemma ovate, 2 mm long, chartaceous,

yellow, dull, without keel, 3 -veined, 0–3 -veined. Lemma surface papillose. Lemma margins involute. Lemma apex acute. Palea membranous, 0 -veined.

Flower and Fruit. Caryopsis with adherent pericarp, ovoid, 1.5 mm long, light brown. Embryo 0.5 length of caryopsis. Hilum elliptic.

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

Country /Province /State. Mexico. Southeast Mexico. **Brazil.** Brazil North, Brazil Southeast.

Minas Gerais, Rio de Janeiro, Espirito Santo. Amazonas. Minas Gerais. Campeche, Chiapas, Quintana Roo.

Otachyrium seminudum T. Sendulsky & T.R. Soderstrom. *Smithsonian Contrib. Bot.*, 57: 14 (1984).

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

TYPE from Brazil. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *H.S. Irwin, J.W. Grear Jr., R. Souza & R. Reis dos Santos 13321*, 2 Mar 1966, Brazil: Goiás: Serra dos Cristais, 2 km N of Cristalina, 17°S 48°W, elev. 1250 m, caeslitose, the culms to ca. 1.5 m tall, campo (US-2529147; IT: MO-2169338, NY).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. semi-*, half; *nuda*, bare. Only part of the plant bearing hairs.

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Otachyriinae.

Habit, Vegetative Morphology. Perennial. Rhizomes short, scaly. Culms erect, robust, 80–150 cm long, 5–10 mm diam. Culm-nodes swollen, pallid or brown, pubescent. Lateral branches lacking. Leaf-sheaths loose, pilose, outer margin hairy. Ligule an eciliate membrane, 1 mm long. Leaf-blades 20–40 cm long, 5–10 mm wide, stiff. Leaf-blade surface scaberulous. Leaf-blade apex hardened.

Inflorescence. Inflorescence a panicle. Panicle contracted, lanceolate, 12–30 cm long, 3–5 cm wide. Primary panicle branches appressed or ascending, bearing spikelets almost to the base. Spikelets in pairs. Fertile spikelets pedicelled, 2 in the cluster. Pedicels present, unequal, 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 ovate, dorsally compressed, gibbous, 2.4–2.7 mm long, 1–3 mm wide, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 0.33 length of spikelet, membranous, 1-keeled, 1–3 -veined. Lower glume primary vein scaberulous. Lower glume apex acute. Upper glume oblong, 0.5 length of spikelet, membranous, 1-keeled, 5 -veined. Upper glume primary vein scaberulous. Upper glume apex truncate.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret oblong, 1 length of spikelet, chartaceous, 3 -veined, acute. Palea of lower sterile floret becoming indurate on keels at maturity, winged on keels or winged on margins. Fertile lemma ovate, 1.6–2.2 mm long, indurate, dark brown or black, shiny, without keel, 3 -veined, 0–3 -veined. Lemma lateral veins obscure. Lemma margins involute. Lemma apex acute. Palea indurate.

Flower and Fruit. Caryopsis with adherent pericarp, ovoid, 1.7 mm long, pallid. Embryo 0.5 length of caryopsis. Hilum elliptic.

Distribution (TDWG). Continent. South America.

Country /Province /State. Brazil. Brazil West Central.

Goiás. Distrito Federal, Mato Grosso, Goiás.

Otachyrium succisum (Swallen) T. Sendulsky & T.R. Soderstrom. *Smithsonian Contrib. Bot.*, 57: 17: (1984).

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

TYPE from Brazil. **Basionym or Replaced Name:** *Panicum inaequale* Pilg., *Bot. Jahrb. Syst.* 30(1): 133 (1901). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Brazil: Mato Grosso: zersteut auf Sumpfiger Wiese an der Piava, Apr 1899, *H. Meyer 499* (HT: B; IT: UB (fragm. ex B)).

Illustrations (Books): E.Judziwicz, *Flora of the Guianas*, 187. *Poaceae* (1990) (369, Fig 69).

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Otachyriinae.

Habit, Vegetative Morphology. Annual. Culms erect, (10–)45–60(–85) cm long, 3–8 mm diam., without nodal roots. Lateral branches lacking or sparse. Leaves basal and cauline. Leaf-sheaths pilose. Ligule an eciliate membrane, 0.5 mm long, erose, truncate. Leaf-blades linear or lanceolate, (2–)10–30 cm long, 5–15 mm wide. Leaf-blade surface glabrous or pilose, with tubercle-based hairs. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 5–30 cm long, 5–10 cm wide. Panicle branches capillary. Spikelets in pairs. Fertile spikelets pedicelled, 2 in the cluster. Pedicels present, unequal, 1–5 mm long or 10–20 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, 2.2–2.5 mm long, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 0.25 length of spikelet, membranous, without keels, 1–3 -veined. Lower glume apex obtuse. Upper glume orbicular, 0.33 length of adjacent fertile lemma, membranous, without keels, 5–7 -veined. Upper glume apex truncate.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret ovate, 1 length of spikelet, coriaceous, 3 -veined, sulcate, acute. Palea of lower sterile floret becoming indurate on keels at maturity, winged on keels (narrowly), smooth. Fertile lemma ovate, 2–2.2 mm long, indurate, dark brown, without keel, 3 -veined, 0–3 -veined. Lemma margins involute. Lemma apex acute, laterally pinched. Palea indurate.

Flower and Fruit. Caryopsis with adherent pericarp, ovoid, 1.5 mm long. Embryo 0.5 length of caryopsis. Hilum elliptic.

Distribution (TDWG). Continent. South America.

Country /Province /State. Northern South America, Brazil. French Guiana, Guyana, Surinam, Venezuela. Brazil West Central, Brazil Northeast, Brazil North.

Roraima, Mato Grosso. Mato Grosso, Goiás. Maranhão. Pará.

Otachyrium versicolor (Doell) Henrard. *Blumea*, iv. 51 I (1941).

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

TYPE from Brazil. **Basionym or Replaced Name:** *Panicum truncatum* Nees, *Fl. Bras. Enum. Pl.* 2(1): 215–216 (1829)

. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Martius s.n.*, Jun, Brazil: Minas Gerais: habitat in ripa fluminis Jequetinhonha, adamantans volventis (M; IT: US (fragm. ex US)).

