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Codonanthe gibbosa Rossini & Chautems (Gesneriaceae), a new species from the State of Espírito Santo, Brazil

Josiene Rossini & Alain Chautems

Abstract

ROSSINI, J. & A. CHAUTEEMS (2007). *Codonanthe gibbosa* Rossini & Chautems (Gesneriaceae), a new species from the State of Espírito Santo, Brazil. *Candollea* 62: 215-220. In English, English and French abstracts.

A new species, *Codonanthe gibbosa* Rossini & Chautems, is described from remnants of the Atlantic rainforest in central Espírito Santo in Brazil. It differs from the congeneric taxa by the filiform stems, small, glabrous leaves (except margin) and strongly gibbose corolla lacking brown spots in the yellow throat. An illustration of *Codonanthe gibbosa* and an identification key to the species of *Codonanthe* (Mart.) Hanst. occurring in Espírito Santo and nearby areas are provided.

Key-words

GESNERIACEAE – *Codonanthe* – Espírito Santo – Brazil – Atlantic Forest

Résumé

ROSSINI, J. & A. CHAUTEEMS (2007). *Codonanthe gibbosa* Rossini & Chautems (Gesneriaceae), une nouvelle espèce de l'état d'Espírito Santo, Brésil. *Candollea* 62: 215-220. En anglais, résumés en anglais et français.

Codonanthe gibbosa Rossini & Chautems, une nouvelle espèce découverte dans des fragments de forêt pluviale atlantique du centre de l'Espírito Santo au Brésil, est décrite. Elle se distingue des taxons congénériques par des tiges filiformes, de petites feuilles glabres (à l'exception de la marge) et une corolle fortement gibbeuse avec une gorge jaune et sans macules brunes. Une illustration de *Codonanthe gibbosa* et une clé des espèces du genre *Codonanthe* (Mart.) Hanst. présentes dans l'Espírito Santo et les zones limitrophes sont fournies.

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During floristic studies of the *Gesneriaceae* Rich. & Juss. carried out by the first author in the municipality of Santa Teresa, Espírito Santo, an unidentified species of *Codonanthe* (Mart.) Hanst. was encountered. The species was easily recognized as new to science based on previous studies of this genus in Brazil (CHAUTEMS, 1991, 1997, 2003). The genus comprises now 18 species in the Neotropics, among which 11 are encountered in Brazil. In Espírito Santo 6 species were registered so far.

Codonanthe gibbosa Rossini & Chautems, **spec. nova** (Fig. 1)

Typus: BRAZIL. Espírito Santo: Município de Santa Teresa, Nova Lombardia, Reserva Biológica Augusto Ruschi, trilha da tronqueira, 8.X.2002, R. R. Vervloet & al. 1171 (holo-: MBML 17621; iso-: G).

Proxima C. serrulatae Chautems *sed caulibus filiformis, foliis glabris integribus, sepalis minoribus ovato-lanceolatis, corolla magnopere gibbosa, fauce lutea sine maculis brunneis differt.*

Epiphytic herb or subshrub, rarely rupicolous, pendent, 0.3-1.0 m, stem filiform, 0.6-1 mm in diam. (flowering stage), young stem green turning red-brown at maturity, pubescent near the apex, puberulent below, nodes bearing adventitious roots, internodes 1.5-2 cm. Leaves opposite, slightly anisophyllous, blade 1.2-2 × 0.8-1 cm, ovate-orbicular, green, paler beneath, fleshy, glabrous except at margin, apex acute, base obtuse, margin entire, sparsely ciliate, sometimes reddish, midrib prominent abaxially in fresh material, lateral veins inconspicuous, petiole 1.5-3 mm, green, puberulent. Inflorescences axillary, reduced to a single-flowered cyme, pedicel 6-12 mm, green, sparsely pubescent, often slightly curved or sigmoid in fresh material. Flowers few on each stem, smaller than the leaves; calyx lobes 5.5-7 × 2.5-4 mm, subequal, ovate-lanceolate, green, sparsely pubescent, fused at base for 2 mm, the apex acute, margin entire, reddish; corolla inserted obliquely, forming an angle of ca. 45° in relation to the calyx main axis, 15-18 mm long, tubular-ventricose, humped dorsally in the middle section, strongly swollen ventrally and thinly one-furrowed laterally, tube at base 4.5 mm in diam., briefly narrowed to 2.3 mm and then widened up to 7.6 mm in diam., completely white externally, throat yellow, glabrous, lobes white with base yellow (internally) and margin diffusely pinkish; puberulent externally, with short glandular trichomes internally, the upper and lateral lobes subequal, 3-5 × 3-5 mm, orbiculate, spreading, the lower one 5-8 × 5-6 mm, erect and convex; stamens included, filaments 7-8 mm (free portion), adnate to base of corolla for ca. 2 mm, white, anthers coherent by their apices and forming a rectangle, connective broad; ovary conical, 2.5-3 mm, white, villous, style 7-8 mm, white, stigma sto-

matomorphic, disc gland dorsal and bilobed, 0.5-1 mm long, white. Berry 7-9 mm, globose, yellow, pubescent, seeds 1.2 mm, light brown, longitudinally striate.

