NOTE

Pectis L. (Asteraceae), a Newly Recorded Genus to the Flora of Taiwan

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ABSTRACT: We document a new-record genus to the flora of Taiwan: *Pectis* L. (Asteraceae) and its member, *P. prostrata* Cav. This alien plant, which is native to Tropical America, has been found naturalized along riverbanks and in grasslands in southern Taiwan. A taxonomic treatment with illustration and color photo are provided here to aid in identification of this alien Asteraceae plant.

KEY WORDS: Asteraceae, new record, *Pecits*, Taiwan, taxonomy.

INTRODUCTION

Asteraceae is one of the main components in the flora of Taiwan (Boufford et al. 2003; Wu et al., 2010), and a main donor of alien plants in Taiwan (Wu and Wang, 2005; Wu et al., 2010). After "the Checklist of Vascular Plant in Taiwan" (Boufford et al. 2003) was published, many Asteraceae species were reported as newly recorded or naturalized in Taiwan (Tseng and Peng, 2004; Hsu et al., 2006; Wang and Chen, 2006; Yang and Hsieh, 2006; Chen, 2007; Chung et al., 2008; Jung et al., 2008; Tseng et al., 2008abc; Chung et al., 2009; Jung et al., 2009ab; Jung and Chung, 2010; Wang and Chen, 2010), including several new-record genera of this family to the flora of Taiwan (e.g., Chen, 2007; Hsu et al., 2006; Tseng et al., 2008ab; Yang and Hsieh. 2006). The genus *Pectis* L. (Asteraceae) is native to tropical America and Hawaii (McVaugh, 1984; Stannard, 1995; Jørgensen and Susana, 1999; Zuloaga, 1999; Dillon, 2000; Keil, 2006). Abaxial surfaces of leaf blades are dotted by oil glands in all species of this genus, and leaf margins are usually fringed with several pairs of setae (McVaugh, 1984; Keil, 2006). In 2007, the third author found several individuals of *P. prostrata* Cav. (Asteraceae) at riverside in Linyuan Township, Kaohsiung County, southern Taiwan. Population size of this plant was observed in the latest three years. Nearly 400 matured individuals in three subpopulations are now found locally. We describe this new-record Asteraceae plant, and offer a line-drawing (Fig. 1) and a color photo (Fig. 2) to aid in identification. Taxonomic treatments of *Pectis* L., a newly recorded genus to the flora of Taiwan, is also presented.

TAXONOMIC TREATMENTS

Pectis L. Syst. Nat. (ed. 10) 2: 1189, 1221, 1376. 1759. McVaugh. Fl. Novo-Galiciana 12: 667, 1909; Stannard. Fl. Pico das Almas: 276, 1995; Jørgensen and Susana. Catalogue of the Vascular Plants of Ecuador: 302, 1999; Zuloaga. In: Morrone, O. Catálogo de las Plantas Vasculares de la República Argentina 2: 264, 1999; Dillon. In: Stevens et al. (eds.). Fl. Nicaragua 85: 351, 2000 ; Keil. In: Fl. North America Editorial Committee. Fl. N Amer. 21: 222, 2006. 香檬菊屬

Pectis prostrata Cavanilles, Icon. 4: 12, pl. 324. 1797. McVaugh. Fl. Novo-Galiciana 12: 679, 1984; Dillon. In: Stevens et al. (eds.). Fl. Nicaragua 85: 354, 2000; Keil. Fl. N Amer.: 21, 224. 2006.
伏生香檬菊 Figs 1 & 2

Annual, prostrate or ascending branch 1-30 cm long, puberulent in 2-rows. Leaves linear to narrowly oblanceolate, 10-30 mm long, 1.5-7 mm wide, lower margins fringed with cilia and setae, adaxial surface glabrous, abaxial densely ciliate and dotted with round oil-glands, 0.1-0.3 mm in diam., setae 4-8 pairs, 1-3 mm. Heads solitary or 2-3 aggregated, with leafy cymiform arrays. Peduncles 1-2 mm, bracts 4, narrowly ovate, apex acuminate, margin ciliate, 2.5-4 mm long. Involucres campanulate, cylindric, ellipsoid or obovoid. Involucral bracts 5 or 6 in 1 row, oblong to obovate, coriaceous, glabrous, 1-ridged, 5-7 mm long, 1-3 mm wide, apex truncate and emarginate, upper part constricted. Ray florets 5, pistillate; pappi (scales) 2,

