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RESEARCH ARTICLE

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A new species of *Argostemma* (*Rubiaceae*) from Mount Victoria, Myanmar

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Key words

Argostemma
Myanmar
Rubiaceae
subfamily *Rubioideae*
tribe *Argostemmateae*

Abstract *Argostemma victorianum* (*Rubiaceae*) is described and illustrated as a new species from the Natma Taung (Mt Victoria) National Park, western Myanmar. It is characterized by the combination of solitary or 2-flowered inflorescence with indistinct peduncle, relatively large, white, bell-shaped flowers in comparison with the small size of the plant, and having globose tubers. This species is epiphytic on wet and densely mossy tree trunks at c. 2 500 m altitude on Mt Victoria.

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INTRODUCTION

Field expeditions to the Natma Taung (Mt Victoria) National Park, Chin State, western Myanmar have been conducted by a team from the Makino Botanical Garden and the Botanical Gardens of the University of Tokyo, in cooperation with the Forest Department, Union of Myanmar Ministry of Forestry, since 2002. The Natma Taung National Park is located in the southwestern part of Myanmar, in the so-called 'Chin Hills'. Mount Victoria (21°12' N, 93°35' E) is the highest mountain (3 053 m) in this range, which extends northwards along the western border of the country, adjoining the Himalayas in northeast India and Kachin State, where the towering Mt Khakaborazi is located. Mount Victoria is regarded as an ecological island, offering a temperate climate that is otherwise absent in the vicinity (Tanaka 2005). During an expedition in 2002, an undescribed species of the genus *Argostemma* Wall. (*Rubiaceae*) was discovered. It is described as *Argostemma victorianum* and illustrated here.

Argostemma is a genus containing over 200 species of perennial herbs (Bremer 1989), belonging to the subfamily *Rubioideae* tribe *Argostemmateae* Bremek. ex Verdc. (Bremer 1987, Bremer & Manen 2000). In the system of Bremer & Manen (2000), the members of the tribe consist of two genera, namely, *Argostemma* and *Mycetia*. The genus *Argostemma* is distributed widely in tropical and subtropical Asia with two species in west tropical Africa (Robbrecht 1988, Bremer 1989, Mabberley 1997, Sridith 1999, Sridith & Puff 2000). From Myanmar, thus far six species have been recorded (Kress et al. 2003).

Argostemma victorianum Nob.Tanaka, *sp. nov.* — Fig. 1, 2

Ab omnibus speciebus generis *Argostemmatis* planta tota exigua, 6–8 cm alta cum flora majore, 1–1.8 cm diametro et tubere globoso ferente differt. — Typus: *N. Tanaka*, *T. Sugawara*, *N. Murakami*, *K. Aoki*, *S. Sakai*, *K. Watanabe* & *Khin Myo Htwe 023632* (holo MBK; iso RAF, TI), Myanmar, Chin State, along roadside between Mt Victoria and Mindat, 2500–2550 m alt., 8 June 2002.

Plant (4–)6–8 cm tall, epiphytic on densely mossy tree trunks. *Rhizomes* (tuber) globose, 0.4–0.9 cm diam. Stem erect, unbranched, glabrous. *Leaves* opposite, usually in one extremely anisophyllous pair, occasionally in pseudo-whorled arrangement of 2 pairs, elliptic, acute at base, 0.7–2(–4) cm long, 0.2–0.3 cm wide, midrib with several pairs of ascending prominent lateral veins, hairy on upper surface, glabrous on lower surface, sessile; stipules ovate, 4–5 mm long, 1–3 mm wide, pubescent along margin and lower surface. *Inflorescence* of a single or occasionally of two flowers. *Flowers* 5-merous, slightly zygomorphic, 1–1.8 cm diam, 1–2 cm long; calyx 5-lobed, persistent; calyx lobes 5, slightly fimbriate, 0.5 cm long, 0.2 cm wide; corolla white, bell-shaped with short tube, lobes 5, spreading venation conspicuous, entirely glabrous; corolla lobes 0.5–0.8 cm long, acute at apex; corolla tube 3–5 mm long; pedicels 1.5–2 cm long; stamens 5 inserted to the base of corolla tube; anthers dull yellow, 3 mm long, c. 0.7 mm wide; filaments 3–4 mm long, free; ovary inferior, globose, 2-locular, with many ovules, on axillary placenta; style filiform, 6–8 mm long; stigma not lobed, capitate. *Fruits* unknown.

Distribution — West Myanmar (Mt Victoria).

Habitat & Ecology — Epiphytic on wet and densely mossy tree trunks in moist evergreen forest, c. 2 500 m in altitude.