Etymology. – From *gibba*, Latin for swelling referring to the pouch-like ventral part of the corolla.

Phenology. – Flowers from August to October (Fig. 2); fruits from December to January.

Distribution and ecology. – *Codonanthe gibbosa* is as yet only known from the region of Alfredo Chaves and from the area of Santa Teresa, where it thrives in the “Floresta Ombrófila Densa” between 800 and 900 m. Only a few populations were observed on trees overlooking small streams. In the Reserva Ruschi, *C. devosiana* Lem. and very likely *C. carnosa* (Gardner) Hanst. (but only observed so far in sterile stage) were also registered.

Relationships. – This new species resembles *C. serrulata* Chautems in having a ventricose corolla and *C. gracilis* (Mart.) Hanst. in showing glabrous leaves. However, it differs from these two taxa in size, shape or color for several vegetative and fertile parts. The main differences are detailed in Table 1.

Additional material examined. – BRAZIL. Espírito Santo: Alfredo Chaves, capoeirão meio úmido a 5 km acima de Carolina, 1000 m., 3.XI.1987, R. Kautsky 952 (G, RB); Santa Teresa, Estação Biológica de Santa Lúcia, 3.IX.1998, L. Kollmann 461 (MBML 8475); Santa Teresa, Nova Lombardia, terreno N. Furlani, 18.XI.2005, L. Kollmann 8463 (MBML 25427); Santa Teresa, Reserva Biológica Augusto Ruschi, 27.IX.2001, L. Kollmann 4784 (MBML 15320); *ibid.*, 31.I.2003, J. Rossini 217 (MBML 19466); *ibid.*, 27.VIII.2003, J. Rossini 500 (MBML 21460); *ibid.*, 2.IX.2003, J. Rossini 506 (MBML 21453); *ibid.*, 4.IX.2002, R. R. Vervloet 821 (MBML 17500, G); *ibid.*, 3.X.2002, R. R. Vervloet 1140 (MBML 17857).

Material in cultivation. – Growing in “Casa das epífitas”, Museu de Biologia Mello Leitão, Santa Teresa and in Mauro Peixoto’s collection, São Paulo (see picture on the Brazilplant website: <http://mpeixoto.sites.uol.com.br/gesneriads/codonanthe/santa-teresa.html>).