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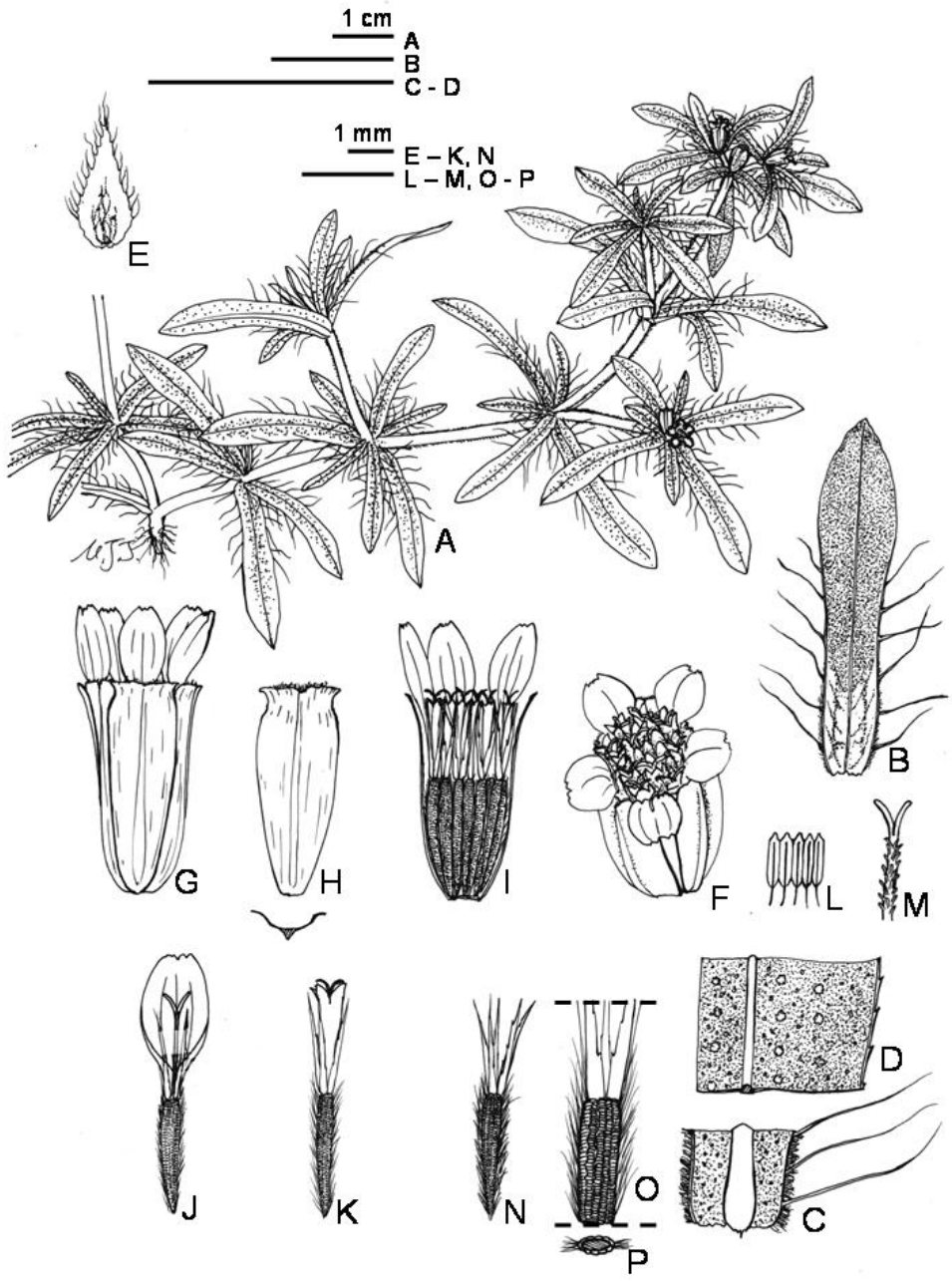