Illustrations (Books): F.O.Zuloaga, Z.E.Rugolo & A.M. Anton, *Flora Argentina* 3 – 1, Aristidoideae a Pharoideae (2012) (344), S.A.Renvoize, *Gramineas de Bolivia* (1998) (414, Fig. 88), J.A.Steyermarck et al, *Flora of the Venezuelan Guayana* Vol. 8 (2004) (178, Fig. 130), E.G.Nicora, *Los Generos de Gramineas de America Austral* (1987) (466, Fig. 166), L.B. Smith, D.C. Wasshausen, R.M. Klein *Flora Illustrada Catarinensis Gramineas* (1981–1982) (759, Fig. 159), F.O.Zuloaga et al, *Flora del Paraguay* 23 (1994) (209, Fig. 58).

Derivation (Clifford & Bostock 2007): L. variously colored. Spikelets variously colored as with glumes being green in the lower third, purple in the middle and brown in the upper third.

Classification. Subfamily Panicoideae. Tribe: Paspaleae. Subtribe Otachyriinae.

Habit, Vegetative Morphology. Perennial. Rhizomes elongated, scaly. Culms erect, 20–65 cm long. Culm-nodes constricted, brown, glabrous or pubescent. Leaf-sheaths loose, scaberulous, glabrous on surface or pilose, outer margin glabrous or hairy. Ligule an eciliate membrane. Leaf-blades 4–40 cm long, 2–24 mm wide. Leaf-blade midrib indistinct. Leaf-blade venation indistinct. Leaf-blade surface scabrous, rough adaxially. Leaf-blade margins scaberulous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle. Panicle open, ovate, 2–30 cm long, 2–15 cm wide. Primary panicle branches appressed or ascending. Panicle axis pilose. Spikelets in pairs. Fertile spikelets pedicelled, 2 in the cluster. Pedicels present, unequal, 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 ovate, dorsally compressed, 2–3.5 mm long, 2.5–3 mm wide, falling entire.

Glumes. Glumes dissimilar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 0.33 length of spikelet, membranous, 1-keeled, 1(–5) -veined. Lower glume primary vein scaberulous. Lower glume lateral veins absent or distinct. Lower glume apex acute. Upper glume orbicular, 0.5 length of spikelet, membranous, 1-keeled, 5 -veined. Upper glume apex truncate.

Florets. Basal sterile florets 1, male, with palea. Lemma of lower sterile floret ovate, 1 length of spikelet, chartaceous, 3 -veined, acute. Palea of lower sterile floret becoming indurate on keels at maturity, winged on keels or winged on margins. Fertile lemma ovate, gibbous, 2–3.5 mm long, indurate, light brown or dark brown, shiny, keeled, 5 -veined, more than 3-veined. Lemma lateral veins obscure. Lemma margins involute. Lemma apex acute. Palea indurate.

Flower and Fruit. Caryopsis with adherent pericarp, ovoid, 1.5–2 mm long, yellow. Embryo 0.5 length of caryopsis. Hilum elliptic.

Distribution (TDWG). Continent. South America.

Country /Province /State. Northern South America, Western South America, Brazil, Southern South America. Guyana, Venezuela. Bolivia, Colombia. Brazil West Central, Brazil Northeast, Brazil Southeast, Brazil North, Brazil South. Paraguay.

Amazonas, Acre, Rondonia, Mato Grosso, Goias, Minas Gerais, Rio de Janeiro, Espirito Santo, Sao Paulo Parana, Catarina, Rio Grande do Sul. Distrito Federal, Mato Grosso, Goiás. Bahia. Acre, Amazonas, Pará. Minas Gerais, Sao Paulo. Paraná. Corrientes, Misiones.

Otatea acuminata (Munro) C.E.Calderon & T.R.Soderstrom. *Smithsonian Contrib. Bot.*, 44: 21 (1980).

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

TYPE from Mexico. **Basionym or Replaced Name:** *Arundinaria acuminata* Munro, *Trans. Linn. Soc. London* 26(1): 25 (1868). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: F.M. Liebmann 73, Mexico: Veracruz: prope Jalcomulco (C; IT: US-2808847).

Recent Synonyms: *Otatea aztecorum* (McClure & Smith) C.E.Calderon & T.R.Soderstrom, *Smithsonian Contrib. Bot.*, 44: 21 (1980).

Illustrations (Books): E.J.Judziewicz et al, *American Bamboos* (1999).

Illustrations (Journals): *Systematic Botany* (36: 320 & 321, figs 4 & 5 (2011)).

Images: E.J.Judziewicz, E.J., *American Bamboos* (1999);.

Derivation (Clifford & Bostock 2007): L. *acumen*, sharp point; -ata, possessing. Lemmas or glumes acute.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes short, pachymorph. Butt sheaths absent. Culms erect, 200–1000 cm long, 10–25 mm diam., woody. Culm-internodes terete. Lateral branches dendroid. Branch complement three, with subequal branches. Culm-sheaths present, yellow or green or purple, pilose, hairy above, with appressed hairs, setose on shoulders, shoulders with 3 mm long hairs. Culm-sheath blade linear, as wide as sheath at base, 6–15 cm long, 2–5 mm wide, glabrous on surface or pubescent. Leaves 4–7 per branch. Leaf-sheaths glabrous on surface. Leaf-sheath oral hairs scanty, deciduous, 0.5–3 mm long. Ligule an eciliate membrane, 0.3–0.6 mm long, truncate. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades deciduous at the ligule, lanceolate, 6–15 cm long, 5–11 mm wide. Leaf-blade surface glabrous, hairless throughout or except near base.

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

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 linear, laterally compressed, 30–40 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes zig-zag, 4–6 mm long, eventually visible between lemmas.

Glumes. Glumes persistent, similar, shorter than spikelet, similar to fertile lemma in texture. Lower glume ovate, 3.5–6.5 mm long, herbaceous, without keels, 5 -veined. Lower glume apex setaceously acuminate. Upper glume ovate, 4–9 mm long, herbaceous, without keels, 2–7 -veined. Upper glume apex setaceously acuminate.

Florets. Fertile lemma ovate, 11–15 mm long, herbaceous, without keel, 9–11 -veined, more than 3-veined. Lemma surface scabrous. Lemma apex awned, 1 -awned. Principal lemma awn 3–6 mm long overall. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, membranous. Anthers 3, 5–6.5 mm long. Stigmas 3. Ovary glabrous. Caryopsis with adherent pericarp, 6–8.5 mm long.

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

Country /Province /State. Hawaii (*). **Mexico.** Central Mexico, Northeast Mexico, Gulf (Mexico), Northwest Mexico, Southwest Mexico. **Mesoamerica.** Costa Rica, Honduras.

Mexico State, Morelos, Puebla. Durango, Queretaro, Zacatecas. Veracruz. Sinaloa, Sonora. Colima, Guerrero, Jalisco, Michoacan, Nayarit, Oaxaca.

