



Vochysia microphylla (Vochysiaceae), a new species from Serra do Cipó, Minas Gerais, Brazil

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Abstract

Vochysia microphylla is described and illustrated as a new species. It belongs to *Vochysia* section *Ciliantha* subsection *Lutescentes*. This new species is apparently endemic to the “campos rupestres” vegetation in Morro do Pilar and Itambé do Mato Dentro, Serra do Cipó, Minas Gerais, Brazil.

Resumo

Vochysia microphylla é descrita e ilustrada como uma nova espécie. Ela pertence a *Vochysia* seção *Ciliantha* subseção *Lutescentes*. Essa nova espécie provavelmente é endêmica da vegetação dos campos rupestres em Morro do Pilar e Itambé do Mato Dentro, Serra do Cipó, Minas Gerais, Brasil.

Key words: campos rupestres, Espinhaço Range, taxonomy

Introduction

Vochysia Aublet (1775: 18) is a neotropical genus comprising about 140 species, most occurring in Brazil. In the last monographic treatment of *Vochysia*, Stafleu (1948) recognized 97 species. Thereafter, 44 new species were described. The family Vochysiaceae and also this genus have three diversity centers: Guyana-Amazon Region, Atlantic Forest and Central Brazil (Vianna 2006). In this last region, a new species was found in Serra do Cipó area, located within the Espinhaço Range in the state of Minas Gerais (Giulietti *et al.* 1987). This new species is herein described and illustrated based on the cespitose growth habit, very small leaves, short inflorescence, and lack of hairs in stamen and petals.

Taxonomy

Vochysia microphylla G. Shimizu & K. Yamamoto, *sp. nov.* (Figs. 1 and 2)

Vochysia microphylla is characterized by the cespitose growth habit, very small leaves (up to 2 cm) and inflorescences (3–3.5 cm). Also this is the only species of *Vochysia* sect. *Ciliantha* subsect. *Lutescentes* with both petals and stamen glabrous.

Type:—BRAZIL. Minas Gerais: Morro do Pilar, Parque Nacional da Serra do Cipó, trilha para as velózias gigantes, 19°14'48"S, 43°30'42"W, 1256 m, 14 May 2010, fl. and fr., *Shimizu 231* (UEC!).

