



Begonia lanuzaensis (sect. *Petermannia*, Begoniaceae) a new species from Surigao del Sur, Mindanao Island, Philippines

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Abstract

Begonia lanuzaensis from Mt. Nabuywang, Lanuza, Surigao del Sur, is described as a new species endemic to the Philippines. *B. lanuzaensis* is allied to *B. mindanaensis* and *B. agusanensis* in having oblanceolate leaves with short petioles and four-tepalled staminate flowers but is distinct in having glabrous stems and petioles; bigger, triangular and glabrous stipules and larger leaves.

Key words: *Begonia*, endemic, monoecious, Mindanao, Surigao del Sur, taxonomy

Introduction

The genus *Begonia* L. is one of the largest angiosperm genera, with ca. 2034 species. It is found in both the Neotropical and Paleotropical regions, with 143 species recorded from the Philippines (Hughes *et al.* 2015). The Philippine *Begonia* species are delimited into two sections: *Baryandra* A. de Candolle (1859: 122) and *Petermannia* (Klotzch 1855: 74) (Rubite *et al.* 2013). The former was recently delimited by Rubite (2013). Based on PNH herbarium specimens and literature there are five *Begonia* sect. *Petermannia* species collected from the Surigao provinces, and they are: *B. colorata* Warburg (1904: 54), *B. contracta* Warburg (1904: 54), *B. longistipula* Merrill (1911: 379), *B. mindanaensis* Warburg (1904: 54) and the latest discovery *B. benitotanii* (Rubite *et al.* 2021). In the quest to document medicinal plants in the province of Surigao del Sur, an interesting *Begonia* species was collected at Mt. Nabuywang, municipality of Lanuza. According to the indigenous people in the area, this *Begonia* species is used as herbal medicine to treat skin rashes. The species belongs to *Begonia* sect. *Petermannia* due to its caulescent habit and 3-locular ovaries with bifid placentae (Kiew 2005; Doorenbos 1998). We describe it here as *Begonia lanuzaensis* Blasco, Rubite, Cortes & Alejandro.

Materials and Methods

Field work was done in Lanuza, Surigao del Sur where the *Begonia* species was found with the issuance of a collection permit from the Governor of the Province, Hon. Alexander Ty Pimentel. Morphological characterization of the vegetative and reproductive parts was conducted following Rubite *et al.* (2021). Detailed examination of reproductive parts was based on preserved collections made using a Leica dissecting microscope. Plant measurements (e.g. leaves, flowers and fruits) were taken from fresh and herbarium specimens.

Taxonomy

Begonia lanuzaensis Blasco, Rubite, Cortes & Alejandro, *sp. nov.* (Figs. 1 & 2)
Sect. *Petermannia*

