

Asystasia gangetica (L.) T. Anderson subsp. *micrantha* (Nees) Ensermu (Acanthaceae), A Newly Naturalized Plant in Taiwan

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ABSTRACT: *Asystasia gangetica* (L.) T. Anderson subsp. *micrantha* (Nees) Ensermu, an Acanthaceae species native in Africa, India and Sri Lanka, has been recently found naturalized in the southern Taiwan. The naturalization of *A. gangetica* subsp. *micrantha* adds a new element to the flora of this island. *Asystasia* is easily distinguished from other genera of the Acanthaceae by corolla being zygomorphic, 4 stamens, 4-seeded and distinctly stipitate capsule. *A. gangetica* subsp. *micrantha* is characterized by ovate to oval leaves, and white flowers. This paper provides description of the genus and species, line drawing, and photographs.

KEY WORDS: Acanthaceae, *Asystasia gangetica* subsp. *micrantha*, naturalized plant, Taiwan, taxonomy.

INTRODUCTION

The family Acanthaceae comprises of 250 genera (Long, 1970) and ca. 4,400 species (Takhtajan, 1997). Fifteen genera and thirty-two species were recorded in the revised Flora of Taiwan (Hsieh and Huang, 1998). Taxonomy of the family in Taiwan has been recently revised by Hsieh *et al.* (1999), Tseng and Ou (2002), Hsu and Chung (2003), and Seok *et al.* (2004). In the survey of botanical inventory, one additional weedy species, *Asystasia gangetica* (L.) T. Anderson subsp. *micrantha* (Nees) Ensermu, was found naturalized in the southern Taiwan. This taxon represents a new record for the genus and the species on the island. The genus *Asystasia* Blume, consisting of 70 species, is distributed in the Old Tropics (Mabberley, 1997), chiefly in the India and Africa (Long, 1970). This study describes the morphology of the genus and species with a line drawing and photographs.

TAXONOMIC TREATMENT

Asystasia Blume

馬偕花屬 (新擬)

Herbs perennial. Leaves ovate to lanceolate, entire or somewhat dentate. Inflorescences terminal racemes or spikes, unilateral; bracts linear to narrowly deltoid; calyx lobes 5; corolla zygomorphic, purplish, blue, yellow, and white, the limb lobes 5; stamens 4, didynamous; anthers 2-loculate; style subulate; ovary with 2 ovules per locule; capsule distinctly stipitate; seeds 2-4, compressed orbicular.

About 70 species in the world, distributed in Africa, India, mainland China, and Australia.

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Asystasia gangetica (L.) Anderson subsp. *micrantha* (Nees) Ensermu in Proc. 13 Plenary Meet. AETFAT, Zomba 1: 343. 1994. 小花寬葉馬偕花 (新擬) Figs. 1 & 2

Asystasia coromandeliana Nees var. *micrantha* Nees, in DC., Prodr. 11: 165. 1847.

Herbs perennial, erect, 15 to 60 cm tall, basal stems procumbent, stems square with scattered hairs. Leaves opposite, ovate, 4-9 cm long, 2-5 cm wide, obtuse at apex, acute to round at base, entire, the lateral nerves 5-8-paired. Inflorescences terminal racemes, often unilateral; bracts 3, deltoid, minute; calyx lobes 5, linear, 4-5 mm long, about 1 mm wide, setaceous; corolla zygomorphic, about 1.0-1.3 cm in diameter, white, bell-shaped, corolla-tube 1.5-2.0 cm long, straight, narrow, the throat campanulate, the limb lobes 5, lobes near orbicular, 4 mm in diameter, under one has purple blotches inside; stamens 4, didynamous, included, filament 3-5 mm long; anthers 2-loculate; style 2.5 mm long; ovary with 2 ovules per locule. Capsule club-shaped, 2.0-2.5 cm long, 4 mm diameter, distinctly stipitate, pubescent, enclosed in persistent calyx; seeds 2-4, about 3 mm in diameter, compressed orbicular.

Specimen examined: TAIWAN. Tainan Co.: Baihe Town, Kuanziling, Hongye Park, meadow, locally abundant, Jan. 26, 2005, T. W. Hsu & J. J. Peng 11756 (TESRI, Taiwan Endemic Species Research Institute).

Asystasia gangetica subsp. *micrantha* is a weed, native in Africa, India and Sri Lanka. Nodes form roots when they make contact with moist soil, ultimately forming mats or sprawling mass stems. Given such asexual propagation and lack of natural predators, the plants are highly invasive and become notorious weeds. The introduction of this weed has caused serious disturbance to natural habitats, particularly in Malaysia, Indonesia and the Pacific islands (Kiew and Vollesen, 1997). At the newly invaded habitats, the taxon spreads very fast and infests plantations, particularly oil-palm crops, and competes effectively for soil nutrients, subsequently reducing productivity and increasing crop management costs (Weed Management Guide, 2003). Accordingly, this accidentally introduced species, likely via seed mixing with imported landscape plant seedling, has a high potential of becoming an agricultural weed in Taiwan.

