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NOTE

Cynanchum mooreanum Hemsl. (Asclepiadaceae), a New Recorded Species in Taiwan

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ABSTRACT: *Cynanchum mooreanum* Hemsl. is a perennial liana of Asclepiadaceae. Based on literature study this species is endemic to Mainland China. Recently, we found a new distribution record of this species in central Taiwan. It grows in open and dry grasslands. In this article we provide description, photos, distribution map, key and line drawing. This is a new recorded species to the flora of Taiwan.

KEY WORDS: *Cynanchum*, Asclepiadaceae, *Cynanchum mooreanum*, Taxonomy, Taiwan.

INTRODUCTION

Cynanchum L., a genus of Asclepiadaceae, consists of about 200 species, and is mainly distributed in Africa, North and South America, Europe and Asia. Fifty-seven species occur in China (Li et al., 1995), with 4 species in Taiwan (Lu et al., 1993; Boufford et al., 2003). Recently, we found *C. mooreanum* in central Taiwan which was not previously recorded in Taiwan. *Cynanchum mooreanum* is endemic to China, including Anhui, Fujian, Guangdong, Guangxi, Henan, Hubei, Hunan, Jiangxi and Zhejiang, and grows in thickets or open woodlands, elevation ca. 200-700 m (Tsiang and Li, 1977).

This species was first described as *Vincetoxicum chinense* by S. Moore in 1857. When transferring, *V. chinense* Moore could not be directly transferred into genus *Cynanchum* L. and named as *C. chinense* (Moore) Hemsl., because this name had already been used in 1810 by Brown to describe a different species. Later in 1889, Hemsley proposed a new name *C. mooreanum* to replace *V. chinense* Moore (Forbes and Hemsley, 1889). In the same year and in the same journal on page 104, Hemsley also described a new species from Kwangtung named *C. affine* (Forbes and Hemsley, 1889). This species is the same as *C. mooreanum* Hemsl. Although *C. affine* Hemsl. seems to have priority over *C. mooreanum* Hemsl., because *C. mooreanum* Hemsl. was on page 108, *C. mooreanum* Hemsl. replaced an earlier name *V. chinense* Moore and become the legal name of this species.

Key to *Cynanchum* species in Taiwan

1. Plants erect ..... *C. atratum*
1. Plants twining 2
2. Stem glabrous, leaves coriaceous 3
2. Stem pubescent, leaf membranous to chartaceous 4
3. Leaves broad ovate to ovate; corona twice longer than gynostegium ..... *C. lanhsuense*
3. Leaves elliptic to oblong; corona shorter than gynostegium ..... *C. formosanum*
4. Peduncles 6-10 cm long, corona longer than gynostegium, corolla green ..... *C. boudieri*
4. Peduncles 1-2 cm long, corona shorter or equal to gynostegium, corolla purplish red ..... *C. mooreanum*

TAXONOMIC TREATMENT

Cynanchum mooreanum Hemsl. in J. Linn. Soc. Bot. 26: 108, 1889. 毛白前 Figs. 1 & 2

Vincetoxicum chinense S. Moore in J. bot. 13:228 1875 non *Cynanchum chinense* R. Brown 1810.
Cynanchum affine Hemsley in J. Linn. Soc. Bot. 26:104 1889.
Vincetoxicum affine (Hemsley) Kuntze Revis. Gen. Pl. 2: 424. 1891.

Perennial liana, monoecious. Stems slender, twining, to 2 m, pubescent. Leaves simple, opposite, abaxial surface pubescent, ovate to cordate-ovate, apex acute, base cordate to shallow cordate, 5-6 cm long, 2.5-3.5 cm wide. Petioles 1-2 cm long, pubescent, with trench at upper side, estipule. Inflorescences cyme umbel like, axillary, peduncles 1-2 cm, pubescent. Flowers bisexual, actinomorphic. Calyx 5-lobed, lobes triangle. Corolla 5-lobed, lobes narrow triangle, reddish purple or milky yellow with reddish purple at base. Corona 5-lobed, lobes ovate, apex obtuse. Ovary superior, glabrous, carpels 2. Follicles 8-9 cm long. Seeds comose.

