小花薺苧（唇形科）：臺灣植物誌新增物種

Mosla cavaleriei (Lamiaceae), an addition to the flora of Taiwan

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Abstract

The occurrence of *Mosla cavalerirei* H. Lév., previously recorded in southern China and northern Vietnam, is confirmed in Taiwan. This species could be distinguished from other congeneric species by having obvious pilose stems and leaves, leaf margin finely serrate with 6–14 pairs of teeth, shallowly toothed upper calyx, relatively small (2.5–3.5 mm long) corollas, and loosely netted nutlets.

Key words: *Mosla cavalerirei*, Lamiaceae, Taiwan, taxonomy.

摘要

本文報導原紀錄於中國南部及越南北部的小花薺蓴 *Mosla cavaleriei* H. Lév. (唇形科) 亦生長於台灣。此種可藉由莖葉明顯被柔毛，葉緣具 6－14 對細鋸齒，萼筒上唇淺裂，較小的花冠筒 (2.5－3.5 mm) 及小堅果表面疏網狀之特徵與同屬其它類群區辨。

關鍵詞：小花薺蓴、唇形科、臺灣、分類學

Introduction

Mosla is a genus of Lamiaceae comprised of about 22 species distributed in East Asia, the Himalayas, and Southeastern Asia (Li and Hedge 1994; Huang et al. 1998). When revising *Mosla* specimens stored in TAIF, we noticed that several collections from various locations of Taiwan do not agree well with the three currently known taxa (Hsieh and Huang 1999). After a careful study of literature, fresh materials, and herbaria specimens, we are convinced that an additional native species, *M. cavaleriei* H. Lév., occurs in Taiwan. Background data of its morphology, distribution, ecology, and conservation status are provided.

Key to the *Mosla* species in Taiwan

1. All bracts leaf-like, ovate to circular-obovate, surpassing calyx; nutlets pitted.....*M. chinensis*
- At least upper bracts ovate-lanceolate to needle-like, not surpassing calyx (lower bracts occasionally leaf-like and surpassing calyx); nutlets netted.....2
2. Upper lip of calyx deeply toothed, teeth narrowly triangular; nutlets densely netted.....*M. scabra*
- Upper lip of calyx shallowly toothed, teeth broadly triangular; nutlets loosely need.....3
3. Stems sparsely villous; leaves sparsely pilose, finely serrate with 6–14 pairs of teeth; corolla 2.5–3.5 mm long..... ..... *M. cavaleriei*