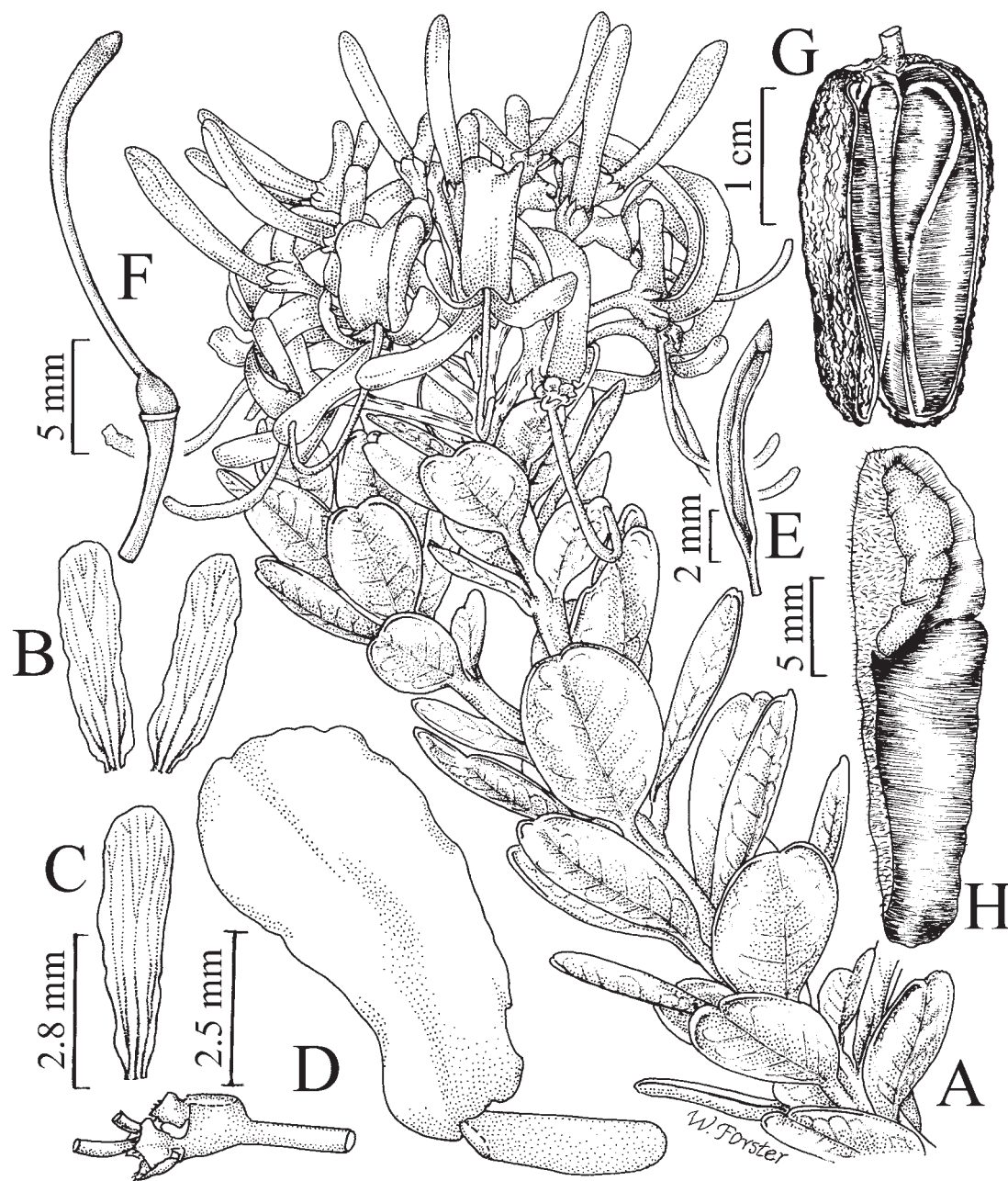


FIGURE 1. *Vochysia microphylla*. **A.** Flowering branch. **B.** Lateral petals. **C.** Central petal. **D.** Calyx, with spurred sepal apart. **E.** Anther. **F.** Gynoecium. **G.** Fruit. **H.** Seed. A–D after *Shimizu 231*; E, F after *Rodrigues 81*; G, H after *Shimizu et al. 137*; drawn by W. Forster.

Cespitose shrub with many clustered stems, ca. 1.5 m tall, well-branched. Branchlets cylindrical, slender, internodes longitudinally striate, glabrous, cortex not exfoliating. Leaves in 4(–6)-merous whorls; stipules 1 mm long, persistent; petiole 1 mm long, glabrous; leaf blade 0.8–2 × 0.4–1.2 cm, oblong to obovate, chartaceous; adaxial surface glabrous, midrib flat and secondary veins prominulous; abaxial surface glabrous, excepting some trichomes at apex, midrib prominent and secondary veins prominulous; apex retuse, base rounded to cuneate, margin flat. Inflorescence a thyrse of cincinni, terminal, 3–3.5 cm long, pubescent; cincinni 2–3-florous, peduncle ca. 0.5 cm long and pedicel 0.3–0.7 cm long; bracts caducous. Flower bud 10–

12 × 1.5–2 mm, straight to sub-incurved, cylindrical, apex acute or acuminate; spur 3–5 × 1 mm, straight or incurved, cylindrical, apex globose; spurred sepal 10–11 mm long; remaining 4 smaller calyx lobes 2 mm long, ovate, apex obtuse. Petals 3, both surfaces glabrous, central one 5–8 × 1–2 mm, lateral ones 4–6 × 1–2 mm. Stamen 1, filament 2–3 mm long, anther 8–11 mm long, glabrous; staminodes 2, 0.5–0.6 mm long, glabrous. Ovary 2 × 1.5 mm, deltoid, glabrous; style 8.5–15 mm long, cylindrical but with the upper half slightly clavate, straight to incurved, glabrous; stigma subtriangular, subterminal. Capsule 2–2.3 × 1.1–1.3 cm, ovoid to oblong-ovoid, apex subtruncate to rounded, the surface verruculose and glabrous. Seed elliptic, laterally flattened, winged, 2.2 × 0.7 cm.

