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Cover images: Begonia hooveriana Wiriad. spec. nov.

A NEW SPECIES OF BEGONIA (BEGONIACEAE) FROM SOUTH SULAWESI, INDONESIA

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ABSTRACT.

WIRIADINATA, H. 2013. A new species of *Begonia* (Begoniaceae) from South Sulawesi, Indonesia. *Reinwardtia* 13 (5): 445–448. — A new species, *Begonia hooveriana* Wiriad., is described from Tanah Toraja in South Sulawesi. It belongs to *Begonia* section *Petermannia* and brings the total number of *Begonia* species native to Sulawesi to 43 species.

Key words: Begonia, Indonesia, South Sulawesi.

ABSTRAK.

WIRIADINATA, H. 2013. Satu jenis baru *Begonia* (Begoniaceae) dari Sulawesi Selatan, Indonesia. *Reinwardtia* 13 (5): 445–448. — Satu jenis baru, *Begonia hooveriana* Wiriad. tergolong seksi *Petermannia* dari Tanah Toraja Sulawesi Selatan dipertelakan dan dilengkapi dengan foto ilustrasi sehingga menambah jumlah *Begonia* asli Sulawesi menjadi 43 jenis.

Kata kunci: Begonia, Indonesia, Sulawesi Selatan.

INTRODUCTION

The island of Sulawesi Island has a high diversity of *Begonia* species, many with ornamental potential although as yet none have been developed economically. Smith *et al.* (1986) recorded 20 species of *Begonia* from Sulawesi. In the last decade, intensive study of Sulawesi *Begonia* has revealed many new species, with the total of native species increasing to 42 (Hughes, 2006; Thomas, *et al.*, 2009a, b; Girmansyah, *et al.*, 2009).

In 1998, during a trip to Tanah Toraja, South Sulawesi the author found several identifiable species, including *Begonia aptera*, *B. hirtella*, *B. longifolia* and *B. siccacaudata*. Among the collections from Rantepao is a new species which we named *Begonia hooveriana* Wiriad. in honor of Mr Walter Scott Hoover from New England Tropical Conservatory, USA who sponsored the expedition to look for new species of *Begonia* in Indonesia.

Begonia hooveriana Wiriad. *spec. nov.* Fig. 1–7.

Begonia petermannia erecta glabra, petiola longa, folia nitida, inflorescentia femina biflora axilaria, tepalae 5 lobae alba, fructus 3 alae, infloresentis mascularis terminalis umbellatis, flos 5-8, tepalis masculis 2 lobes, glabris, albus. — Type: South Sulawesi, Central Park Makele, Tanah Toraja, South Celebes, alt. 900 m, fl, fr, 9

March 1998, WS Hoover 885 (Holotype: BO!).

Stem cane like, stout, young stem green, old stem brownish green, glossy, glabrous, nodes thickened, internodes 3-4.5 cm long, 7 mm thick, once branched, up to 100 cm long; without a tuber. Stipules pale green, erect, leathery, glabrous, oblongtriangular, base truncate, apex acute, tip ending in a needle, 2.5–3 cm long, ca. 1.6 cm wide, margin entire. Leaves distant, erect then held almost horizontally; petiole pale green, 10-24 cm long, round in cross-section, 5-7 mm in diameter; blade asymmetric, flat, shining dark green above and dull plain mid-green below, leathery in life, papery when dried, 12-14 cm long, 11-15 cm wide, broad side 7.5–9 cm wide, base cordate, basal lobes overlapping, 5-6.5 cm long, margin broadly dentatesinuate, tip acuminate; venation palmate-pinnate with ca. 6-7 main veins, branching close towards the margin, veins shallowly impressed above, beneath prominent, the same colour as the blade. Inflorescences subterminal, protogynous. Female inflorescences with 2 flowers, erect, open for 4 days, peduncle 4.5 cm long, 3 mm in diameter, green with upper part compressed; pedicels 2 cm long, 1 mm diameter; ovary whitish green, shape triangular, locule ca. 1.8 cm long, 0.3 cm thick excluding the wings, wings 3 (rarely 4), equal, green; locules 3,



