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## A New Species and New Combinations in *Calibrachoa* (Solanaceae)

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**ABSTRACT.** We describe and illustrate a new species of *Calibrachoa* (Solanaceae) from the state of Santa Catarina in southern Brazil. *Calibrachoa eglandulata* is distinguished by the presence of eglandular trichomes, relatively long stamens and corolla tubes, lobed stigmas, and pendent branches. The eglandular trichomes are unique to this species. We also propose nine new combinations in *Calibrachoa*.

*Calibrachoa* La Llave & Lexarza is an American genus of Solanaceae with a center of diversity in southern Brazil. Historically, *Calibrachoa* has been included in *Petunia* Jussieu due to morphological similarity. Wijsman and Jong (1985) recognized the two genetically isolated groups of species in *Petunia* as different genera. *Petunia* contained the species group with a diploid number of 14 chromosomes and those related to the garden *Petunia*, while *Calibrachoa* retained the species group with 18 chromosomes (Brummitt, 1989). *Calibrachoa* species are characterized by woody stems, conduplicate aestivation with two petals covering the other three, and seed-coat cells with straight anticlinal walls. *Petunia* species have nonwoody stems, imbricate aestivation, and seed-coat cells with wavy anticlinal walls. Wijsman (1990) transferred most species from *Petunia* to *Calibrachoa*.

We have reviewed the Brazilian species of *Calibrachoa* and *Petunia*, and we propose nine new combinations of Brazilian *Calibrachoa* to complement the nomenclatural combinations started by Wijsman. We also describe a new species of *Calibrachoa*, *C. eglandulata*, which grows in the state of Santa Catarina in southern Brazil.

***Calibrachoa eglandulata*** Stehmann & Semir, sp. nov. TYPE: Brazil. Santa Catarina: Urubici, estrada da Serra do Corvo Branco em direção a Urubici (após subida da Serra), 4 Nov. 1994 (fl, fr), J. R. Stehmann 1534 & J. Dutilh (holotype, UEC; isotypes, K, MO). Figure 1A–G.

Species inter omnes pilis eglandulosis distincta. *Calibrachoa linoides* affinis autem non solum ramis pendulis, corollae tubo et stylo maioribus sed etiam stigmatibus lobatis differt.

Decumbent shrub, rarely erect, with simple, eglandular trichomes. Stems with woody base, irregularly sulcate, glabrate, elongate branches, sometimes more than 2 m long, pendent, pilose or subvillous, yellowish brown or gray; internodes 3–20 mm long. *Brachyblasts* usually absent. Leaves sessile or subsessile, blade 13–25 mm long, 5–11 mm wide, elliptic, less often ovate or obovate, apex acute or obtuse, base shortly and abruptly attenuate, blade slightly asymmetric, plane or concave, margin sometimes slightly revolute and thickened, pilose or subvillous on both faces, on the abaxial side, or only at the margin and midrib, adaxial surface with sunken midrib, abaxial surface with thickened midrib, secondary nerves not evident. *Sympodial units* 1-flowered, with opposite leaf-like bracts, internodes 12–30 mm long, longer than the vegetative internodes. *Pedicels* 17–30 mm long, pilose or subvillous, suberect to patent. *Calyx* 13–19 mm long, greenish, externally villous, internally sparsely pilose, 10-nervate, lobes 5–12 mm long, unequal, narrow-triangular to subulate. *Corolla* with conduplicate aestivation with two petals covering the other three, funnel-shaped, zygomorphic, externally pilose to subvillous, internally glabrous, tube 18–20 mm long, narrow, yellow with dark purple nerves, yellow mouth, limb 23–27 mm diam., magenta, lobes with apex truncate or slightly emarginate. *Stamens* 5, heterodynamous, the free portions 5.5–8 mm, 6–9 mm, and 9–11 mm long, the fused portions 4.5–8 mm long, glabrous, anthers yellow, about 1 mm long. *Ovary* about 1.5 mm long, ovoid, style 11.5–16 mm long, slender, apex curved, stigma lobed. *Capsule* 6–8 mm long, 3.5–5 mm diam., ellipsoid to globose, 2-valved, the valve apex mucronate, shortly partite; pedicel 32–35 mm long, strongly deflexed. *Seeds* 0.98–1.04 mm long, ellipsoid, blackish, seed-coat reticulate-foveate with straight thick-walled ridges.

