

Heterosmilax septemnervia F. T. Wang & Tang (Smilacaceae)
a Newly Recorded Plant to Taiwan

台灣菝葜科的新紀錄植物—短柱土茯苓

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Abstract

The genus *Heterosmilax* (Smilacaceae) is comprised of about 11 species in the world of which three species were recorded in the 2nd edition of Flora of Taiwan. In the course of our plant inventory of Taiwan, *Heterosmilax septemnervia* F. T. Wang & Tang, heretofore unknown in Taiwan, was collected from the central mountain range of this island. It is closely related to *H. seisuiensis* by the staminate flower with 7-9 stamens (a feature of section *Polyandrae*). However, the two species are distinguishable by the stamen that are almost free for *H. seisuiensis* but fused 1/3 to 1/2 at base for *H. septemnervia*. We provide a taxonomic account of *H. septemnervia*, as a new distributional record in Taiwan as well as colored photographs taken from the wild to aid in identification.

摘要

土茯苓屬為菝葜科植物，台灣植物誌第二版記錄3種，最近我們在中部植物調查時發現另一新紀錄植物—短柱土茯苓；短柱土茯苓雄花有雄蕊7-9枚，屬於多蕊組植物，台灣原有紀錄的多蕊組植物只有台中假土茯苓，其雄蕊幾乎完全離生；而短柱土茯苓雄蕊基部1/3到1/2為合生蕊柱。本文章提供該種的形態描述與彩色圖片。

Key words: *Heterosmilax*, *Heterosmilax septemnervia*, new record, Smilacaceae, Taiwan

關鍵詞：土茯苓屬、短柱土茯苓、新紀錄、菝葜科、台灣

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Introduction

The family Smilacaceae comprises three genera and 320 species (Conran 1998; Thorne and Reveal 2007). They are pantropical distribution, extending to temperate regions of both hemispheres (Conran 1998). Two genera, 21 species, and one variety were recorded in the second edition of “Flora of Taiwan” (Koyama *et al.* 2000).

The genus *Heterosmilax* is a small southeastern Asiatic genus that is closely allied to the genus *Smilax* (Koyama 1984). Eleven species of the genus have been recorded from southern China, Myanmar, Thailand, Indo-China, and western Malaysia, with one species extending to the Ryukyu

Archipelago, Indian Assam, and Khasia (Koyama 1984). Three species have been reported in Taiwan (Koyama *et al.* 2000). A new distributional record, *Heterosmilax septemnervia* F. T. Wang & Tang (Sec. *Polyandrae* Gagnepain) was recently found in the Central Mountain Range in Taiwan. This paper provides a brief taxonomic account of this new record as well as colored photographs taken from the wild to aid in identification.

