研究報告

臺灣新歸化菊科植物-黃頂菊

曾彥學[1] 劉靜榆[2] 嚴新富[3] 彭鏡毅[4,5]

【摘要】本文首次報導原產北美洲南部，目前已歸化於台灣嘉義縣鰲鼓沿海附近的黃頂菊(菊科)，描述其形態特徵、地理分布及生育地環境，並提供彩色圖片與線繪圖以資辨識。作者等於 1987 年即已發現黃頂菊族群，2008 年再進行調查時發現其野外族群穩定成長。黃頂菊爲臺灣新歸化植物，本屬亦爲臺灣新記錄屬。

【關鍵詞】菊科、黃頂菊、歸化植物、臺灣

Research paper

Flaveria bidentis (L.) Kuntze (Asteraceae), a Newly Naturalized Plant in Taiwan

Yen-Hsueh Tseng[1] Ching-Yu Liou[2] Hsin-Fu Yen[3] Ching-I Peng[4,5]

【**Abstract**】We document the naturalization of *Flaveria bidentis* (L.) Kuntze (Asteraceae) in southern Taiwan. This is one of the many cases of New World plants invading Taiwan. A taxonomic treatment, line drawings, and color photographs of this species from the wild are provided to aid in identification of this alien plant. The colony of *F. bidentis* was first observed in Taiwan in1987. During our field survey in 2008 we witnessed that the wild populations has adapted to the coast of Chiayi County.

【**Key words**】Asteraceae, *Flaveria bidentis*, Taxonomy, Naturalized plant, Taiwan

1. 國立中興大學森林學系，402 台中市南區國光路 250 號，台灣
Department of Forestry, National Chung-Hsing University, Taichung 402, Taiwan.
2. 特有生物研究保育中心棲地生態組，552 南投縣集集鎮民生東路 1 號，台灣
Department of Habitat and Ecology, Taiwan Endemic Species Research Institute , Nantou 552, Taiwan.
3. 國立自然科學博物館植物學組，404 台中市館前路 1 號，臺灣
Department of Botany, National Museum of Natural Science, 1, Guancian Rd., Taichung 404, Taiwan.
4. 中央研究院生物多樣性研究中心，115 台北市研究院路 2 段 128 號，台灣
Herbarium (HAST), Research Center for Biodiversity, Academia Sinica, Nankang, Taipei 115, Taiwan.
5. 通訊作者：Email:bopeng@sinica.edu.tw
Corresponding author. Email: bopeng@sinica.edu.tw

INTRODUCTION

In recent years, many species of Asteraceae were naturalized in Taiwan (Boufford & Peng, 1993; Peng *et al*., 1998a; Peng *et al*., 1998b; Peng & Yang, 1998; Tseng & Peng, 2004; Hsu *et al*., 2006; Yang & Hsieh, 2006; Tseng *et al*., 2008). In this study we report yet another aggressive alien plant, *Flaveria bidentis* (L.) Kuntze on this island. Despite that it has been well established in the southern part of this island for more than 20 years, *F. bidentis* was not recorded in the second edition of Flora of Taiwan (Peng *et al*., 1998)

The genus *Flaveria* (Asteraceae) comprises 21 Species native to North America, Mexico, with some species introduced to South America, Asia (India), Africa and Australia (Powell, 1978). Members of *Flaveria* are frequently found in alkaline, saline, and gypseous soils, often in disturbed and moist areas. In the United States, *F. bidentis* often occurs on ballast and waste ground near wharfs and the shore, locations that suggest its introduction from sailing vessels. The species is widespread and well established in South America(Cronquist, 1980).

TAXONOMIC TREATMENT

Flaveria bidentis (L.) Kuntze, Revis. Gen. Pl. 3(3): 148. 1898.

Basionym: *Ethulia bidentis* L., Mant. Pl. 1: 110. 1767.

黃頂菊 Fig. 1. & 2.

