

Research note

## A Newly Naturalized Plant in Taiwan: *Silene gallica* L. (Caryophyllaceae)

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### [ Summary ]

*Silene gallica* L., an annual weed originally native to southern Europe to western Asia, was recently found to have been naturalized in the lowlands of northern Taiwan. It is easily distinguished from other Taiwanese congeners by having viscid-glandular pubescence and petals shallowly dentate or entire at the apex. A morphological description, line drawing, and photograph of this species are provided.

**Key words:** Caryophyllaceae, naturalized plant, *Silene*, *Silene gallica*, Taiwan.

**Liang YS, Wang JC. 2012.** A newly naturalized plant in Taiwan: *Silene gallica* L. (Caryophyllaceae). Taiwan J For Sci 27(4):397-401.

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Received May 2012, Accepted August 2012. 2012年5月送審 2012年8月通過。

## 研究簡報

## 台灣石竹科蠅子草屬新歸化植物—匙葉麥瓶草

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## 摘 要

原產於歐洲南部與西亞的雜草—匙葉麥瓶草(*Silene gallica* L.)最近發現新歸化於台灣北部低海拔地區。本種以其植物體密被黏質腺毛以及花瓣先端淺齒緣或近全緣等特徵易與台灣其他同屬植物區分。本文提供形態描述、形態圖以及生態照。

關鍵詞：石竹科、歸化植物、蠅子草屬、匙葉麥瓶草、台灣。

梁珣碩、王震哲。2012。台灣石竹科蠅子草屬新歸化植物—匙葉麥瓶草。台灣林業科學27(4):397-401。

## INTRODUCTION

The genus *Silene* sensu lato (Caryophyllaceae) comprises about 700 species widely distributed in temperate regions of the northern hemisphere and Africa with most species occurring in Eurasia (Bittrich 1993). Some species of this genus, e.g., *S. latifolia* (= *S. alba*) and *S. vulgaris*, are notorious invasive plants (McNeill 1977, USDA NRCS 2011). In a recent botanical survey, we found that *S. gallica* L. has become naturalized at low elevations in northern Taiwan. A 2-yr survey was carried out, and population expansion was found. In the present study, a species description, illustration, and photographs are provided.

## Taxonomic treatment

*Silene gallica* L., Sp. Pl. 1: 417. 1753; Greuter, Taxon 44: 102. 1995; Tang in Tang, Fl. Reipubl. Pop. Sin. 26: 400. 1996; Zhou et al. in Wu & Raven, Fl. China 6: 66. 2001. Lectotype: Herb. Linn. No. 583.11, LINN photo! ..... 匙葉麥瓶草 Figs. 1, 2

Annual herb, erect to ascending, up to 0.6 m high, with densely viscid-glandular pubescence, and somewhat swollen nodes.

Leaves opposite, decussate, simple, sheathing, sessile or subsessile, lower leaves somewhat petiolate, basal leaves falling early; leaf blade spatulate in lower leaves and oblong, obovate, or elliptic in upper leaves, 2~6 cm long, 0.5~2 cm wide, acute or mucronate at apex, attenuate at base, with entire margins, glandular-pubescent on both surface. Inflorescence cymous, raceme-like, with 5~13 flowers, loosely arranged at 1 side, with a leaf-like bract in each flower, densely glandular on axis and pedicel; bracts ovate to lanceolate at lower and lanceolate at upper inflorescence, 12~25 mm long, 4~10 mm wide. Flowers pedicellate at lower and subsessile at upper inflorescence; pedicels 1~15 mm long. Calyx ovoid-campanulate, 8~11 mm long, 10-nerved, densely glandular and pilose on calyx ridge. Petals 5, white or pink, clawed; claw oblanceolate, glabrous, included in calyx; limb obovate, shallowly dentate or entire at apex; coronal scales bilobed, inserted at base of limb; stamens 10, free of perianth, both opposite and alternate with corolla parts; anthers oblong-ovate, ca. 0.6 mm long; ovary syncarpous, superior, ovate; ovules numerous; styles