Otatea carrilloi Ruiz-Sanchez, Sosa & Mejía-Saules. *Syst. Bot.* 36 (2): 324, f. 7 (2011).

TYPE from Mexico. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Chiapas, municipio de Tonalá, Ejido Raymundo Flores, vereda que va a El Filo, 843 m, 25 Sep 2006, E. Ruiz-Sanchez & R. Córdoba 147 (HT: XAL; IT: IBUG, ISC, MEXU, NY, US).

Illustrations (Journals): *Systematic Botany* (36: 325, fig.7 (2011)).

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes short (5–12 cm), pachymorph. Butt sheaths absent. Culms erect, nodding at the tip, 300–500 cm long, 10–35 mm diam., woody. Culm-internodes terete, thick-walled, 11–19 cm long, distally glabrous. Lateral branches dendroid, intravaginal, ascending or spreading. Branch complement three, with subequal branches. Culm-sheaths present, deciduous but leaving a persistent girdle, 19–28 cm long, 4–6 times as long as wide, glabrous or hispid, hairy on margins, without auricles, setose on shoulders, shoulders with straight hairs, shoulders with 15–30.6 mm long hairs. Culm-sheath ligule 2.5–6.3 mm high. Culm-sheath blade triangular, reflexed, 10–31 cm long, glabrous on surface. Leaves 3–5 per branch. Leaf-sheaths without keel, glabrous on surface. Leaf-sheath oral hairs setose, 6.6–24 mm long. Ligule an eciliate membrane, 0.6–1.4 mm long, truncate. Collar with external ligule. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.2 cm long. Leaf-blades linear, 18–26 cm long, 6–9 mm wide, glaucous and mid-green, discolorous with last colour beneath. Leaf-blade venation without cross veins. Leaf-blade surface glabrous. Leaf-blade margins scaberrulous. Leaf-blade apex attenuate. Flowering specimens unknown.

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

Country /Province /State. **Mexico.** Southeast Mexico. Chiapas.

Otatea fimbriata Soderstr. *Fl. Novo-Galiciana*, 14: 280 (1983).

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

TYPE from Mexico. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *T.R. Soderstrom* 2245, 8 Oct 1977, Mexico: Chiapas: Mun. San Fernando: Cañón de El Sumidero, ca. 20 km N of Tuxtla Gutiérrez (MEXU; IT: IBUG-39164, US-2909915, US-151015, US-151024, US-151023, US-1509995, US-150994, US-150993).

Illustrations (Books): R.McVaugh, *Flora Nova-Galiciana* Vol.14 *Gramineae* (1983), E.J.Judziewicz et al, *American Bamboos* (1999) (252, Fig. 158).

Illustrations (Journals): *Systematic Botany* (36: 327, fig.9 (2011)).

Derivation (Clifford & Bostock 2007): *L. fimbriae*, fringe; *-ata*, possessing. With fringed glumes or lemmas.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes short, pachymorph. Butt sheaths absent. Culms erect, 250–600 cm long, 10–40 mm diam., woody. Culm-internodes terete, distally

pruinose. Lateral branches dendroid. Branch complement three, with subequal branches. Culm-sheaths present, pilose, with appressed hairs, setose on shoulders, shoulders with 7–15 mm long hairs. Culm-sheath blade lanceolate, narrower than sheath, 10–20 cm long, 5–17 mm wide, glabrous on surface or pubescent. Leaves 2–6 per branch. Leaf-sheaths hirsute. Leaf-sheath oral hairs setose, 10–18 mm long. Ligule an eciliate membrane, 0.4–2 mm long, truncate. Leaf-blade base with a brief petiole-like connection to sheath. Leaf-blades deciduous at the ligule, linear or lanceolate, 20–35 cm long, 10–20 mm wide. Leaf-blade surface glabrous, hairless throughout or except near base.

Inflorescence. Inflorescence a panicle. Panicle open, 10–15 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, scabrous.

Fertile Spikelets. Spikelets comprising 3–4 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 10–20 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 2.5–4 mm long, eventually visible between lemmas.

Glumes. Glumes persistent, similar, shorter than spikelet, similar to fertile lemma in texture. Lower glume ovate, 5–7 mm long, herbaceous, without keels, 7 -veined. Lower glume apex setaceously acuminate. Upper glume ovate, 7–9.5 mm long, herbaceous, without keels, 7 -veined. Upper glume apex setaceously acuminate.

Florets. Fertile lemma ovate, 9–13 mm long, herbaceous, without keel, 9–11 -veined, more than 3-veined. Lemma surface asperulous. Lemma apex awned, 1 -awned. Principal lemma awn 2–4 mm long overall. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, membranous. Anthers 3, 4.5–5 mm long. Stigmas 3. Ovary glabrous. Caryopsis with adherent pericarp, 6.4–6.8 mm long.

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

Country /Province /State. Mexico. Central Mexico, Southwest Mexico, Southeast Mexico. **Mesoamerica.** El Salvador, Honduras.

Puebla, Jalisco, Michoacan, Nayarit, Oaxaca, Chiapas.

Otatea glauca L.G.Clark & G.Cortés. *J. Amer. Bamboo Soc.* 18: 3 (1–6; fig. 1) (2004).

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

TYPE from Mexico. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Mexico, Chiapas, Motozintla: Cortes & Sanchez 306 (MEXU holo, ISC, MO, US).

Illustrations: None found.

Illustrations (Journals): *Systematic Botany* (36: 329, fig.10 (2011)).

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes short, pachymorph. Butt sheaths absent. Culms erect, 800 cm long, 30 mm diam., woody. Culm-internodes terete, thin-walled, 27–30 cm long, glaucous, distally pruinose. Culm-nodes with distinct supra-nodal ridge. Lateral branches dendroid, infravaginal, ascending or spreading. Branch complement three, in a horizontal line, with subequal branches. Culm-sheaths present, 14–22 cm long, 1.3–1.9 times as long as wide, hispid, hairy above, glabrous on margins, without auricles, setose on shoulders, shoulders with curved hairs, shoulders with 2.5–11.5 mm long hairs. Culm-sheath ligule 0.4–0.5 mm high, ciliolate. Culm-sheath blade triangular, deciduous, reflexed, 3.5–8.2 cm long, pubescent, attenuate. Leaves 4–5 per branch. Leaf-sheaths keeled (weakly), glabrous on surface. Leaf-sheath oral hairs setose, 2.5–6 mm long. Ligule an eciliate membrane, 0.2–0.5 mm long, truncate. Collar with external ligule. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.1 cm long. Leaf-blades deciduous at the ligule, filiform, 10–16 cm long, 3–10 mm wide. Leaf-blade venation with obscure cross veins. Leaf-blade surface glabrous or pilose, hairy abaxially. Leaf-blade margins scabrous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle, comprising 2–7 fertile spikelets. Panicle open, linear or ovate, loose, 4–9 cm long, bearing few spikelets. Panicle axis scabrous. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, angular, 2.5–5 mm long, scabrous.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets linear, laterally compressed, 30–40 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 3.5–5 mm long, pubescent.

