

A New Species of *Paspalum* (Poaceae, Paniceae) from Central Brazil

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ABSTRACT. *Paspalum vallsii*, a new species in *Paspalum* sect. *Pectinata* from cerrado areas of central Brazil, is described and illustrated. It is most similar to *P. reticulinerve*, from which it differs by having solitary, longer spikelets with the upper glume and the lower lemma glabrous. It differs also from *P. imbricatum* and *P. aspidiotes* by having a narrower rachis. A key to the species of *Paspalum* sect. *Pectinata* is provided.

RESUMO. *Paspalum vallsii*, uma nova espécie de *Paspalum* sect. *Pectinata* da região do cerrado do Brasil central, é descrita e ilustrada. A espécie é relacionada a *P. reticulinerve*, da qual difere pelas espiguetas mais longas e solitárias e pela gluma superior e lema inferior glabros. Difere de *P. imbricatum* e *P. aspidiotes* pela raquis mais estreita. É fornecida uma chave para todas as espécies de *Paspalum* sect. *Pectinata*.

Paspalum L. comprises about 315 species of grasses mostly distributed in tropical and warm-temperate areas of the Americas (Chase 1929; Clayton and Renvoize 1986; Zuloaga et al. 2003, 2004). *Paspalum* sect. *Pectinata* Chase ex Rodr.-Rodr. comprises a striking group of seven species characterized by having large, imbricate, and dorsiventrally flattened spikelets with a winged upper glume (Chase 1939; Rodríguez R. 1992; Renvoize 1995; Rua and Aliscioni 2002; Denham et al. 2002). While identifying grasses collected in cerrado areas of Central Brazil, a new species belonging to *Paspalum* sect. *Pectinata* was found. The new species is here described, illustrated, and compared with other species in *Paspalum* sect. *Pectinata*.

Paspalum vallsii R. C. Oliveira & G. H. Rua, sp. nov. (Fig. 1).—TYPE: BRAZIL. Goiás: Cavalcante, área de influência da UHE Cana Brava, Canteiro da obra, km. 19, 13°27'08"S, 48°01'49"W, 350 m, 18 Apr 2002, G. P. da Silva, G. A. Moreira & J. B. Pereira 6438 (holotype: CEN!; isotype: BAA!).

Paspalum reticulinerve Renvoize simile sed spiculis solitariis, longioribus et marginibus glumae glabris differt.

Caespitose perennial; base of tillers composed of 9–10 phytomers with short internodes and foliage leaves, profusely branched. Culms ca. 95 cm tall, ca. 1.5 mm diam, erect, unbranched; internodes 5–6, glabrous, pale; nodes dark brown, glabrous. Leaf sheaths 75–95 mm long, abaxial surface with dense, cushion-based hairs ca. 10 mm long along margins and near summit, otherwise glabrous; adaxial surface glabrous, glossy, brown at maturity, the margins membranous. Ligule

0.5–0.6 mm long, membranous, acute, brown, glabrous; pseudoligule a fringe of hairs up to 10 mm long. Blades 15–26 cm long, 5–7 mm wide, ascending, flat, attenuate at the base, sharply acuminate at apex, densely hirsute-tomentose on the adaxial surface, the abaxial surface sparsely hirsute in the proximal and apical regions, glabrescent in the middle portion; margins and midnerve pale, the former finely scabrous; upper blades reduced. Peduncles 25–28 cm long, terete, costulate, glabrous, pale. Inflorescences exserted; main axis 3–4 mm long, truncate or ending in a short naked point; 'racemes' 5–7 cm long, 2, ascending, subconjugate; pulvini hirsute; rachis of the racemes 1.3–1.4 mm wide, flat, glabrous, shortly winged, ending in a naked point, the midnerve and the margins pale yellowish-brown, the wings with fine green nerves; pedicels short; spikelets solitary, densely imbricate in 2 series. Spikelets dorsiventrally compressed. Upper glumes 6.5–6.7 mm long, 3.2 mm wide, ovate, papery, glabrous, pale, 5-nerved with the 2 outer nerves not reaching the apex, winged, the wings coriaceous and somewhat reticulately nerved, the base cordate-amplexicaule, the apex acute to rounded. Lower lemmas 5.5–5.7 mm long, 2.8 mm wide, obovate, shortly cordate, corrugated at the base, otherwise similar to the upper glumes. Upper florets narrowly ellipsoidal, 3.8–4.1 mm long, 1.3 mm wide, plano-convex, membranous, pale, the upper lemma pubescent at the apex and along the margins, the palea glabrous; lodicules ca. 0.4 mm long, 2, trapeziform, hyaline; stamens 3, anthers ca. 2 mm long, purple-tinged; stigmas 2, purple, plumose. Caryopsis not seen.

Distribution and Habitat. This species was only



FIG. 1. *Paspalum vallsii* (G. P. da Silva, G. A. Moreira & J. B. Pereira 6438). A. Habit. B. Detail of the ligule. C. Portion of rachis, abaxial view. D. Spikelet, adaxial view, showing upper glume. E. Spikelet, abaxial view, showing lower lemma. F. Spikelet, adaxial view, the upper glume removed to show the upper floret. G. Portion of inflorescence, adaxial view. H. Upper floret, abaxial view showing the upper lemma. I. Upper floret, abaxial view, the lemma removed to show the flower. Scale bars = 1 mm.

found in the state of Goiás, Brazil, where it grows in quartzite sandy soils of cerrados at 350 m elevation.

Terminology. Strictly, the term *raceme* refers to an inflorescence composed of an indefinite axis bearing axillary, pedicellate flowers (Weberling et al. 1997). The structure currently called 'raceme' in *Paspalum* and other grasses is not a true raceme but a more complex partial inflorescence composed of an axis along which branchlets bearing one to several spikelets are arranged, each spikelet being itself a raceme-like inflorescence unit. For this reason, the term is placed in quotes.

DISCUSSION

The new species belongs in *Paspalum* sect. *Pectinata*. *Paspalum vallsii* differs from *P. imbricatum* and *P. aspidiotes* by having a narrower rachis, and from *P. reticulineræ* by having longer, solitary spikelets with the upper glume and the lower lemma glabrous. The specific epithet is in honor of the agrostologist and agronomist José Francisco Montenegro Valls, who has made one of the most extensive collections of *Paspalum* throughout Brazil. A key to the eight species now recognized in *Paspalum* sect. *Pectinata* follows.

KEY TO THE SPECIES OF *PASPALUM* SECT. *PECTINATA*

1. Spikelets rounded at the base.
2. Annuals, culms freely branched *P. cachimboense* Davidse, Morrone & Zuloaga
2. Perennials, culms unbranched *P. lanciflorum* Trin.
1. Spikelets cordate at the base.
3. Rachis 1–1.8 mm wide; racemes usually 2, conjugate.
4. Spikelets paired; upper glume and lower lemma ciliate at margins *P. reticulineræ* Renvoize
4. Spikelets solitary; upper glume and lower lemma glabrous *P. vallsii* nov. sp.
3. Rachis more than 2 mm wide; racemes 2 or more.
5. Spikelets glabrous *P. imbricatum* Filg.
5. Spikelets more or less pubescent.
6. Lower lemma ciliate on margins, usually with an apical tuft of hairs *P. aspidiotes* Trin.
6. Lower lemma pectinate-ciliate.
7. Racemes 2(3) *P. pectinatum* Nees ex Trin.
7. Racemes 4–10 *P. cordatum* Hack.

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