

## *Myosotis arvensis* (L.) Hill (Boraginaceae), a Naturalized Species in Taiwan

Tsai-Wen Hsu<sup>(1, 2)</sup>, Tzen-Yuh Chiang<sup>(2)</sup>, Jenn-Che Wang<sup>(3, 4)</sup>

(Manuscript received 20 April, 2002; accepted 28 May, 2002)

**ABSTRACT:** *Myosotis arvensis* (L.) Hill (Boraginaceae), a species native in the Europe, was naturalized recently in the northeast Taiwan. The introduction of *M. arvensis* adds a new element for both the genus and the species to the floristic composition of this island. *Myosotis* closely resembles *Trigonotis*, but can be easily distinguished from the latter and other genera of the Boraginaceae by having smooth and biconvex nutlets. This paper provides description of the genus and the species, line drawing, and color photos.

**KEY WORDS:** Boraginaceae, *Myosotis arvensis*, Naturalized plant, Newly recorded genus, Newly recorded species, Taxonomy, Taiwan.

### INTRODUCTION

Boraginaceae comprises ca. 117 genera and 2,400 species in the world (Zhu *et al.*, 1995). Despite the early Japanese works, the family of Taiwan has been taxonomically revised by Hou (1950), Hsiao (1978), and Liu (1998a). Consequently, twelve genera and 24 species were recorded in the second edition of Flora of Taiwan (Liu, 1998b). Recently, Wang and Shen (2001) reported a new record, *Trigonotis peduncularis* (Trev.) Bentham *ex* Baker & S. Moore, from Alishan, central Taiwan. In the course of our botanical inventory, *Myosotis arvensis* (L.) Hill was found recently naturalized in northeast Taiwan. It represents a new record for the genus and the species on this island. This paper describes the morphology of the genus and species with a line drawing and color photos.

### TAXONOMIC TREATMENT

#### *Myosotis* Linn.

Herbs annual or perennial, usually pubescent. Leaves alternate. Inflorescences terminal, raceme-like scorpioid cymous, simple to few-branched, ebracteate or rarely with few bracts; calyx 5-lobed or parted; corolla blue or white, 5-lobed, rotate, with 5 scale-like appendages at the throat; stamens 5, included, inserted at corolla tube, anthers ovate to elliptic, filaments short; Ovary 4-parted, globose, style single, stigma capitate. Nutlets 4, biconvex, smooth, shiny.

---

1. Division of Botany, Taiwan Endemic Species Research Institute, Nantou 552, Taiwan.

2. Department of Biology, Cheng-Kung University, Tainan 701, Taiwan.

3. Department of Biology, National Taiwan Normal University, Taipei 116, Taiwan.

4. Corresponding author. e-mail: [biofv017@scn.ntnu.edu.tw](mailto:biofv017@scn.ntnu.edu.tw) Tel.: +886-2-29326234 ext. 229 Fax: +886-2-29312904

About 50 species, widely distributed in Africa, Asia, Australia, Europe and North America, mostly in the temperate regions of the Old World, particularly Europe (41 spp., Grau and Merxmuller, 1972) and New Zealand (34 spp., Allan, 1982).

***Myosotis arvensis* (L.) Hill, Veg. Syst. 7:55. 1764.**

Figs. 1-2

Herbs with ascending stems, 8-30 cm tall, densely pubescent throughout. Leaves alternate, sessile, entire, densely strigose on both surfaces, basal leaves oblanceolate, up to 5 cm long, 0.5-1 cm wide, base attenuate; cauline leaves smaller, narrow oblong to lanceolate, 1.5-2 cm long, ca. 0.5 cm wide, apex obtuse to acute. Cymes terminal, raceme-like scorpioid, simple to 2-branched, up to 15 cm long, axis appressed strigose; pedicels 1-4 mm long, slender; calyx 5-lobed, lobes lanceolate, 1-1.5 mm long, densely strigose on both surfaces, calyx-tube covered with hooked hairs; corolla light blue-purple, 5-lobed, rotate, lobes semi-orbicular, 0.6-0.7 mm long, with 5 trapeziform appendages at the throat; stamens 5, included, inserted at corolla tube, filaments short; Ovary globose, green, style single, stigma capitate. Nutlets 4, biconvex, black, smooth, shiny.

