

Burmannia cryptopetala Makino (Burmanniaceae), a Newly Recorded Plant in Taiwan

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ABSTRACT: *Burmannia* comprises ca. 63 species and is one of the largest genera of the Burmanniaceae. Three species were recorded in the 2nd edition of Flora of Taiwan. In the course of our botanical inventory, *Burmannia cryptopetala* Makino was found in the northern and northeastern Taiwan, representing a new record species on this island. *Burmannia cryptopetala* is easily distinguished from other congeners by having perianth-tube 3-winged, and inner perianth-lobes lacking or inconspicuous. In this report we provide description, line drawing, and colored photographs taken from the natural habitat to aid in identification.

KEY WORDS: Burmanniaceae, *Burmannia*, *Burmannia cryptopetala*, New record, Taiwan, Taxonomy.

INTRODUCTION

The family Burmanniaceae comprises 13 genera and about 130 species (Maas-van de Kamer, 1998). Taxonomy of the family in Taiwan has been recently revised by Hsu and Leou (1996), Ohashi and Hsieh (2000), and Hsieh and Ohashi (2000). Two genera and four species were recorded in Flora of Taiwan, 2nd edition (Ohashi *et al.*, 2000). Lately Yang *et al.* (2002) reported *Thismia taiwanensis* Yang, Saunders & Hsu as a new record genus and a new species to the flora of Taiwan.

Burmannia L., one of the largest genera of Burmanniaceae, consists of 63 pantropical species (Maas-van de Kamer, 1998) of which 30 are distributed in Asia and Australia (Jonker, 1938). Ohashi *et al.* (2000) reported three species from Taiwan, of which *B. championii* and *B. liukuensis* were newly added during the past decade (Hsieh and Ohashi, 2000; Hsu and Leou, 1996). In the survey of botanical inventory, one additional species, *Burmannia cryptopetala* Makino, was found in the north and northeast Taiwan. This taxon represents a new record species on the island. This study describes the morphology of the species with a line drawing and photographs.

Key to species of *Burmannia* in Taiwan

1. Inflorescences capitate; flowers sessile; perianth-tube 3-costate to narrowly 3-winged *B. championii*
1. Inflorescences solitary or cymous; flowers pedicellate; perianth-tube 3-winged
 2. Inner perianth-lobes lacking or inconspicuous; flowers whitish *B. cryptopetala*
 2. Inner perianth-lobes conspicuous

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- 3. Flowers blue or purplish; inner perianth-lobes visible from outside *B. itoana*
- 3. Flowers whitish; inner perianth-lobes enclosed within *B. liukiensis*

Burmannia cryptopetala Makino, Bot. Mag. (Tokyo) 27: 3. 1913.

透明水玉簪 Figs. 1, 2A & B

Small saprophytic plants. Stem white, 5-7 cm tall, usually unbranched. Cauline leaves scale-like, alternate, triangular-lanceolate, 3-5 mm. Inflorescences terminal, flower solitary or 2-4 forming dichotomous cymes. Flower sessile or shortly pedicellate. Perianth 3-winged, wings ca. 1.5 mm wide, narrower in lower part, white, tube 5-8 mm. Outer perianth-lobes 3, light yellow, ovate, ca. 3 mm, apex acute; inner lobes lacking or very small. Stamens 3, sessile or subsessile, inserted at throat of corolla, anther connective basally spurless, apical appendages crested and apically obtuse. Ovary ovoid, 4-5 mm; style 3-4 mm, apically 3-branched; stigma spheroid. Capsule obovoid, with numerous seeds.

