研究報告

台灣新歸化的無患子科 (Sapindaceae)植物 墨西哥瓜瓶藤 (*Serjania mexicana*)

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【摘要】瓜瓶藤屬 (*Serjania*) 的墨西哥瓜瓶藤 (*S. mexicana*) 是無患子科 (Sapindaceae) 在臺灣的新記錄屬和種，迄今爲止僅在臺灣北部開闊的路邊或荒地的低海拔 (100 m以下) 發現。該物種原產於熱帶美洲，範圍從墨西哥到哥倫比亞和委內瑞拉。本文提供了分類描述和照片以方便識別。

【關鍵詞】新紀錄屬、墨西哥瓜瓶藤、無患子科、臺灣、分類。

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Research paper

Serjania mexicana (Sapindaceae), a newly naturalized species in Taiwan

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【**Abstract**】*Serjania mexicana* (Sapindaceae), a newly recorded genus and species from Taiwan, so far indetify only at the low-altitudinal (under 100 m) of opened roadside or wasteland of northern part of Taiwan. This species is native to tropical American, ranges from Mexico to Colombia and Venezuela. A taxonomic description and photographs to facilitate identification are provided.

【**Key words**】newly recorded genus; *Serjania mexicana*; Sapindaceae; Taiwan; taxonomy.

Introduction

Sapindaceae were divided to four subfamilies (Xanthoceroideae, Hippocastanoideae, Dodonaeoideae, and Sapindoideae) (Acevedo-Rodríguez et al. 2011), and *sensu lato* comprised about 140 genera and ca. 1,900 species, including trees, shrubs and lianas. Most of them distributed in tropical to subtropical regions, with the greatest diversity found in tropical Southeast Asia (Acevedo-Rodríguez et al. 2017; Coulleri et al. 2017). *Serjania* belongs to subfamilies Sapindoideae, is a Neotropical genus of climbing shrubs with compound leaves, schizocarpic fruits with samara-like mericarps. This genus comprises about 230 species (Ferrucci & Coulleri 2013), and is widely distributed in the American continent. About half of species number occur in Brazil, its major center of diversity (Ferrucci & Acevedo-Rodríguez 2005). According our field survey, a newly record genus and species of Sapindaceae was found to have been naturalized in Taiwan. After specimen comparison and anatomy, we recorded *Serjania mexicana*, a newly naturalized species in Taiwan. This paper provides morphological characters and photographs for the identification.

Systematic Treatment

Serjania Miller., Gard. Dict. Abr. Ed. 4. 1754.
瓜瓶藤屬
Serjania mexicana (L.) Willd., Sp. Pl. 2(1): 465. 1799. 墨西哥瓜瓶藤 (Figure 1)

Paullinia mexicana L., Sp. Pl. 1: 366.1753.

Woody vine, robust, monoecious; stems generally pubescent, prickly, producing milky sap; young branches, underside of leaves, inflorescence axes, and bracts with simple, short trichomes. Cross section of stem with 5 rounded ribs, with central, large vascular cylinder; stipules triangular, persistent, 0.5-2.5 mm long, pubescent. Leaves imparipinnate, ca. 10-30 cm long, generally 2-jugate, the upper jugae 3-foliolate and almost the same size, the lower jugae 3-foliolate and significantly different in size; petioles subterete, adaxially furrowed, 1-8 cm long; petiolules1-4 cm long in terminal leaflet, in the proximal and distal pair of leaflets petiolules ca. 1 cm long or less; leaflets chartaceous; terminal leaflet narrowly ovate to widely ovate, or obovate, ca. 1.5-8 × 1-5 cm; the other leaflets ovate or narrowly ovate, ca. 1.5-8 × 1-4 cm; apex acute or obtuse; base decurrent in terminal leaflet or acute in the proximal and distal leaflets; margins dentate-serrate, with 2-8 obtuse teeth; adaxial surface generally glabrous, mid-vein with slightly pubescence and scattered trichomes; abaxial surface pubescent with prominent veins, with slightly longer pubescence and trichomes. Thyrse axillary, simple, racemiform; peduncle subterete, ca. 3-14 cm long, pubescent, sometimes with (1)2 tendrils at base; rachis subterete, striate, ca. 5-12 cm long; many-flowered; pedicel 1-5 mm long, articulate near the base; in the fruits 3-4 mm long; bracts triangular, persistent, ca. 2 mm long, pubescent, bracteoles similar, 0.5-1 mm