**Specimen examined:** TAIWAN. TAICHUNG: Ssuyuanakou, *Hsu10356* (TESRI, TNU); Shengkung to Ssuyuan, *Yang et al. 8428* (TNM).

The genus *Myosotis* is most closely related to *Trigonotis*, both belong to the tribe Trigonoteae, but can be easily distinguished from the latter and other genera of the Boraginaceae by having smooth and biconvex nutlets.

*Myosotis arvensis* is a temperate weed originally native throughout Europe (Grau and Merxmuller, 1972), but has naturalized widely in temperate Asia. A small population of this species was found from Ssuyuanakou, northeastern Taiwan, on banks of drainage ditch by the side of the vegetable garden. Probably, the species was introduced incidentally by the seeds mixed in vegetable seeds.

### ACKNOWLEDGMENTS

This work was supported in part by research grants from Council of Agriculture.

### LITERATURE CITED

- Allan, H. H. 1982. *Myosotis*. In: Flora of New Zealand. Vol. 1, pp. 807-833. (First Published 1961-reprinted without amendment 1982). Manaaki Whenua Press, Lincoln.
- Grau, J. and H. Merxmuller. 1972. *Myosotis*. In: Tutin, T. G. *et al.* (eds.), Flora Europaea. Vol. 3, pp. 111-117. Cambridge University Press, Cambridge.
- Hou, D. 1950. The Boraginaceae of Taiwan. *Taiwania* **1**: 197-222.
- Hsiao, J.-Y. 1978. Boraginaceae. In: Li, H.-L. *et al.* (eds.), Flora of Taiwan. Vol. 4, pp. 392-409. Epoch Publ. Co., Taipei.
- Liu, H.-Y. 1998a. An enumeration of Taiwan Boraginaceae. *Taiwania* **43**: 123-131.
- Liu, H.-Y. 1998b. Boraginaceae. In: Huang, T.-C. *et al.* (eds.), Flora of Taiwan, 2nd ed. Vol. 4, pp. 387-402. Editorial Committee of the Flora of Taiwan, Second Edition, Taipei.
- Wang, J.-C. and S.-D. Shen. 2001. The genus *Trigonotis* Steven (Boraginaceae) in Taiwan. *Taiwania* **46**: 363-375.
- Zhu, G.-L., H. Riedl and R. Kamelin. 1995. Boraginaceae. In: Wu, Z.-Y. and P. H. Raven (eds.), Flora of China Vol. 16, Gentianaceae through Boraginaceae, pp. 329-427. Science Press (Beijing) & Missouri Botanical Garden (St. Louis).

