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# A New Species of *Clidemia* (Melastomataceae) from Brazil

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**ABSTRACT.** *Clidemia fluminensis* Baumgratz & D'El Rei Souza (section *Staphidium* (Naudin) Griseb., Melastomataceae, Miconieae), a new species from Rio de Janeiro, Brazil, is described and illustrated. The new taxon occurs in Poço das Antas Biological Reserve in alluvial forest of the Atlantic Forest ecosystem. The new species is distinguished mainly by the scandent habit, membranous leaves, terminal inflorescences, and flowers with yellow petals with an obtuse and apiculate apex. It is related to *C. conglomerata* DC. and *C. involucrata* DC., sharing the glomeruliform inflorescence, the stamen connective not prolonged or appendaged, and the pilose ovary apex.

**Key words:** Atlantic Forest, Brazil, *Clidemia*, IUCN Red List, Melastomataceae, Miconieae, Rio de Janeiro State, section *Staphidium*.

*Clidemia* D. Don (Melastomataceae) is a Neotropical, mostly lowland genus consisting of approximately 175 species (Wurdack, 1993) that are widespread in tropical and subtropical areas. In Brazil, there are about 31 species, of which 13 are endemic (Cogniaux, 1888, 1891). It is distributed from Mexico, Central America, and the Antilles into southern Brazil and Argentina, occurring mainly in the Amazon and Atlantic forests. According to Gleason (1939), *C. hirta* (L.) D. Don has been introduced in the Indo-Malaysian region.

*Leandra* Raddi, *Miconia* Ruiz & Pav., and *Ossaea* DC. are closely related to *Clidemia*, which is recognized mainly by its terminal and/or pseudo-axillary inflorescences, the floral buds with an obtuse to rounded apex, the calyx with bilobate lacinia whose external lobes are equal to or longer than the internal lobes, the petals with an obtuse or rounded apex, and the fleshy, many-seeded fruits of the bacidium type (Baumgratz, 1985).

Recent taxonomic study of the Melastomataceae in the Poço das Antas Biological Reserve in Rio de Janeiro State (Baumgratz et al., 2006), as well as examination of the literature and morphological

analysis of herbaria collections, supports the description of a new endemic Brazilian species of *Clidemia*.

The data presented were based on analysis of *Clidemia* collections, along with type photographs available in the herbaria FLOR, GUA, HB, P, R, and RB. All plant material was analyzed using a Wild Leitz M5 stereomicroscope (Wild Heerbrugg, Heerbrugg, Switzerland).

***Clidemia fluminensis*** Baumgratz & D'El Rei Souza, sp. nov. TYPE: Brazil. Rio de Janeiro: Mun. Silva Jardim, Reserva Biol. de Poço das Antas, estrada para Juturnaiba, Km 4, trilha à direita, área do Jacatirão (parcela 2b), 22°32'47.7"S, 42°18'12.6"W, 25 Oct. 2005, H. C. Lima & A. Pintor 6375 (holotype, RB; isotype, FLOR). Figure 1.

Haec species quoad cymam glomeruliformem, staminum connectivum infra thecas nec productum nec appendiculatum atque ovarium ad apicem pilosum *Clidemiae conglomeratae* DC. et *C. involucratae* DC. affinis, sed ab eis praesertim habitu scandente, lamina foliari membranacea, cymis terminalibus, petalis flavis apice obtuso apiculato, hypanthio longiore, calycis laciniis externis longioribus et antheris longioribus differt.

Climbing shrubs ca. 2 m tall; indumentum vinaceous, branches, leaves, inflorescences, bracts, and prophylls moderately to densely setose, trichomes appressed in the leaves and sparsely glandular-puberulent; branches subterete to terete, at maturity aphyllous and nodose, glabrescent, adventitious roots present. Leaves usually anisomorphic in size in each pair; petiole 0.8–4.5 cm; blade 5.2–10.5 × 3–6 cm, green, discolorous, membranous, narrowly to broadly elliptic, sometimes oblong or ovate, the base obtuse to rounded, the margin crenulate to denticulate, ciliate, the apex short-acuminate, sometimes rounded short-acuminate; 5-plinerved, the more internal pair of acrodromous veins raised 4–5 mm from the base. Cymes 2–2.5 cm, glomeruliform, terminal, with more than 20 flowers in large-bracted capitate clusters,