long. Flowers white, ca. 4.5-6 mm long; sepals 4, ciliate, outer sepals wide ovate, obtuse, ca. 3-4 × 1-2.5 mm, pubescent in both sides, inner sepals narrowly ovate, obtuse, ca. 4.0-5 × 1.5-2.2 mm, pubescent in both sides; petals 4, obovate, clawed, adaxially glandular, posterior ones broadly obovate, ca. 4-5 × 2-3 mm, with symmetrical appendage; anterior petals with asymmetrical appendage; nectary lobes 4. Androgynophore, stamens 4.0-5.5 mm long, filaments pilose, ca. 3 mm long; gynoecium ca. 5-7 mm long, ovary trigonous, obovoid in outline, pubescent, and style straight, ca.1-2 mm long. Fruit ovate in outline, chartaceous, brown, cordate at base, dark brown, 0.8-1.2 × 0.6-1.0 cm wide, narrowly crested, crest ca. 4 mm wide, emarginate at apex; mericarp 1.6-2.8 × 0.8-1.2 cm; epicarp somewhat verrucous, wings glossy with obvious veins.

Specimens examined: New Taipei City: Xindian Dist. (新店區), Meigui Rd. (玫瑰路) 18 Apr. 2020, *C.H. Chen* 12279 (TNM), same loc., 5 May 2021, *C.H. Chen 12615* (TNM); same loc., 15 Apr. 2020, *C. M. Wang* 18227 (TNM).

Distribution and notes: In Taiwan, 9 genus and 10 species of Sapindaceae that have been reported (Chen 1993; Hsu et al. 2012). This report adds a new recorded genus and species, *Serjania mexicana*. Native to tropical American, ranges from Mexico to Colombia and Venezuela, and also native to Jamaica. In Taiwan, it occurs at about 0-100 m in elvation in northern Taiwan (Figure 2). Several individuals were found on exposed area, including climbing on trees or near buildings, or on waste grassland. After a year of reproductive season, we observed again and found that this is a stable population with several additional individuals. Accidentally, it may become a disturbing invasive species in the future. The Taiwanese population of this species flower from February to April (sometimes from January) and fruits mature from March to May.

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References

Acevedo-Rodríguez P, van Welzen PC, Adema F, van der Ham RWJM (2011) Sapindaceae. In: Kubitzki K (ed) The Families and Genera of Vascular Plants. Eudicots: Sapindales, Cucurbitales, Myrtaceae. Springer, Berlin, pp 357-407.

Acevedo-Rodríguez P, Wurdack KJ, Ferrucci MS, Johnson G, Dias P, Coelho RG, Somner GV, Steinmann VW, Elizabeth A (2017) Generic relationships and classification of tribe Paullinieae (Sapindaceae) with a new concept of supertribe Paulliniodae. Systematic Botany 42: 96-114.

Chen CH (1993) Sapindaceae. In: Editorial Committee of the Flora of Taiwan, 2nd (eds) Flora of Taiwan, vol. 3. Editorial Committee of the Flora of Taiwan, 2nd ed., Taipei, pp 599-608.