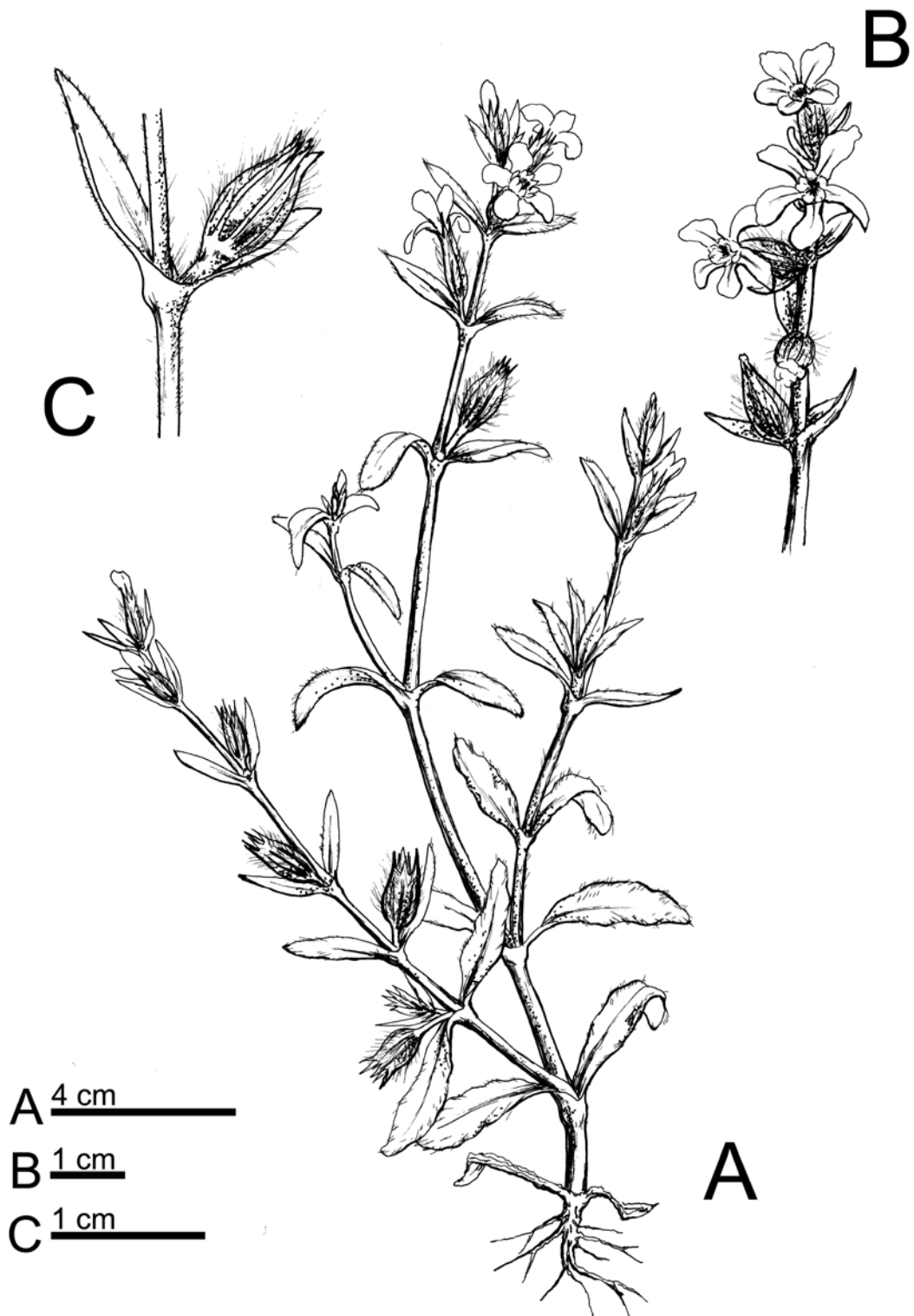


Fig. 1. *Silene gallica* L. (A) Habit; (B) flowers; (C) immature capsule.



**Fig. 2.** *Silene gallica* L. (A) Habitat; (B) habit; (C) inflorescence; (D) flower; (E) infructescence with immature capsules; (F) immature capsule; (G) mature capsule; (H) seeds.

3. Capsule urceolate, 6~10 mm long, ca. 5 mm wide, 6-valved, with recurved triangular teeth, enclosed by calyx and uncovered in mature capsule. Seeds numerous, reniform, angular, concave, dark-brown, ca. 0.5 mm.

Specimens examined: Taiwan: Taoyuan County: Dayuan Township, 23 Apr. 2011, *Y. S. Liang 3605* (TNU); same locality, 19 May 2011, *Y. S. Liang 3611* (TNU); same locality, 14 Apr. 2012, *S. Y. Tsai 298* (TNU).

Distribution and notes: *Silene gallica* differs from other Taiwanese congeners by having densely viscid-glandular pubescence, raceme-like cymous inflorescence with 5~13 flowers, petals entire or shallowly dentate at apex, and an urceolate capsule. This species is a weedy plant native to southern Europe to western Asia. It was reported to have been naturalized in North America, Australia (USDA 2011, Western Australian Herbarium 2011), Japan (Mito and Uesugi 2004), and China (Tang 1996, Zhou et al. 2001). In northern Taiwan, this species was found in fallow fields and disturbed areas. This species produces abundant tiny seeds which are thought to primarily be dispersed by wind over short distances, so they have a potential to colonize the range of distribution through the spread of agriculture. Our preliminary monitoring reveals that the population range has expanded during the past 2 yr in spite of its annual habit. Besides the distribution range found in 2011, we observed many individuals

on several nearby agricultural lands in spring of 2012. Long-term monitoring of this newly naturalized weed is required.

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