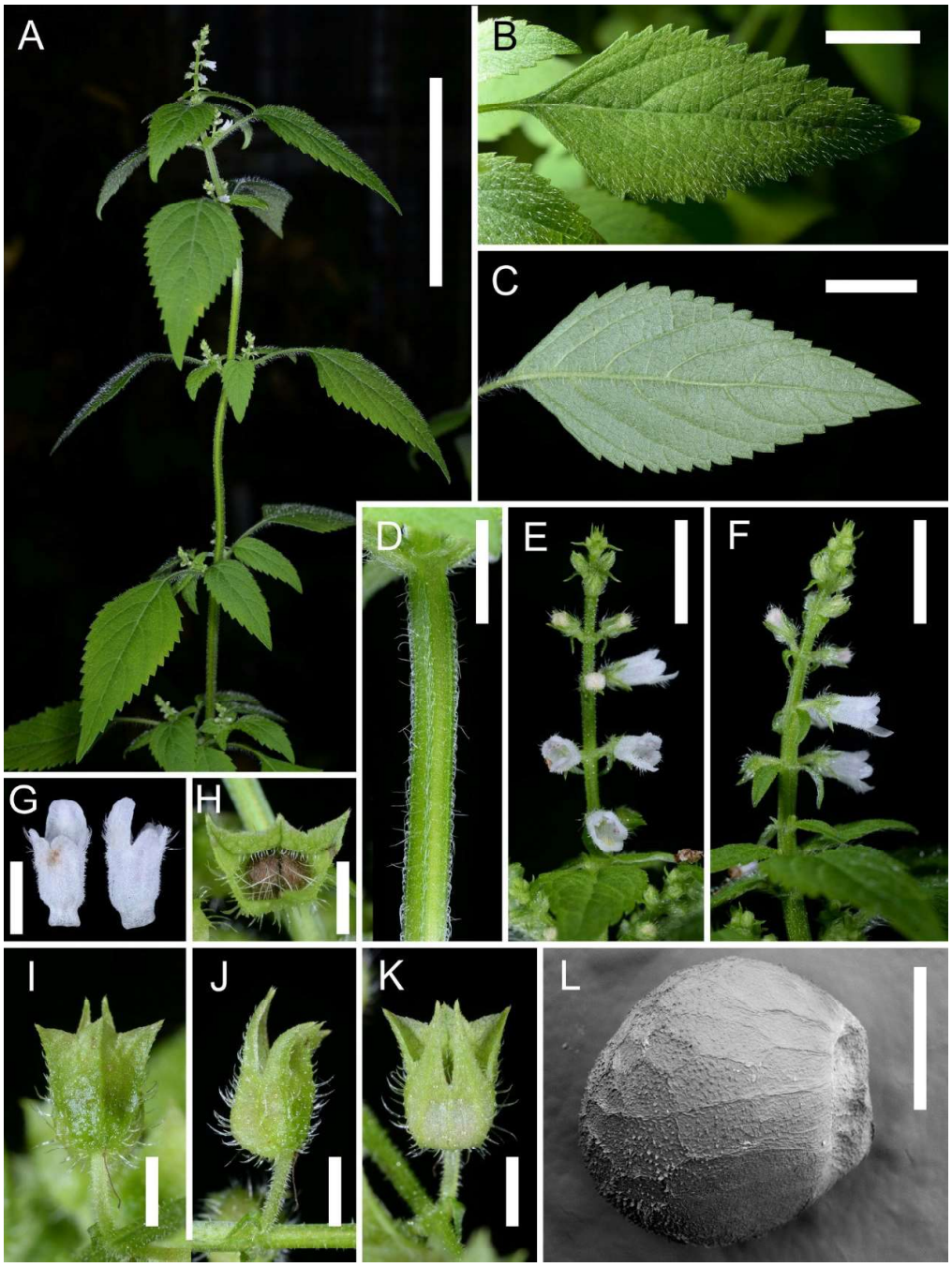

Fig. 1. Morphology of *Mosla cavaleriei* in Taiwan, from *Hsu 11021* (A–G), *Hsu 11078* (H–K) and *Hsu 4702* (L). A. Habit. B–C. Leaves; B, adaxial view; C, abaxial view. D. Stem. E–F. Inflorescence and flowers. G. Corollas, top view (left) and side view (right). H–K. Fruiting calyx; H, front view; I, top view; J, side view; K, bottom view. L. Nutlet. Scale bars: A = 5 cm; B–C = 1 cm; D–F = 5 mm; G–K = 2 mm; L = 0.5 mm.

- Stems glabrescent to sparsely pubescent; leaves glabrous or subglabrous, coarsely serrate with four to seven pairs of teeth; corolla 4–6 mm long..... ..... *M. dianthera*

Taxonomic Treatment

Mosla cavaleriei H. Lév., Repert. Spec. Nov. Regni Veg. 9(211–213): 247–248. 1911.

≡*Orthodon cavaleriei* (H. Lév.) Kudô, Mem. Fac. Sci. Taihoku Imp. Univ. 2: 81. 1929.

Type: CHINA. Guizhou (Kouy-Tcheou): Pin-fa, 24 Sep 1902, *P. J. Cavalerie 530* (holotype: E-00417165 image!). 小花薈蓼 Fig. 1.

Morphology: Herbs annual, 15–60(–100) cm tall. Stems branched, quadrangular, puberulent, and sparsely villous. Leaves opposite; petioles 1–2 cm long; leaf blades ovate, rhombic-ovate or ovate-lanceolate, (1.5–)2–4(–5) × 1–2.5 cm, papery, base rounded to broadly cuneate, margin finely serrate with six to 14 pairs of teeth, apex acute, adaxially sparsely pilose, abaxially pilose on veins, impressed glandular. Racemes 2.5–4.5 cm in flower, to 8 cm in fruit, finely pilose; bracts minute, ovate-lanceolate, slightly shorter to slightly longer than pedicels, sparsely pubescent and glandular. Pedicel ca. 1 mm. Calyx ca. 1.2 × 1.2 mm, dilated to 4–5 × ca. 3 mm in fruit, pilose outside; upper teeth minute, broadly triangular; lower teeth slightly longer, narrowly triangular. Corolla purplish or whitish, 2.5–3.5 mm long, pubescent outside, lower lip longer than upper lip. Nutlets gray-brown, subglobose, 1–1.5 mm in diam., loosely netted.