Glumes. Glumes persistent, similar, shorter than spikelet, similar to fertile lemma in texture. Lower glume lanceolate, 4.7–6 mm long, herbaceous, without keels, 7–9 -veined. Lower glume apex attenuate, awned, 1 -awned, awn 1.3–3.6 mm long. Upper glume lanceolate, 7.5–9 mm long, herbaceous, without keels, 9–11 -veined. Upper glume apex acuminate, awned, 1 -awned, awn 2–5 mm long.

Florets. Fertile lemma lanceolate, 11–15 mm long, herbaceous, without keel, 11–15 -veined, more than 3-veined. Lemma lateral veins with cross-veins. Lemma surface scabrous. Lemma apex awned, 1 -awned. Principal lemma awn 3–5 mm long overall. Palea 14–15.4 mm long, 6 -veined. Palea keels contiguous above a sulcus, winged, narrowly winged, scabrous. Palea surface pubescent, hairy on back, hairy above. Palea apex dentate, 2 -fid. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, 1.5–2 mm long, membranous, veined, ciliate. Stigmas 2. Ovary glabrous.

Distribution (TDWG). Continent. North America.

Country /Province /State. Mexico. Southeast Mexico. Chiapas.

Otatea ramirezii Ruiz-Sanchez. *Acta Bot. Mex.* 99: 25, f. 1 (2012).

TYPE from Mexico. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: 500 m antes de llegar s San Juan Tetla desde El Apartadero, municipio de San Joaquin, bosque tropical caducifolio, suelos calizos, alt. 1223 m, *E. Ruiz-Sanchez & A. de Novo 304* HT: IBUG, IT: IEB, MEXU, XAL.

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes short (5–15 cm), pachymorph. Butt sheaths absent. Culms erect, 200–300 cm long, 8–17 mm diam., woody. Culm-internodes terete, thick-walled, 12–16 cm long, distally glabrous. Culm-nodes with distinct supra-nodal ridge. Lateral branches dendroid, intravaginal, ascending. Branch complement one. Culm-sheaths present, deciduous, 10–12 cm long, 3 times as long as wide, glabrous on shoulders. Culm-sheath ligule 0.5–1 mm high. Culm-sheath blade triangular, demarcated but persistent, 1.8–4.5 cm long, glabrous on surface, attenuate. Leaves 3–5(–7) per branch. Leaf-sheaths without keel, glabrous on surface. Leaf-sheath oral hairs lacking. Ligule a ciliolate membrane, 0.3–0.5 mm long, truncate. Collar with external ligule. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.1 cm long. Leaf-blades linear, (6.5–)8–11(–12.5) cm long, 4–8(–12) mm wide. Leaf-blade surface glabrous. Leaf-blade margins scaberulous. Leaf-blade apex attenuate. Flowering specimens unknown.

Distribution (TDWG). Continent. North America.

Country /Province /State. Mexico. Northeast Mexico. Queretaro.

Otatea reynosoana Ruiz-Sanchez & L.G.Clark. *Syst. Bot.* 36 (2): 328–329, f. 8. (2011).

TYPE from Mexico. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Guerrero District Minas, Rio Frio. 1,500 m, 11 Nov 1936 (fl) *G.B.Hinton 9879* (HT: US. IT: MO).

Illustrations (Journals): *Systematic Botany* (36: 331, fig.11 (2011)).

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes short (10–30cm), pachymorph. Butt sheaths absent. Culms erect, erect at the tip or inclined at the tip, 300–600 cm long, 8–9 mm diam., woody. Culm-internodes terete, thick-walled or solid, 11–19 cm long, distally pruinose. Culm-nodes with distinct supra-nodal ridge. Lateral branches dendroid, intravaginal, ascending. Branch complement one or two, with subequal branches. Culm-sheaths present, persistent, 16–31 cm long, 2 times as long as wide, glabrous, hairy on margins, setose on shoulders, shoulders with 7–17.3 mm long hairs. Culm-sheath ligule 0.5–2.5 mm high. Culm-sheath blade triangular, constricted at base, deciduous, 8–23 cm long, glabrous on surface, attenuate. Leaves 4–5 per branch. Leaf-sheaths without keel, hispid. Leaf-sheath oral hairs setose, 5–11 mm long. Ligule an eciliate membrane, 0.3–0.5 mm long, truncate. Collar with external ligule. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.2 cm long. Leaf-blades lanceolate, 27.5–39 cm long, 9.5–40 mm wide. Leaf-blade venation without cross veins. Leaf-blade surface scabrous, rough on both sides. Leaf-blade margins scaberulous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle, comprising 33 fertile spikelets. Panicle open, oblong, 18 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, 6–29 mm long.

Fertile Spikelets. Spikelets comprising 3 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 9–13 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 4.5–6.2 mm long.

Glumes. Glumes persistent, similar, shorter than spikelet, similar to fertile lemma in texture. Lower glume lanceolate, 3–6 mm long, herbaceous, without keels, 3 -veined. Lower glume surface scabrous. Lower glume apex awned, 1 -awned, awn 4–6.8 mm long. Upper glume lanceolate, 7–9.5 mm long, herbaceous, without keels, 7 -veined. Upper glume surface scabrous. Upper glume apex setaceously acuminate, mucronate, 1 -awned, awn 2.5–5 mm long.

Florets. Fertile lemma lanceolate, 11–13 mm long, herbaceous, without keel, 11 -veined, more than 3-veined. Lemma surface scabrous. Lemma apex awned, 1 -awned. Principal lemma awn 2.8–5.6 mm long overall. Palea 9.7–11.7 mm long. Palea surface pilose, hairy on margins. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, lanceolate, 2.5 mm long, veined, ciliate. Anthers 3, 8 mm long. Ovary glabrous. Caryopsis with adherent pericarp, orbicular, trigonous, 5.8–7 mm long, dark brown, apex rostrate.

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

Country /Province /State. Mexico. Southwest Mexico.

Guerrero, Jalisco, Nayarit.

Otatea transvolcanica Ruiz-Sanchez & L.G.Clark. *Syst. Bot.* 36 (2): 330, f. 13. (2011).