Annuals, to 100 cm, robust, sparsely villous. Stems erect, often well-branched. Leaves shortly petiolate or subsessile; blades lance-elliptic, 5 — 12 × 1 — 2.5 cm, base connate, margin serrate or spinulose serrate. Heads 20 — 100 in tight subglomerules in scorpioid, cymiform arrays. Involucre of 3 narrow, subequal, appressed phyllaries, with 2 additional small exterior ones. Receptacle small, glabrous. Ray floret 1, pistillate, fertile, sometimes wanting. Disc florets 3 — 8; perfect, fertile, corolla tubes ca. 0.8 mm, throats funnelform, 0.8 mm, 5-toothed. Anthers entire at the base. Style-branches of disk-floret truncate. Cypselae oblong or linear-oblong, 8-10-ribbed. Pappus 0. Somatic chromosome number, 2n = 36 (Shi *et al*., 2006)

Specimens examined: Taiwan. Chiayi County. Tungshih Hsiang(東石鄉), Aoku Village(鰲鼓農場), elev. ca. 10m, along Provincial Road #17, by Peikang River, 28 Aug. 1987, Peng 11143 (HAST); same loc., 6 Sep. 1987, Yen 1556 (HAST); same loc.,12 Aug. 1990, Peng 13462 (HAST); same loc., 1 Mar. 1994, Yen 9330 (HAST); same loc., 30 Apr. 2008, Tseng 4215 (TCF).