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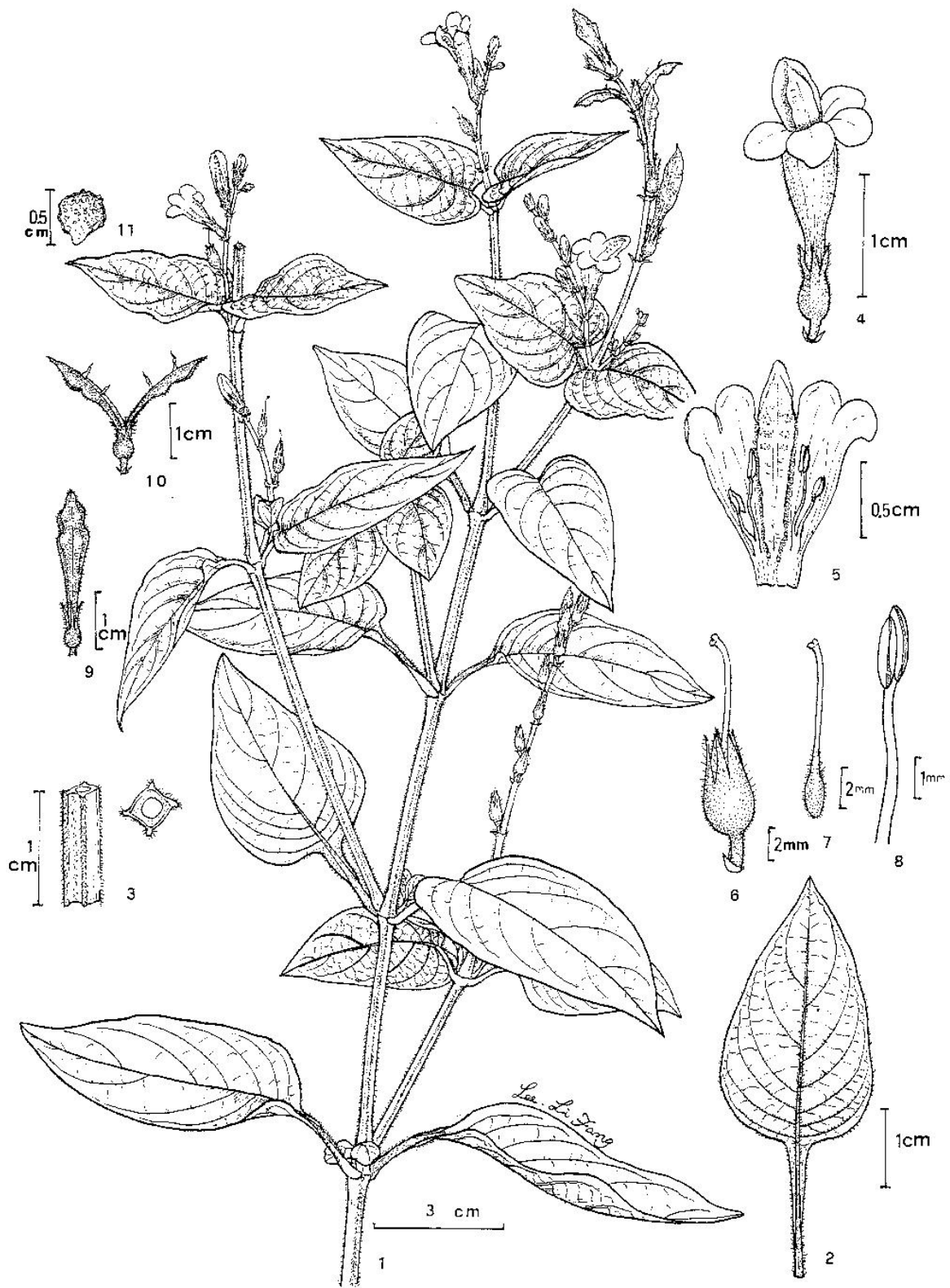


Fig.1. *Asystasia gangetica* ssp. *micrantha*. 1: Habit. 2: Leaf. 3: Part of a stem. 4: Flower. 5: Corolla and stamens. 6: Calyx and pistil. 7: Pistil. 8: Stamen. 9: Capsule. 10: Empty capsule. 11: Seed.