TYPE from Mexico. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Estado de Mexico, municipio de Temascaltepec. Puente Rio verde, 1840 m, 4 Sep 2007, *E.Ruiz-Sanchez, D.Angulo & E.Gandara* 179 (HT: XAL. IT: IBUG, ISC, MEXU, MO, NY, US).

Illustrations (Journals): *Systematic Botany* (36: 333, fig.13 (2011)).

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes short (30–45 cm), pachymorph. Butt sheaths absent. Culms erect, erect at the tip or inclined at the tip, 300–800 cm long, 10–60 mm diam., woody. Culm-internodes terete, thick-walled or solid, 24–27 cm long, distally pruinose. Culm-nodes with distinct supra-nodal ridge. Lateral branches dendroid, extravaginal, ascending. Branch complement one or two, with 1 branch dominant. Culm-sheaths present, persistent, 24–29 cm long, 3 times as long as wide, hispid, with appressed hairs, glabrous on margins, setose on shoulders, shoulders with 10–15 mm long hairs. Culm-sheath ligule 0.9–2.2 mm high. Culm-sheath blade triangular, deciduous, reflexed, 9–20 cm long, glabrous on surface, acute. Leaves 6–10 per branch. Leaf-sheaths without keel, glabrous on surface. Leaf-sheath oral hairs setose, 13–21.5 mm long. Ligule an eciliate membrane, 0.1–0.2 mm long, truncate. Collar with external ligule. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.3 cm long. Leaf-blades lanceolate, 34–60 cm long, 25–60 mm wide, glaucous and mid-green, discolorous with last colour beneath. Leaf-blade venation without cross veins. Leaf-blade surface scabrous, rough abaxially, glabrous. Leaf-blade margins scaberulous. Leaf-blade apex attenuate. Flowering specimens unknown.

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

Country /Province /State. Mexico. Southwest Mexico.

Mexico State. Colima, Jalisco.

Otatea ximenae Ruiz-Sanchez & L.G.Clark. *Syst. Bot.* 36 (2): 330–332, f. 14. (2011).

TYPE from Mexico. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: Oaxaca: hills of Las Sedas, 6,000 ft, 21 Jul.1897, *G.C.Pringle* 6742 (HT: US. IT: CM, ENCB, F, MO, US).

Illustrations: None found.

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo. Rhizomes short (3–9 cm), pachymorph. Butt sheaths absent. Culms erect, 200–300 cm long, 5–10 mm diam., woody. Culm-internodes terete, thick-walled or solid, 20.5–29 cm long, distally pruinose. Culm-nodes with distinct supra-nodal ridge. Lateral branches dendroid, intravaginal, ascending. Branch complement three, with subequal branches. Culm-sheaths present, deciduous, 9.5–12.5 cm long, 3 times as long as wide, glabrous, hairy on margins, setose

on shoulders, shoulders with 4.5–12.8 mm long hairs. Culm-sheath ligule 1.1–1.8 mm high. Culm-sheath blade triangular, demarcated but persistent, reflexed, 1.6–7.5 cm long, with ciliate margins, attenuate. Leaves 3–4 per branch. Leaf-sheaths keeled, glabrous on surface. Leaf-sheath oral hairs setose, 4.3–6 mm long. Ligule an eciliate membrane, 1–1.5 mm long, obtuse. Collar with external ligule. Leaf-blade base with a brief petiole-like connection to sheath, petiole 0.05 cm long. Leaf-blades linear or lanceolate, 19–27 cm long, 7–10.8 mm wide. Leaf-blade venation without cross veins. Leaf-blade surface scaberulous, rough abaxially, puberulous, hairy adaxially. Leaf-blade margins scaberulous. Leaf-blade apex attenuate.

Inflorescence. Inflorescence a panicle, comprising 3–5 fertile spikelets. Panicle open, ovate, 6–15 cm long. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present, angular, 5–25 mm long, scabrous.

Fertile Spikelets. Spikelets comprising 3–5 fertile florets, with diminished florets at the apex. Spikelets of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets oblong, laterally compressed, 17–30 mm long, breaking up at maturity, disarticulating below each fertile floret. Rhachilla internodes 4–5 mm long, pubescent.

Glumes. Glumes persistent, similar, shorter than spikelet, similar to fertile lemma in texture. Lower glume lanceolate, 5–6 mm long, herbaceous, without keels, 5 -veined. Lower glume apex awned, 1 -awned, awn 1–5 mm long. Upper glume lanceolate, 6.5–7.5 mm long, herbaceous, without keels, 7 -veined. Upper glume awned, 1 -awned, awn 1.5–5 mm long.

Florets. Fertile lemma lanceolate, 9–10 mm long, herbaceous, without keel, 9–15 -veined, more than 3-veined. Lemma lateral veins with cross-veins. Lemma surface asperulous. Lemma apex awned, 1 -awned. Principal lemma awn 2.3–7 mm long overall. Palea 8.3–11 mm long. Palea keels scabrous. Palea surface pubescent, hairy on back. Palea apex dentate, 2 -fid. Apical sterile florets resembling fertile though underdeveloped.

Flower and Fruit. Lodicules 3, 1–1.3 mm long. Anthers 3, 6.5–7.4 mm long. Ovary glabrous.

Distribution (TDWG). Continent. North America.

Country /Province /State. Mexico. Southwest Mexico.

Oaxaca.

Ottochloa gracillima C.E.Hubb. *Kew Bull.* 1934, 445. (1934).

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

TYPE from Australia. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: C.E. Hubbard 8600, 3 Apr 1931, Australia: Queensland: Moreton District: Mogill (K; IT: BRI, CANB, MEL, US-1721123).

Illustrations (Books): F.N.Hepper, *F.W.T.A.* 3(2) (1972), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler, *Grasses of New South Wales*, 4th edn (2008) (311), J.C.Tothill, & J.B.Hacker. *The grasses of southern Queensland* (1983) (318), T.D.Stanley & E.Ross, *Flora of South East Queensland, Gramineae* (1989) (235, Fig. 37), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Illustrations (Journals): *Austr. J. Bot.*.

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

Derivation (Clifford & Bostock 2007): L. very delicate. Of slender habit.

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

Habit, Vegetative Morphology. Perennial, mat forming. Culms rambling, slender, 5–20 cm long, rooting from lower nodes. Culm-internodes 2–3.5 cm long, distally glabrous or with pubescent line. Leaf-sheaths glabrous on surface or hispid, with tubercle-based hairs, outer margin hairy. Ligule an eciliate membrane. Leaf-blades linear or lanceolate, 2–3.5 cm long, 4–5 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 2–4, borne along a central axis, unilateral, 0.5–2 cm long. Central inflorescence axis 3 cm long. Rhachis angular. Spikelet packing abaxial. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets oblong, dorsally compressed, 1.75–2 mm long, falling entire.

