



BEGONIA TANGGAMUSENSIS, A NEW SPECIES OF *BEGONIA* SECT. *PLATYCENTRUM* FROM GUNUNG TANGGAMUS, SUMATRA AND NOTES ON ALLIED SPECIES *BEGONIA SCOTTII* AND *BEGONIA PSEUDOSCOTTII*

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ABSTRACT

HUGHES, M. & GIRMANSYAH, D. 2024. *Begonia tanggamusensis*, a new species of *Begonia* sect. *Platycentrum* from Gunung Tanggamus, Sumatra and notes on allied species *Begonia scottii* and *B. pseudoscottii*. *Reinwardtia* 23 (1): 39–43. — A new species, *Begonia tanggamusensis* Girm. & M.Hughes (§ *Platycentrum*), is described from Gunung Tanggamus in southern Sumatra, where it is endemic. It grows on moss covered rocks and at the base of large trees in montane forests at an elevation of 1,700–2,000 m. A provisional conservation assessment places the species in the Near Threatened category.

Key words: *Begonia*, conservation, endemic, moss, Tanggamus.

ABSTRAK

HUGHES, M. & GIRMANSYAH, D. 2024. *Begonia tanggamusensis*, jenis baru *Begonia* sect. *Platycentrum* dari Gunung Tanggamus, Sumatra dan catatan jenis terdekatnya *Begonia scottii* dan *B. pseudoscottii*. *Reinwardtia* 23(1): 39–43. — Jenis endemik baru, *Begonia tanggamusensis* Girm. & M.Hughes (§ *Platycentrum*), dipertelakan dari Gunung Tanggamus di Sumatra bagian selatan. Jenis ini tumbuh di bebatuan yang tertutup lumut dan di bawah pohon besar di hutan pegunungan pada ketinggian 1.700–2.000 m. Penilaian konservasi sementara menempatkan jenis ini dalam kategori terancam punah.

Kata kunci: *Begonia*, endemik, konservasi, lumut, Tanggamus.

INTRODUCTION

The genus *Begonia* is currently undergoing a rapid phase of taxonomic discovery in Southeast Asia, due to regional checklists (Hughes *et al.*, 2015b, 2020; Pham *et al.*, 2021) and increased activity by regional taxonomic specialists. Sumatra in particular has seen many species new to science published in recent years (Ardi *et al.*, 2021; Ardi & Hughes, 2010, 2018; Girmansyah, 2012; Girmansyah *et al.*, 2020, 2022; Hughes *et al.*, 2009, 2015a; Tebbitt, 2005), bringing the total number of accepted species from the island to 79, of which 72 are endemic. During a joint expedition in 2016 between the Research Centre for Biology in Cibinong and the Royal Botanic Garden Edinburgh, a *Begonia* was found and collected on Gunung Tanggamus in Lampung Province, southern Sumatra. It was tentatively identified as *Begonia scottii* Tebbitt at the time of collection, but as it was sterile a cutting was taken for cultivation. Upon flowering in cultivation at the Royal Botanic Garden Edinburgh over a year later, several differences

were noted between the plant and *B. scottii*, and it was then identified as a species new to science which is described here as *Begonia tanggamusensis* Girm. & M.Hughes (Fig. 1). As the species has a large androecium, anthers with extended connectives, and fleshy indehiscent fruit, it belongs to sect. *Platycentrum*. It differs from *B. scottii* (Tebbitt, 2005) (Figs. 2 & 3) chiefly in being glabrous (not softly hairy on the stem, leaves, and ovaries) and having much larger inflorescences of ca. 30 flowers (not ca. 5 flowers). We have included two images of *B. scottii* from different locations to show the variation of this widespread species. Also allied is *Begonia pseudoscottii* Girm. (Hughes *et al.*, 2015a) (Fig. 3), which shares large inflorescences and clusters of fruits, however *B. tanggamusensis* differs chiefly in being glabrous (not softly hairy on the stem and leaves) and having infructescences borne on a peduncle ca. 7 cm long on an arial stem (not almost sessile at the base of the plant); see Table 1 for a comparison of all three species.

Table 1. A comparison of the key distinguishing characters for *Begonia pseudoscottii*, *B. scottii*, and *B. tanggamusensis*.