Species examined: Taiwan: Taichung County: Lungjing Hsiang, Nanliao village. *elev. ca*. 200 m. 22 Aug. 2008, *Y. J. Hong s.n.*; same loc, 24°10'24.98" N, 120°33'48.81" E. 14 Jun. 2009, *C. T. Chao 730, 731, 732, 733*. (TCF). China: Jiangxi: Lushan, Tonyuan. 5 Jun. 2005, *A. M. Don 706*. Joujiang. 1 Jun. 2003. *T. M. Tan 3170* (TAIF).

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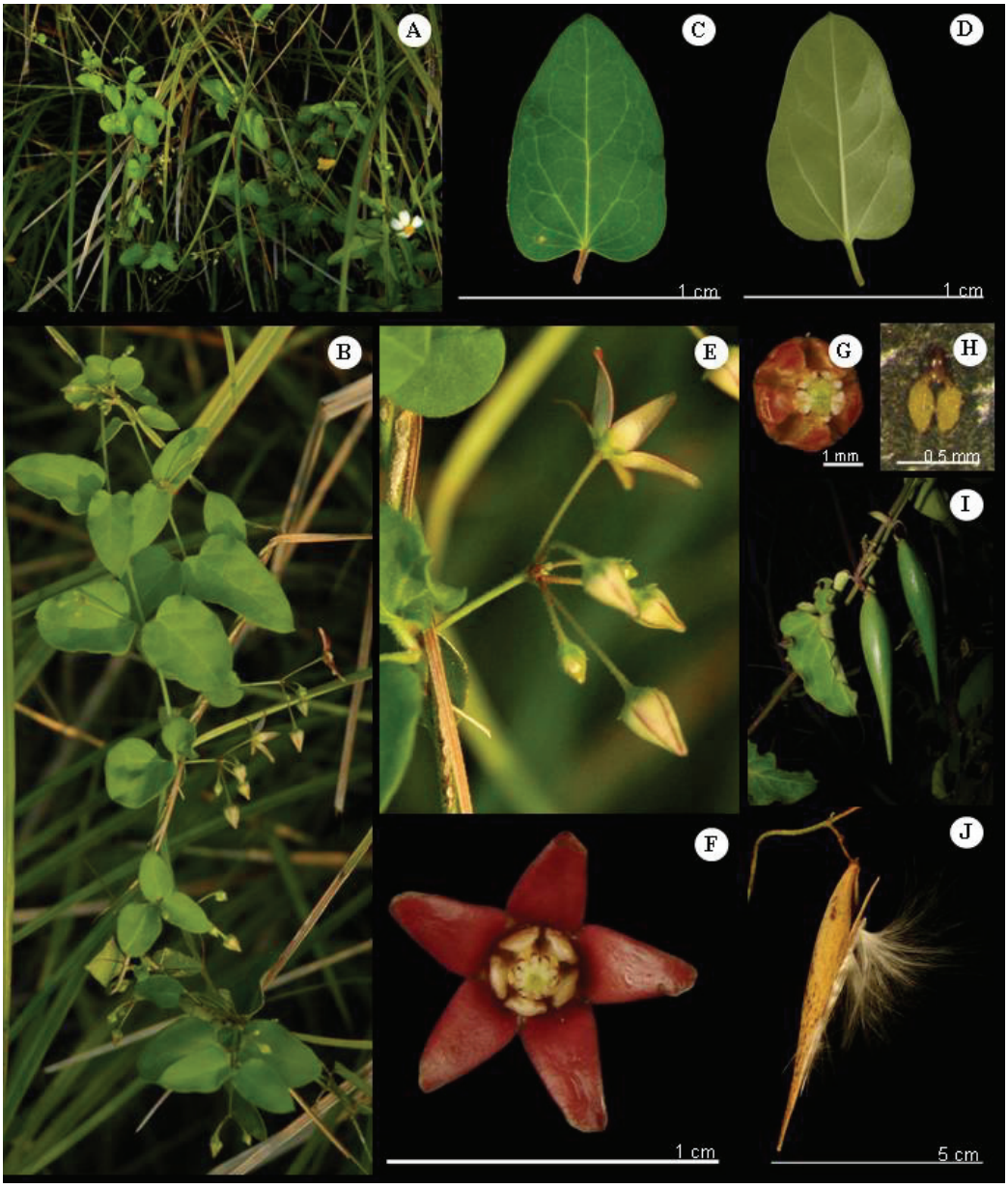