Fig. 1. Illustration of *Pectis prostrata* Cav. A: Habit. B: Blade, adaxial surface. C: Middle part of blade, abaxial surface, showing oil glands and serrate margin. D: Leaf base, abaxial surface, showing oil glands, marginal cilia and setae. E: Bract. F-G: Capitulum. G: Lateral view. H: Involucral bract. I: Capitulum, longitudinal section. J: Ray floret. K: Disc floret. L: Anthers. M: Pistil, showing the prickled style. N: Achene of disc floret. O: Upper part of achene, showing marginal hairs and tuberculate surface. P: Cross section of Achene.

corollas yellowish, 3.5-4 mm long, apex emarginate. Disc florets 10 - 18, bisexual; pappi 5, corollas yellowish, *ca.* 3 mm, 4-lobed; anthers apex acuminate into an acute tip, base obtuse, *ca*. 0.7 mm long; pistil 1, style coated with prickle, style branch *ca.* 0.5 mm long. Achenes oblanceolate, blackish when mature, surface tuberculate, *ca.* 3.5 mm, 2 ridged, coated with 2-4 rows of hairs at margin, upper part pubescent, hairs to 0.75 mm long; pappi lanceolate, membranous, margins sparsely serrate, 1.5-2.5 mm long.

Specimens examined: Taiwan. Kaohsiung County, Linyuan Township, Linyuan Riverside Park, 16 July 2007, *Yui-Ching Kao s. n.* (TAIF), Riverside of Kaoping River, near Shuan-Yuan Bridge, 8 October 2010, *Chun-Wan Hsien s. n.* (TNU), same loc., 8 October 2010, *Ming-Jer Jung 5121* (TNU).

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Fig. 2. Habit of *Pectis prostrata* Cav. in southern Taiwan.

Distribution and notes: Vernacular name of *Pectis prostrata* Cav. is 'spreading chinchweed'. This plant is native to tropical America, *i.e.* SE America, Mexico, West Indies and Central America (McVaugh, 1984; Stannard, 1995; Jørgensen and Susana, 1999; Zuloaga, 1999; Dillon, 2000; Keil, 2006). In southern Taiwan, this plant has been well-established and naturalized at grasslands and riverbanks along the Kaoping River. Our botanical surveys revealed *ca.* 400 individuals in three subpopulations at this locality. Grasses like *Cenchrus echinatus* L., *Chloris barbata* L., *Eleusine indica* (L.) Gaertn., *Eragrostis amabilis* Wight. & Arn., *Panicum maximum* Jacq., *Paspalum conjugatum* Berg., *Rhynchelytrum repens* (Willd.) Hubb. and some common weeds e.g. *Chamaesyce hirta* (L.) Millsp., *Chamaesyce hyssopifolia* (L.) Small, *Chamaesyce maculata* (L.) Small, *Mimosa pudica* L., *Tridax procumbens* L. were found nearby individuals of *Pectis prostrata*. In the wild, this prostrate Asteraceae weed could be identified easily according by oil glands on leaf abaxial surfaces (Fig. 1C & D) and pairs of setae on leaf margins (Fig. 1A-C & 2).

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香檬菊屬（*Pectis* L.），臺灣菊科新紀錄屬植物

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摘要：本文描述一臺灣菊科新紀錄屬：香檬菊屬（*Pectis* L.）及其成員：伏生香檬菊（*Pectis prostrata* Cav.）；伏生香檬菊為原產中南美洲的外來雜草，在臺灣南部河岸與草地局部歸化，在此提供分類處理、手繪圖與彩色照片以利鑑定此一外來菊科雜草。

關鍵詞：菊科、新紀錄、香檬菊屬、臺灣、分類學。

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