
Dyckia delicata (Bromeliaceae), a New Species from Rio Grande do Sul, Brazil

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ABSTRACT. *Dyckia delicata*, a narrow-endemic bromeliad from basaltic outcrops in the state of Rio Grande do Sul, Brazil, is described and illustrated. It is similar to *Dyckia hebdingii*, from which it is distinguished by its leaves with soft, non-injurious spines, glabrous and few-branched or unbranched inflorescences, and triangular-shaped seeds.

RESUMEN. Se describe e ilustra *Dyckia delicata*, una Bromeliácea endémica restringida a los afloramientos basálticos del estado de Rio Grande do Sul, Brasil. La especie se parece a *Dyckia hebdingii*, de la cual se diferencia por las hojas con espinos suaves, no punzantes, por la inflorescencia glabra y poco o no ramificada y por las semillas triangulares.

Key words: Brazil, Bromeliaceae, *Dyckia*.

The first thorough study of Bromeliaceae in Rio Grande do Sul (Winkler, 1982), the southernmost Brazilian state, listed 15 native species of *Dyckia*, 8 of which are endemic. Since then, 4 more were described (Irgang & Sobral, 1987; Smith, 1988, 1989; Strehl, 1998), so that now there are 12 endemic species, at least half of which are known from only one collection site—that is, can be considered as narrow endemics. This relatively high rate of endemism could be due to the occurrence of pluvial forests on about half of the state, resulting in the isolation of some mountain tops and rocky outcrops; this, in turn, may have caused some isolated populations of plants to evolve as species of their own.

During collecting trips to the hinterland of Rio Grande do Sul, a geographically restricted, small, and soft-spined species of *Dyckia* growing in isolated basaltic outcrops came to our attention and is herein described as new.

Dyckia delicata Laroocca & Sobral, sp. nov. TYPE: Brazil. Rio Grande do Sul: Barros Cassal, Linha Pessegueiro, ca. 5 km da sede do município, 29°07'S, 52°35'W, 350 m s.m., Dec. 1996, J. Laroocca, A. D. Nilson & M. Sobral 96/001 (holotype, ICN; isotypes, MBM, US, ZSS). Figures 1, 2.

[Live specimens at Porto Alegre Botanical Garden and Fundação Gaia at Pantano Grande.]

Species *D. hebdingii* proxima, a qua spinis foliorum papyraceis, non pungentibus, inflorescentiis pauciramosis glabrisque et seminibus triangularibus recedit.

Rosetted herb, 0.2–0.6 m diam. Leaves succulent, cinereous to reddish-cinereous, eventually curled toward the soil in some isolated individuals, densely covered on both faces with pale scales up to 1 mm long; leaf sheaths wide-triangular; blades linear-triangular, 5–20 cm long and 0.7–2 cm wide; apex forming a rigid spine; margin undulate with soft, flexible spines 5–7 × 1–1.5 mm, straight, retrorse or antrorse, spaced 3–5 mm from each other. Inflorescences 80–150-flowered, erect, simple or compound spikes, glabrous, with the axis softly ridged longitudinally, to 1.2 m long, the main inflorescence axis up to 5 mm diam. at the base; secondary branches when present 1–9, to 35 cm long. Scape bracts linear-lanceolate, papyraceous, soft to the touch, with 10–20 parallel nerves, glabrous, longer than the internodes in the lower half of the axis and shorter in the upper one, 30–55 × 6–10 mm, with spines up to 3 mm long in the upper portion. Floral bracts elliptic-ovate, rounded or acute at apex, glabrous, 5.5–8 × 5–6 mm. Calyx green, the sepals ovate-oblong, rounded at apex, 6–7 × 3.5–4 mm, the margins hyaline for about 1 mm. Corolla campanulate or urceolate, yellow, the petals lanceolate-spathulate to oblanceolate, 10–13 mm long, 3–4 mm wide. Stamens 6, 9–10 mm, the antisepalous and epipetalous somewhat unequally



Figure 1. Flowering individuals of *Dyckia delicata* (Larocca et al. 96/01). Scale bar = 100 mm. Photograph J. Larocca.

fused with the base of the corolla; anthers lanceolate-ovate, ca. 2×1 mm. Style $7\text{--}10 \times 0.2$ mm; stigmatic lobes 3, papillose. Ovary triquetrous, oblong-acute, 7 mm long and 2.5–3 mm diam., trilobular with numerous ovules centrally attached in two longitudinal rows per locule. Capsules elliptic, $9\text{--}12 \times 3\text{--}5$ mm. Seeds triangular-shaped, $1.2\text{--}1.7 \times 0.5\text{--}1$ mm, with a reduced wing $0.1\text{--}0.2$ mm wide along the longitudinal axis.

