

A NEW SPECIES OF *BEGONIA* (BEGONIACEAE) FROM THE ATLANTIC FOREST OF ESPÍRITO SANTO, BRAZIL

Ludovic Jean Charles Kollmann^{1,2} & André Paviotti Fontana¹

ABSTRACT

(A new species of *Begonia* (Begoniaceae) from the Atlantic Forest of Espírito Santo, Brazil) *Begonia mysteriosa* L.Kollmann & A.P.Fontana, a new species known only from the municipality of São Roque do Canaã in the Atlantic Forest of the state of Espírito Santo, Brazil, is described and illustrated. This new species is probably related to *Begonia barckleyana* L.B.Sm., section *Knesebeckia*, from which it differs by its leaf shape, stipule size, stigma more than two branches and pistillate flowers with six tepals. Description, diagnose, illustration and comments about the geographic distribution are provided.

Key words: *Begonia mysteriosa*, *Knesebeckia*, new species, Atlantic Forest.

RESUMO

(Uma nova espécie de *Begonia* (Begoniaceae) da Mata Atlântica do Espírito Santo, Brasil) *Begonia mysteriosa* L.Kollmann & A.P.Fontana, uma nova espécie de *Begonia* da seção *Knesebeckia*, proveniente do município de São Roque do Canaã, Espírito Santo, Brasil, é descrita e ilustrada. Essa nova espécie é próxima de *Begonia barckleyana* L.B.Sm., seção *Knesebeckia*, da qual pode ser diferenciada pelo formato da folha, tamanho das estípulas, estigma com mais de duas ramificações e flores pistiladas com 6 tépalas. São fornecidos descrição, diagnose, ilustração e comentários sobre a sua distribuição geográfica.

Palavras-chave: *Begonia mysteriosa*, *Knesebeckia*, nova espécie, floresta atlântica.

The genus *Begonia* is Pantropical and comprises about 1400 species divided among 63 sections. More than 240 species, distributed in 13 sections, occur in Brazil (Smith *et al.* 1986; Doorenbos *et al.* 1998), mostly native to the Atlantic Forest (Duarte 1961). The Atlantic Forest was recently classified as one of the 25 most important World Hotspots for conservation (Simões & Lino 2002; Mittermeier *et al.* 1999). In the Atlantic Forest *Begonia* species occupy different biotypes, such as marshes, sunlight places and wet soil, rain and dry forests, altitude vegetation and xerophytes vegetation. *Begonia mysteriosa* should be grouped in *Knesebeckia* section which species present two placentae per locule and ovules on both sides of placentae, anthers obovate and as long as the filaments.

While undertaking fieldwork in the inselberg locality of Alto Misterioso in the mountainous region of central Espírito Santo, we collected a species of *Begonia* that we describe herein as new.

Begonia mysteriosa L.Kollmann & A.P.Fontana, *sp. nov.* **Typus:** BRAZIL. ESPÍRITO SANTO: Município de São Roque do Canaã, Alto Misterioso, 950 m, 16.XI.2005, fl., fr., L. Kollmann, A.P. Fontana & R.C. Britto 8332 (Holótipo: MBML; Isótipo: RB).

Fig. 1

Species haec *Begoniae barckleyanae* L.B.Sm. *affinis, sed foliis minoribus et ovatis, stipulis majoribus et involutis ubi veteribus, floribus pistillatis 6-tepalis et stigmatibus ramis pluribus differt.*

Suffrutescent herbs 1.5–2 m tall, saxicolous, glabrous. **Stems** 1–2.2 cm in diameter, green, longitudinally 5–6-striate, internodes 1–27 cm long. **Stipules** 1.2–5.7 × 1.6–2.5 cm, reddish green, asymmetrical, deciduous, apex obtuse to acute, margins entire, rolled up before to fall. **Leaves** alternate. **Petioles** 3–9 × 0.5–0.6 cm, green. **Lamina** 14.5–19 × 6.5–9.5 cm, adaxial face glossy, green; abaxial surface green, turning red in leaves exposed to sunlight, simple,

Artigo recebido em 03/2008. Aceito para publicação em 09/2008.

¹Museu de Biologia Prof. Mello Leitão (MBML), Av. José Ruschi 4, 29650-000 Santa Teresa, ES, Brazil.

