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Clibadium surinamense L. (Asteraceae): A Newly Naturalized Plant in Taiwan

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ABSTRACT: We document the naturalization of *Clibadium surinamense* (Asteraceae), a Neotropical species indigenous to the Caribbean Basin, in central Taiwan. A taxonomic treatment, line drawings, and color photographs of this species from the wild are provided to aid in identification. This represents the first confirmed report of both the genus and species in Taiwan.

KEY WORDS: Asteraceae, *Clibadium surinamense* L., Taxonomy, Naturalized plant, Taiwan.

INTRODUCTION

In recent years, many New World species of Asteraceae were naturalized in Taiwan (*Soliva*: Boufford and Peng, 1993; *Pluchea carolinensis*, *Pluchea sagittalis*: Peng et al., 1998a; *Ageratina adenophora*, *Galinsoga quadriradiata*: Peng et al., 1998b; *Chromolaena odorata*: Peng and Yang, 1998; *Ambrosia psilostachya*: Tseng and Peng, 2004; *Austroeupatorium inulifolium*: Hsu et al., 2006; *Eleutheranthera ruderalis*: Yang and Hsieh, 2006). In this study we report yet another aggressive species, *Clibadium surinamense* L., that has been established for more than a decade in the middle part of this island.

The genus *Clibadium* (Asteraceae) comprises 29 species in Latin America, from Mexico to Peru, and in the West Indies, with high numbers of species in Costa Rica, Colombia, and Ecuador (Arriagada, 2003). This genus includes shrubs and small trees, usually with loosely aggregated capitula, herbaceous involucral bracts in 1-5 series, receptacles usually paleaceous throughout, corolla of pistillate floret 2-4 lobed, corolla of staminate floret 4-5 lobed, anthers purple to black, and a gametic chromosome number of n = 16 (Stuessy and Arriggada, 1993). *Clibadium surinamense* is the most common species of the genus. Most species in this genus are aggressive widespread weeds, and *C. surinamense* is one of them.

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TAXONIC TREATMENT

Clibadium surinamense L. Mant. Pl. 2: 294. 1771.
蘇利南野菊 Figs. 1 & 2

Perennial, erect shrubs to 1-3 m. Stem with scattered hairs, young branches densely tomentose. Leaves simple, opposite; petiole 1-1.5 cm, puberulent; blades elliptical to oblong, 6-18 cm long, 1.5-6 cm wide, acuminate at apex, base often obtuse, margins serrate, veins pinnate, puberulent on both surfaces. Inflorescences corymbose bostryx, terminal; heads sessile. Involucral bracts 6-9, elliptic to ovate, imbricate, cylindric, in 3-4 series, persistent. Florets 10-12 per head, monoecious, male florets central, 6-8, corolla white, tube narrow, 5-lobed, tomentose apically, anthers 5, black, filaments slender, free, style of sterile pistil slender; female florets marginal, 3-4; corolla white, tube elongate and narrow, 5-lobed, glabrous. Ovary pubescent apically, style branchs ascending. Fruit a fleshy cypsela, trianguloid, villous above.

Specimens examined: Taiwan. Nantou county. Puli, Liyutan, *elev. ca*. 540 m, on the roadside, 18 Nov. 1997, *Tseng 1198* (TESRI); same loc., 25 Nov. 1998, *Tseng 2043* (TESRI); same loc., 22 Jun. 1998, *Wang 2898* (TNM); same loc., 16 Jul. 1998, *Wang 2960* (TNM); same loc., 30 Apr. 1999, *Wang 3360* (TNM); same loc., 9 Feb. 2000, *Peng 17927* (HAST); same loc., 20 May 2004, *Tseng 3733* (TCF); same loc., 10 Jul. 2007, *Tseng 4053* (TCF).

Fig. 1. *Clibadium surinamense* L. 1: Habit. 2: Leaf. 3: Head. 4: Male flower. 5: Male floret, corolla opened to show androecium. 6: Anthers. 7: Female floret. 8: Corolla opened to show style branches. 9: Infructescence.

Distribution: *Clibadium surinamense* is native to the tropical America and introduced to Borneo, Java, Sumatra, and Mauritius (Arriagada, 2003). In Taiwan it occurs at open forest margin, ca. 540 m altitude, in Nantou county (Fig. 3).