*Calibrachoa eglandulata* is recognized by the eglandular trichomes, long and pendent branches, long and narrowly funnel-shaped corolla, long filaments, and lobed stigma. *Calibrachoa eglandulata* most closely resembles *C. linoides* (Sendtnet) Wijs-

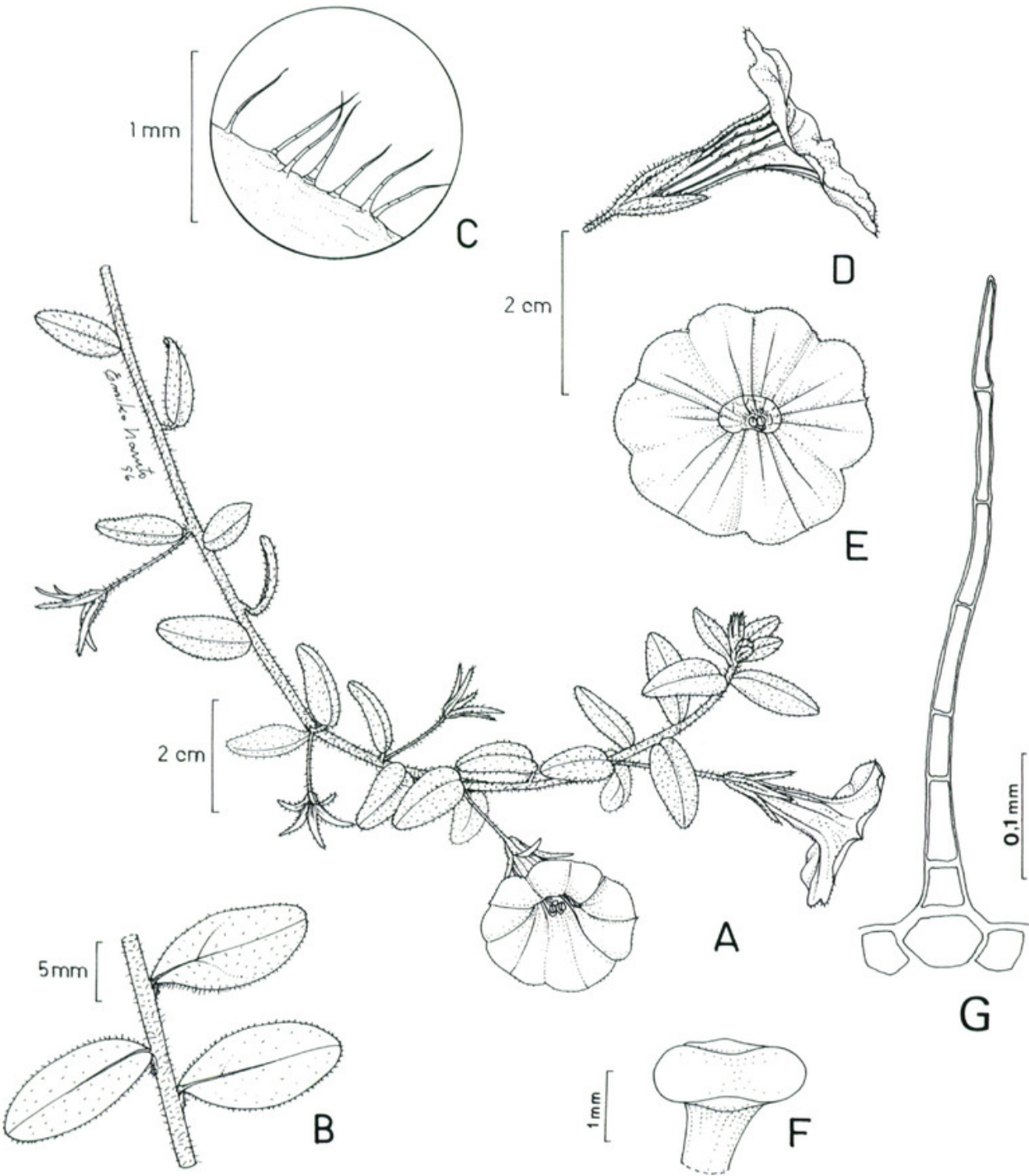


Figure 1. *Calibrachoa eglandulata* Stehmann & Semir (cultivated specimen: progeny of J. R. Stehmann 1534 & J. Dutilh, UEC). —A. Habit. —B. Vegetative stem and leaves. —C. E glandular vestiture. —D. Flower. —E. Corolla. —F. Stigma. —G. E glandular trichome.

man, a widely dispersed species in Brazil. *Calibrachoa linoides* differs in its erect habit, shorter corolla and stamens, and truncate stigma.

*Calibrachoa eglandulata* is the only species of the genus with glandular trichomes. Since glandular trichomes are found in all other species of this genus and the closely related genera *Fabiana* and *Petunia*, trichomes in *C. eglandulata* probably lost the capacity to produce a secretion.

Geographic distribution is restricted to the highlands on the border of the southern Brazilian plateau, in Santa Catarina (> 1200 m elevation). *Calibrachoa eglandulata* grows at the edge of small rocky walls, and the long, pendent branches rest over the shrub vegetation that grows at the base of the rocky walls.

