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NOTE

Melampyrum roseum Maxim. (Scrophulariaceae), a Newly Recorded Genus and Species in Taiwan

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ABSTRACT: *Melampyrum roseum* Maxim. (Scrophulariaceae), a newly recorded genus and species from Taiwan, is thus far known only from one locality in the mid-elevational (ca. 1400~1600 m) mountains of the northern part of the Central Mountain Range. This species is also distributed to Russia, Korea, Japan, and China. We provide a description, a taxonomic description, an illustration, and photographs to facilitate identification.

KEY WORDS: Newly recorded genus, *Melampyrum roseum*, Scrophulariaceae, Taiwan, taxonomy.

INTRODUCTION

The Scrophulariaceae *sensu lato* (*s.l.*) is not monophyletic and might not be a natural group (Tank et al., 2006). It is a huge family, with about 4000 species in 200 genera. *Melampyrum* L. is a semiparasitic genus that obtaining some nutrients from other plant, thought it is able to survive on their own. This genus and has two main distributions, one in Europe extending into Asia, and the other in East Asia extending into tropical regions (Kwak et al., 1988). In a recent investigation, *Melampyrum* was treated as belonging to the tribe Rhinantheae of the family Orobanchaceae according to it being semiparasitic (Lu et al., 2007) and a molecular analysis (Young et al., 1999; Bennett and Mathews, 2006, Park et al., 2008). Here, we tentatively placed the taxon in the Scrophulariaceae *s.l.* in this study. *Melampyrum* has about 20 species in the northern hemisphere, and the taxonomy is quite complex for intraspecific treatments. There are four species in East Asia, including three species in China (Yamazaki, 1954; Hong et al., 1998).

We collected this unrecorded genus and species in our botanical exploration of the northern part of the Central Mountain Range in Taiwan, where it is rare.

TAXONOMIC TREATMENT

Melampyrum is a newly record genus for the flora of Taiwan.

Melampyrum Linnaeus, Sp. Pl. 605. 1753. 山蘿花屬

Herb, annual, hemiparasitic. Leaves opposite. Flowers solitary in axils of bracts or congregated into racemes; bracts leaflike in shape, margin often with teeth or rarely entire. Calyx campanulate; lobes 4, upper 2 larger than lower 2. Corolla tube tubular, gradually expanding upward; limb dilated, 2-lipped; upper lip galeate, compressed, slightly shorter than lower lip, apex obtuse. Stamens 4, didynamous, enclosed by galea; anthers connivent. Ovules 2 per locule. Stigma capitate, entire. Capsule ovoid, 2-valved, straight or oblique, loculicidal, apex obtuse or tapered. Seeds 1-4.

About 20 species: Northern hemisphere; only one species in Taiwan.

Melampyrum roseum Maxim. Prim. Fl. Amur. 210. 1859. 山蘿花 Figs. 1-3

Annual herb, erect, 15-80 cm tall; stem quadrangular, pilose, loosely branched. Leaves opposite, chartaceous; petioles 0.3-0.5 cm, with pubescent hairs; blade lanceolate, 2-8 cm long, 0.7-3 cm wide, elliptical, apex acuminate, base acute or cuneate, margins entire. Bracts green, acute or narrowly acuminate, with pointed teeth or setose-like at base or along whole margin, rarely entire. Calyx pubescent or scabrous, short ciliate, 5-8 mm long; lobes narrowly triangular to linear, 3-4 mm long. Corolla purple to purplish-red, with white on sides, 15-20 mm long, galea densely barbate inside. Capsule ovoid or subglobose, with acute apex, 8-10 mm long, scaly or hairy on upper side. Seeds black, usually 1-4, oblong and glabrous, 3-4 mm long.

Distribution: Native to East Asia, including Russia, Korea, Japan, and China. In Taiwan, it occurs at about 1400-1600 m in elevation in northern Taiwan, where it is thickest on slopes among high grasses. Flowering Jun-Sep, fruiting Sep-Oct.

Specimens examined: Taoyuan Co.: Fusing Township, Najieshan, 18 July 2008, *Yu S. K. 69* (TNM); same loc. 12 Aug 2008, *Wang C. M. 12262* (TNM).