Fig. 1. *Cynanchum mooreanum* Hemsl. A: Habitat. B: Habit C: Leaf abaxial. D: Leaf abaxial. E: Inflorescence. F: Flower (normal type). G: Gynoecium. H: Pollinium. I: Inmature fruit. J: Mature fruit.

Note: *Cynanchum mooreanum* Hemsl. is similar to *C. boudieri* H. Lev & Vaniot in Taiwan. The major differences between these two species are the corolla color (dark red vs. pale green), and length of petiole (1-2 cm vs. 3-7 cm, Table 1). The two species also have different distribution ranges in Taiwan. *Cynanchum mooreanum* Hemsl. is only found in open grassland at low altitudes in western Taiwan, but *C. boudieri* H. Lev & Vaniot is found along central mountains at medium altitudes (Fig. 3).

Table 1. Comparison between *Cynanchum boudieri* H. Lev & Vaniot and *C. mooreanum* Hemsl.

	C. boudieri	*C. mooreanum*
Leaves		
Petioles	3-7 cm	1-2 cm
Inflorescences		
Peduncle	6-10 cm	1-2 cm
Flowers		
Corolla color	pale green	dark red
Corolla lobes	ovate	narrow triangular

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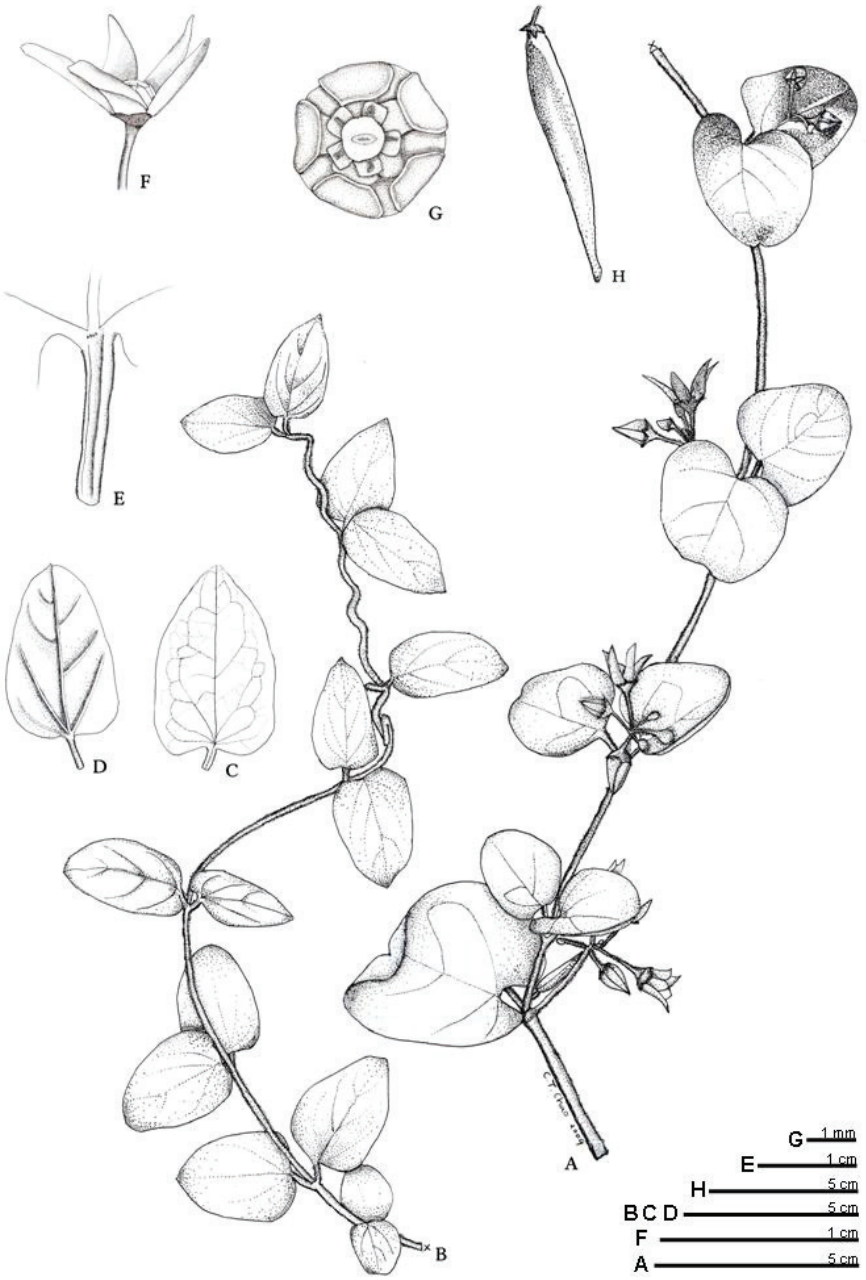