Glumes. Glumes similar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 0.5 length of spikelet, membranous, without keels, 3 -veined. Lower glume apex acute. Upper glume ovate, 0.66 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, 7 -veined, acute. Fertile lemma ovate, 1.75–2 mm long, coriaceous, without keel, 3 -veined, 0–3 -veined. Lemma lateral veins obscure. Lemma surface granulate. Lemma margins involute. Lemma apex acute. Palea involute, coriaceous, 2 -veined.

Flower and Fruit. Anthers 3, 1 mm long.

Distribution (TDWG). Continent. Australasia.

Country /Province /State. Australia. Queensland, New South Wales. Central, South East. Coast.

Ottocloa grandiflora Jansen. *Reinwardtia*, ii. 313 (1953).

Accepted by: W.D.Clayton & K.Harman, *GrassBase* (2008) and online, U.Quattrocchi, *CRC World Dictionary of Grasses* (2006), J.F.Veldkamp, Poaceae ms (*Flora Malesiana*).

TYPE from West new Guinea. T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: West New Guinea, Wissel Lake Region, ca. 1800 m, *Eyma 5294* (HT: BO).

Illustrations: None found.

Derivation (Clifford & Bostock 2007): *L. grandis*, large; *flos*, flower. Spikelets with more florets than those of related species.

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

Habit, Vegetative Morphology. Perennial. Culms geniculately ascending, 30–50 cm long, 2.5 mm diam., rooting from lower nodes. Culm-internodes distally pubescent. Culm-nodes glabrous. Lateral branches ample, arising from lower culm or mid culm. Leaf-sheaths 3–4 cm long, mostly shorter than adjacent culm internode, striately veined, glabrous on surface, outer margin hairy. Ligule a ciliate membrane, truncate. Leaf-blades lanceolate, 10–15 cm long, 8–15 mm wide. Leaf-blade surface smooth, glabrous. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 3–6, borne along a central axis, unilateral, 1–2 cm long, bearing 4–6 fertile spikelets on each. Central inflorescence axis 10–15 cm long. Rhachis angular, scaberrulous on margins. Spikelets solitary or in pairs. Fertile spikelets pedicelled. Pedicels present, unequal, 2–5 mm long, tip cupuliform.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, dorsally compressed, acute, 6 mm long, falling entire.

Glumes. Glumes shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 1–1.5 mm long, 0.4–0.5 length of upper glume, 0.15–0.25 length of spikelet, membranous, without keels, 3 -veined. Lower glume apex acute. Upper glume lanceolate, 4 mm long, 0.3–0.4 length of spikelet, membranous, with hyaline margins, without keels, 5 -veined. Upper glume margins eciliate or ciliate. Upper glume apex acute.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret similar to upper glume, lanceolate, 1 length of spikelet, membranous, much thinner on margins, 5 -veined, obtuse. Fertile lemma elliptic, 6 mm long, chartaceous, without keel, 5 -veined, more than 3-veined. Lemma margins involute. Lemma apex acute. Palea 1 length of lemma, chartaceous, 2 -veined.

Distribution (TDWG). Continent. Tropical Asia.

Country /Province /State. Malesia, Papuasias. New Guinea West Papua (Irian Jaya). New Guinea.

Ottocloa nodosa (Kunth) Dandy. *Journ. Bot.* lxi. 55. (1931).

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

TYPE from Philippines. **Basionym or Replaced Name:** *Panicum nodosum* Kunth, *Enum. Pl.* 1: 97 (1833); *Panicum multinode* J. Presl, *Reliq. Haenk.* 1(4–5): 303 (1830), non Lam (1796). T:<Type of

Basionym>: *fide* TROPICOS and Kew Synonymy Database: Philippine Islands: Luzon: Sorsogon Prov., *T. Haenke s.n.* (HT: US-80779).

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (238, Fig 164 as *O. arnottiana*), W. Robyns (1929 and 1934). *Flora Agrostologique du Congo Belge et du Ruanda-Urundi*, I. Maydees et Andropogonees and II. Panicees. Bruxelles, Goemaere (229, Pl. 40, as *O. arnottiana*), C-C Hsu, *Flora of Taiwan*, Vol 5 (1978) (548), C-C Hsu, *Taiwan Grasses* (1975) (567, Pl. 1434), H.B.Gilliland, *Grasses of Malaya* (1971) (145, Fig 27 as *O. nodosum*), H.Duistermaat, *Field Guide to the Grasses of Singapore* (2005) (97, Fig. 96), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002), S-L Chen et al, *Flora of China*, Illustrations, Poaceae (2007) (Fig. 719 as *Ottochloa nodosa* var. *nodosa* & *Ottochloa nodosa* var. *micrantha*), E.Hafliger & E.Schultz, *Grass Weeds*, CIBA-GEIGY (1:74(1980)).

Illustrations (Journals): *Austr. J. Bot.*.

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);, H.B.Gilliland et al., *Flora of Malaya Vol. 3 Grasses* (1971);.

Derivation (Clifford & Bostock 2007): *L. nodus*, knot; *-osa*, abundance. Culm nodes swollen.

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

Habit, Vegetative Morphology. Perennial. Culms decumbent, 100–200 cm long, spongy, rooting from lower nodes. Ligule an eciliate membrane. Leaf-blades deciduous at the ligule, lanceolate, 5–15 cm long, 10–20 mm wide. Leaf-blade venation with obscure cross veins. Leaf-blade margins scabrous.

Inflorescence. Inflorescence composed of racemes. Racemes borne along a central axis, unilateral, 2–15 cm long, secondarily branched. Central inflorescence axis 10–20 cm long. Rhachis angular. Spikelets solitary. Fertile spikelets pedicelled. Pedicels present.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets oblong, dorsally compressed, 3–3.5 mm long, falling entire.

Glumes. Glumes similar, shorter than spikelet, thinner than fertile lemma. Lower glume ovate, 1 length of upper glume, 0.3–0.4 length of spikelet, membranous, without keels, 3 -veined. Lower glume margins eciliate or ciliate. Lower glume apex acute. Upper glume ovate, 0.3–0.4 length of adjacent fertile lemma, membranous, without keels, 5 -veined. Upper glume margins eciliate or ciliate. 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, 7 -veined, acute. Fertile lemma elliptic, 3–3.5 mm long, coriaceous, much thinner on margins, without keel, 5 -veined, more than 3-veined. Lemma margins involute, ciliate. Lemma apex acute. Palea involute, coriaceous, 2 -veined.