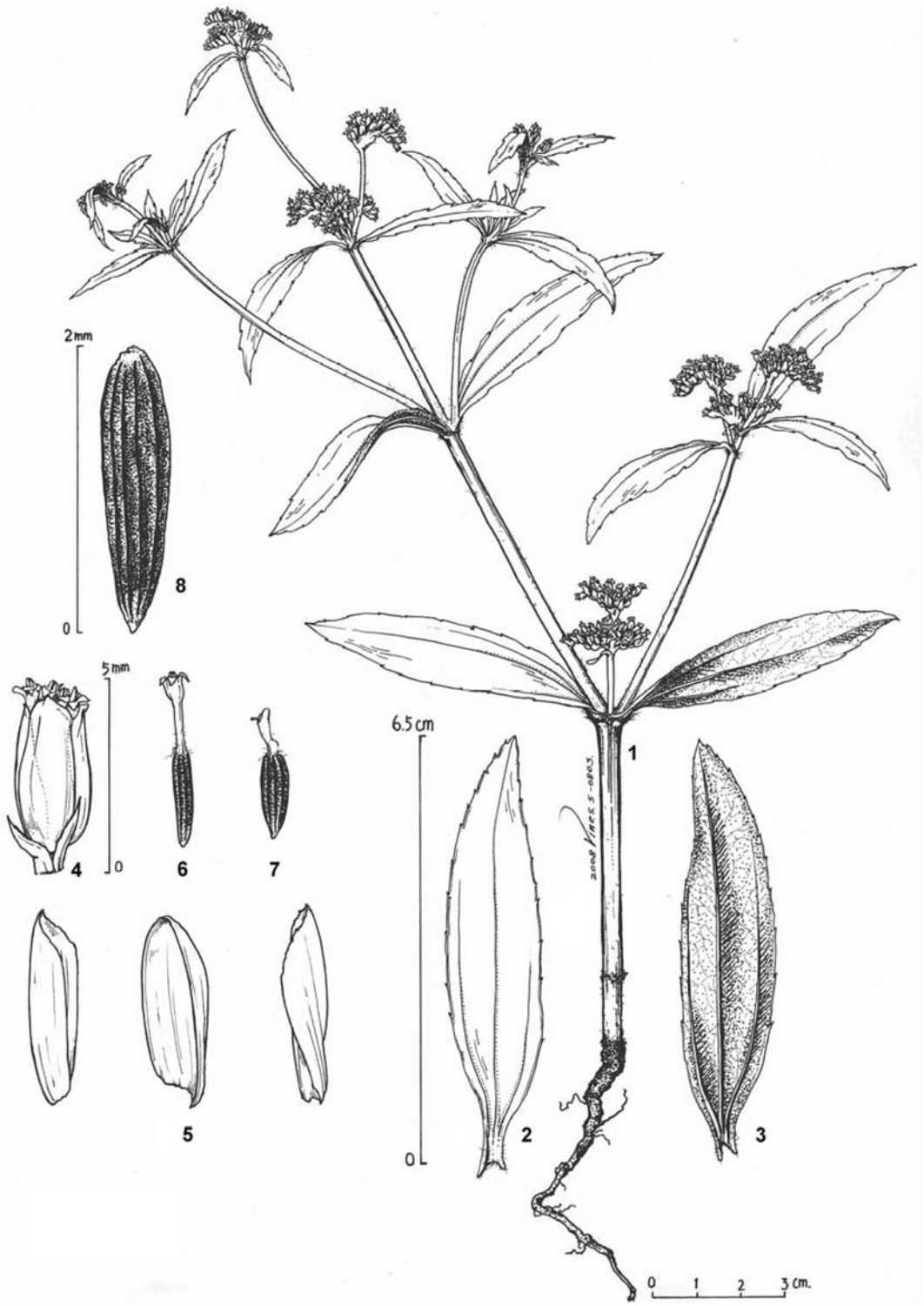

Fig. 1. Flaveria bidentis (L.) Kuntze. 1: Habit. 2: Leaf, adaxial surface. 3: Leaf, abaxial surface. 4: Head. 5: Phyllaries. 6: Disc floret. 7: Ray floret. 8: Cypsela.

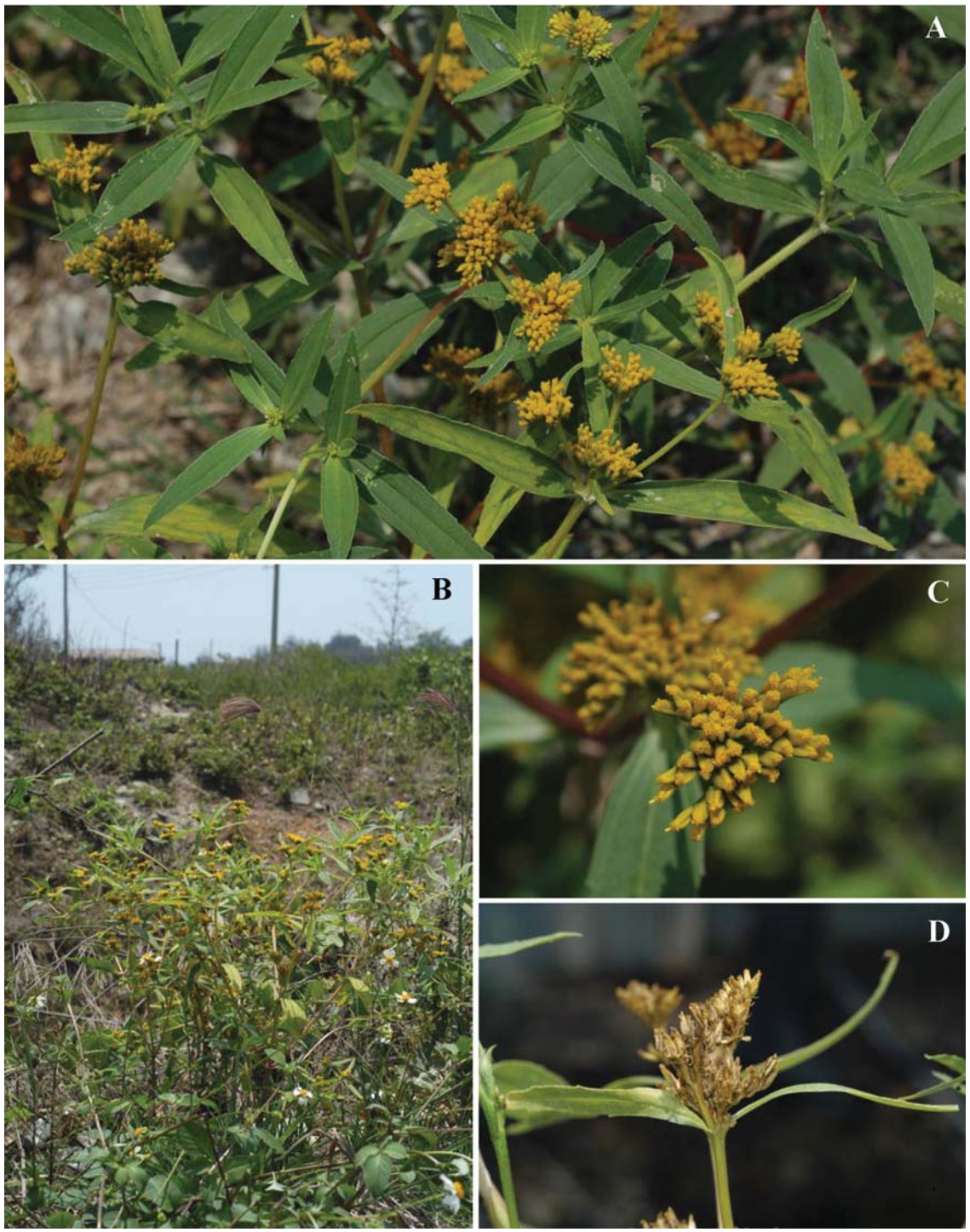

Fig. 2. *Flaveria bidentis* (L.) Kuntze. A: Habit. B: Habitat. C: Inflorescences. D: Infructescences.