²Autor para correspondência: ludovic@limainfo.com.br

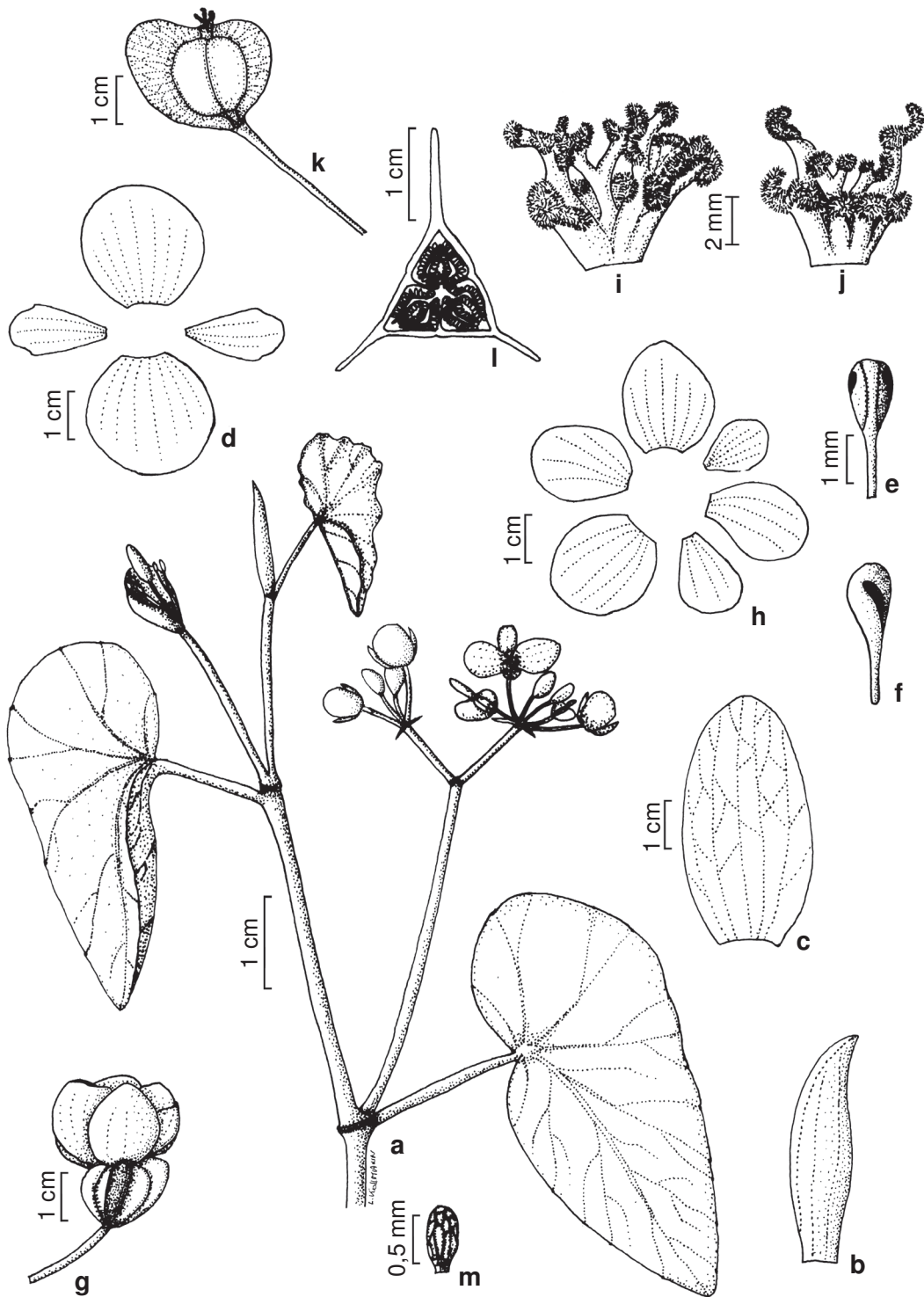


Figure 1 – *Begonia mysteriosa* L.Kollmann & A.P.Fontana – a. habit, front view; b. stipule, lateral view; c. stipule explained; d. tepals of staminate flower; e. stamen, front view; f. stamen, lateral view; g. female flower; h. tepals of pistillate flower; i. stigma, front view; j. stigma, back view; k. fruit; l. cross section of fruit; m. seed. (a-m Kollmann 8332)