Notes — Thus far known only from the type locality. Since further floristic research in other areas within the Natma Taung National Park failed to locate this species, it is likely to be rare. *Argostemma victorianum* is clearly characterised by a combination of solitary or 2-flowered inflorescence with indistinct peduncle, relatively larger, white, bell-shaped flowers, compared to the small size of the plant, and also globose tubers. The specific epithet is named after the type locality, Mt Victoria.

We also examined the sequences of *rbcL* gene, *atpB-rbcL* region and *rps16* intron of the new species, using the published primers of each region. The DNA extraction, PCR amplification and sequence detection were performed using the procedure of Ohi-Toma et al. (2006). Sequences determined in this study were registered with the DNA Data Bank of Japan (DDBJ), which is linked to GenBank (accession numbers: AB444629 for *rbcL*, AB444630 for *atpB-rbcL*, AB44631 for *rps16* intron). Further study will be required to clarify the phylogenetic relationship of the new species.

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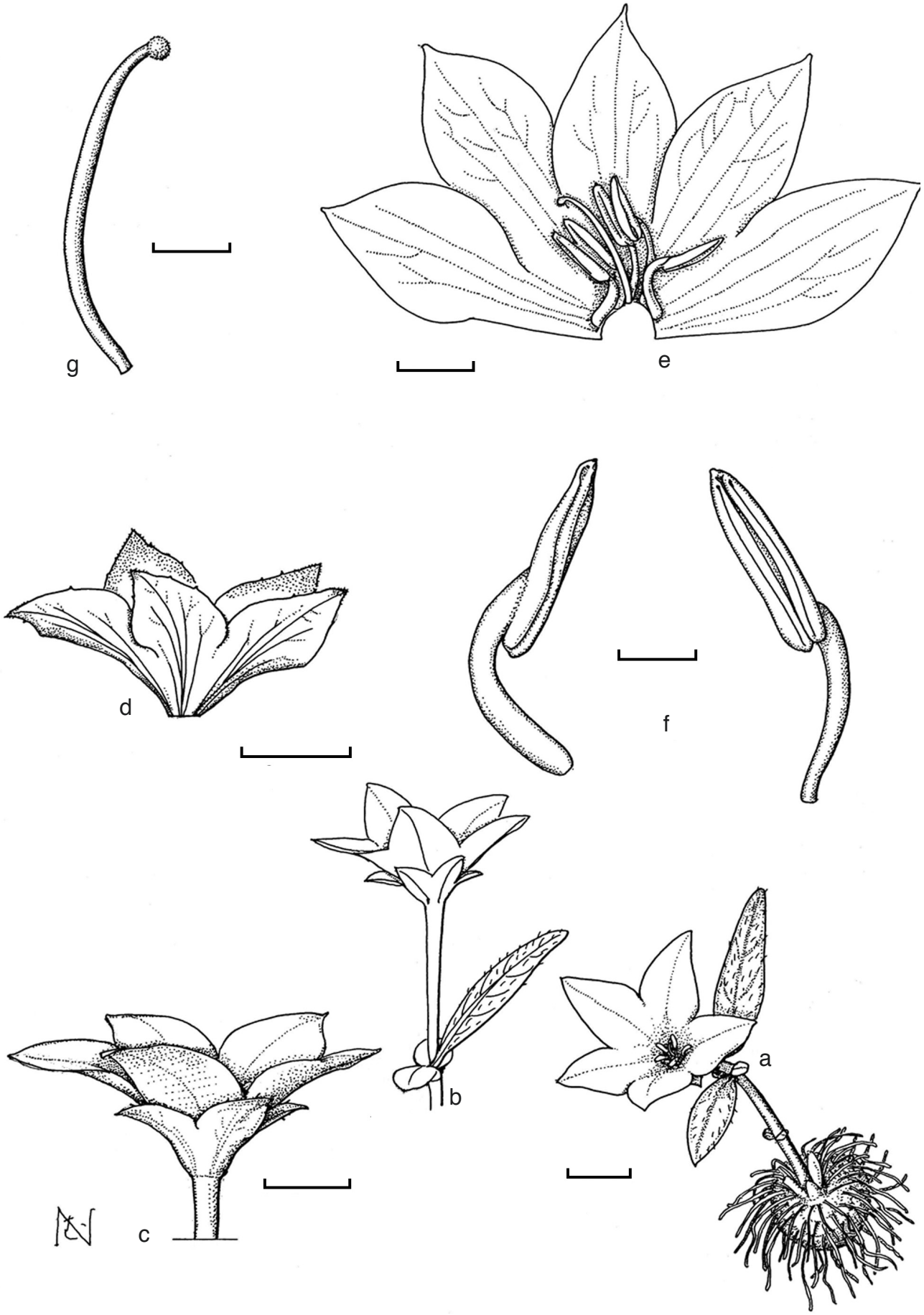

Fig. 1 *Argostemma victorianum* Nob.Tanaka. a. Habit; b. side view of inflorescence; c. side view of flower; d. bract; e. stamens and style; f. stamens; g. style (all: *N. Tanaka et al. 023632,* MBK). — Scale bars: a = 5 mm; b–e = 3 mm; f, g = 1 mm.