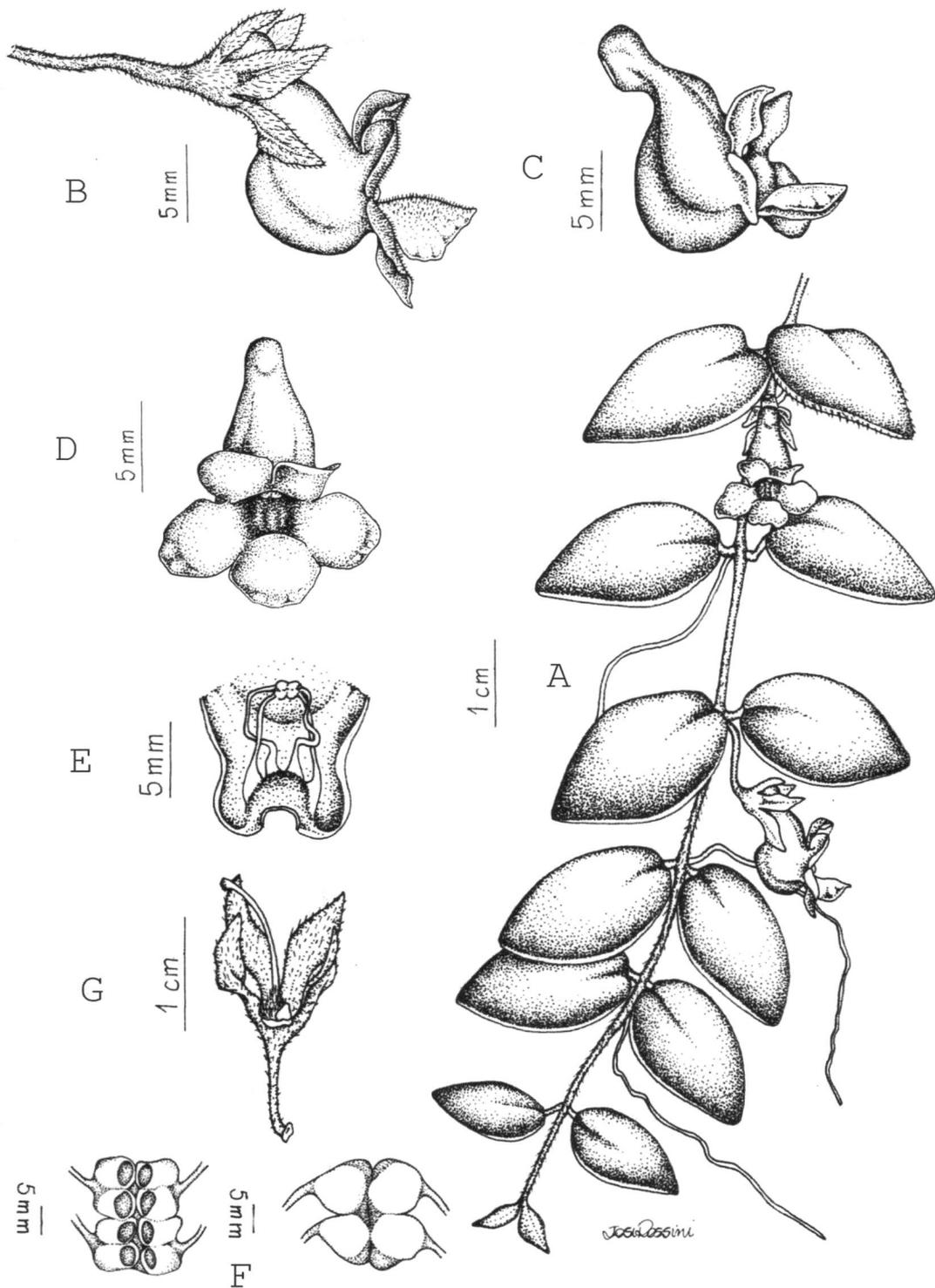


Fig. 1. – *Codonanthe gibbosa* Rossini & Chautems. **A.** Habit; **B.** Flower, side view; **C.** Corolla, side view; **D.** Corolla, upper view; **E.** corolla opened to show stamens; **F.** Coherent anthers, front and dorsal view; **G.** Calyx opened and corolla removed to show ovary and nectary.

[Drawn from live material, cultivated in “casa das epífitas” in the Mello Leitão Museum, vouchers *J. Rossini 500* and *J. Rossini 506*]

[Illustrator Josiene Rossini]

Key to the species of *Codonanthe* occurring in Espírito Santo or adjacent areas

1. Corolla base spurred, calyx with 5 unequal lobes, 1.5-10 mm, corolla 25-38 mm, fruit a pink, red or purple berry, sect. *Spathuliformae*, also occurring in Bahia, Alagoas, Pernambuco, Amazonian basin, Bolivia, Colombia and Peru *C. uleana*
- 1a. Corolla base not spurred, calyx with 5 subequal lobes, 3-15 mm, corolla 10-25 mm, fruit an orange or yellow berry, sect. *Codonanthe*, occurring only in eastern and southern Brazil 2
2. Leaf blade margin serrulate..... *C. serrulata*
- 2a. Leaf blade margin entire 3
3. Leaves glabrous (except margin ciliate in some cases), leaf blade ovate to lanceolate, calyx lobes 5.5-15 mm 4
- 3a. Leaves puberulent or pubescent, leaf blade orbicular or elliptic, calyx lobes 3-5 mm..... 6
4. Leaf blade cordate at base, corolla tube gradually enlarged *C. cordifolia*
- 4a. Leaf blade never cordate at base, corolla tube ventricose 5
5. Floriferous stem 1-1.5 mm in diam., corolla 20-25 mm, throat yellow with brown dots, berries orange *C. gracilis*
- 5a. Floriferous stem 0.6-1 mm in diam., corolla 15-18 mm, throat yellow lacking brown dots, berries yellow *C. gibbosa*
6. Corolla tubular and somewhat sigmoid, 20-25 mm *C. carnosa*
- 6a. Corolla tubular-campanulate, 12-18 mm *C. devosiana*

Table 1. – Comparisons of shape, size and color of vegetative and fertile parts between *Codonanthe gibbosa* Rossini & Chautems and its most closely related species *C. serrulata* Chautems and *C. gracilis* (Mart.) Hanst.

