

A new species of *Lessingianthus* (Asteraceae: Vernoniaeae) from Minas Gerais, Brazil

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Abstract. *Lessingianthus ibitipocensis*, a new species from the Southeastern Brazilian highlands, is described and illustrated.

Key Words: Campo rupestre, cerrado, new taxon, taxonomy, *Vernonia*.

Resumen. Se describe e ilustra una especie nueva, *Lessingianthus ibitipocensis*, del sudeste de Brasil.

The Vernoniaeae Cass. (Asteraceae) is a pantropical tribe with about 120 genera distributed in America, Asia, and Africa. Of these, 48 genera are monotypic and another 30 have only two species, leaving most species in only a few genera (Robinson, 2007).

Lessingianthus H. Rob. contains more than 110 species widely distributed in South America, but concentrated in central Brazil (Robinson, 1988; Bremer, 1994). Its circumscription comprises the species originally arranged under *Vernonia* Schreb. sect. *Lepidaploa* (Cass.) DC. subsect. *Macrocephalae* Benth. (Baker, 1873) and some species of subsects. *Glomeratae* and *Axilliflorae* (Baker, 1873). The genus can be distinguished from the remainder of the tribe Vernoniaeae by its pollen type, anther appendages, chromosome number, and the shape of the raphids in the achene wall (Dematteis, 2006). The pollen grains are type "B", tricolporate, echinolphate, with a discontinuous tectum, very long germinal furrows that converge at the poles, with lacunae disposed in a regular pattern, and lacking a polar lacuna (Keeley & Jones, 1979). The anther appendages of *Lessingianthus* commonly lack glands, whereas some related genera have glandular appendages (Robinson, 1988; Dematteis, 2007). The basic chromosome number of the

genus is $x=16$, differing from the majority of the New World Vernoniaeae with a base of $x=17$ (Dematteis, 2002). The raphids in the achene walls of *Lessingianthus* are quadrate to subquadrate, whereas in the allied *Lepidaploa* Cass. and *Chrysolaena* H. Rob. the raphids are usually elongate (Robinson, 1999).

Since the description of *Lessingianthus* (Robinson, 1988), there have been few problems in its generic limits, with only a small number of species transferred to *Chrysolaena* (Dematteis, 2007). Nevertheless, new taxa have recently been described for the genus (Robinson, 1995; Diaz-Piedrahita & Obando, 2002; Deble et al., 2005; Dematteis, 2006). Here we describe a new species from Serra do Ibitipoca, in the Brazilian state of Minas Gerais. This new species was found during floristic work by the first author and a revision of the genus by the second author.

Lessingianthus ibitipocensis R. Borges & Dematt., **sp. nov.** Type: Brazil. Minas Gerais: Lima Duarte, Parque Estadual do Ibitipoca, campos entre a Gruta do Viajante e o Pico do Pião, elev. 1700–1800 m, 21° 42.38'S, 43° 52.44'W, 10 Mar 2004, R. C. Forzza et al. 3124 (holotype: RB, isotypes: CTES, K). (Figs. 1, 2)



FIG. 1. *Lessingianthus ibitipocensis*. A. Habit. B. Capitulum. C-D. Outer phyllaries. E-F. Middle phyllaries. G-H. Inner phyllaries. I. Corolla showing anthers and style. J. Corolla lobe. (From Forzza et al. 3124, CTES.)

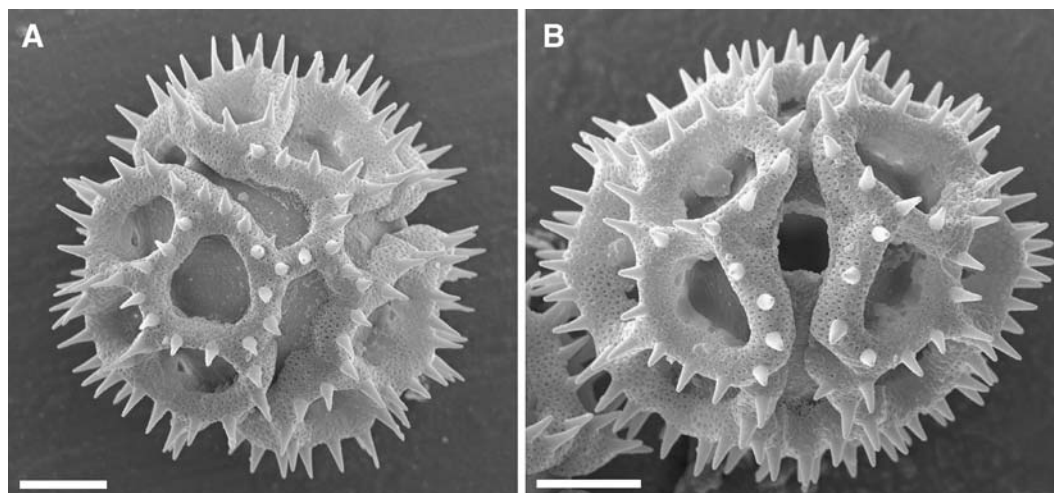


FIG. 2. Pollen grains of *Lessingianthus ibitipocensis*. A. Polar view showing the colpi meeting at pole. B. Equatorial view showing aperture. Scale=10 µm. (From Forzza et al. 3124, CTES.)