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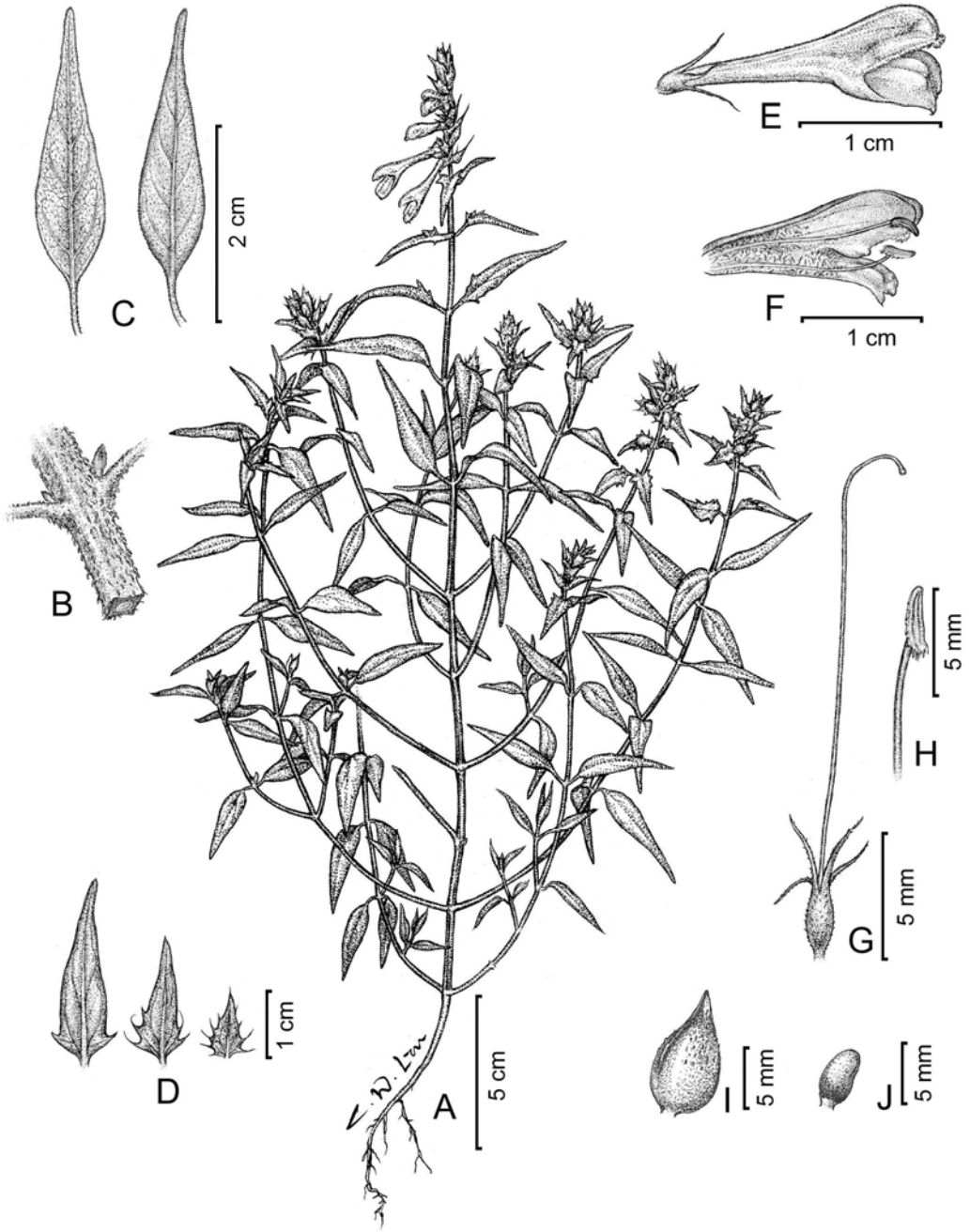


Fig. 1. *Melampyrum roseum* Maxim. A: Habit. B: Stem. C: Leaves. D: Bracts. E: Flower. F: Longitudinal section of corolla. G: Flower with corolla and stamens removed. H: Stamen. I: Capsule. J: Seed. *(C. M. Wang 12262)*

Notes: Calyx-lobes of *M. roseum* are highly variable, from triangular to linear in different regions and countries (Yamzaki, 1954). Bract morphology also exhibits great diversity, and the number of recognized species varies among authors. However, four varieties under this species were classified in the *Flora of China* (Hong, 1979; Hong et al., 1998). After the examining of specimens from Taiwan, we treat it as *M. roseum* base on the opinion of Hong et al. (1998). *Melampyrum* is root-semiparasitic, but we still do not know its host well. This species was found in an exposed area near mountain ridge, mixed with *Yushania niitakayamensi*s (Hayata) Keng f., and *Rhododendron formosanum* Hemsl.