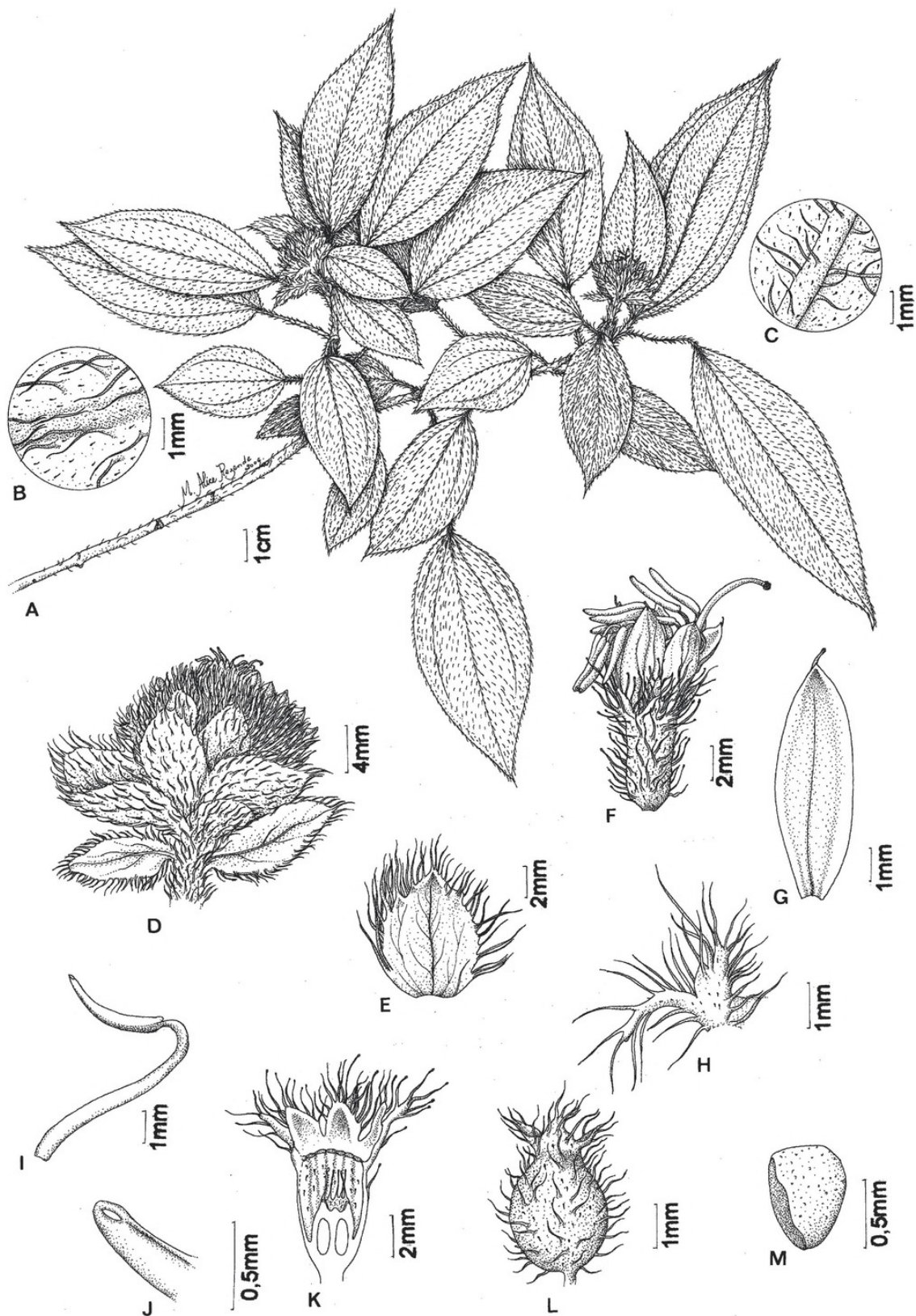


Figure 1. *Clidemia fluminensis* Baumgratz & D'El Rei Souza. —A. Flowering branch. —B, C. Leaf: indument of the adaxial and abaxial surface, respectively. —D. Inflorescence, with the flowers in large-bracted capitate clusters. —E. Bract, adaxial surface. —F. Flower. —G. Petal. —H. Bilobed lacinia of the calyx. —I. Stamen. —J. Anther, ventral pore. —K. Longitudinal section of the flower showing the partial adnation of the hypanthium to the ovary, and the prolonged, glandular-setulose ovary apex. —L. Fruit. —M. Seed. The fertile habit and floral structures (A–K) are drawn from the holotype Lima & Pintor 6375 (RB); the fruit and seed (L, M) are drawn from the paratype Luchiari 601 (RB).