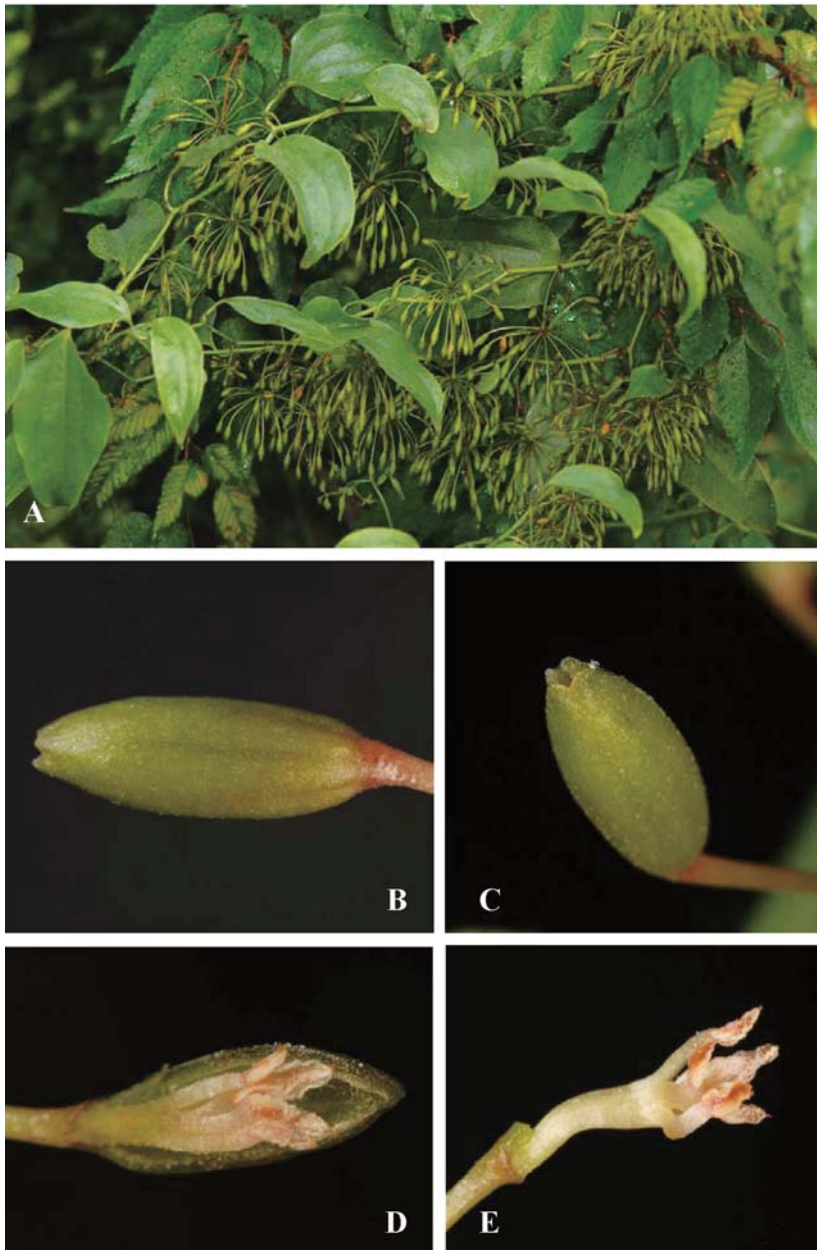
Taxonomic Treatment

Heterosmilax Kunth 土茯苓屬

Heterosmilax Kunth, Enum. Pl. [Kunth] 5: 270. 1850. Type: *Heterosmilax japonica* Kunth

Keys to sections of *Heterosmilax* and Species of section *Polyandrae* in Taiwan

- A. Male flowers with 9-13 stamens Sect. *Polyandrae*
 - B. Male perianth 4-8 mm long; 1/3 to 1/2 at base staminal filaments fused *H. septemnervia*
 - B. Male perianth 2.5-3 mm; staminal filaments almost free *H. seisuiensis*
- A. Male flowers with 3 or 4 stamens Sect. *Heterosmilax*



Figs. 1. *Heterosmilax septemnervia* Wang & Tang (A, habit; B and C, respectively, lateral and top views of flower; D, longitudinal section of staminate flower; E, stamens).

Heterosmilax septemnervia F. T. Wang & Tang,

Sinensia 5: 428. 1934. 短柱土茯苓

Type: China. Kweichow: Kweiting, Pinfa, Fl.

Male, *Tsiang* 5570 (Lectotype designated in

Koyama, 1984: PE!; isotype: NY!).

Description: Scandent vine, dioecious, branchlets green, with scattered lenticels. Stipules green, tendrils borne on the apex of stipule, part of

stipule fused with petiole, sheath-like, deltoid, 3.7-5 mm long, 3.2-4.1 mm wide. Petioles cylindrical, green, 1.4-1.7 cm long, grooved at adaxial side proximal to blade. Leaves simple, alternate, thinly coriaceous, green adaxially, grayish green abaxially, broadly ovate to elliptic, 6.2-9.8 cm long, 3.3-4.7 cm wide, apex acuminate, base rounded, entire, basal veins 5, elevated abaxially. Inflorescences in axillary umbels. Peduncles green, flattened, 3.4-4 cm long, ca. 0.7 mm across. Pedicels green, glabrous, 2.3-3.2 cm long, ca. 0.7 mm across. Bracts brown, deltoid, minute, ca. 0.7 mm long, ca. 0.2 mm wide. Flower buds green, ellipsoid, 3.9-7 mm high, 2.2-3 mm across. Staminate perianth green, ellipsoid, ca. 9.4 mm long, ca. 3.4 mm across, broadest in middle, abaxially glabrous outside, whitish pubescent inside, apex 3-lobed, lobes deltoid, ca. 1 mm high, ca. 1.3 mm wide at base. Stamens 7-9, fused at base and forming a synandrium, upper part free, biseriate, outer seriate 5-6, inner seriate 2-3; filaments greenish white, distinct part ca. 2.8 mm long, connate part ca. 1.7 mm long; anthers light brown, 2-celled, basifixed. Pistillate flower not seen. Fruits a berry, globose or depressed-globose, ca. 9 mm high, 9.5 mm in diameter.

Specimen examined: Nantou County, Ren-ai Township, Provincial Road no.8, at road marker 92.8 km, elev. 1,997m, with staminate flowers, 10 June 2010, *Hsu 16038* (TAIE), Provincial Road no.8, at road marker 92.3 km, elev. 1,967m, fruits, 12 Aug 2010, *Hsu 16138* (TAIE).

Distribution: China (Guangdong, Guangxi, Guizhou, Hubei, Hunan, Sichuan, Yunnan), Vietnam (Koyama, 1984) and Taiwan (forests

in Central Mountain Range at elevations of 1,900 to 2,000m).

Remarks: *H. septemnervia* belongs to the section *Polyandrae*, which is distributed in the southeastern region of continental China (Koyama 1984). Its closest ally is *H. seisuensis* (Koyama 1984). Both species have similar polyandrous flowers but differ by the almost free filaments in *H. seisuensis* and partially fused in *H. septemnervia*.

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