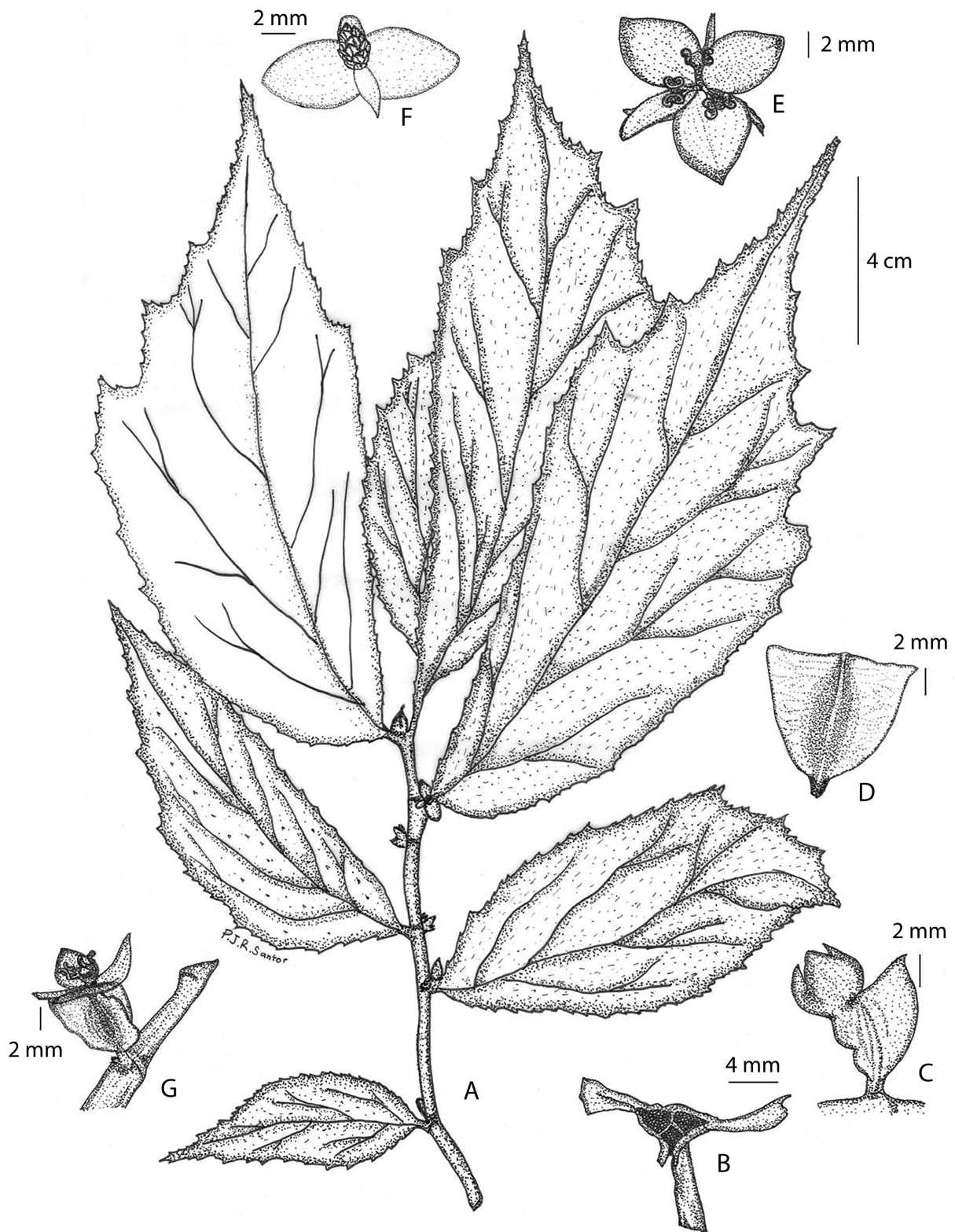


FIGURE 1. *Begonia lanuzaensis* Blasco, Rubite, Cortes & Alejandro. A. Habit; B. Cross-section of ovary; C. Female bud; D. Fruit; E. Female flower (front view); F. Male flower (front view); G. Female flower attached to the node. Illustration by: Propa Joy Santor.