asymmetrical, transversely ovate, apex acute, margins irregular, undulate, venation actinodromous, veins 6–7, prominent abaxially. **Inflorescence** 17–23 cm long, dichasium, thrice dichotomous cymes, peduncles 9–20 cm long, green, red when mature, bracts green, deciduous, first order, one, ca. 3.5 × 3.5 cm, apex obtuse, second order, one, 0.9–1.2 × 0.6–0.8 cm, third order, two, 0.66–1.1 × 0.4–5.5 cm. **Staminate flower:** peduncles 1–2.5 cm long, pink reddish; tepals four, white with pink reddish base, the outer ones 1.4–2.3 × 1.4–2.5 cm, orbicular, apex obtuse, the inner ones 0.7–1 × 0.4–0.9 cm, obovate, apex truncate to retuse; stamens ca. 55, yellow, the filaments 0.6–2.2 mm long, the anthers ca. 1.5 × 0.6 mm long, obovate, the connective not projecting, extrorse, apex obtuse. **Pistillate flower:** pedicels 2.2–2.5 cm long, red; tepals six, 1.5–2.4 × 0.9–2.2 cm, white to pink, unequal, ovate to obovate, apex obtuse; styles three, ca. 0.4 cm long, yellow, trifid, bifurcate, united at base, base flabellate, spirally twisted, stigma with flattened branches, branches different size, with bands of stigmatic papillae on the branches. **Ovary** 3-locular, placentation axile, two placentae per locule, ovules on both sides of placentae. **Capsules** ca. 1.8 × 6 cm, basally dehiscent, coriaceous when dry, opaque, wings three, rounded, larger wing ca. 2.3 × 0.8–1 cm, smaller wings 1.9 × 0.5–0.7 cm. **Seeds** ca. 0.7 × 0.3 mm, cylindrical, oblong, apex obtuse, base more narrow.

Parátipos: BRAZIL. ESPÍRITO SANTO: São Roque do Canaã, Alto Misterioso, 16.VII.2005, fl., A. P. Fontana & C. Esgario 1573 (MBML); 19.VII.2005, fl., L. Kollmann et al. 8135 (MBML); 16.IX.2005, fl., A. P. Fontana et al. 1708 (MBML).

Habitat, distribution and phenology. *Begonia misteriosa* grows in litter and humus on rocks in dry forest in inselberg habitats of Atlantic Forest at ca. 950 m. It is presently known only from the type locality in the municipality of São Roque do Canaã in the state of Espírito Santo. Flowers have been collected in July and September, and fruits in September.

Etymology. The epithet refers to the locality where the type was collected, 'Alto Misterioso'.

Conservation status: due to the apparent endemic distribution of *Begonia misteriosa* L.Kollmann & A.P.Fontana, with extent of the occurrence estimated to be less than 10 km², it seems prudent to include this form in the Critically Endangered (CR) (B2ab(iii)) according to the criteria of the IUCN (2001).

Begonia misteriosa resembles *B. barckleyana* L.B.Sm. from the southern Brazilian state of Santa Catarina with its glossy leaves, short and few-flowered inflorescences, large stipules and morphology of stamens and fruits. Nevertheless, it can be distinguished from *B. barckleyana* by its smaller leaf, leaf shape (ovate vs. elliptic), larger stipules (5.7 vs. 3 cm long), that roll up before falling (vs. straight), stigma more than two branches (vs. 2) and pistillate flowers with six tepals (vs. 5).

ACKNOWLEDGMENTS

We acknowledge the staff of the Mello Leitão Biological Museum, especially Helio de Queiroz Boudet Fernandes, Director of the Museum and Curator of MBML, for their cooperation. We also thank Jorge Fontella Pereira for the Latin diagnosis and Marcos Sobral for suggestions and help with the English version.

REFERENCES

- Doorenbos, J.; Sosef, M. S. M. & Wilde, J. J. F. E. 1998. The sections of *Begonia* including descriptions, keys and species lists. Studies in Begoniaceae VI. Wageningen Agricultural University Papers 98-2: 1-266.
- Duarte, A. P. 1961. Considerações acerca do comportamento e dispersão de algumas espécies de begônias do estado da Guanabara. Arquivos do Jardim Botânico do Rio de Janeiro 17: 57-105.
- IUCN. 2001. IUCN Red List Categories and Criteria: Version 3.1. IUCN Species Survival Commission. IUCN, Gland, Switzerland, and Cambridge, United Kingdom.

Mittermeier, R. A.; Myers, N. & Mittermeier, C. G. 1999. Hotspots Earth's biologically richest and most endangered terrestrial ecoregions. Conservation Internacional, 431p.

Smith, L. B.; Wasshausen, D. C.; Golding, J. & Karegeannes, C. E. 1986. Begoniaceae.

Part I: Illustrated key. Part II: Annotated Species List. Smithsonian Contributions to Botany 60: 1-5.

Simões, L. L. & Lino, C. F. 2002. Sustentável Mata Atlântica: a exploração de seus recursos florestais. Ed. Senac, São Paulo, 215p.