	Leaf vestition	Fruits per inflorescence	Inflorescence position	Primary peduncle length	Fruit
<i>B. pseudoscottii</i>	Red hairs	10–15	Basal	ca. 1 cm	Purple, glabrous, 3 equal ridges
<i>B. scottii</i>	White hairs	2	Axillary	2–7 cm	Green, hairy, 3 short wings
<i>B. tanggamusensis</i>	Glabrous	8–12	Axillary	7 cm	Reddish-green, glabrous, one ridge enlarge

RESULTS AND DISCUSSION

Begonia tanggamusensis Girm. & M.Hughes *spec. nov.* § *Platycentrum*. Fig. 1. — TYPE: INDONESIA. Sumatra, Lampung, Gunung Tanggamus, 1,938 m elevation, growing at the foot of moss covered trees, 5°25'33.5" S, 104°40'44.5" E, 6 February 2016, Hughes, M., Barber, S., Girmansyah, D. & Kartonegoro, A. SUBOE80 (Holotype: BO!, isotype: E!), pressed from a cultivated specimen at RBGE [accession 20170076].

A robust herb. *Stem* rhizomatous, ca. 3 cm diameter, red, glabrous, internodes ca. 1 cm long; arial stems arising from the rhizome, 10–15 cm long, reddish green with pale lenticels, succulent, ca. 1 cm diameter. *Stipules* triangular, 3 × 1 cm, reddish green, glabrous, slightly keeled, aristate. *Petioles* 15–45 cm long, succulent, reddish green at the base, green at the apex, glabrous, ca. 1 cm diameter at the base, becoming more slender at the top. *Leaves* 14–23 × 10–17 cm, ovate, asymmetric; upper surface dark green with purple mottling between the veins; lower surface pale green; margin repand, denticulate; main veins 7–9, venation palmate, raised above and prominent below. *Inflorescences* with ca. 30 flowers, bisexual, protandrous, primary peduncle ca. 7 cm long, secondary 1–2 cm long, tertiary and further branching much reduced giving the appearance of two globose heads of flowers. *Bracts* ovate, boat-shaped, tip acute, translucent green, glabrous, ca. 2 × 1 cm at the base of the inflorescence, becoming smaller toward the apex. *Staminate flowers*: pedicels 1.5 cm long, glabrous, pinkish white to red; tepals 4, white, outer 2 elliptic, boat shaped, 2 × 1.7 cm, inner 2 elliptic-ovate, 1.7 × 1 cm; androecium cylindrical, with ca. 100 stamens, on a stout short column, stamens ca. 5 mm long; filaments 3 mm long; anthers 2 mm long, connective extended, acute-rounded, dehiscing through lateral slits almost as long as the anther. *Pistillate flowers*: pedicel ca. 1 cm, glabrous, pinkish white to red; tepals 5, outer two pinkish white, inner three paler

pinkish white to white, elliptic, 2 × 1.5 cm; styles three, free, bifid, stigmatic surface greenish yellow, highly convoluted; ovary green, ca. 1 × 1.5 cm, with 3 fleshy ridges, three-locular, placentae bifid. *Fruits* fleshy and succulent, indehiscent, green with red spots, ca. 1.5 × 2 cm, with 3 fleshy ridges, one ridge larger and more wing-like, ca. 8 mm across, borne in clusters of 8–12.

Other Specimen Examined. SUMATRA. Lampung, Gunung Tanggamus, 1,636 m elevation, in diverse montane forest with rattans, 5°25'30" S, 104°41'1" E, 4 February 2016, Hughes, M., Barber, S., Girmansyah, D. & Kartonegoro, A. SUBOE79 (BO, E).

Distribution. Endemic to Gunung Tanggamus, Lampung Province, Sumatra. Known from two localities represented by collections Hughes *et al.* SUBOE79 & SUBOE80, at elevations of 1,336 m and 1,938 m respectively.

Habitat and Ecology. In montane and cloud forest, growing on damp moss covered rocks or at the base of moss-covered tree trunks.

Etymology. After the type locality of Gunung Tanggamus.