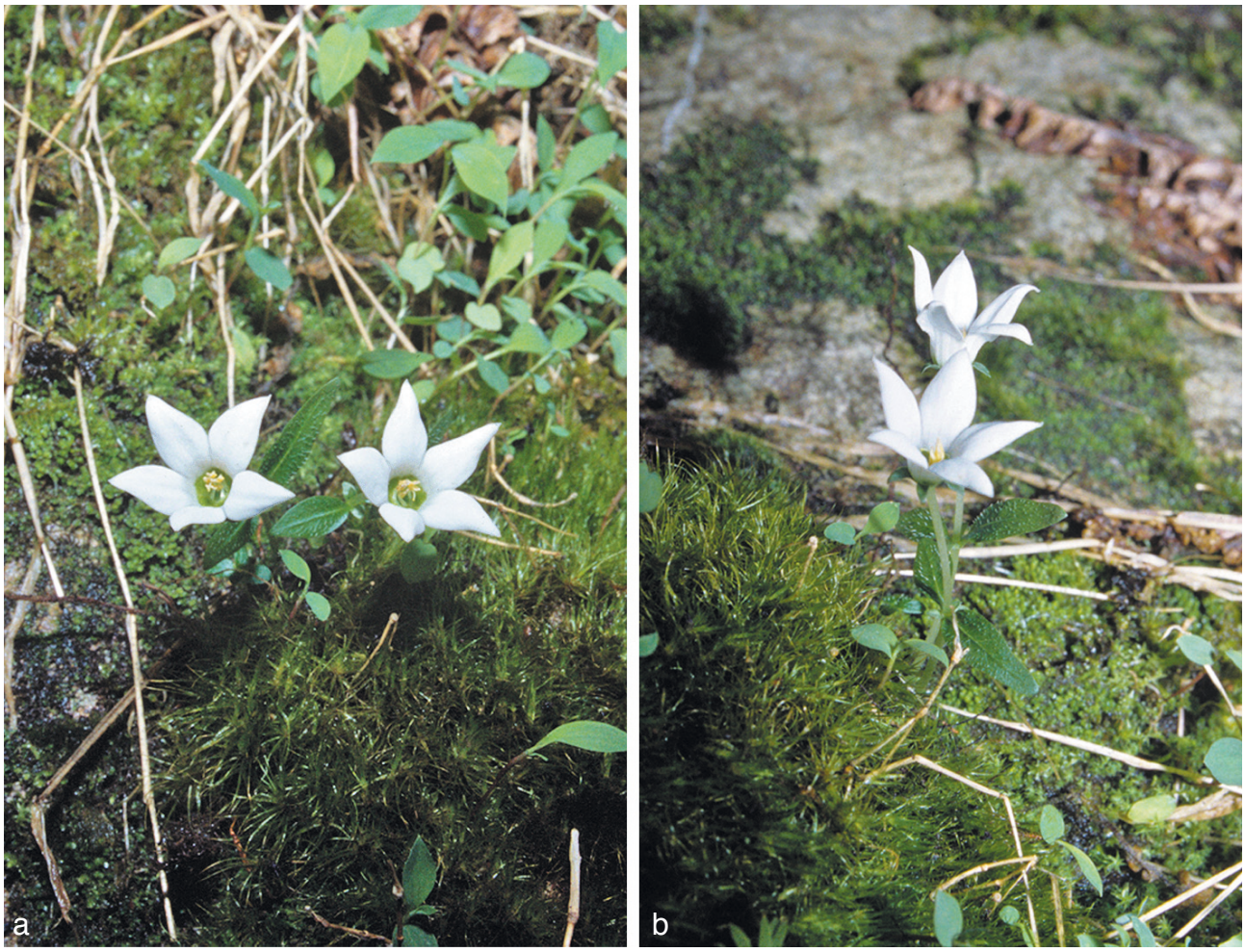

Fig. 2 Habit of *Argostemma victorianum* Nob.Tanaka. The plant is epiphytic on densely mossy tree trunks at c. 2 500 m altitude, Natma Taung National Park, western Myanmar. a. Front view of the plant; b. side view of the plant.

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