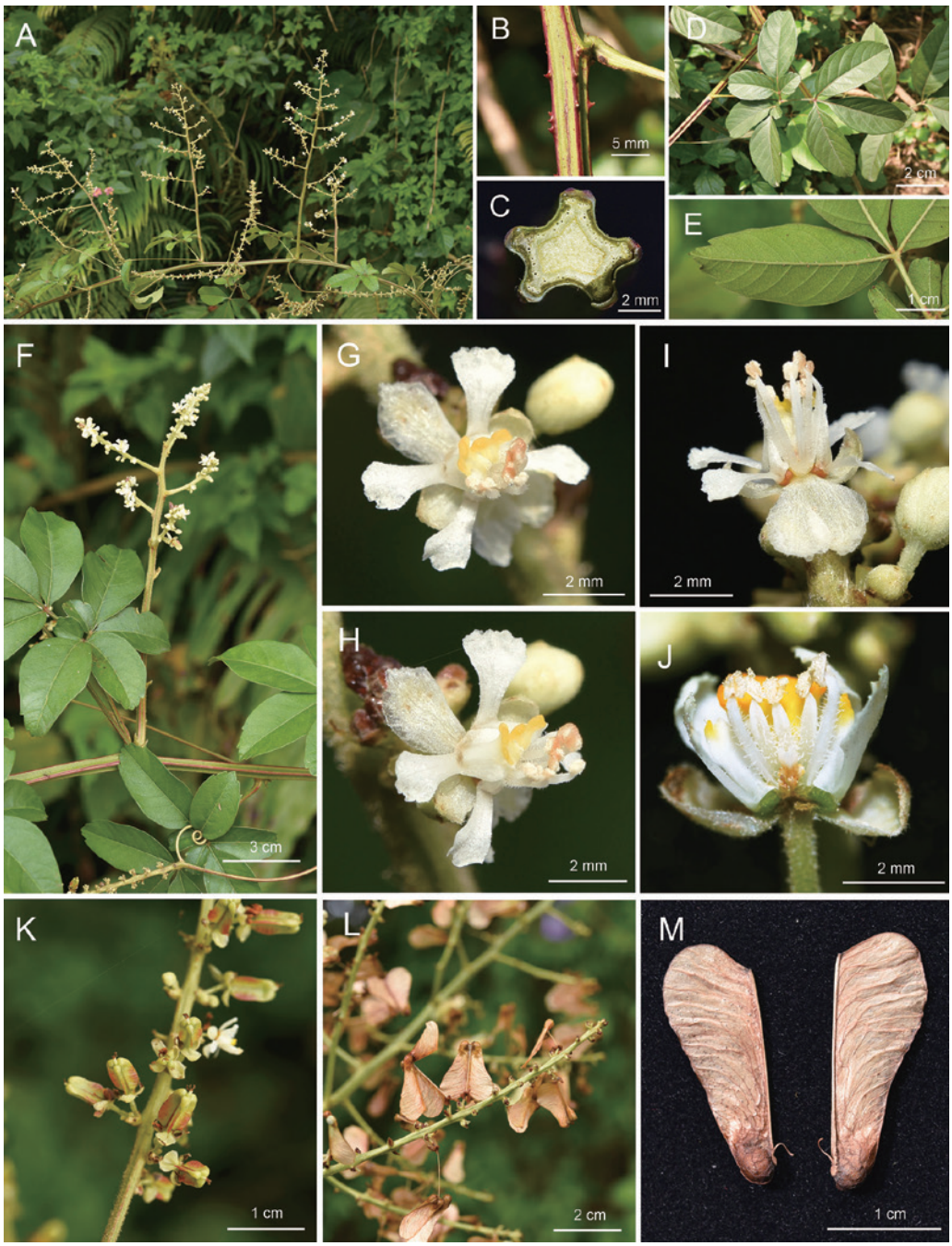

Figure 1. *Serjania mexicana*. A, Habit; B, stem prickly; C, cross-section of stem; D, leaf; E, leaflets, lower surface; F, flowering branch; G, flower, look-down angle; H, flower, squint angle I, flower, side-view angle; J, flower, side-view angle, 3 anthers removed; K, fruiting shoot; L, ripening fruits; M, fallen fruit. (*C. H. Chen 12279*)

Coulleri JP, Brem MC, Ferrucci MS (2017) Geographic variation of *Serjania perulacea* (Paullinieae, Sapindaceae) and description of two new varieties. Phytotaxa 313(1): 23-42.