Provisional Conservation Assessment. We assess *Begonia tanggamusensis* as Near Threatened according to IUCN criteria (IUCN Standards and Petitions Committee, 2022). It is only known from two small populations, however given the extent of montane forest on Gunung Tanggamus it is highly likely there are many more. Currently there are no plausible threats that would cause population decline, as the type locality is a protected area (Muhaimin *et al.*, 2018). However the mountain is deforested up to an altitude of ca. 1,100 m in places, and *B. tanggamusensis* occurs ca. 1.4 km upslope from this edge. Any further encroachment would lead to the species becoming Vulnerable.

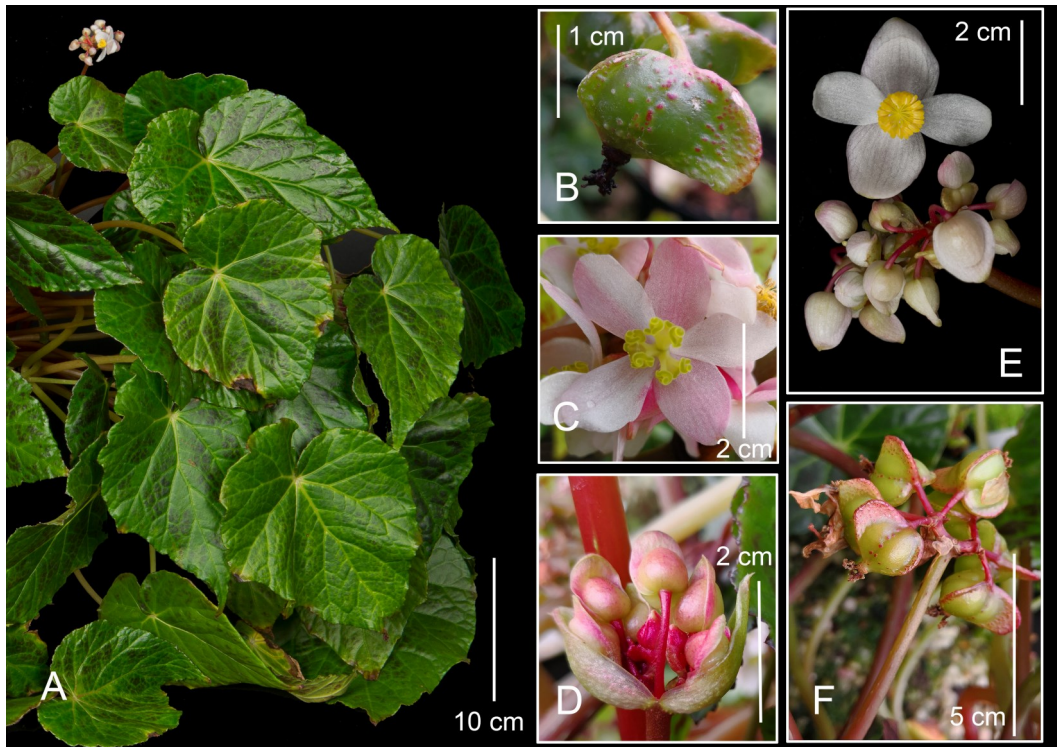


Fig. 1. *Begonia tanggamusensis* Girm. & M.Hughes. A. Habit. B. Ripe fruit. C. Pistillate flower. D. Young inflorescence with bracts subtending. E. Young inflorescence and open staminate flower. F. Infructescence. Photographs taken from a plant in cultivation at the Royal Botanic Garden Edinburgh [accession 20170076] derived from Hughes *et al.* SUBOE80. Photos by Mark Hughes.

