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Austroeupatorium inulifolium (Kunth) King & Robinson (Asteraceae), a Newly Naturalized Plant in Taiwan

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ABSTRACT: In recent years we have witnessed the naturalization of many alien species of Asteraceae in Taiwan. In this report we document the recent naturalization of the Neotropical *Austroeupatorium inulifolium* (Kunth) R. M. King & H. Rob. at 1,300-1,400 m altitudes in the Central Mountain Range of Taiwan. We provide a description, a line drawing, and photographs to aid in identification.

KEY WORDS: Asteraceae, *Austroeupatorium inulifolium*, Naturalized plant, Taiwan, Taxonomy.

INTRODUCTION

The tribe Eupatorieae (Asteraceae) consists of approximately 2,400 species in 170 genera (Bremer, 1994). Plants of this tribe are characterized by discoid heads with white, reddish or blue corollas. While they are concentrated in Central and South America, they are also represented in North America and, to a less extent, in the Old World (Bremer, 1994). A number of the species in Eupatorieae are widespread weeds, e.g., *Mikania micrantha* Kunth, a major weed in tropical Southeast and South Asia; *Ageratum conyzoides* L., a common weed of crops and gardens in the tropics worldwide; *Ageratina adenophora* (Spreng.) R. M. King & H. Rob. and *Ageratina riparia* (Regel) R. M. King & H. Rob. rampant in Asia (Peng et al., 1998b); *Praxelis clematidea* R. M. King & H. Rob. naturalized to northern Queensland, southern China and Taiwan; and *Chromolaena odorata* (L.) King & Robins in Australia, Africa, and Southeast and South Asia (McFadyen, 2003; Peng and Yang, 1998). In Taiwan, the tribe Eupatorieae is represented by three indigenous genera, *Adenostemma*, *Eupatorium* and *Mikania* and five genera adventive from the New World, i.e. *Ageratina*, *Ageratum*, *Austroeupatorium*, *Chromolaena* and *Praxelis*.

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The genus *Austroeupatorium* R. M. King and H. Rob. comprises 13 species distributed in the Andean South America northward to Panama and Trinidad, with the center of diversity in eastern South America westward to Bolivia (King and Robinson, 1987). With the presence of glands and lack of setulae on achenes, *Austroeupatorium* is closest to *Eupatorium*, differing by the large carpopodium with large thin-walled cells and the strongly ornamented walls of the anther collar (King and Robinson, 1987).

TAXONOMIC TREATMENT

Austroeupatorium inulifolium (Kunth) R. M. King & H. Rob., Phytologia 19(7): 434. 1970, "inulaefolium". 假澤蘭（新擬） Figs. 1 & 2

Eupatorium inulifolium Kunth, Nova Gen. Sp. Pl. 4: 85. 1818.

Perennial, erect herbs or shrubs, to 2-3 m tall. Stems terte, often striate. Leaves simple, opposite below, becoming subopposite or alternate above; petiole 1-2 cm, puberulent; blades ovate to narrowly oblong, 7-14 cm long, 2-6 cm wide, acuminate at apex, base often decurrent onto petiole, the margins serrulate to serrate, 3-veined from well above base, the upper surface strigose, the lower surface puberulent. Inflorecence a corymbose panicle, terminal or arising from upper nodes, heads short-pedicellate. Involucral bracts 12-18, subimbricate, cylindric-obconic, in 3-4 series, persistent, 3-5-striate, elliptic to ovate. Florets 7-13 in a head, corolla white, bisexual, narrowly funnelform with a narrow tube, ca. 4 mm long, shortly 5-lowed, the lobes triangular, glabrous or lobes sometimes glandular. Anthers included,