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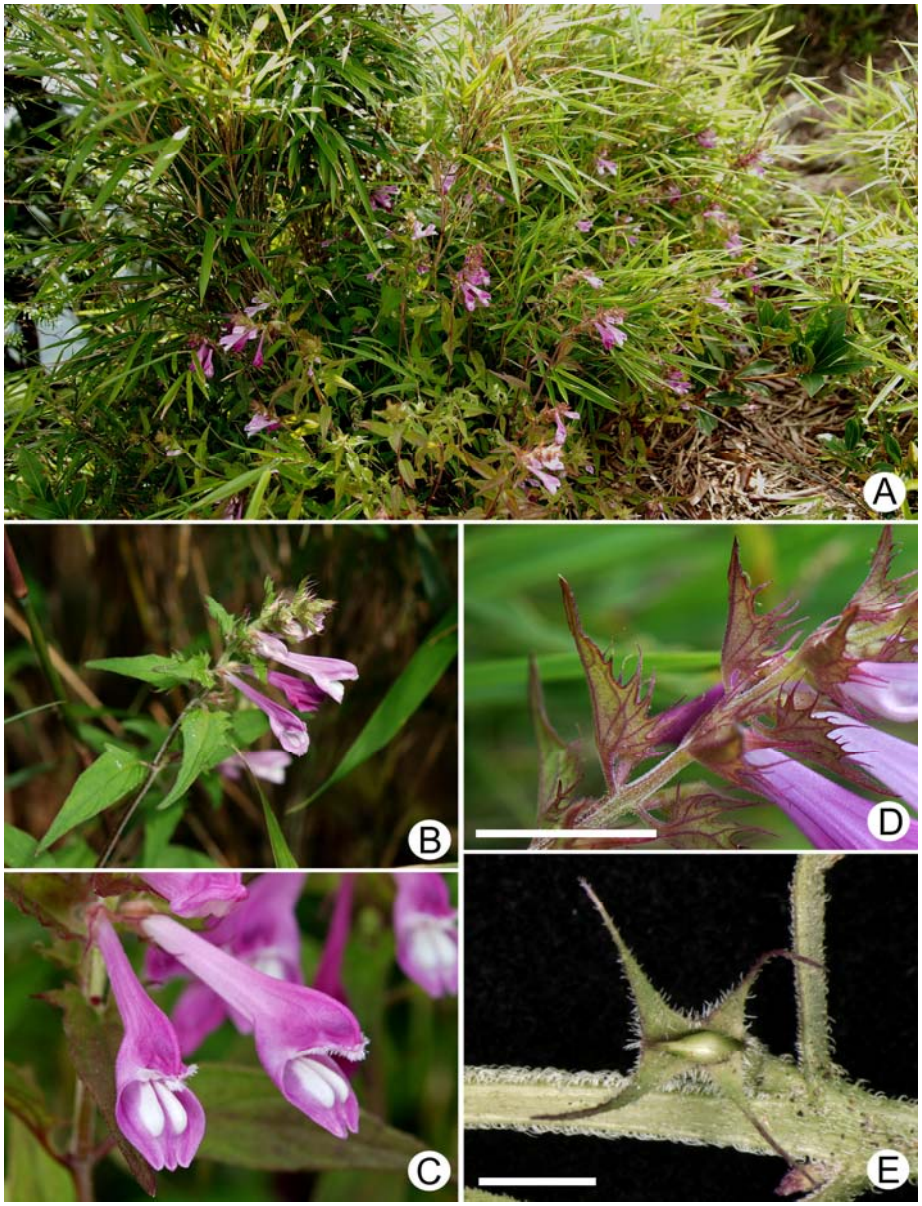


Fig. 2. *Melampyrum roseum* Maxim. A: Habit. B: Inflorescence. C: Flowers. D: Bracts. E: Calyx and immature capsule.

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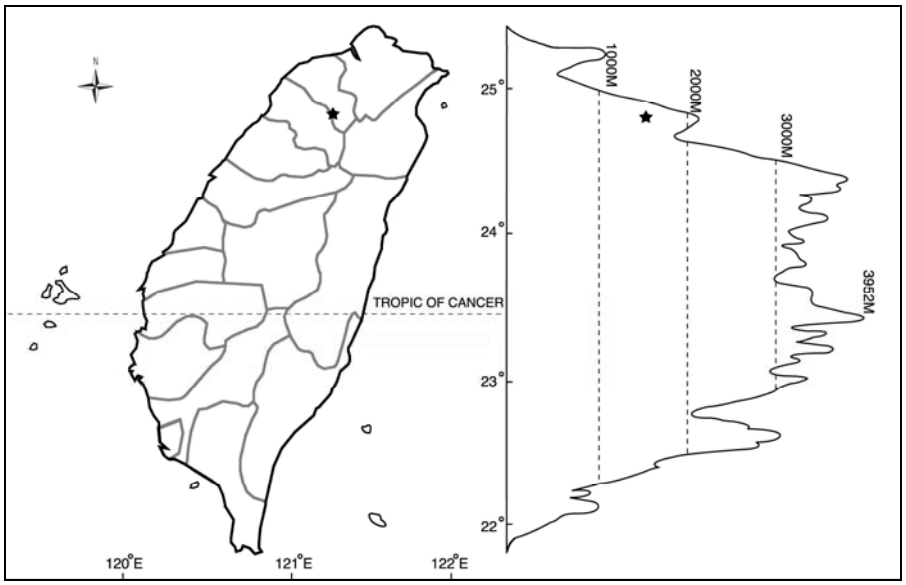


Fig. 3. Distribution of *Melampyrum roseum* (★) in Taiwan.

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臺灣產玄參科新紀錄屬及新紀錄種：山蘿花

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摘要：本文發表臺灣玄參科 (Scrophulariaceae) 的新紀錄屬－山蘿花屬 (*Melampyrum* L.)，及新紀錄種－山蘿花 (*M. roseum* Maxim.)；此種植物亦分佈於蘇聯、朝鮮、日本、與中國等東亞地區。山蘿花被首度發現於中央山脈北段，約海拔 1400-1600 公尺山區。本文提供分佈圖，分類特徵描述，手繪圖，照片以供區分鑑定。

關鍵詞：新紀錄屬、山蘿花、玄參科、臺灣、分類。

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