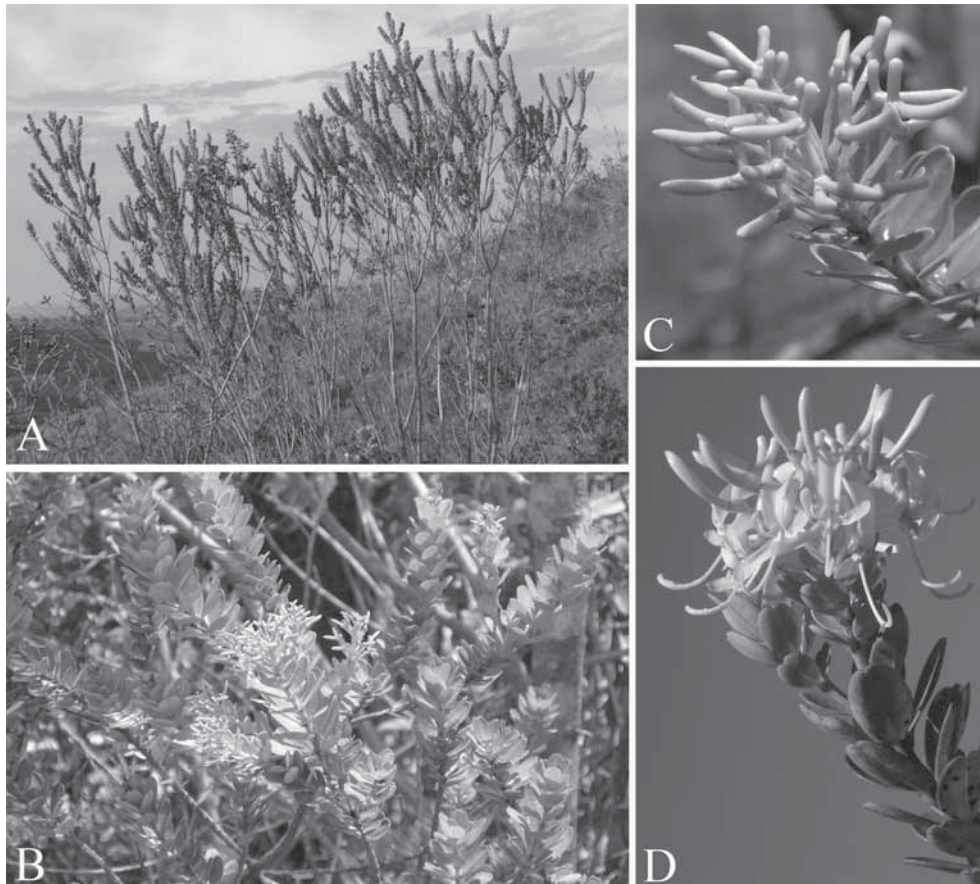


FIGURE 2. *Vochysia microphylla*. **A.** Population showing the cespitose growth habit. **B.** Well-branched individual from *Vellozia gigantea* trail. **C.** Flowering branch with flower buds. **D.** Flowering branch with open flowers. A. Photo L.C. Rodrigues. B–D. Photos G.H. Shimizu.