Ferrucci MS, Acevedo-Rodríguez P (2005) Three new species of *Serjania* (Sapindaceae) from South America. Systematic Botany 30: 153-162.

Ferrucci MS, Coulleri JP (2013) *Serjania lucianoi* (Sapindaceae: Paullinieae), a new species from Northern Bahia, Brazil. SystematicBotany 38: 172-177.

Hsu TW, Chiang YC, Liu HY, Chiang TY (2012) Soapberries belonging to the genus *Cardiospermum* L. (Sapindaceae) from Taiwan. Taiwan Journal of Biodiversity 14 (1-2): 81-88.

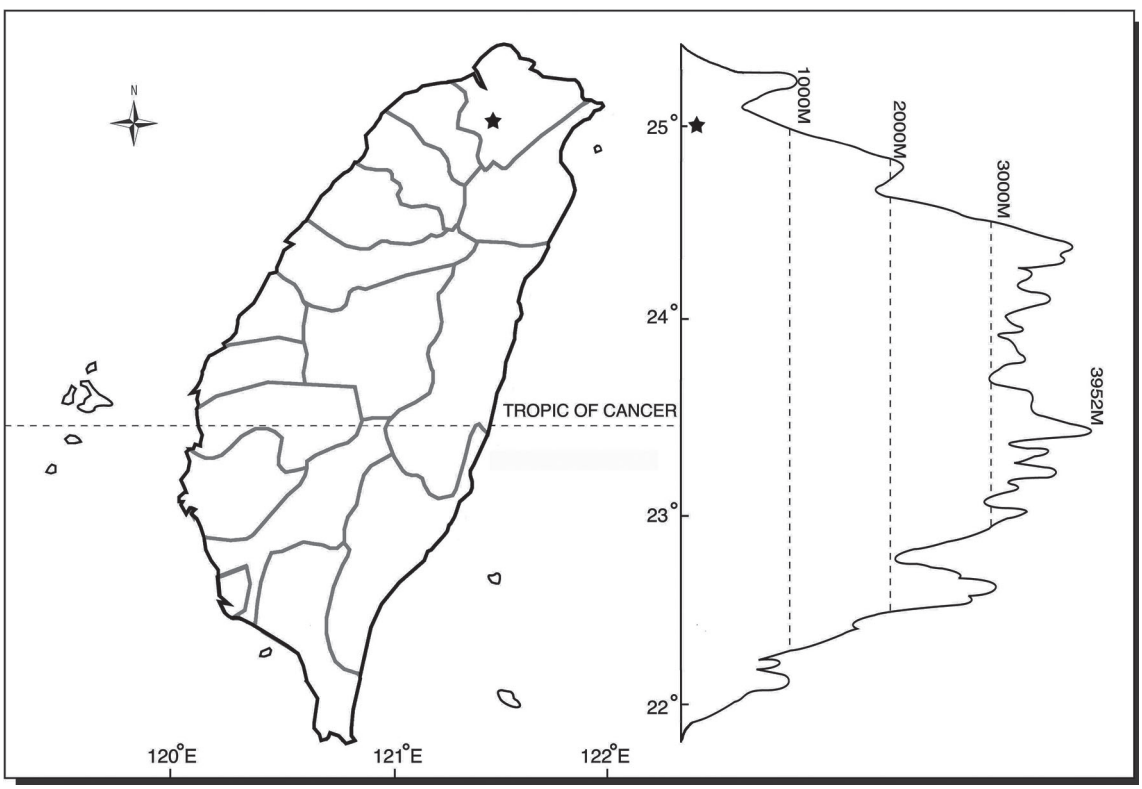

Figure 2. Distribution map of *Serjania mexicana* in Taiwan (star).