Notes: *Flaveria bidentis* (L.) Kuntze is native to North America and Mexico, with some species introduced to South America, Asia (India), Africa and Australia (Powell, 1978). Recently, it was naturalized in Japan (Ohta and Murata, 1995) and northern China (Liu, 2005). In Taiwan it has also been naturalized for more than 20 years at open areas, forming large populations at near sea level along the coast of Chiayi County (Fig. 3.). It flowers and sets fruits profusely in summer and autumn. We first witnessed a large colony of *F. bidentis* in 1987. During our field survey in 2008 we found that the wild populations of *F. bidentis* has been adapted stably to the coast of Aoku Village. This species is a highly dangerous exotic annual weed with very strong invasiveness, especially to ecosystems of croplands and grasslands in northern China (Gao *et al*., 2004). The potential of *Flaveria bidentis* to become rampant in Taiwan is worthy of alarming.

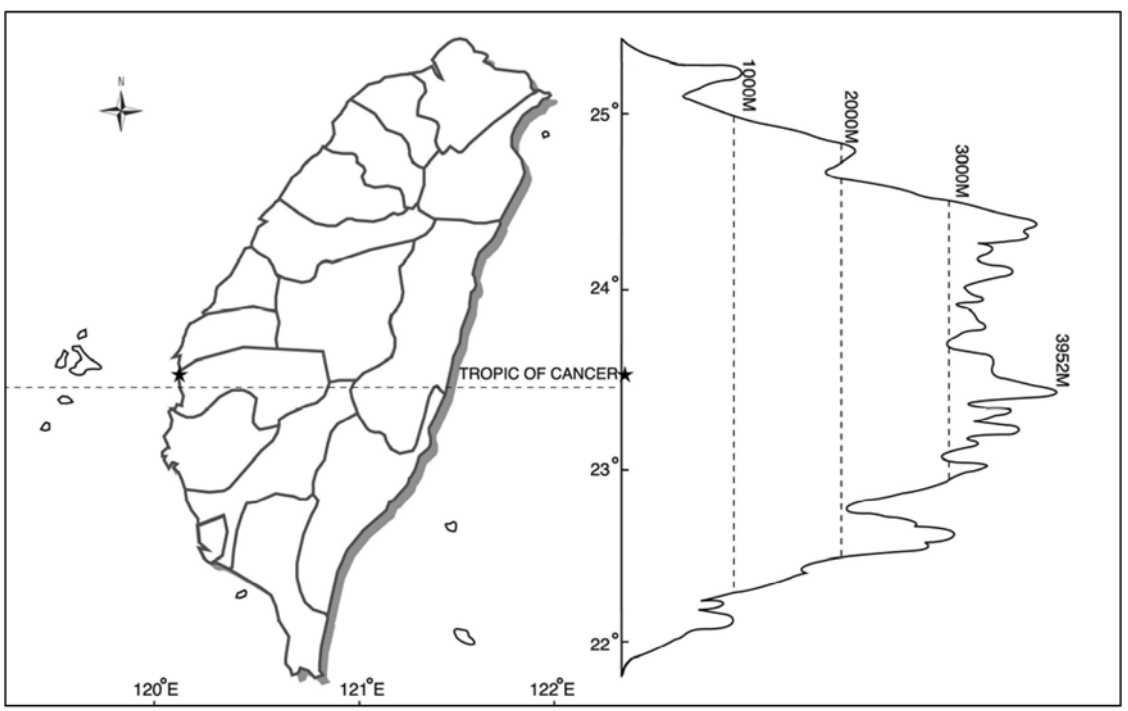

Fig. 3. Distribution of *Flaveria bidentis* (L.) Kuntze in Taiwan.

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