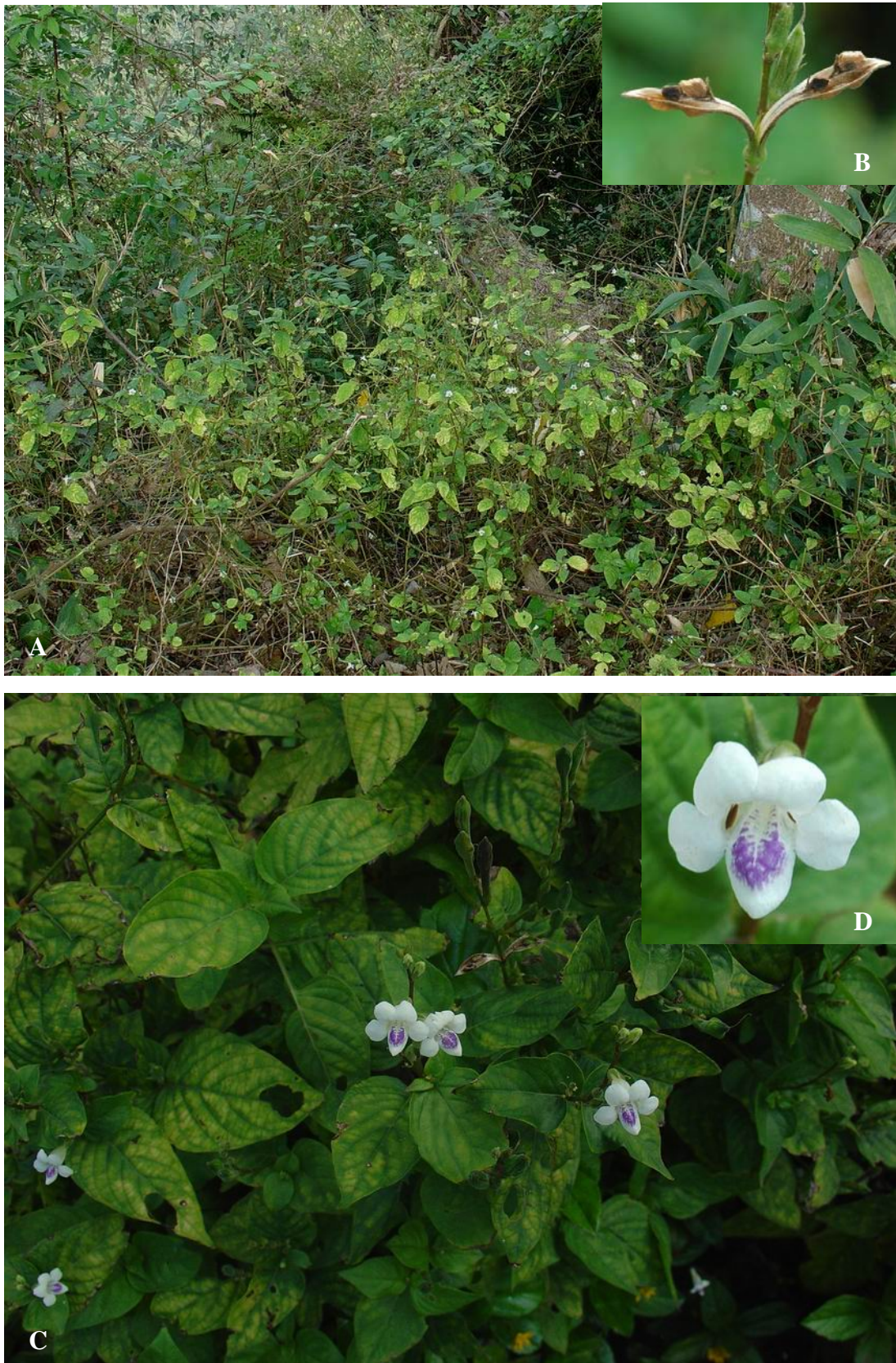


Fig. 2. *Asystasia gangetica* ssp. *micrantha*. A: Habit. B: Open capsule. C: Leaves, fruits, and flowers. D: Flower.

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台灣爵床科的新歸化植物—小花寬葉馬偕花

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摘 要

本文報導最近在台灣南部發現原產於非洲、印度與斯里蘭卡之新紀錄種—小花寬葉馬偕花 (*Asystasia gangetica* (L.) Anderson subsp. *micrantha* (Nees) Ensermu)。對台灣而言，此發現是新紀錄屬亦是新紀錄種。馬偕花屬以其花冠為兩側對稱、完全雄蕊4枚、蒴果具4枚種子與明顯之子房柄，而與台灣所產爵床科之其他屬明顯區分。本文提供本屬及本植物的描述，手繪圖及彩色照片。

關鍵詞：爵床科、小花寬葉馬偕花、歸化植物、台灣、分類。

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