

## *Begonia sirindhorniana* (Begoniaceae) a new species from Thailand

THAMARAT PHUTTHAI<sup>1</sup>\*, THEERAWAT THANANTHAISON<sup>2</sup>, KUNANON DAONURAI<sup>2</sup>,  
PRIWAN SRISOM<sup>3</sup>, SOMRAN SUDDEE<sup>2</sup> & MARK HUGHES<sup>4</sup>

### ABSTRACT

*Begonia sirindhorniana*, a new species from South-Western Thailand is described and illustrated.

KEYWORDS: Epiphyte, Khao Krachom, Suan Phueng District, South-Western Thailand.

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### INTRODUCTION

*Begonia* L. is a genus of herbs that is one of the top ten largest genera of flowering plants (Frodin, 2004), currently containing 2,015 accepted species (Hughes *et al.*, 2015–) with a pantropical and subtropical distribution. In Thailand there are 59 species, usually found in shaded habitats from near sea level to ca 2,600 m altitude, frequently as lithophytes of which a high proportion are limestone endemics (Phutthai *et al.*, 2019). An epiphytic *Begonia* was discovered during a plant collecting trip to Khao Krachom at the Thailand-Myanmar border, South-Western Thailand, in August 2020, as sterile plants. The second trip was made the following September and flowers were found. Dry fruits were collected in November. The plants were growing on a large tree trunk as an epiphyte in hill evergreen forest on a mountain ridge. After a careful examination of the relevant literature and herbarium collections, the *Begonia* species was found not to match any of the other known species in the genus. It is thus here described and illustrated

The new species is named *Begonia sirindhorniana* Phutthai, Thanant., Srisom & Suddee. It has a tuberous habit, is periodically dormant, with an erect stem; the

inflorescence is an axillary, monochasial cyme with pink flowers; the staminate flowers have 4 tepals, with anthers opening via apical pore-like slits; the pistillate flowers have 2–3 tepals, 3 styles, 3-locular ovaries with 3 subequal wings and axile placentation; the fruits are dehiscent capsules with 3 unequal wings. These characters place the species in *Begonia* sect. *Diploclinium*.

### DESCRIPTION

*Begonia sirindhorniana* Phutthai, Thanant., Srisom & Suddee, **sp. nov.**

Similar in morphology to *Begonia lushaiensis* C.E.C.Fisch. but differs in being a smaller plant (5–10 cm tall vs 10–30 cm tall in *B. lushaiensis*) with most leaves arising from the tuber (vs most leaves on an erect stem), bracts lanceolate (vs sub-orbicular), leaves ovate (vs lanceolate), inflorescence a monochasial cyme (vs racemose-cymose), and having 2–3 tepals in pistillate flowers (vs 4–5 tepals). Type: Thailand. Ratchaburi Province, Khao Krachom, Suan Phueng District (Fig. 3), along the Thailand-Myanmar border, 13°35'05"N, 99°10'44"E, at 1,060 m elev., 14 Sept. 2020, fl. & fr., *Thananthaisong, Suddee, Kerdkaew, Suwannachat, Daonurai, Srisom & Rujichaipimon 201* (holotype **BKF!**; isotypes **E!**, **K!**). Figs. 1–3.

<sup>1</sup> Faculty of Environment and Resource Studies, Mahidol University (Salaya Campus), Nakhon Pathom 73170, Thailand.

<sup>2</sup> Forest Herbarium, Department of National Parks, Wildlife and Plant Conservation, Bangkok 10900, Thailand.

<sup>3</sup> 146/1 Krunghthep-Nonthaburi 42, Krunghthep-Nonthaburi Rd., Wongsawang, Bang Sue, Bangkok 10800, Thailand.

<sup>4</sup> Royal Botanic Garden Edinburgh, 20A Inverleith Row, Edinburgh, EH3 5LR, Scotland, U.K.

\* Corresponding author: [thamarat.phu@mahidol.edu](mailto:thamarat.phu@mahidol.edu)

Monoecious caulescent herbs, 5–10 cm tall. *Stems* tuberous, ovoid to subglobose with fibrous roots, aerial stem erect or ascending, fleshy, branched or not, densely white velutinous, internodes 0.5–3 cm long. *Leaves* 2–5 per plant; petiole 1.5–6 cm long, hairy; lamina basifixed, membranaceous, subsymmetric to symmetric, pilose on both surfaces, ovate to ovate-lanceolate, 2–6 by 1.2–4 cm; base subsymmetric cordate or asymmetric cordate; apex acute to acuminate,

margin irregularly dentate; venation palmate, 7–9 veins, prominent beneath. *Stipules* lanceolate, 4.5–6 mm long, glabrescent on outer part, inner part glabrous, margin coarsely fimbriate. *Inflorescences* monochasial cymes, axillary, bisexual, 2.5–9 cm long, staminate flowers basal, pistillate flowers distal, protandrous; peduncle 1–6.5 cm long, terete, hairy. *Bracts* persistent, lanceolate, 3.5–5.5 by 0.5–1.2 mm, pubescent abaxially, glabrous adaxially, margin sparsely ciliate. *Staminate*



Figure 1. *Begonia sirindhorniana* Phutthai, Thanant., Srisom & Suddee. A–C. Habit; D. Tuber; E–G. Staminate flower; H. Pistillate flower; I. Capsule; Photographs by: A, E–F, H–I by T. Thananthaisong, B, D by K. Daonurai, C, G by W. Rujichaipimon. A–H from Thananthaisong et al. 201. I from Thananthaisong et al. 289.