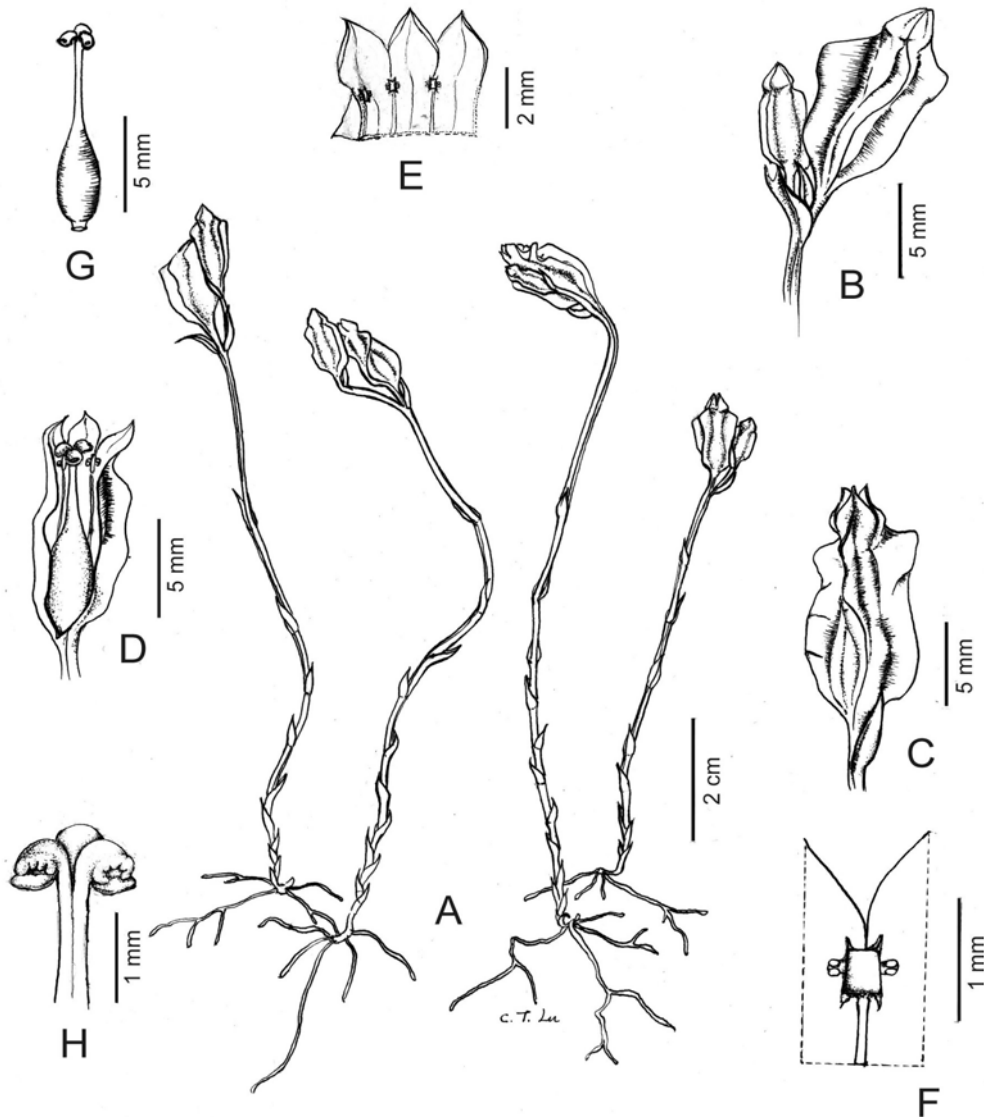


Fig. 1. *Burmannia cryptopetala* Makino. A: Habit. B: Inflorescence. C: Flower. D: Dissected flower. E: Perianth and stamen. F: Stamen. G: Gynoeceium. H: Stigma.



Fig. 2. *Burmannia cryptopetala* Makino (A & B) and *Burmannia liukuensis* Hayata (C & D). A: Habit. B: Infructescence. C: Habit. D: Inflorescence.

Distribution: Japan and China (Hainan) (Li, 1983). In Taiwan, found in the litter layer of warm temperate broad-leaved forest dominated by Fagaceae and Lauraceae at low elevations in the northern and northeastern part.

Specimen examined: TAIWAN. Taipei Co.: Wulai, Yun Hsien Holiday Resort, *Chung & Yu 8010* (TAIF). Ilan Co.: Taiwan Forestry Research Institute, Fushan Research Station, *Chang 6245* (TNU; TESRI, Taiwan Endemic Species Research Institute).

Notes: All the Taiwan species of *Burmannia* are entirely achlorophyllous and clearly holomycotrophic. The new record *B. cryptopetala* most closely resembles *B. liukuensis* (Figs. 2C & D) among the species of Taiwan. Both species are white and possess conspicuous 3-winged perianth. However, *B. liukuensis* has small but conspicuous inner perianth-lobes which is lacking or inconspicuous in *B. cryptopetala*.

Geographically, almost all the Taiwan species of *Burmannia* reveal the distribution pattern of southern Japan-Taiwan-southern China. Previous documents (Li, 1983; Shimabuku, 1997) show that *B. cryptopetala* was disjunctively distributed in southern Japan and southern China (Hainan). The discovery of this species in Taiwan links the missing gap, as that of *B. championii* (Hsieh and Ohashi, 2000).

Most species of *Burmannia* display restricted and allopatric distribution within Taiwan except *B. itoana* which is widespread throughout the island. *Burmannia championii* only grows at the low elevations of Lanyu, a tropical small island offshore southeastern Taiwan (Hsieh and Ohashi, 2000); *B. liukuensis* is confined in the bamboo plantation at central part (Hsu and Leou, 1996); while *B. cryptopetala* is a lowland species in Fagaceae and Lauraceae forest at the northern and northeastern Taiwan.

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台灣水玉簪科的新紀錄植物—透明水玉簪

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摘 要

水玉簪屬為水玉簪科植物中最大的一個屬，包含有約 63 種，台灣植物誌第二版紀錄有 3 種，最近我們在北部與東北部植物調查時發現另一新紀錄植物—透明水玉簪 (*Burmanna cryptopetala* Makino)，該植物以其花被筒具 3 翅，內花被缺或極不顯著而不同於台灣所產該屬的其他植物，本文提供該種的形態描述、形態描繪圖與彩色圖片。

關鍵詞：水玉簪科、水玉簪屬、透明水玉簪、新紀錄、台灣、分類。

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