peduncle 5–9 mm; bracts 7–7.5 × 5–7 mm, prophylls 4–6 × 1.7–3 mm, both foliaceous, concave, elliptic or broadly elliptic, apex acute to acuminate, apiculate, margin denticulate-ciliate, persistent. Floral buds obtuse; flowers 5-merous; pedicel ca. 0.2 mm; hypanthium and calyx moderately setose and glandular-setose, the glandular head caducous or not; hypanthium 4.5–4.6 × 2.4–2.5 mm, terete; torus thick, glabrous; calyx green, bilobed, persistent, with the tube 0.5–0.6 mm, the lobes erect, reflexed in fruit, the external lobes 2.2–2.5 × 0.4–0.5 mm, thickened, narrowly triangular, apex acute, apiculate, the internal lobes 1.9–2.1 × 0.7–0.8 mm, membranous, oblong to ovate, apex rounded, margin denticulate-ciliate; petals 5–6.5 × 1.7–2.2 mm, yellow, erect, oblong to elliptic, the apex obtuse, apiculate, with a caducous glandular trichome, glabrous; stamens isomorphic, but unequal in size, filaments 5.5–6.7 mm; anthers 3.5–4.1 mm, yellow, linear, the pore ventral, the connective not prolonged below the thecae, not appendaged; ovary half-inferior, 2.8–3 × 1.5–1.8 mm, 3-locular, the apex prolonged ca. 0.5 mm, glandular-setulose, the glandular head caducous, the style 12–15 mm, glabrous, the stigma capitate. Fruits 7–7.5 × 3.5–4 mm, of bacidium type, dark vinaceous, subglobose, urceolate, many-seeded; seeds 0.6–0.7 × 0.2–0.3 mm, obtriangular to obovate, granular.

**Distribution and habitat.** *Clidemia fluminensis* is a rare species in the Poço das Antas Reserve, restricted to the alluvial forest in shaded places adjacent to a stream.

**IUCN Red List category.** Considering that only two collections are available, the samples were collected from the same individual, and only one specimen has been found in the area until now, *Clidemia fluminensis* should be considered Critically Endangered (CR B2ab[i,ii,v]; D) according to IUCN Red List criteria (IUCN, 2001).

**Phenology.** The new species was collected in flower in October and in fruit in December.

**Etymology.** The epithet *fluminensis* is taken from a popular name for Rio de Janeiro State.

**Discussion.** Other *Clidemia* species at the type locality had already been studied (Baumgratz et al., 2006), such as *C. biserrata* DC., *C. capilliflora* (Naudin) Cogn., *C. dentata* D. Don, and *C. hirta* (L.) D. Don. The new species is easily distinguished mainly by its scandent habit, glomeruliform inflorescences with the flowers multiply aggregated in a bracteate head, yellow petals with an obtuse and apiculate apex, and yellow stamens.

*Clidemia fluminensis* belongs to section *Staphidium* (Naudin) Griseb., based on Cogniaux's works (1888,

1891). This taxonomic assignment is based on the pentamerous flowers, the leaves equal or unequal in size in each pair and similar, the persistent calyx, and the anthers not bilobed at the base.

The new species is most similar to *Clidemia conglomerata* DC. and *C. involucrata* DC. in having flowers disposed in a glomeruliform inflorescence, the stamen connective not prolonged or appendaged, and the pilose ovary apex. Both related species occur in Central America, the Antilles, and northern South America, in Amazonian forests (Cogniaux, 1888, 1891; Wurdack, 1993). They may be distinguished from *C. fluminensis* by their shrubby, nonclimbing habit; chartaceous leaves; axillary inflorescences; flowers with white petals that are rounded at the apex; shorter hypanthia (1.8–2.3 mm); smaller external lobes (0.7–0.9 mm); and shorter anthers (2.6–3 mm). *Clidemia conglomerata* may also be distinguished by the leaves with the basal veins and adaxial blade surface long-strigulose, flowers with a glandular-setulose torus, and 5-celled ovaries. *Clidemia involucrata* further differs by the leaves being 5- to 7-plinerved, the external lobes that project slightly beyond the internal ones, and the shorter petals (ca. 3 mm).

**Paratype.** BRAZIL. **Rio de Janeiro:** Mun. Silva Jardim, Reserva Biológica de Poço das Antas, ao lado do riacho, 12 Dec. 1994, C. Luchiari 601 (RB).

**Acknowledgments.** The authors thank the curators of the herbaria FLOR, GUA, HB, P, R, and RB for making their collections available; the anonymous reviewers and the scientific editor, Victoria C. Hollowell, for the relevant suggestions; and Acácia Rosar and Jefferson Prado for the review of the English and Latin manuscript, respectively. The first author gives particular thanks to Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq—Research Brazilian Council) and Fundação Carlos Chagas Filho de Amparo a Pesquisa do Estado do Rio de Janeiro (FAPERJ) for financial research support.

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Baumgratz, José Fernando Andrade and Souza, Maria Leonor D'El Rei. 2010. "A New Species of Clidemia (Melastomataceae) from Brazil." *Novon a journal of botanical nomenclature from the Missouri Botanical Garden* 20, 129–132.

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