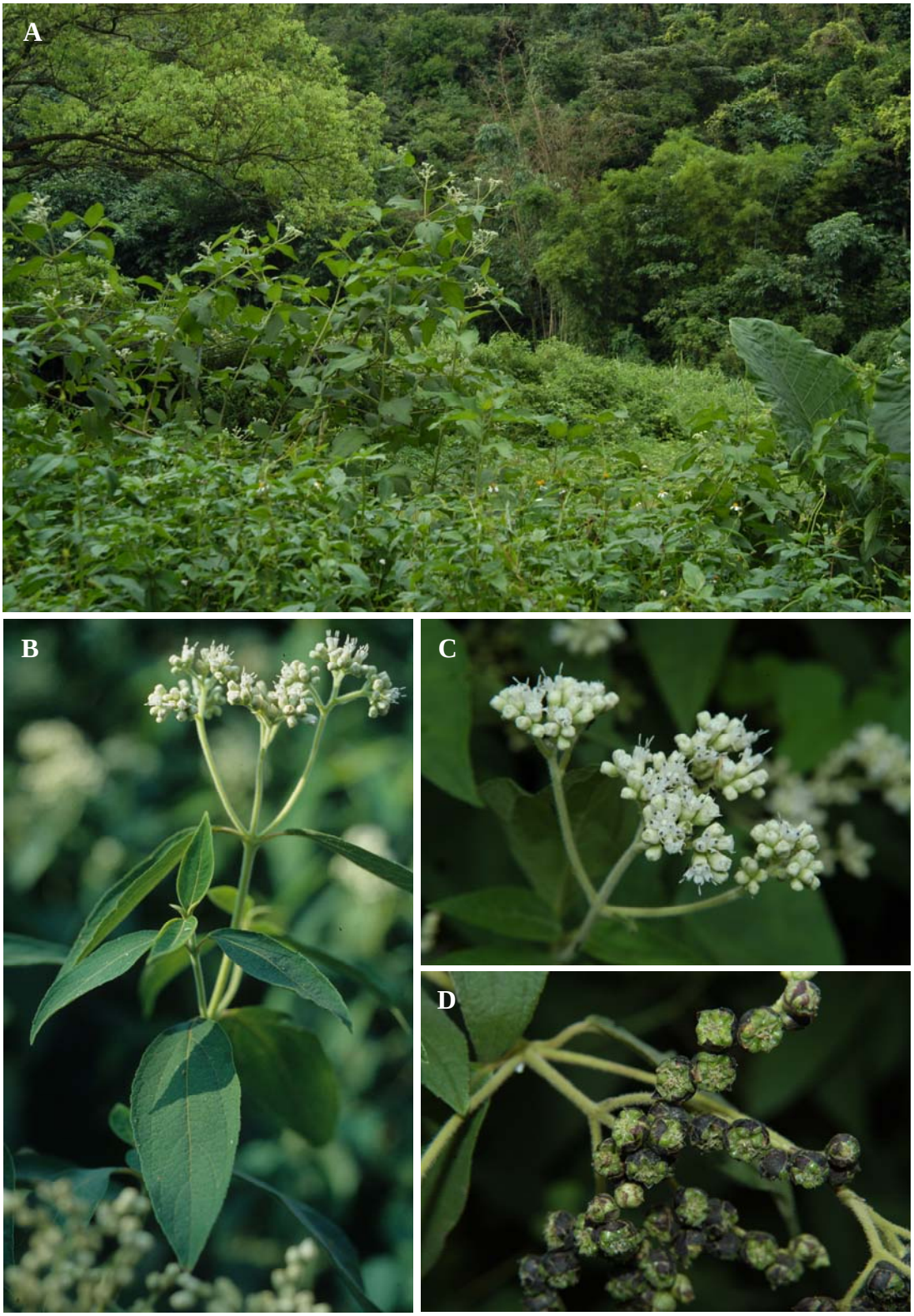

Fig. 2. *Clibadium surinamense* L. A: Habitat. B: Flowering branch. C: Branch summit, showing inflorescences. D: Infructescences.

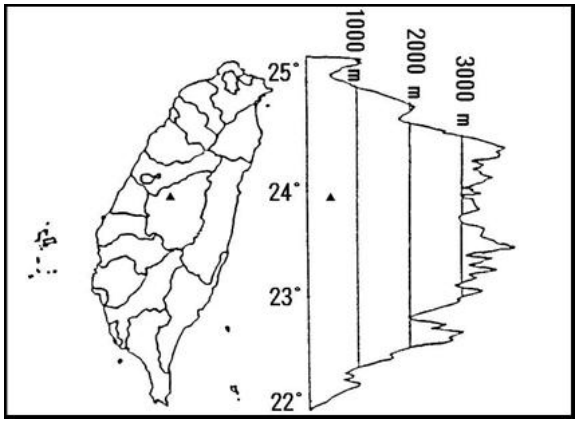

Fig. 3. The distribution of *Clibadium surinamense* in Taiwan.

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臺灣新歸化植物：蘇利南野菊

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摘　　要

蘇利南野菊(菊科)原產熱帶美洲，新近在南投縣埔里鎮鯉魚潭附近被發現，本種為臺灣新歸化植物，本屬亦為臺灣新歸化屬。本報告描述其形態特徵、地理分布及生育地環境並提供彩色圖片與繪圖。

關鍵詞：菊科、蘇利南野菊、歸化植物、臺灣。

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