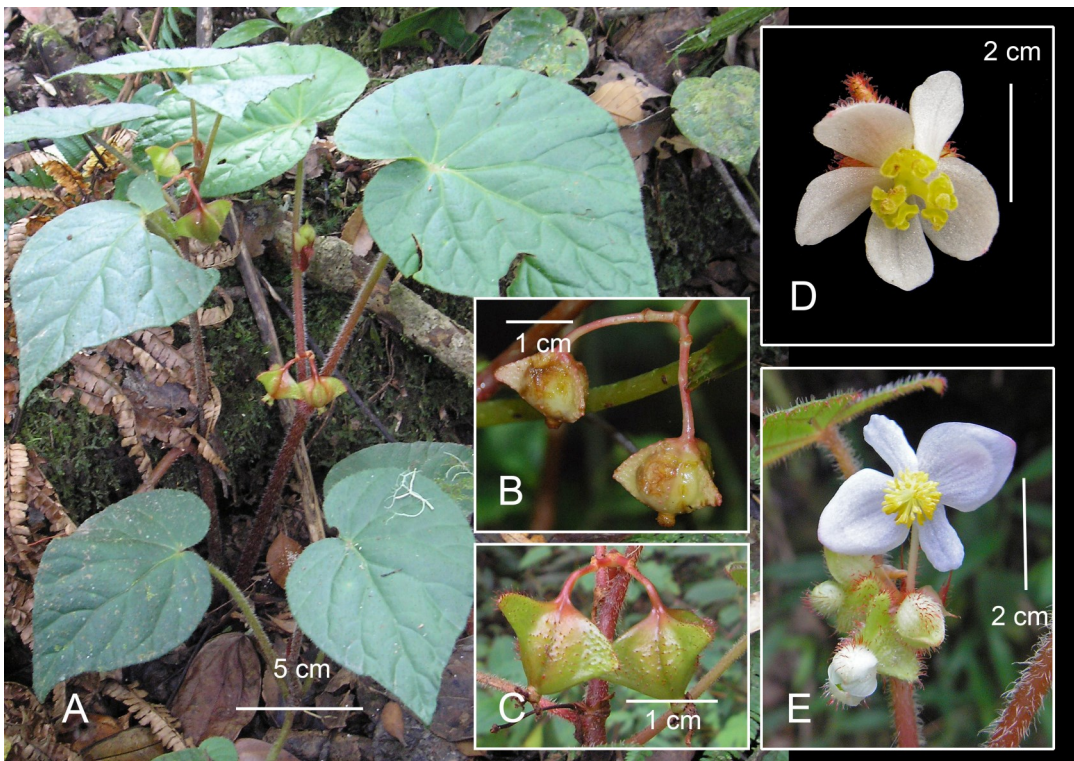


Fig. 2. *Begonia scottii* Tebbitt. A. Habit. B & C. Ripe fruits. D. Pistillate flower. E. Young inflorescence and staminate flower. Photographs A, C, D, & E from material collected from Gunung Merapi, West Sumatra (Girmansyah *et al.* DEDEN772 (BO, E)); B from a plant on Gunung Sorik Marapi in North Sumatra (no voucher). Photos by Mark Hughes (B), Deden Girmansyah (A, C, D & E).