Fig. 1. Begonia hooveriana Wiriad. A. Living collection showing flat shining leaf; B. Male and female inflorescences; C. Female and male inflorescence. Scale bar A & B = 2 cm, C = 5 mm. (Photo: Harry Wiriadinata).

placentas 2 per locule; tepals 5, pure white, glabrous, outer 2 tepals broadly ovate, margin entire, tip rounded, *ca.* 2.2 cm long, 2 cm wide; inner 3 unequal in size, ovate to ovate-oblong, the smallest tepal 1.8 cm long, 0.9 cm wide; styles 3, styles and stigmas yellow, 7 mm in diameter, stigmas spiral, densely woolly. *Male inflorescences* composed of 1 –2 pseudo-umbels, basal bracts ovate, concave, thin, base flat or truncate, apex acute, glabrous, *ca.* 2 cm long, 1.5 cm wide, caducous; each pseudo-umbel compose of 6–8 flowers, peduncle 2–3 cm long, bracts in pairs, whitish green becoming green, ovate triangular, 6–12 long, 2–4 mm wide, glabrous, margin entire, tip narrowing and ending in a hair; pedi-

cels up to 4 cm long; tepals 2, reniform, ca. 1.5×2.5 cm, margin entire, tip rounded, pure white, glabrous; stamens many, androecium sub-globose, 7×3 mm, on a 1 mm column; anthers pale yellow, narrowly oblong-obovate, ca. 1.2 mm long, tip notched, opening by slits. *Fruits* erect with stiff, terete stalks of 1.5 cm long; capsule 18-28 mm long, 3-5 mm wide excluding the wings, glabrous, 3 lobed, each lobe with a thin wing; wings 3 (rarely 4), equal, ca. 5 mm wide, stigma persisting, stalk 2 mm long, splitting between the locules and wings. Seeds barrel-shaped, ca. 0.3 mm long, collar cells ca. 2/3 of the seed length.



Fig. 2. *Begonia hooveriana* Wiriad. A. Female inflorescences; B. Female flowers; C. Male inflorescences; D. Male flowers, Scale bar A, C, & D = 5 mm, scale bar B = 1 cm. (Photo: Harry Wiriadinata).

Distribution. South Sulawesi, endemic.

Habitat. This species can be found from lowland to hilly areas up to altitudes of about 900 m asl, waste places and open area.

Notes. The new species is characterized by its flat shining dark green leaves that make this species is an attractive plant. Unlike any other *Begonia* in Sulawesi, the *Begonia hooveriana* is very distinct. The stem erect then arching down. Stipules in pairs, oblong with needle tip, thick, glossy green. Leaf has very long stalk, leaf blade glossy or shining at the upper surface. Flowers protandrous; female flowers grow in pairs on an erect peduncle and each flower

has 5 white incurved tepals which do not fully open when pop out, male flowers borned in separate branches, compose in pseudo-umbel inflorescences; each male flower has 2 white tepals. Fruit a capsule, it has 3 wings. It belongs to section *Petermannia*.

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REFERENCES

- GIRMANSYAH, D., WIRIADINATA, H., THOMAS, D. C., & HOOVER, W. S. 2009. Two new species and one subspecies of *Begonia (Begoniaceae)* from Southest Sulawesi, Indonesia. *Reinwardtia* 13 (1): 69–74.
- HUGHES, M. 2006. Four new species of *Begonia* (*Begoniaceae*) From Sulawesi. *Edinburgh Journal of Botany* 63 (2&3): 191–199.
- SMITH, L. B., WASSHAUSEN D. C., GOLDING, J. &
- KAREGEANNES, C. E. 1986. BEGONIACEAE Part l: Illustrated Key: Part ll: Annotated Species List. Smithsonian Contributions to Botany, No. 60. 584 pp.
- THOMAS, D. C., ARDI, W. H., HARTUTININGSIH & HUGHES, M. 2009a. Two new species of *Begonia* (*Begoniaceae*) from South Sulawesi, Indonesia. *Edinburgh Journal of Botany* 66 (2):229–238.
- THOMAS, D. C., ARDI, W. H. & HUGHES, M. 2009b. Two new species of *Begonia (Begoniaceae)* from Central Sulawesi, Indonesia. *Edinburgh Journal of Botany* 66(1): 103–114.

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