Habitat, distribution, and phenology. Rupicolous, collected on steep, $60^\circ\text{--}90^\circ$ basaltic cliffs with north-eastern exposure, where it occurs with *Parodia haselbergii* (Rümppler) F. H. Brandt (Cactaceae), *Sinningia macrostachya* (Lindley) Chautems (Gesneriaceae), and *Tillandsia recurvata* (L.) L. (Bromeliaceae). This species is known only from the type locality, and appears to be a narrow endemic of basaltic outcrops in Rio Grande do Sul. The collection site at Linha Pessegueiro consists of two small mountains with basaltic outcrops some 100 m apart. We have found the species growing on both outcrops, and we think it is probable that it also grows on other near outcrops, although we were not able to verify this. Flowers were observed

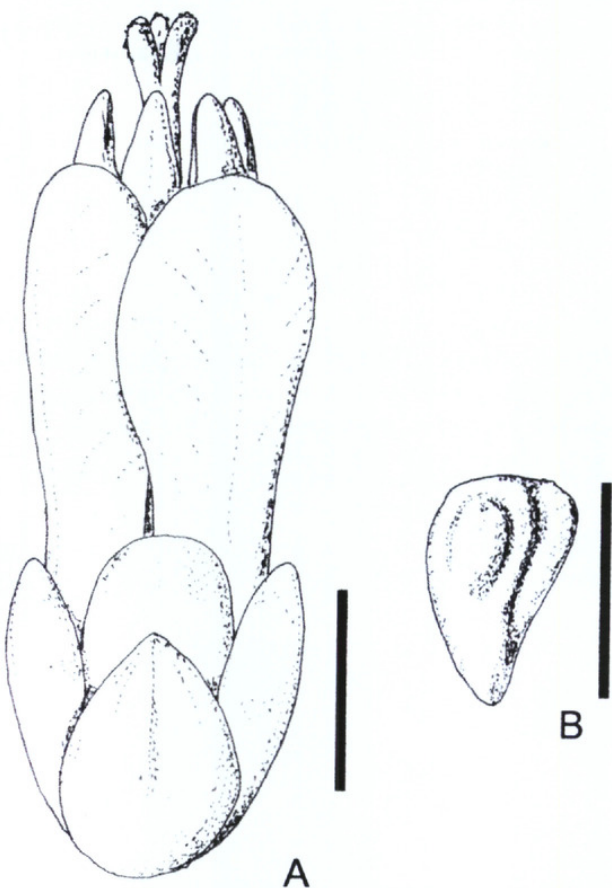


Figure 2. *Dyckia delicata*. —A. Schematic drawing of flower in abaxial view (Sobral et al. 92/04). —B. Seed (Larocca & Záchia 95/025). Scales: A: 3 mm; B: 1 mm.

in November, December, and January, and fruits in January and February (pers. obs. from the field and cultivated material).

Etymology. The species was named after the Latin word “delicata,” delicate, in allusion to its soft, non-injurious spines, the most evident and readily verifiable character of the species.

Affinities. *Dyckia delicata* is apparently related to *D. hebdingii* L. B. Smith (Smith & Downs, 1974; Winkler, 1982), another narrow endemic known from only one locality on the southern slopes of the southern Brazilian plateau known as Serra Geral, 250 km southeast of the collection site of *D. delicata*. The two species can be set apart by the following characters:

- 1a. Leaves with rigid spines, injurious to the touch; inflorescences profusely branched, with ramifications up to third degree; scape bracts reddish and divergent from the axis; scapes lepidote; flowers pilose; floral bracts always shorter than the sepals; seeds linear-shaped . . . *Dyckia hebdingii*
- 1b. Leaves with soft spines, not injurious to the touch (except the apical spine); inflorescences simple or with ramifications up to second degree, in this case with fewer than 10 branches; scape bracts green, not divergent from the axis; scapes

and flowers glabrous; floral bracts varying from shorter than to longer than sepals; seeds triangular-shaped *Dyckia delicata*

Paratype. BRAZIL. **Rio Grande do Sul:** Barros Cassal, Linha Pessegueiro, ca. 5 km da sede do município, 29°07'S, 52°35'W, 350 m s.m., Dec. 1995, *Larocca & Záchia* 95/025 (ICN).

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