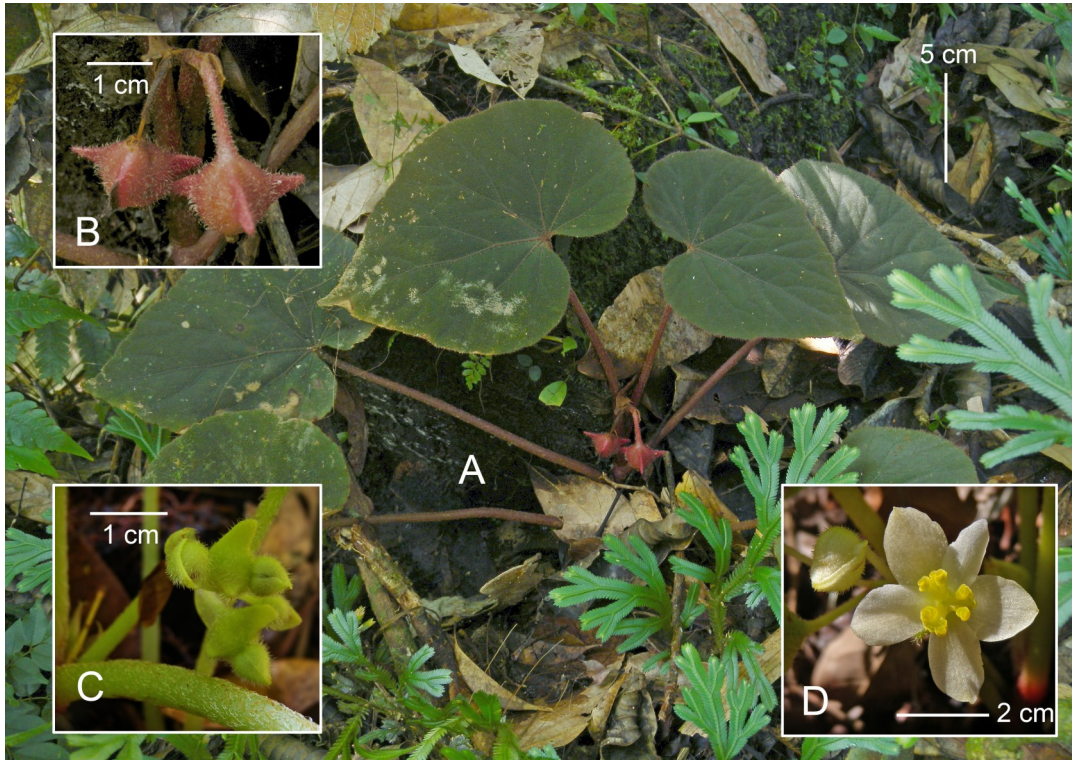


Fig. 3. *Begonia scottii* Tebbitt. A. Habit. B Ripe fruits. C. Young inflorescence with pistillate flowers in bud. D. Pistillate flower. Photographs from material collected from Gunung Kemumu, Bengkulu; A & B from Puglisi *et al.* CP184 (BO, E); C & D from Puglisi *et al.* CP217 (BO, E). Photos by Mark Hughes.

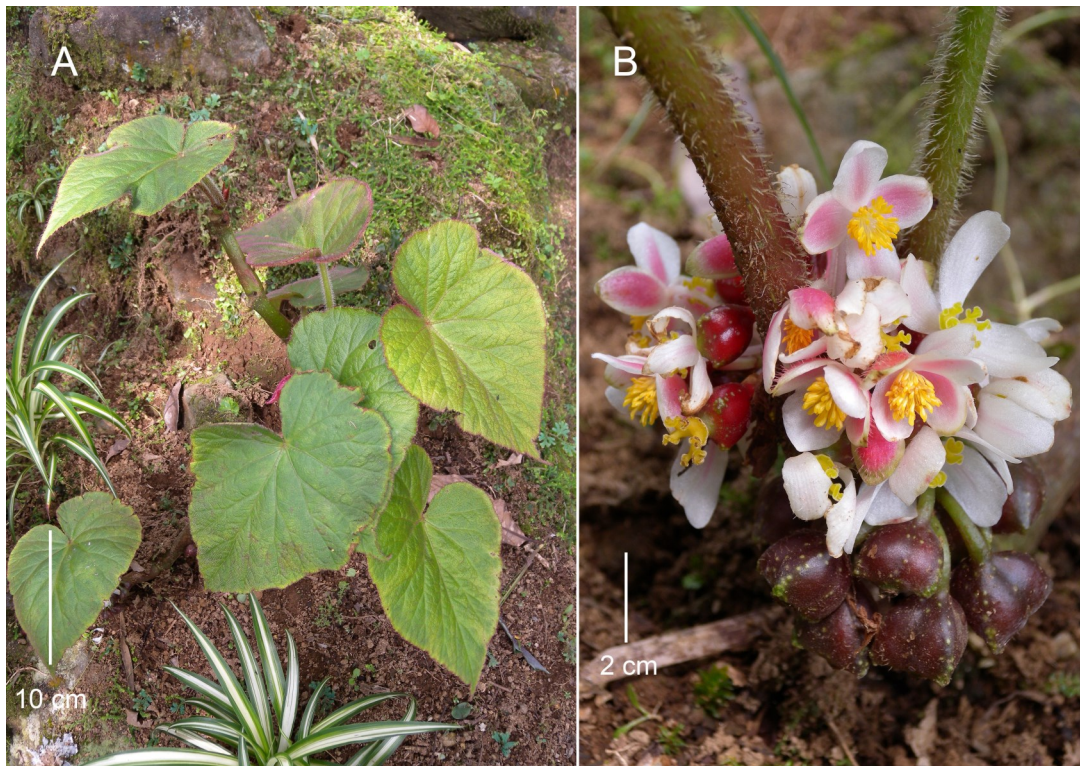


Fig. 4. *Begonia pseudoscottii* Girm. A. Habit. B. Infructescence and inflorescence with pistillate and staminate flowers. Photographs from a plant cultivated in Cibodas Botanic Garden (accession number C20090980/IY80, derived from material collected in Gunung Leuser National Park). Photos by Deden Girmasyah.

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