Fig. 2. *Cynanchum mooreanum* Hemsl. A, B: Habit. C: Leaf adaxial surface. D: Leaf abaxial surface. E: Petiole. F: Flower. G: Ventral surface of gynostegium. H: Fruit.

Distribution and habitat: The type specimen of *C. mooreanum* Hemsl. was collected from Ningpo, China (Moore, 1875). This species was mainly distributed in China and very rare in Taiwan. Only found in the Dadu plateau, elevation ca. 200 m, central Taiwan. The plant twins on the trees, grows in open and dry grassland and often associated with *Miscanthus floridulus* (Labill.) Warb. *ex* Schum. & Laut., *Acacia confusa* Merr. and *Tephrosia noctiflora* Bojer *ex* Baker.

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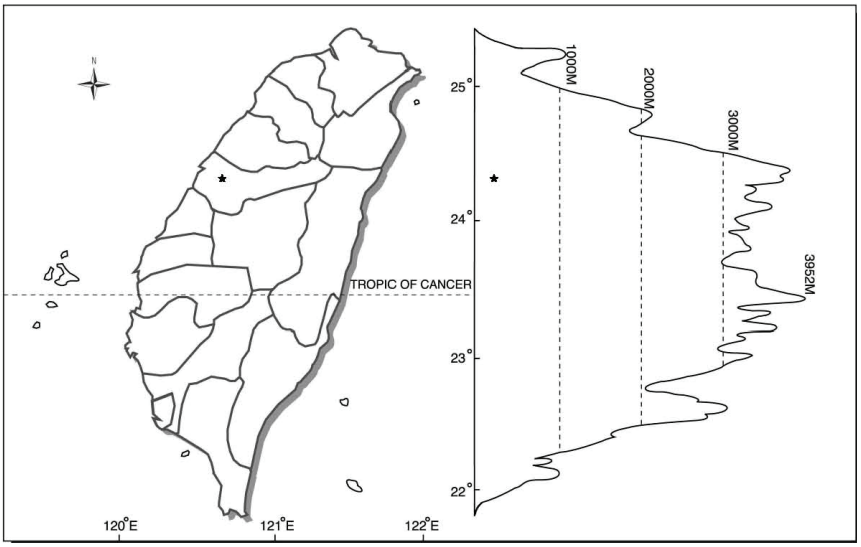


Fig. 3. Distribution map of *Cynanchum mooreanum* Hemsl. in Taiwan.

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臺灣產牛皮消屬 (蘿藦科) 新紀錄種－毛白前

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摘要：毛白前為蘿藦科牛皮消屬多年生藤本植物，文獻記載本種為中國大陸之特有種，最近在臺灣中部低海拔地區發現新分布地，常生長於開闊之草生地。本文提供植物描述、植株照片、分布圖及手繪圖。

關鍵詞：牛皮消屬、蘿藦科、毛白前、分類學、臺灣。

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