Distribution: Southern China, northern Vietnam, and Taiwan.

Ecology: Growing on humid, semi-open roadsides, forest margin and forest gaps at the elevations of 200–1900 m. Flowering and fruiting recorded from July to November.

Voucher specimens in Taiwan: New Taipei: Pinglin, 200–500 m, 8 Oct

1997, *Ho 647* (TAIF); Shihpai, 500 m, 24 Nov 2018, *Hsu 11078* (TAIF); Ssutu, 540 m, 24 Oct 2018, *Hsu 11021* (TAIF). Taoyuan: Lalashan Nature Preserve, 1550–1700 m, 25 Sep 1991, *Peng 14655* (HAST; TAIF). Hsinchu: Yuanyanhu, 1800–1900 m, 17 Sep 2000, *Chen et al. 3492* (TAIF). Yunlin: Shihbi, 21 Sep 2012, *Tsai et al. TSY478* (TAIF). Pingtung: Chinshuiying Anciant Trail, 1400–1500 m, 18 Sep 2011, *Hsu 4702* (TAIF). Ilan: Mt. Taiping, 23 Jul 1970, *Kao 7654* (PH, image; TAI); 100 Lindaw, 1320 m, 17 Sep 1996, *Wang & Lin 2202* (TAIF); Kulu Forest Trail, ca. 400 m, 7 Nov 2010, *Chen 1632* (TAIF); Songlohu, 1230 m, 20 July 2000, *Chen 7475* (TAIF); Sunglohu, 1300 m, 20 July 2000, *Chung 2715* (TAIF); *Chung 2716* (TAIF).

Additional specimens examined: CHINA. Sichuan: *Chenzhao 9769* (TAIF). VIETNAM. Ninh Binh: *Cuong et al. NMC 1222* (P, image).

Conservation status: Our herbaria and field surveys revealed that *Mosla cavaleriei* scattered among low- and mid-altitudinal mountainous regions throughout the main island of Taiwan, with several subpopulations located within protected areas, and no immediate or potential threats could be detected. Considering the fact that *M. cavaleriei* is naturally distributed in adjacent areas and has never been reported as a naturalized species, we consider it as a native species in Taiwan and evaluate it as Least Concern (LC) based on IUCN Red List Categories and Criteria (IUCN Standards and Petitions Committee 2019).

Taxonomic remarks: Morphologically, *Mosla cavaleriei* could be confused with *M. dianthera* as they share very similar calyx and nutlet morphology (Fig. 1H–L; also see Zhou et al. 1997; Hsieh and Huang 1999). However, as mentioned in the key, the former is readily distinguishable in having obvious pilose stems and leaves (Fig. 1A–D), fine serrate leaf margins (Fig. 1A–C), and much smaller corollas (Fig. 1E–G). Recent

molecular data (Li et al. 2017) showed that these two species are genetically not closely allied.

Two taxa described from Japan, namely *Mosla hirta* (Hara) Hara [≡*Orthodon hirtus* Hara] and *M. dianthera* (Buch.-Ham. ex Roxb.) Maxim. var. *nana* (Hara) Ohwi [≡*O. grosseserratum* var. *nanum* Hara], are closely related to *M. cavaleriei*. Based on morphological descriptions (Hara 1936; 1938; 1955; Murata and Yamazaki 1993), we speculate that these two names are possibly later synonyms *M. cavaleriei*, and the treatment of Ying (2019) who synonymized them under *M. dianthera* is impractical. However, for now we hesitate to propose any formal taxonomic treatment as we have no access to their type materials. A critical review of Japanese materials might be necessary to eventually clarify their identities. Nevertheless, the plants once recognized as *M. hirta* or *M. dianthera* var. *nana* from Taiwan (Hara 1955; Huang and Cheng 1978) should be corresponded to *M. cavaleriei*.

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