Flower and Fruit. *n* = 9 (1 ref TROPICOS), or 18 (1 ref TROPICOS).

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

Country /Province /State. **West-Central Tropical Africa.** Gabon, DRC. **China, Eastern Asia.** China South Central, Hainan, China Southeast. Taiwan. **Indian Subcontinent, Indo-China, Malesia, Papuasias.** India, Sri Lanka. Myanmar, Thailand, Vietnam. Borneo, Java, Lesser Sunda Is, Malaya, Singapore, Moluccas, Philippines, Sulawesi, Sumatra. New Guinea West Papua (Irian Jaya). New Guinea. **Australia.** Queensland. New Caledonia.

Fujian, Guangdong, Guangxi. Yunnan. Sikkim. Assam, Manipur, Meghalaya, Nagaland. Kerala. Tamilnadu. North, Central, South East.

Oxychloris scariosa (F. Muell.) M. Lazarides. *Nuytsia*, 5(2): 283 (1985).

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:** *Chloris scariosa* F. Muell., *Fragm.* 6: 85 (1867). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: HT: *Gregory s.n.*, Australia: Western Australia: Ereman Prov: Stutr's Creek (MEL; IT: K).

Illustrations (Books): J.P.Jessop, G.R.M. Dashorst & F.M.James, *Grasses of South Australia* (2006) (391, Fig 324), C.A.Gardner, *Flora of Western Australia*, Vol 1, Part 1, *Gramineae* (1952) (221, Pl 65as *Chloris*), J.R.Wheeler et al, *Flora of the Kimberley Region* (1992) (1197, Fig 339), S.W.L.Jacobs, R.D.B.Whalley & D.J.B.Wheeler, *Grasses of New South Wales*, 4th edn (2008) (311), J.C.Tothill,& J.B.Hacker. *The grasses of southern Queensland* (1983) (156(6) as *Chloris*), K.O.Mallett (ed.), *Flora of*

Australia, Vol 44B. *Poaceae* (2004) (280 & 285, Fig 44 & 46), D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002).

Illustrations (Journals): *Austr. J. Bot.* (Supp. 5: 8, Fig.2; 10, Fig.3 (972) as *Chloris*).

Images: D.Sharp & B.K.Simon, *AusGrass*. Grasses of Australia. CD-Rom Version 1.0. (2002);, K.O.Mallett (ed.). *Flora of Australia*, Vol 44 A (2002) & Vol 44B (2004). *Poaceae*;

Derivation (Clifford & Bostock 2007): L. of thin and membranous texture, but not green. In general of glumes or lemmas.

Classification. Subfamily Chloridoideae. Tribe: Cynodonteae.

Habit, Vegetative Morphology. Annual or perennial, short-lived. Culms 15–47 cm long, (3–)5–7 - noded. Ligule a ciliate membrane, 0.5 mm long. Leaf-blades flat or convolute, 5–16 cm long, 1–3.5 mm wide. Leaf-blade surface ribbed, pilose, hairy adaxially, with tubercle-based hairs. Leaf-blade margins cartilaginous, tuberculate-ciliate. Leaf-blade apex acuminate.

Inflorescence. Inflorescence composed of racemes. Racemes 3–6, digitate, unilateral, 1.8–4.5(–6) cm long. Rhachis angular. Spikelets solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 fertile florets, with diminished florets at the apex. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets cuneate, laterally compressed, 4–6 mm long, breaking up at maturity, disarticulating below each fertile floret. Floret callus elongated, straight or curved, 2.5–3 mm long, pubescent, pungent.

Glumes. Glumes persistent, similar, shorter than spikelet, thinner than fertile lemma, gaping. Lower glume elliptic, 3–5 mm long, 0.6 length of upper glume, membranous, 1-keeled, 1 -veined. Lower glume lateral veins absent. Lower glume apex obtuse. Upper glume elliptic, 5–8 mm long, 1.5 length of adjacent fertile lemma, membranous, 1-keeled, 1 -veined. Upper glume lateral veins absent. Upper glume apex emarginate.

Florets. Fertile lemma obovate, 3.3–5 mm long, coriaceous, much thinner on margins, keeled, winged on margins, 3 -veined, 0–3 -veined. Lemma midvein ciliate, hairy below. Lemma lateral veins close to margins. Lemma margins ciliate, hairy above. Lemma hairs 1–1.5 mm long. Lemma apex dentate, 2 -fid, awned, 1 -awned. Principal lemma awn subapical, 5.5–8 mm long overall. Palea elliptic or obovate, 1 length of lemma. Palea keels winged, narrowly winged, ciliate. Palea surface smooth or scabrous. Apical sterile florets 3–5 in number, barren, in a clump, flabellate, 3–4 mm long. Apical sterile lemmas winged on margins, awned, 1 -awned. Apical sterile lemma awns subapical, (3–)4–7 mm long.

Flower and Fruit. Anthers 3, 0.8–1 mm long. Caryopsis with adherent pericarp, obovoid, trigonous, 1.3–2 mm long. Embryo 0.5–0.75 length of caryopsis. Hilum elliptic.

Distribution (TDWG). Continent. Australasia.

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

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

Oxyrhachis gracillima (Baker) C.E.Hubb. *Hook. Ic. Pl.* v. t. 3454 (1947).

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:** *Rottboellia gracillima* Baker, *J. Linn. Soc., Bot.* 22: 533 (1887). T:<Type of Basionym>: *vide* TROPICOS and Kew Synonymy Database: Madagascar., *Baron 4457* (HT: K).

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (287, Fig. 223), F.N.Hepper, *F.W.T.A.* 3(2) (1972) (507, Fig.460), R.M.Phill, F.T.E.A., *Gramineae*, G.V.Pope et al., *Flora Zambesiaca* 10, G.E.Gibbs Russell et al., *Grasses of Southern Africa* (1990) (231, Fig. 149), J.Bosser, *Graminees des Paturage et des Cultures a Madagascar* (1969) (203, Fig. 72).

Illustrations (Journals): *Hooker's Icones Plantarum* (t.3454 (1947)).

Derivation (Clifford & Bostock 2007): L. very delicate. Of slender habit.

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

Habit, Vegetative Morphology. Perennial, caespitose. Culms erect, 20–60 cm long. Ligule a ciliate membrane. Leaf-blades filiform, 5–30 cm long, 1 mm wide.

Inflorescence. Inflorescence composed of racemes. Racemes 1, single, erect, smoothly terete, bilateral, 5–16 cm long. Rhachis fragile at the nodes, subcylindrical and excavated, 1 mm wide. Spikelet packing abaxial. Rhachis internodes oblong, 5–10 mm long. Rhachis internode tip oblique. Spikelets sunken, solitary. Fertile spikelets sessile.

