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Begonia chingipengii (sect. *Baryandra*, Begoniaceae), a new species from Luzon Island, Philippines

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Abstract

Begonia chingipengii from Gabaldon, Nueva Ecija, Luzon Island is described as a new species endemic to the Philippines. This is the latest addition to the newly delimited *Begonia* section *Baryandra*. It resembles *Begonia trichochila* but is distinguished by the variegated leaves with light green veins and midrib contrasting with the dark green adaxial surface and maroon abaxial surface, and its oblique leaf is elongated with an acuminate apex. The robust variegated leaves, large flowers and extensive inflorescence make it very attractive.

Introduction

The last comprehensive account of Philippine *Begonia* Linnaeus (1753: 1056) recording 59 species (Merrill 1912), is now over a century old. Golding & Wasshausen (2002) and Hughes (2008) listed 104 Philippine species. Globally, more than 1,500 species have been described and many more are being discovered. Asia, from the Himalayas to Southern China and Malesia, is second only to South America as a center of diversity for begonias (Tebbitt 2005). In Southeast Asia, the Philippines ranks first in the number of endemic begonias, followed by Borneo (Hughes, 2008). Recently Philippine *Begonia* species are delimited into two sections: *Baryandra* A. de Candolle (1859: 122) and *Petermannia* (Klotzsch 1855: 74) A. de Candolle (1859: 128) (Rubite 2012; Rubite *et al.* 2013).

In October 2011, after securing all the necessary permits, a joint botanical expedition, between the University of the Philippines Manila, Philippine National Herbarium (PNH) and the Herbarium, Biodiversity Research Center, Academia Sinica, Taiwan (HAST) was conducted. The group visited the following provinces: Nueva Ecija, Aurora, Batangas, and Palawan. In Barangay Malinao, Gabaldon, Nueva Ecija we crossed a long stretch of dry grassy fields before we reached the Maplud River, and on rocky slopes of the river bank and almost exposed to sunlight we discovered a very robust and handsome new species that we name *Begonia chingipengii*.

Material and methods

Chromosome preparations

Somatic chromosomes of *Begonia chingipengii* were examined using root tips from plants of the type collection. The methods of pretreatment, fixation and staining for chromosome observations follow Peng et al. (2012). Classification of the chromosome complements based on centromere position at mitotic metaphase follows Levan et al. (1964). Voucher specimens (*Peng et al. 23368*, type collection) are deposited at HAST.

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TABLE 1. Comparison of *Begonia chingipengii* and *B. trichochila*

	B. chingipengii (Figures 1, 2)	*B. trichochila*
Stipule	1.8–3 × 1.8–3.2 cm, pink to maroon, keel with sparsely brown hairs (1-2 mm)	0.8–1.5 × 0.5–1.0 cm, brown, keel with long dark brown hairs (2-8 mm)
Petiole	22–35 cm long, 0.8–1.2 cm across, light brown to maroon	9–25 cm long, 0.5–0.7 cm across, red to green
Leaf blade		
Size	16–19(–32) × 13–17 cm	7–15 × 6–12 cm
Shape	Ovate	Ovate to suborbicular
Adaxial surface	Dark green with light green midrib and veins, glabrous and glossy	Green, glabrous
Abaxial surface	Maroon between the green veins	Light green
Margin	Repand to slightly dentate with brown hairs (2–3 mm)	Slightly dentate with dark brown hairs (1–1.5 mm)
Cross section	Ca. 0.46 mm thick	0.7–0.8 mm thick
Inflorescence		
Peduncle	Pink, 26–45 cm long, 8–12 mm across, densely hairy, brown to maroon color	Red, 25–33 cm long, 5 mm across, scattered brown hairs
Bract	Pink, orbicular boat-shaped, 1.2–1.4 × 1.8–2.2 cm	Green, oblong, 0.5–0.6 × 0.3–0.4 cm
Male flower	Tepals dark pink or whitish, glabrous	Tepals pink
Female flower	Outer tepals orbicular, 1.2–1.8 × 1.6–2.2 cm	Outer tepals rounded, 1.0–1.2 × 1.0–1.2 cm
Ovary	Green, pinkish, rounded in outline	Green, oblong in outline

Like a number of other species of *Begonia* in the Philippines (e.g. *B. blancii* and *B. suborbiculata*, Hughes et al. 2011) and some species in southern China [e.g. *B. leprosa* Hance (1883: 202), Peng *et al.* 2010; *B. peltatifolia* H. L. Li (1944: 209) and *B. pseudodryadis* C. Y. Wu (1995: 276), Peng, unpublished data], the clustered stomata of *B. chingipengii* (Figure 4B) and *B. trichochila* (Figure 4E) are likely to be a way in which the species copes with periodical drought or fluctuating environment (see discussion in Gan *et al.* 2010; Hughes *et al.* 2011).

In the area where *B. chingipengii* was collected, only two small populations were seen. The following day the expedition group progress farther but failed to find any other population. This is the nature of Philippine begonias—they tend to be very narrowly endemic, characterized by small populations and are often confined to a particular locality.

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