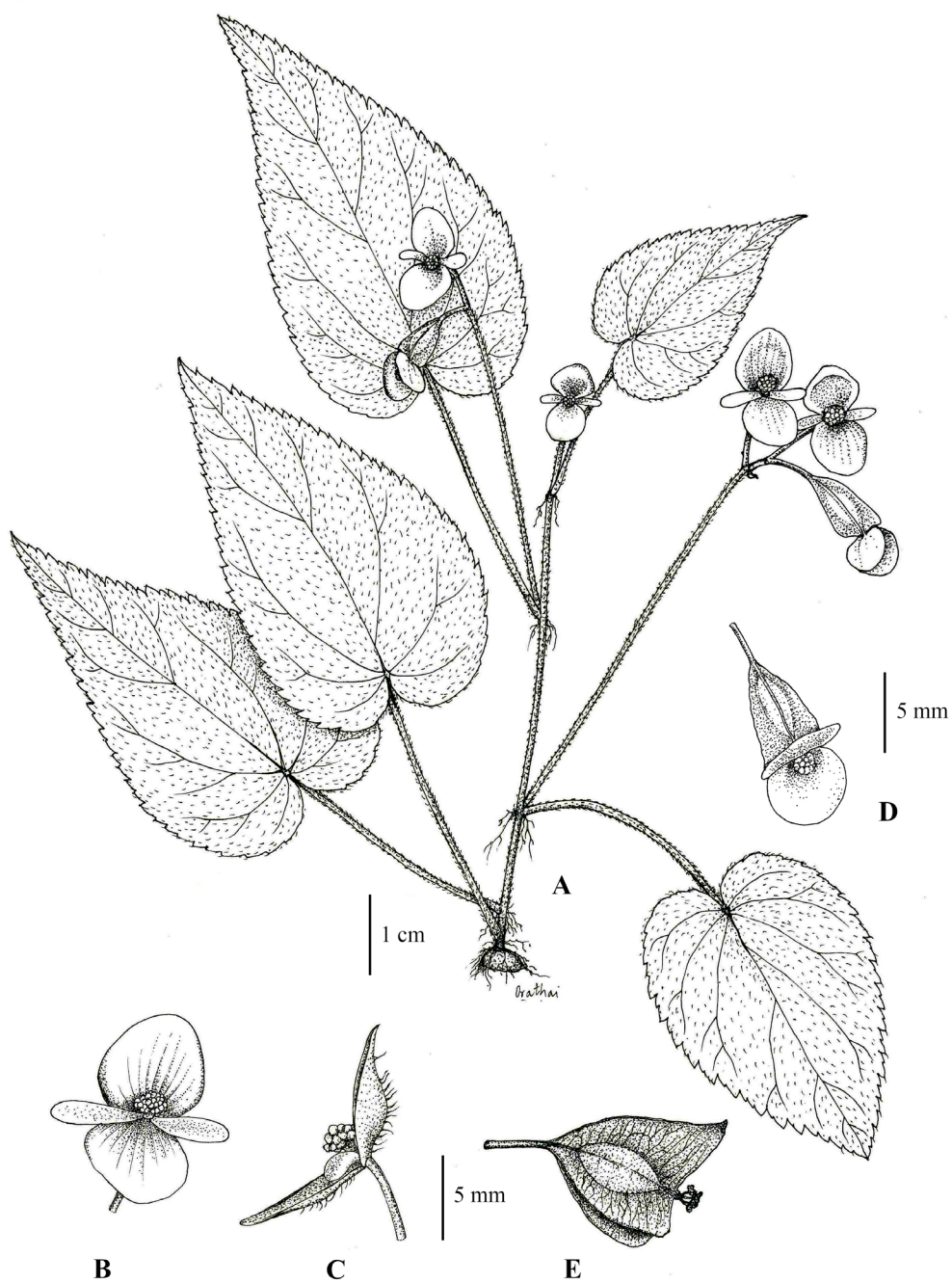


Figure 2. *Begonia sirindhorniana* Phutthai, Thanant., Srisom & Suddee. A. Habit; B–C. Staminate flower; D. Pistillate flower; E. Capsules; Drawn by O. Kerdkaew.