*Paratypes.* BRAZIL. **Santa Catarina:** Urubici, estrada

para a Serra do Corvo Branco, 6 Dec. 1995 (fl, fr), *J. R. Stehmann 1763, E. L. Borba, A. Ippolito & C. dos Reis* (MBM, UEC); estrada para a Serra do Corvo Branco, 6 Dec. 1995 (fl, fr), *J. R. Stehmann 1764, E. L. Borba, A. Ippolito & C. dos Reis* (UEC); estrada Serra do Corvo Branco, 6 Dec. 1995 (fl, fr), *J. R. Stehmann 1765, E. L. Borba, A. Ippolito & C. dos Reis* (UEC).

***Calibrachoa dusenii*** (R. E. Fries) Stehmann & Semir, comb. nov. Basionym: *Petunia dusenii* R. E. Fries, Kongl. Svenska Vetenskapsakad. Handl. 46(5): 65–66. Tab. 3, fig. 4; tab. 7, fig. 2a–d. 1911. TYPE: Brazil. Paraná: Curitiba, 20 Oct. 1908, *Dusen 6915* (S not seen).

***Calibrachoa elegans*** (Miers) Stehmann & Semir, comb. nov. Basionym: *Petunia elegans* Miers, London J. Bot. 5: 186. 1846. TYPE: Brazil. Minas Gerais: *J. Miers 2483* (lectotype, selected here, BM).

***Calibrachoa humilis*** (R. E. Fries) Stehmann & Semir, comb. nov. Basionym: *Petunia humilis* R. E. Fries, Kongl. Svenska Vetenskapsakad. Handl. 46(5): 44–45. Tab. 6, fig. 1a–b. 1911. TYPE: Uruguay. Dept. Salto: Arapey, 26 Nov. 1894, *C. Osten 3105* (lectotype, selected here, US).

***Calibrachoa micrantha*** (R. E. Fries) Stehmann & Semir, comb. nov. Basionym: *Petunia micrantha* R. E. Fries, Kongl. Svenska Vetenskapsakad. Handl. 46(5): 61–62. Tab. 4, fig. 3; tab. 7, fig. 5a–c. 1911. TYPE: Brazil. Paraná: *Sellow 5045* (B destroyed); Tab. 4, fig. 3 (lectotype, selected here).

Original material of the basionym is missing and was probably destroyed in B. We chose the illustration found in the protologue as the lectotype because it is representative for the species and was based on the type, *Sellow 5045*.

***Calibrachoa ovalifolia*** (Miers) Stehmann & Semir, comb. nov. Basionym: *Petunia ovalifolia* Miers, London J. Bot. 5: 189. 1846. TYPE: Brazil. Rio Grande do Sul: 1835, *Isabelle s.n.* (lectotype, selected here, K).

***Calibrachoa sendtneriana*** (R. E. Fries) Stehmann & Semir, comb. nov. Basionym: *Petunia sendtneriana* R. E. Fries, Kongl. Svenska Vetenskapsakad. Handl. 46(5): 54–55. Tab. 6, fig. 7a–d. 1911. TYPE: Brazil. Santa Catarina: *Sellow 4290* (syntype, B destroyed); Santa Catarina: “am Rande der Serra do Oratório,” Feb. 1890, *Ule 1528* (syntype, B destroyed); Santa Catarina: São Joaquim, Bom Jardim da Serra, curral falso, 10 Dec. 1958, *R. Reitz & R. M.*

*Klein 7761* (neotype, selected here, HBR; isoneotypes, B, FLOR, G, K, L, US).

The syntypes of the basionym are missing and were probably destroyed in B; we could not find duplicates of them in any herbaria. The illustration in the protologue could be selected as the lectotype, but it shows only morphological details and is not a good representation of the species. For this reason we have designated a neotype.

***Calibrachoa serrulata*** (L. B. Smith & Downs) Stehmann & Semir, comb. nov. Basionym: *Petunia serrulata* L. B. Smith & Downs, Phytologia 10: 440. Tab. 11, fig. 11; tab. 12, figs. 13–14. 1964. TYPE: Brazil. Santa Catarina: São Joaquim, mountain crest, Bom Jardim, 23 Oct. 1958, *R. Reitz & R. M. Klein 7446* (holotype, US; isotypes, FLOR, HBR).

***Calibrachoa spathulata*** (L. B. Smith & Downs) Stehmann & Semir, comb. nov. Basionym: *Petunia spathulata* L. B. Smith & Downs, Phytologia 10: 440. Tab. 12, figs. 1–2. 1964. TYPE: Brazil. Santa Catarina: Porto União, waste ground, by the road to Matos Costa, 35 km S of Porto União, alt. 1200 m, 20 Dec. 1956, *L. B. Smith & R. Reitz 8907* (holotype, US; isotypes, HBR, R).

***Calibrachoa thymifolia*** (A. St.-Hilaire) Stehmann & Semir, comb. nov. Basionym: *Fabiana thymifolia* A. St.-Hilaire, Pl. Rem. Brés.: 220. Fig. 20. 1824. TYPE: Brazil. Rio Grande do Sul: in pascuis prope praedium dictum Rincao de Sanaloes, 1821, *A. St.-Hilaire s.n.* (holotype, P).

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