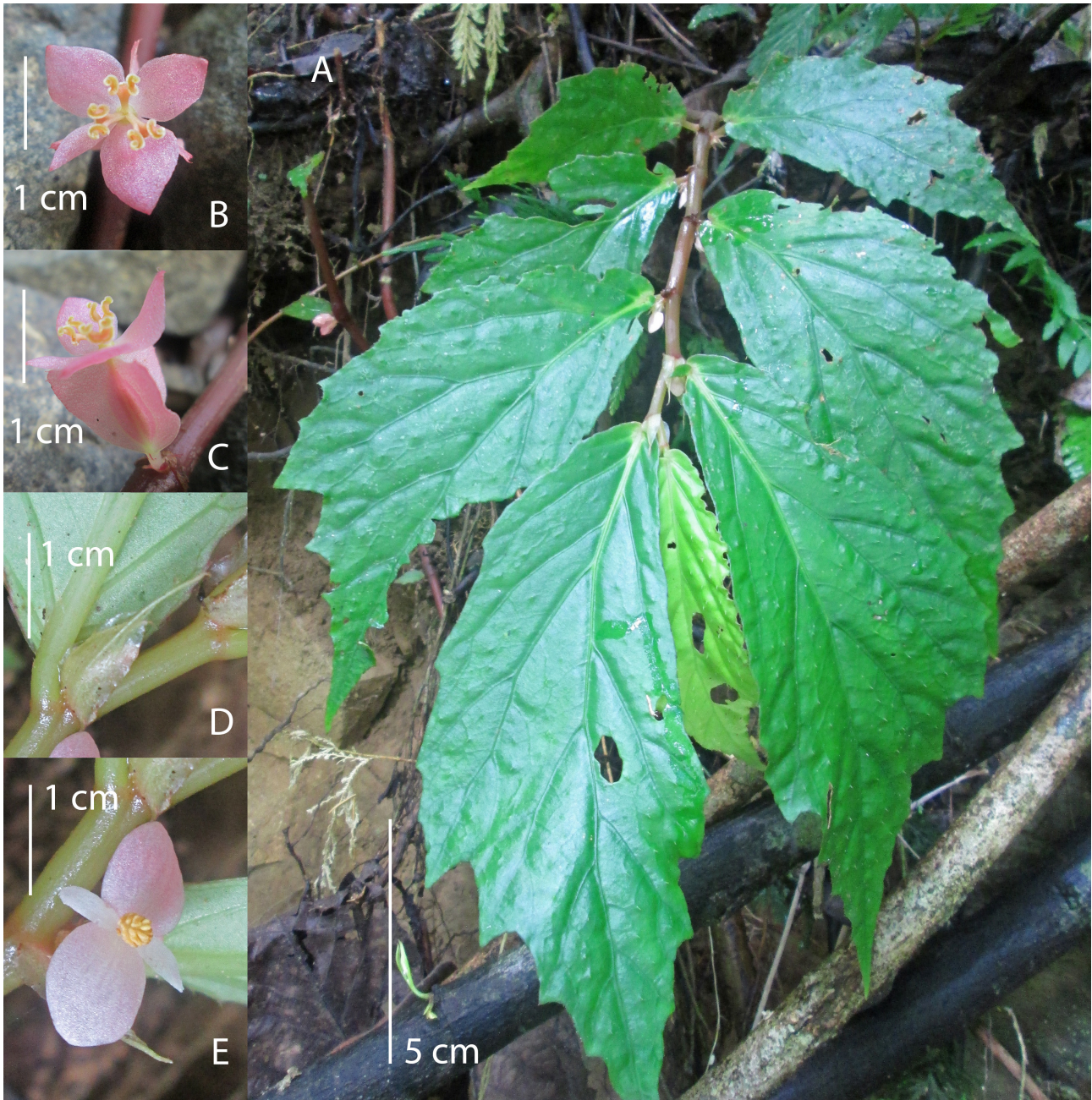


FIGURE 2. *Begonia lanuzaensis* Blasco, Rubite, Cortes & Alejandro. A. Habit; B. Female flower; C. Ovary; D. Stipule; E. Male flower.

Type:—PHILIPPINES. Mindanao Island. Surigao del Sur, Lanuza, Mt. Nabuywang, Poblacion, elev. ca. 100 m, on shady, moist rocky slopes along sides of small streams, 27 May 2013, *Freddie A. Blasco 13-910* (holotype PNH, isotype USTH).

Diagnosis:—*Begonia lanuzaensis* is similar to *B. mindanaensis* Warb. in its habit with arching stems, oblanceolate leaves with short petioles, and four-*tepalled* staminate flowers. However, the new species differs in having larger leaves (18–20 × 7–9 cm, not 7–10 × 2–4 cm) with tiny pink bristles on the margin (vs. without bristles), glabrous stipules (vs. pubescent), glabrous stems (vs. scabrid), and female flowers with 4 tepals (vs. 5).

It superficially resembles *B. agusanensis* Merr. in having erect stems and leaves with short petioles, but differs in leaf shape (base obliquely acute, not obliquely cordate) and male flowers solitary in the axils (not in many flowered cymes on a long peduncle).

Description:—Monoecious perennial herb, stands ca. 45 cm. tall. **Stem** red to brown, glabrous, erect and arching, 5–8 mm diameter, internodes 12–28 mm. **Stipules** persistent, triangular, green, 9–12 × 5–7 mm, apex acuminate, margin entire, glabrous. **Leaves** alternate, petioles terete, succulent, green, 4–6 mm long and 2–3 mm in diameter with

tiny bristles; lamina green, oblanceolate, 18–20 × 7–9 cm, apex long acuminate becoming broad at the middle and narrowing towards the base, adaxial surface shows evenly spaced bristles, glossy dark green with a prominent light green midrib and veins, abaxial surface light green and smooth, base obliquely acute, margin broadly serrate with slightly pink tiny bristles and a pink stripe along its side, hairs on the veins absent. **Inflorescences** axillary, flowers solitary. **Male flowers:** bracteoles linear, 1–2 mm × 0.5 mm; perianth segments 2+2, pink, outer pair orbicular, 6–7 × 4–5 mm inner pair linear, 3–4 mm × 1–1.5 mm, pedicel 5–7 mm × 0.5–1 mm; stamens 20–30, yellow; filaments free 0.5 mm long; anthers obovate, apex rounded, dehiscing along 2 slits that runs along the length, ca. 1 mm long. **Female flowers:** bracteoles narrowly triangular, 2–3 mm × 0.5–1 mm; perianth segments 3+1, pink, outer tepals ovate, 7–8 × 5 mm, inner tepal lanceolate, 6–7 × 3–4 mm; ovary 12 × 7 mm (wings excluded), 3-locular, placentation axillary, placentae bifid bearing ovules on both surfaces of branches; styles 3, deciduous, 2.5–3 mm long, stigma yellow, spiral. **Fruit:** pedicels 4 mm; fruit glabrous, pink, upright capsules, 1.8–2 × 1.6–1.7 cm, triangular in outline, apex truncate, the base obtuse, unequally 3-winged, abaxial wings 1–1.2 × 0.8–0.9 cm, lateral wings 1–1.2 cm × 0.5–0.6 cm.

Phenology:—Flowering is from April to June.

Etymology:—The specific epithet “*lanuzaensis*” is derived from the type locality.

Distribution and ecology:—Endemic to the Province of Surigao del Sur, Mindanao, Philippines. It grows on shady, moist rocky slopes along sides of small streams.

Proposed IUCN category:—Vulnerable (VU) under criterion D2. At the moment it is only known from the type collection site but it is likely that other populations exist in neighboring forests. The species is quite uncommon at the type locality and indigenous tribes populate the area. Some neighboring land mass is also being developed for agricultural purposes. Hence we consider this species to belong to the ‘prone to the effects of human activities or stochastic events within a very short time period in an uncertain future’.

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