	<i>C. gibbosa</i>	<i>C. serrulata</i>	<i>C. gracilis</i>
Stem (flowering stage) [mm diam.]	0.6-1	1.2-2	1 -1.5
Leaf size [mm]	12-20 x 8-10	10-18(-20) x 8-15	20-60 x 10-30
Leaf pubescence	glabrous (except margin)	puberulent	glabrous
Leaf margin	entire	serrulate	entire
Flower vs. leaf size	smaller	larger	smaller
Calyx lobes size [mm]	5.5-7 x 2.5-4	7-10 x 2-2.5	7-15 x 3-8
Calyx lobes pubescence	sparsely pubescent	puberulent	glabrous
Corolla length [mm]	15-18	20	(15-)20-25
Corolla dorsal side	humped	slightly arcuate	slightly arcuate
Corolla ventral side	strongly swollen thinly 1-furrowed laterally	swollen lacking lateral furrow	moderately swollen
Corolla throat	yellow lacking brown dots	yellow with brown dots	yellow with brown dots
Corolla bottom	white	white with some wine-red dots	white with many brown and wine-red dots
Corolla outside coloration	white	white	white or white with brown dots
Corolla lobes coloration	yellow for about 1/3 at base and white for the rest, diffusely pinkish at tip	entirely white	entirely white
Corolla lower lobe	convex	flat or slightly concave	flat or slightly concave

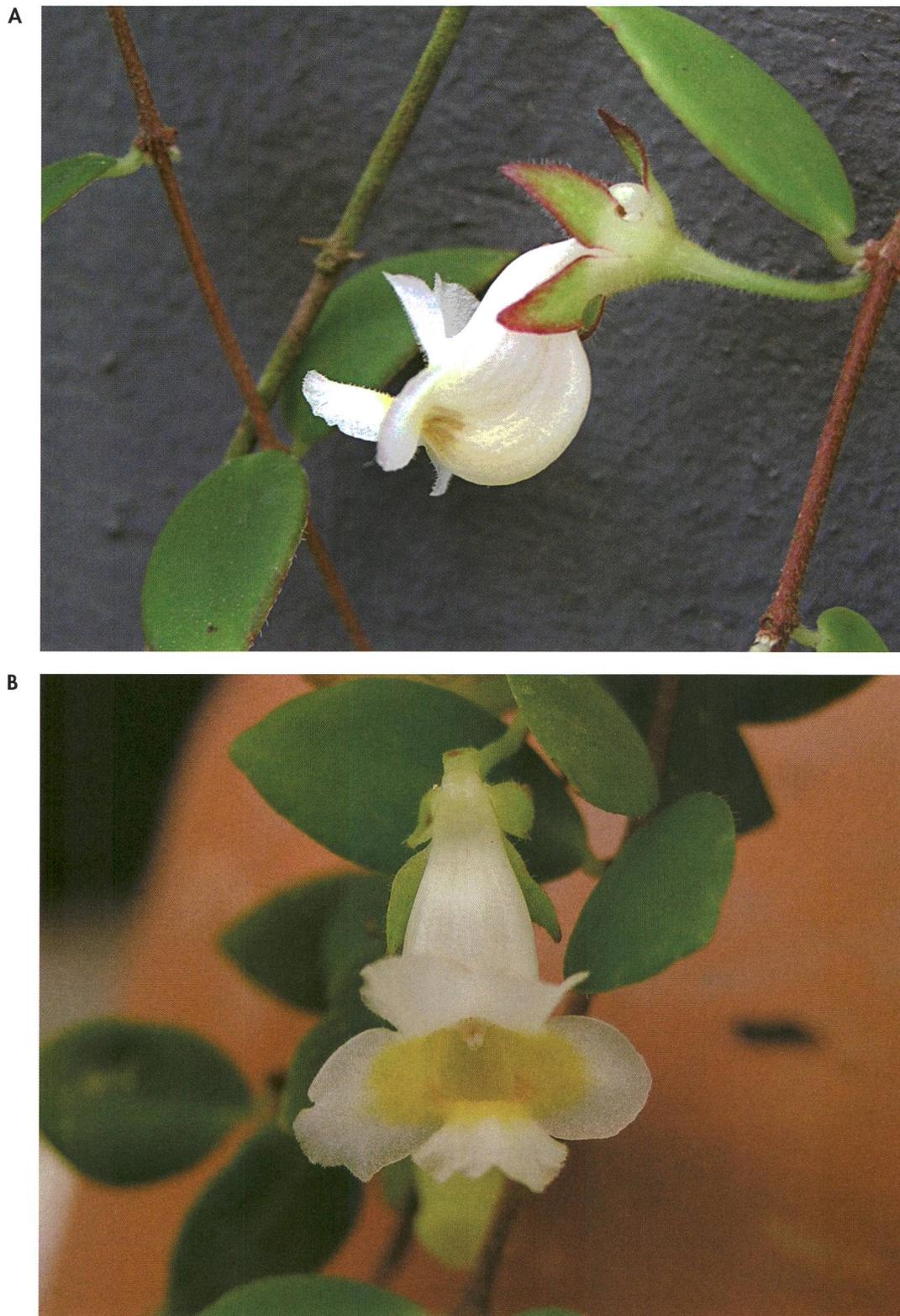


Fig. 2. – *Codonanthe gibbosa* Rossini & Chautems. **A.** Picture of flower, side view; **B.** Picture of flower, front view.
[Pictures by Mauro Peixoto]

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