Haec species *Lessingiantho reitziano* (Cabrera) H. Rob. similis sed foliis brevioribus, phyllariis pluriseriatis et caulibus omnibus foliosis differt. Herba erecta 30–70 cm alta, caulibus simplicibus rotundatis dense villosis ad inflorescentiam sparse foliatis. Folia lanceolata, 2.5–3.5 cm longa 0.8–1.3 cm lata, utrinque glabrata, inferne glanduloso-punctata. Capitula longe pedunculata, hemisphaerica, solitaria vel ad inflorescentiam cymosam 2–5-cephala. Phyllaria 4–5(–6)-seriata, oblonga vel lanceolata. Flores 100–110, violacei. Corolla glabrata 13–14 mm longa.

Perennial herb, 30–70 cm tall. Stems 1–3, single, rounded, 2–3 mm in diam., villous, regularly leafy to the inflorescence, internodes 3–10(–15) mm long. Leaves alternate to subopposite, ascending, subsessile, chartaceous, concolorous. Leaf blades lanceolate,

2.5–3.5(–5.5) cm long, 0.8–1.5 cm wide, entire, subrevolute at the margin, apically acute and mucronate, cuneate at base, glabrous on both faces, glandular dotted beneath, pinnatinerved, secondary veins 4–6, almost straight, not strongly evident. Capitula terminal, solitary at the stem apex or eventually in broad corymbose cymes. Involucres widely campanulate to hemispherical, 12–14 mm high, 15–20 mm wide. Phyllaries disposed in 4–5(–6) series, loosely imbricate, appressed, acuminate, brownish to blackish, villous at apex, inner phyllaries lanceolate to linear, 9–11 mm long, 1.1–1.6 mm wide, middle phyllaries oblong to lanceolate, 7–8 mm long, 1.5–2 mm wide, the outer ones

TABLE I
MORPHOLOGICAL COMPARISON OF *L. IBITIPOCENSIS* AND RELATED SPECIES.

Character	<i>L. ibitipocensis</i>	<i>L. minimus</i>	<i>L. reitzianus</i>
Plant height (cm)	30–70	10–24	20–35
Stem number	1–3	1–2	3–5
Stem pubescence	villous	white-tomentose	glabrous
Leaf distribution	uniform	lower 1/3 of the stem	lower 1/2 of the stem
Leaf size (cm)	2.5–3.5(–5.5) × 0.8–1.5	1.2–2 × 0.2–0.4	4–7 × 0.5–1.5
Leaf shape	lanceolate	lanceolate to ovate-lanceolate	oblanceolate
Leaf apex	acute, mucronate	acute	acute to subobtuse
Leaf base	cuneate	cuneate	attenuate
Head size (mm)	12–14	8–10	9–10
Phyllaries series	4–5(–6)	3	3
Floret number	100–110	20–25	50–60
Corolla lobes	glabrous	glabrous	villous
Cypsela size (mm)	4–5	2.5–3	4–4.5
Geographical distribution	Minas Gerais	Goias	Paraná-Santa Catarina

ovate, 4–6 mm long, 1.5–2 mm long. Florets violet, 100–110 per head. Corollas glabrous, 13–14 mm long, lobes lanceolate, 4–4.6 mm long. Anthers basally calcarate, thecae 3.8–4 mm long, apical appendages ovate, 0.4–0.5 mm long. Style 15–16 mm long, branches linear, 3.5–4 mm long. Cypselas cylindrical, ribbed, densely sericeous, 4–5 mm long. Pappus biseriate, dark grayish, inner bristles 8–9 mm long, outer scales linear to lanceolate, fimbriate, 0.6–0.8 mm long. Pollen grains spheroidal to prolate spheroidal, echinolophate, 38–45 μm in diam., tricolporate, exine semitectate, regularly areolate, spiculate (type B).

Distribution and ecology.—*Lessingianthus ibitipocensis* occurs in campo rupestre vegetation among grasses and rocks. It is only known from the Ibitipoca State Park in southeastern Minas Gerais state, near the border with Rio de Janeiro.

Phenology.—Almost all the available specimens were collected between January and March, although some collections have been also made in July.

Etymology.—The specific epithet refers to the type locality, Parque Estadual do Ibitipoca.

Additional specimens examined. BRAZIL. MINAS GERAIS: Lima Duarte, Parque Estadual do Ibitipoca, em campo altimontano ao 1784 m de altitude, Morro do Lombada, 11 Feb 1996, *Rodela 53* (CESJ), trilha da Lombada para a Gruta dos 3 Arcos, campo rupestre, 21° 41'03"S, 43°53'18"W, 1775 m, 26 Jul 2004, *Forzza et al. 3510* (RB), Norte do Parque, 7 Mar 2006, *Ferreira et al. 970* (CESJ), trilha para a Lombada, 8 Feb 2001, *Forzza et al. 1792* (CESJ, RB), 24 Mar 2001, *Heluey & Castro 94* (CESJ), proximidades da Lombada, 1650 m, 20 Jan 2005, *Forzza et al. 3962* (RB, K); Ibitipoca, 24 Feb 1977, *Krieger s. n.* (CESJ 14609); Serra do Ibitipoca, 1816–1821 [1821], *Saint Hilaire 200* (P), *Saint Hilaire 239* (P).

The new species resembles *L. reitzianus* but differs in the number of series of phyllaries, disposition of the leaves, number of florets, corolla pubescence, and geographic distribution. *Lessingianthus ibitipocensis* also resembles *L. minimus* Dematt., but that species differs by 20–25 florets per head, 3 series of phyllaries, and leaf blades 1.2–2 cm long. All three species have different geo-

graphic distributions: *L. minimus* is endemic to Chapada dos Veadeiros in northeastern Goiás state, *L. reitzianus* is distributed exclusively in Santa Catarina and Paraná, and *L. ibitipocensis* is known only from Serra do Ibitipoca in Minas Gerais. The main differences between these three species are summarized in Table I.

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