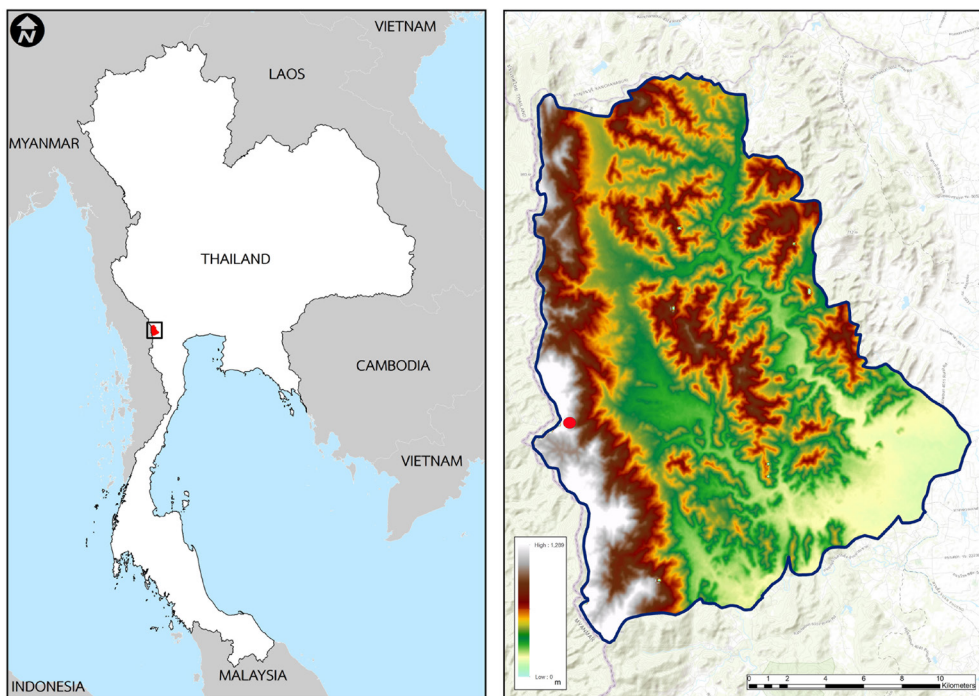


Figure 3. The distribution of *Begonia sirindhorniana* Phutthai, Thanant., Srisom & Suddee, in South-Western Thailand. Left, location of Suan Phueng District; right, location of the type locality (red dot).

*flowers*: pedicels 0.5–1.2 cm long; tepals 4, pale pink, outer 2 orbicular to ovate-orbicular, 5.5–1.2 by 4.5–9 mm, base rounded, apex rounded, margin entire, pilose on outer parts, inner parts glabrous, inner 2 linear-oblong, 3–6 by 0.8–2 mm, base cuneate, apex obtuse to rounded, margin entire, glabrous on both surfaces; androecium actinomorphic, ovoid to globose, stamens 18–25, 1.5–3 mm long, filaments fused at base, anthers obovoid, 0.5–0.8 mm long, dehiscing by apical pore-like slits near tip. *Pistillate flowers*: pedicels 0.5–1.5 cm long; tepals 4, pale pink, glabrous on both surfaces, outer 2 orbicular, 3–5 by 3.5–4.5 mm, base rounded, apex rounded, margin entire, inner 2 oblong, 0.8–1.5 by 0.6–0.8 mm, base cuneate, apex obtuse, margin entire; styles 3, fused at base, stigma crescent-shaped, minutely papillose; ovary inferior, with 3 subequal wings, 3-locular, placentas bilamellate. *Fruit* a dehiscent capsule, glabrous, drying pale brown, 0.8–1.5 by 1–1.7 cm with wings; locules oblong, 6–10 by 3–5 mm, abaxial wing triangular, 0.4–1.1 cm long, 0.6–1.4 cm wide at base, 2 lateral wings narrower, curved along capsule length. *Seed* brown, barrel shaped.

Thailand.— SOUTH-WESTERN: Ratchaburi Province [Khao Krachom. Suan Phueng District, at 1,060 m elev., 14 Sept. 2020, fl. & fr., *Thananthisong et al.* 201 (BKF!, E!, K!); *ibid.*, at 1,040 m elev., 20 Nov. 2020, dry fr., *Thananthisong et al.* 289 (BKF!).

*Distribution*.— Endemic to Thailand, known only from the type locality. Further populations may occur nearby on the Myanmar side of the border.

*Ecology*.— Hill evergreen forest, ca 1,050 m alt. Flowering & fruiting: September.

*Vernacular*.— ชมพูราชสิริน (Chom phu ratcha sirin).

*Etymology*.— The epithet is given in honour of Her Royal Highness Princess Maha Chakri Sirindhorn for her dedication to science and encouragement of conservation in Thailand.

*Provisional Conservation Assessment*.— This species is known only from one location in the Tenasserim Range along the Thailand-Myanmar border with an Extent of Occurrence (EOO) of less than 5 km<sup>2</sup>, and an estimated known Area of

Occupancy (AOO) around 0.5 km<sup>2</sup>. Although it is not known if it occurs on the Myanmar side of the border, we believe it unlikely that even if it does, the EOO and AOO would be very greatly expanded over what is known. The known population occurs on a mountain ridge which attracts high numbers of camping tourists and which is not in a protected area. The large visitor numbers throughout the year might increase disturbance and could affect the survival chances of this species. The number of mature individuals is less than 200. It is assessed here as Critically Endangered, B1ab(iii), B2ab(iii), following the IUCN criteria (IUCN Standards and Petitions Subcommittee 2019).

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