Distribution and habitat:—*Vochysia microphylla* is only known from “campo rupestre” vegetation in Morro do Pilar and Itambé do Mato Dentro, within the Serra do Cipó area. Few individuals have been found, one at the trail that leads to the populations of *Vellozia gigantea* N.L. Menezes & Mello-Silva (1999: 537), from which the holotype and all the paratypes, except *Borges & Santos 279* and *Rodrigues 81*, were collected, about five individuals near the ICMBio lodging at Alto do Palácio, from one of which *Rodrigues 81* was collected, and one in Cabeça de Boi area, ca. 20 km far from the other collection places.

Phenology:—One individual was collected with flowers in May and October, and with fruits in May, July, and October; another one with flowers in November and the last one with flowers in December.

Conservation status:—According to the IUCN Red List (IUCN 2011), the species can be assigned as critically endangered (CR, criterion D2—very small or restricted population) due to the few individuals known from few places.

Etymology:—The specific epithet refers to the very small leaves, so far the smallest ones ever found in the genus.

Additional specimens examined (paratypes):—BRAZIL. Minas Gerais: Itambé do Mato Dentro, Santana do Rio Preto, Cabeça de Boi, 17 December 2007, fl., *Borges & Santos 279* (SPF!); Morro do Pilar, Parque Nacional da Serra do Cipó, Alto do Palácio, 19°15'S, 43°31'W, 1400 m, 16 November 2007, fl., *Rodrigues 81* (BHCB!, UEC!); trilha para as velózias gigantes, 19°14'48''S, 43°30'42''W, 1256 m, 23 July 2008, fr., *Shimizu et al. 62* (BHCB!, SPF!, UEC!); 2 October 2008, fl. and fr., *Shimizu et al. 137* (UEC!); 28 October 2008, fl., *Shimizu et al. 201* (BHCB!, SPF!, UEC!).

Discussion:—*Vochysia microphylla* belongs to section *Ciliantha* Stafleu (1948: 445) subsection *Lutescentes* (Warming 1875: 60) Stafleu (1948: 457) due to the glabrous ovary, the mostly glabrous adult branchlets and leaves, and the cortex which is never exfoliating. In this subsection, *V. microphylla* is the only species that has both stamen and petals glabrous. Those organs are ciliate in all other species of this subsection, or only one of them is glabrous. Although looking like a miniature *V. thyrsoides* Pohl (1831: 24), a tree species with leaves in 4(–6)-merous whorls, and sharing the same leaf, flower bud, spur apex and fruit shape, the new species has a very different habit. The globose spur apex, shared with *V. thyrsoides*, is very distinctive among the species of subsection *Lutescentes* from the savanna formations of the Brazilian inland.

It could also be confused with *V. pygmaea* Bongard (1839: 7) and *V. rotundifolia* Martius (1826: 140), two other shrubby species that occur in Serra do Cipó (Shimizu 2009). They can be distinguished mainly by the number of leaves per whorl, leaf and inflorescence length, spur apex shape, and indument in petals and stamen (Table 1). *Vochysia martiana* Stafleu (1948: 478) and *V. cipoana* Stafleu (1954: 409) will be synonymized under *V. pygmaea* and *V. rotundifolia*, respectively, in an upcoming paper.

TABLE 1. Main differences between *Vochysia microphylla*, *V. pygmaea*, and *V. rotundifolia*.

Character	<i>Vochysia microphylla</i>	<i>Vochysia pygmaea</i>	<i>Vochysia rotundifolia</i>
Leaves per whorl	mainly four	mainly three	three
Leaf blade	0.8–2 × 0.4–1.2 cm	2.5–3.7 × 1.6–3 cm	3.5–5(–10) × 3–4.4(–6) cm
Leaf shape	oblong to obovate	elliptic, elliptic-obovate, obovate, or oblong	orbicular or ovate
Inflorescence length	3–3.5 cm	8–40 cm	4.5–16.5(–20) cm
Spur apex shape	globose	rounded	rounded
Petals (indument)	glabrous	ciliate at margin	ciliate at margin
Anther (indument)	glabrous	glabrous	glabrous or ciliate

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