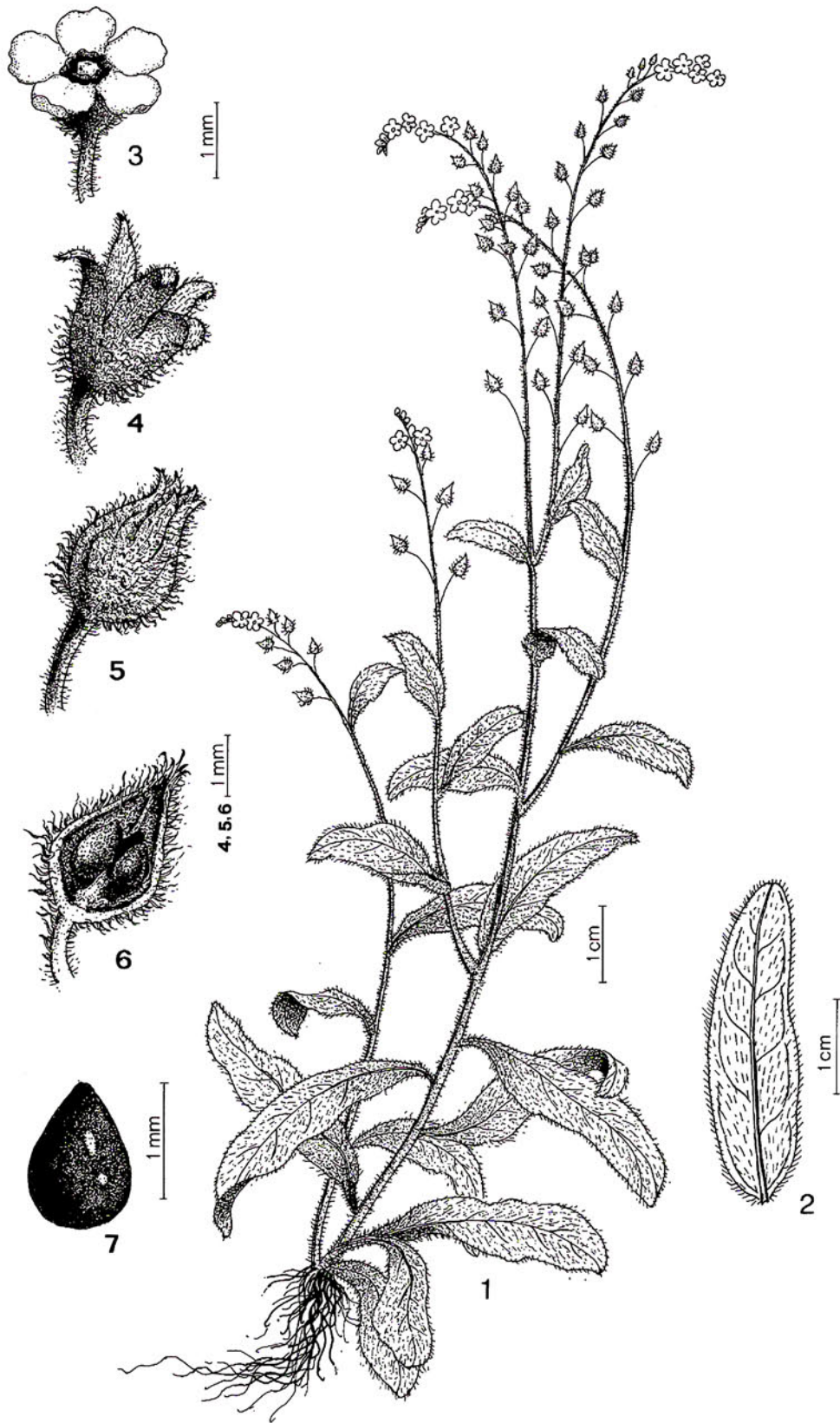


Fig. 1. *Myosotis arvensis* (L.) Hill. 1: Habit; 2: Leaf; 3: Flower; 4: Calyx, in flowering stage; 5: Calyx, in fruiting stage; 6: Fruit, with calyx partially removed; 7: Nutlet.



Fig. 2. *Myosotis arvensis* (L.) Hill. A: Habit; B: Dissected flower, showing the hooked hairs on the outer surface of calyx tube, and the scale-like appendages at the throat of corolla-tube; C: Fruit, showing the biconvex and smooth nutlets.

## 台灣紫草科的新紀錄植物—野勿忘草

許再文<sup>(1,2)</sup>、蔣鎮宇<sup>(2)</sup>、王震哲<sup>(3,4)</sup>

(收稿日期：2002 年 4 月 20 日；接受日期：2002 年 5 月 28 日)

### 摘 要

本文報導最近在台灣東北部發現原產於歐洲之新紀錄種—野勿忘草(*Myosotis arvensis* (L.) Hill)。對台灣而言，此發現是新紀錄屬亦是新紀錄種。勿忘草屬與附地草屬相似，但以其平且光滑、雙凸鏡形之小堅果，而與後者以及台灣所產紫草科其他屬皆不同。本文提供屬及種之形態描述、彩色照片及繪圖。

關鍵詞：紫草科、野勿忘草、歸化植物、新紀錄屬、新紀錄種、分類、台灣。

---

1. 行政院農業委員會特有生物研究保育中心植物組，南投縣集集鎮552民生東路一號，台灣。  
2. 國立成功大學生物系，台南市 701，台灣省。  
3. 國立師範大學生物系，台北市 116，台灣省。  
4. 通信連絡員。 e-mail: [biofv017@scc.ntnu.edu.tw](mailto:biofv017@scc.ntnu.edu.tw) Tel.: +886-2-29326234 ext. 229 Fax: +886-2- 29312904