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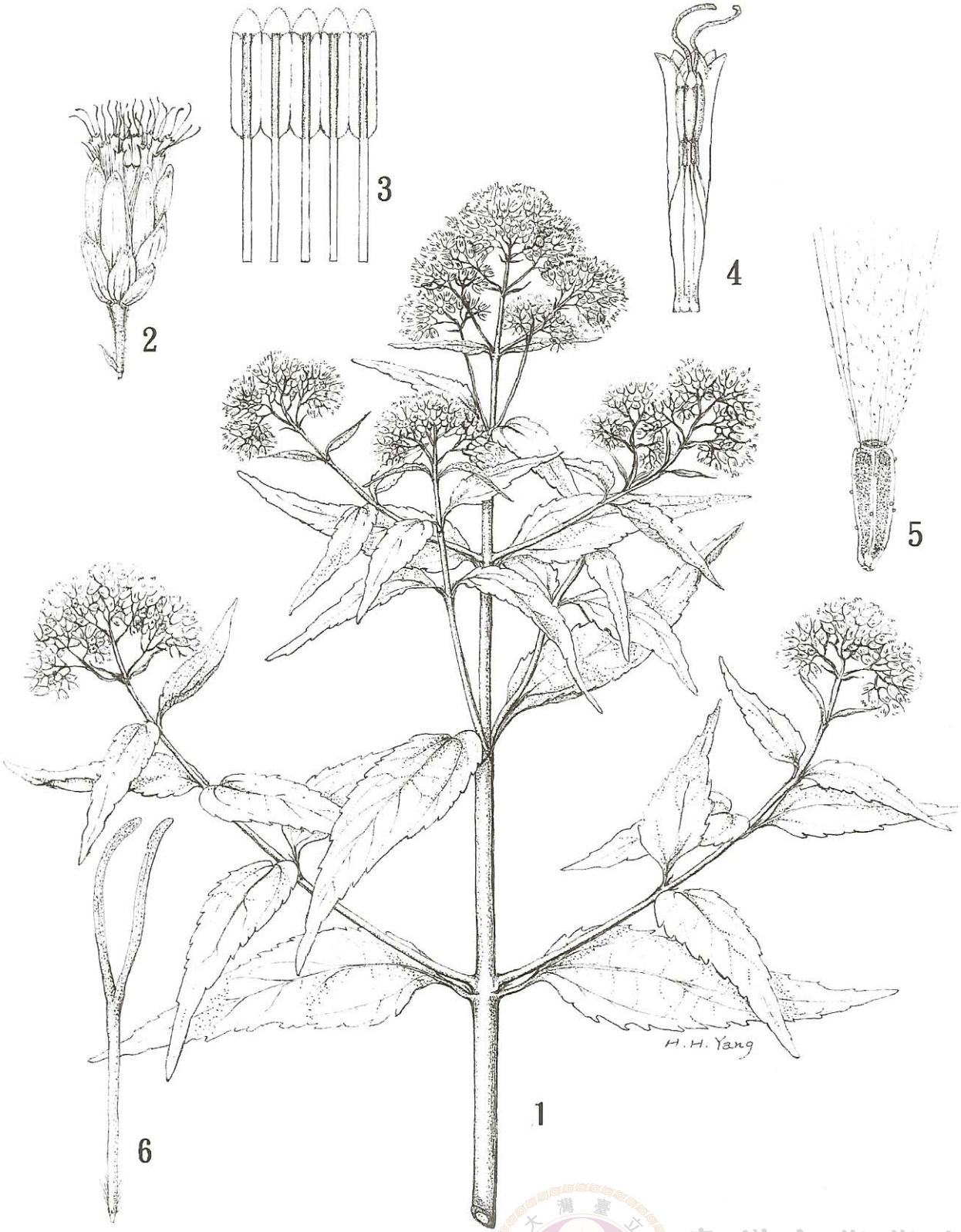


Fig. 1. *Austroeupatorium inulifolium* (Kunth) King & Robinson. 1: Habit. 2: Head. 3: Stamens. 4: Floret. 5: Achene. 6: Style branches.

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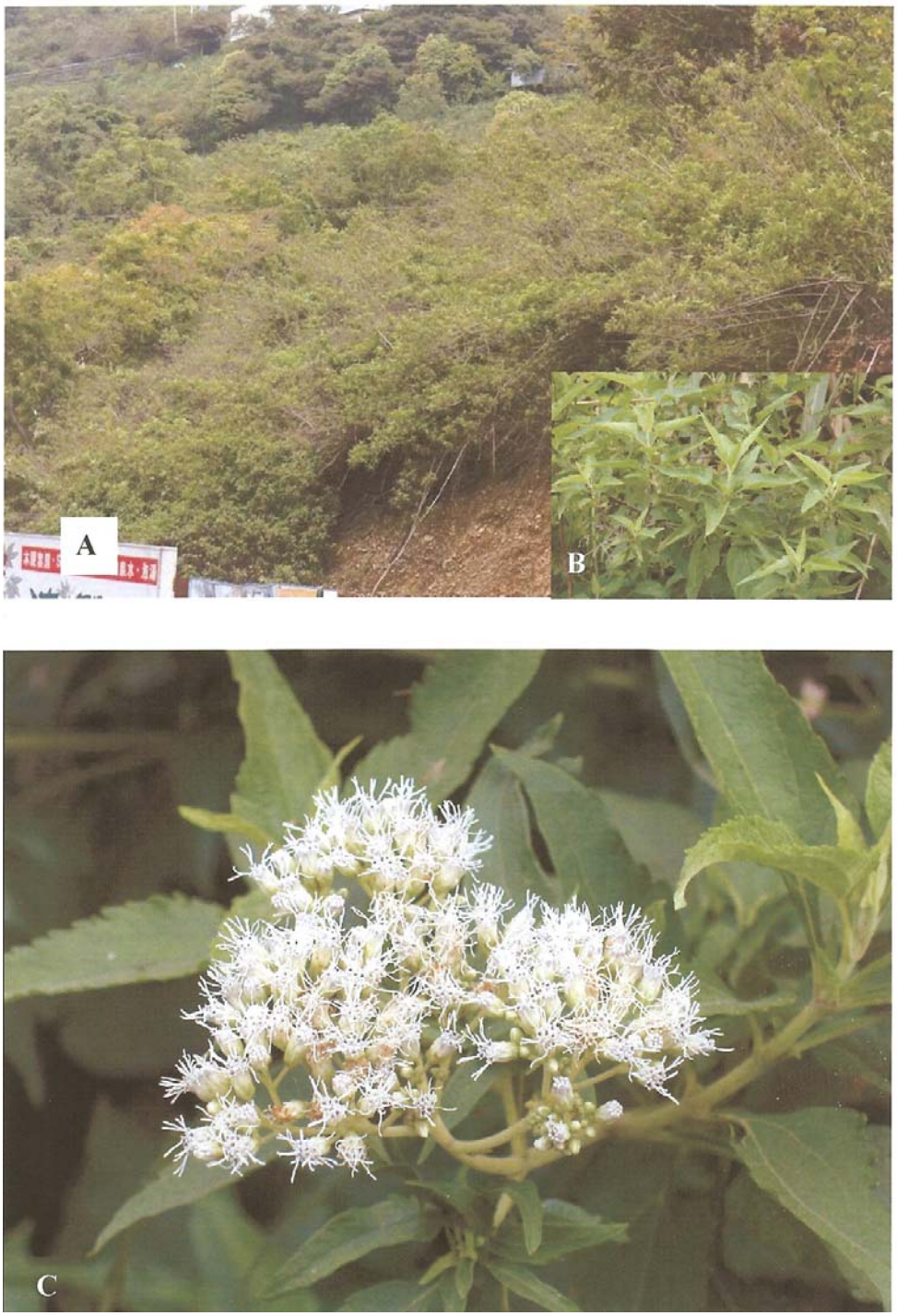