Fertile Spikelets. Spikelets comprising 1 basal sterile florets, 1 fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets. Spikelets two-flowered - the lower floret male or barren, the upper fertile. Spikelets lanceolate, dorsally compressed, 3–6 mm long, falling entire, deciduous with accessory branch structures. Spikelet callus square, 0.5–1 mm long, glabrous, base obtuse, attached obliquely.

Glumes. Glumes dissimilar, reaching apex of florets, firmer than fertile lemma. Lower glume lanceolate, 1 length of upper glume, 1 length of spikelet, coriaceous, purple, without keels, 6–7 -veined. Lower glume apex obtuse. Upper glume oblong, chartaceous.

Florets. Basal sterile florets 1, barren, without significant palea. Lemma of lower sterile floret similar to upper glume, oblong, 2.5–3.8 mm long, 0.75 length of spikelet, hyaline, 0–2 -veined. Fertile lemma oblong, 2.5–3.5 mm long, hyaline, without keel, 2 -veined, 0–3 -veined. Lemma apex truncate. Palea present or absent or minute, 0–0.2 length of lemma, without keels.

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. Nigeria, Sierre Leone. Cameroon. Tanzania. Mozambique, Zambia. Kwazulu-Natal, Eastern Cape. Madagascar.

Oxytenanthera abyssinica (A.Rich.) Munro. *Trans. Linn. Soc.* xxvi. 127. (1868).

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

TYPE from Ethiopia. **Basionym or Replaced Name:** *Bambusa abyssinica* A. Rich., *Tent. Fl. Abyss.* 2: 439–440 (1850). T:<Type of Basionym>: *fide* TROPICOS and Kew Synonymy Database: ST: *G.H.W. Schimper s.n.* [501], 15 Dec 1839, Ethiopia: near Djeladjeranne [Tchelatchekanne] (P; IST: K, MO (probable), US-557645, WAG).

ST: *Quartin Dillon & Petit s.n.*, Ethiopia: Banks of R. Tacazze (P).

ST: *Quartin Dillon & Petit s.n.*, Ethiopia: Aderbati (P).

Illustrations (Books): H.Jacques-Felix, *Les Graminees d'Afrique tropicale* (1962) (116, Fig. 41), F.N.Hepper, *F.W.T.A.* 3(2) (1972) (359, Fig.417), R.M.Phillip, F.T.E.A., *Gramineae* (1(1970):12, Fig.3), G.V.Pope et al., *Flora Zambesiaca* 10 (1(1971):18, t.3), G.E.Gibbs Russell et al., *Grasses of Southern Africa* (1990) (232, Fig 150), S.Phillips, *Poaceae* (Gramineae) in I.Hedberg & S.Edwards, *Flora of Ethiopia and Eritrea* (1995) (5, Fig 2).

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

Classification. Subfamily Bambusoideae. Tribe: Bambuseae.

Habit, Vegetative Morphology. Perennial, woody bamboo, caespitose. Rhizomes short, pachymorph. Butt sheaths absent. Culms erect, 300–1000 cm long, 50–100 mm diam., woody. Culm-internodes terete, thick-walled or solid, distally pubescent (at first). Lateral branches dendroid. Branch complement many, in an irregular line, with 1 branch dominant. Culm-sheaths present, hispid, with dark brown hairs, without auricles. Culm-sheath blade linear, 1–2 cm long, acuminate. Leaves cauline. Leaf-sheath oral hairs setose. Ligule an eciliate membrane. Leaf-blade base broadly rounded, with a brief petiole-like connection to sheath. Leaf-blades deciduous at the ligule, lanceolate, 5–25 cm long, 10–30 mm wide, glaucous. Leaf-blade venation with obscure cross veins. Leaf-blade surface glabrous. Leaf-blade apex attenuate, hardened.

Inflorescence. Synflorescence bractiferous, stellate or clustered at the nodes, in stellate clusters, 4–8 cm long, dense, with glumaceous subtending bracts, with axillary buds at base of spikelet, prophyllate below lateral spikelets, leafless between clusters.

Fertile Spikelets. Spikelets comprising 1–3 basal sterile florets, 1(–2) fertile florets, without rhachilla extension. Spikelets of 1 fertile floret with or without additional sterile florets to of 2 or more fertile florets. Spikelets one-many-flowered - if two-flowered then both fertile or the upper sterile. Spikelets lanceolate, laterally compressed or subterete, 15–40 mm long, breaking up at maturity, disarticulating above glumes but not between florets.

Glumes. Glumes similar, shorter than spikelet, similar to fertile lemma in texture. Lower glume oblong to ovate, 5–8 mm long, 0.8 length of upper glume, coriaceous, without keels, 17–30 -veined. Lower glume

surface hispidulous. Lower glume apex obtuse or acute. Upper glume oblong to ovate, 8–10 mm long, 0.25 length of adjacent fertile lemma, coriaceous, without keels, 17–30 -veined. Upper glume lateral veins with cross-veins. Upper glume surface hispidulous. Upper glume apex obtuse or acute.

Florets. Basal sterile florets absent or 1 or 2 or more, barren, without significant palea, attached to and deciduous with the fertile. Lemma of lower sterile floret similar to fertile lemma, lanceolate, 12–20 mm long, coriaceous, 26–32 -veined, with cross-veins, hispid, acuminate, awned. Awn of lower sterile floret 2–7 mm long. Fertile florets increasing in size upwards. Fertile lemma elliptic, 15–40 mm long, coriaceous, without keel, 26–32 -veined, more than 3-veined. Lemma lateral veins with cross-veins. Lemma surface hispid. Lemma margins convolute, covering most of palea. Lemma apex acute, awned, 1 -awned. Principal lemma awn pungent, 2–7 mm long overall. Palea lanceolate, tightly convolute around flower, scarious, 16–19 -veined, without keels or 2-keeled but the uppermost without keels.

Flower and Fruit. Lodicules absent. Anthers 6, anther tip apiculate. Filaments united in a tube. Stigmas 3, papillose. Styles connate below. Ovary with a steeple-like appendage, glabrous. Caryopsis with adherent pericarp.

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. Benin, Gambia, Guinea-Bissau, Guinea, Ivory Coast, Nigeria, Senegal, Sierre Leone, Togo. DRC. Eritrea, Ethiopia (inc. Eritrea), Sudan. Kenya, Tanzania, Uganda. Angola, Malawi, Mozambique, Zambia, Zimbabwe. Limpopo.