Fig. 2. *Austroeupatorium inulifolium* (Kunth) King & Robinson. A: Habitat. B: Habit. C: Inflorescences.

filaments slender, collars narrowly cylindrical, the apical appendages ovate-oblong, longer than wide. Style erect and exserted, the base puberulous, branches filiform. Achenes elongate obconical, ca. 2 mm long, 5-ribbed, glanduliferous, without setulae, carpopodium distinct, pappus of many slender scabrous bristles, persistent, about as long as corolla and much longer than the achene.

Specimen examined: TAIWAN. Nantou County: Jenai Hsiang, Wushe-Yushih, near Jenai Junior High School, alt. 1,400 m, 18 Sep 2001, *C. M. Wang & C. Y. Li 5270* (HAST, TNM), 5 Oct 2001, *C. M. Wang & C. Y. Li 5284* (TNM); Jenai Hsiang, Lihsing Industrial Road, alt. 1,315 m, 21 Jan 2003, *C. M. Wang & Y. M. Hsu 6545* (TNM).

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Distribution and notes: In recent years we have witnessed the naturalization of many alien species of Asteraceae (Boufford and Peng, 1993; Peng, et al., 1998b; Peng and Yang, 1998; Peng et al., 1998a; Chen et al., 1999; Tseng and Peng, 2004) in Taiwan. *Austroeupatorium inulifolium* is widely distributed in Panama, Colombia, Venezuela, Ecuador, Peru, Bolivia, Brazil, Uruguay, to Argentina, and adventive in Indonesia, Sumatra, Ceylon (King and Robinson, 1987) and Sri Lanka (McFadyen, 2003). In Taiwan, it occurs at ca. 1,300-1,400 m altitudes in the Central Mountain Range. It can reach 2 m tall on open slopes, along road cuts or landslide areas, where it is associated with other weedy plants such as *Conyza sumatrensis* (Retz.) Walker, *Galinsoga quadriradiata* Ruiz & Pav., *Spergula arvensis* L., *Eupatorium cannabinum* L. ssp. *asiaticum* Kitamura, *Sonchus oleraceus* L., *Solanum mauritianum* Scopoli, *Rumex obtusifolius* L., *Solanum americanum* Miller, *Polygonum multiflorum* Thunb. var. *hypoleucum* (Ohwi) Liu, *Polygonum chinense* L., *Rubus parvifolius* L. Flowering period is between September and January.

Austroeupatorium inulifolium is an aggressive species that rapidly colonizes areas cleared for planting new crops, agricultural fields, fallow fields, waste lands and roadsides.

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臺灣新歸化菊科植物—假澤蘭

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摘　　要

近年來有許多的外來菊科植物在臺灣歸化。本研究提出一種歸化於臺灣中部山區，原產於新熱帶的菊科植物－假澤蘭(*Austroeupatorium inulifolium* (Kunth) King & Robinson)，除了描述其分類性狀外，並提供植物繪圖與彩色照片。

關鍵詞：菊科、假澤蘭、歸化植物、臺灣、分類。

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