

Research paper

*Callisia repens* (Jacq.) L. (Commelinaceae),  
a Newly Naturalized Plant in Taiwan

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**[Abstract]** We document the naturalization of *Callisia repens* (Jacq.) L. (Commelinaceae) in Taiwan. This is one of the many cases of tropical America plants invading Taiwan. A taxonomic treatment, line drawings, and color photographs of this species from the wild are provided to aid in identification of this alien plant. During our field survey in recent years we witnessed that the wild populations have adapted to the west of Taiwan.

**Key words:** Commelinaceae, *Callisia repens*, Taxonomy, Naturalized plant, Taiwan.

研究報告

臺灣新歸化鴨跖草科植物—鋪地錦竹草

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**[摘要]** 本文首次報導原產熱帶美洲，目前已歸化於台灣西部低海拔地區的鋪地錦竹草(鴨跖草科)，描述其形態特徵、地理分布及生育地環境，並提供彩色圖片與線繪圖以資辨識。本種先前被引進作為園藝觀賞植物，目前已廣泛馴化於都會地區及鄉間住家附近或道路兩旁，也常出現在建築物屋頂上。近年來進行調查時發現其野外族群穩定成長，台灣西半部從北到南都有蹤跡。

**關鍵詞：**鴨跖草科、鋪地錦竹草、歸化植物、臺灣

INTRODUCTION

In recent years, many species of Commelinaceae naturalized to Taiwan (Wang & Chen, 2008; Yang *et al.*, 2008). In this study we report yet another aggressive alien plant, *Callisia repens* (Jacq.) L. on this island. This rampant plant is

native to tropical America from south United States to Argentina (Faden, 2000). It has been introduced to Taiwan for ornamental plants more than 30 years (Chen & Hu, 1976; Lai, 1995; Shueh, 1998), and now we can find many wild populations of *C. repens* throughout this island

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from north to south near the urban areas frequently on roofs of houses or roadsides.

The genus *Callisia* Loefl. (Commelinaceae) comprises 20 species native to the United States and tropical America. Mexico is a major center of distribution (Faden, 2000). Non species of *Callisia* is previously recognized in the second edition of Flora of Taiwan (Wang *et al.*, 2000). Recently, *C. fragrans* (Lindl.) Woodson has naturalized to central mountains of this island (Wang & Chen, 2008). This represented the first confirmed report of both the naturalized genus and species in Taiwan. In this article *C. repens*, the second naturalized species of *Callisia* in Taiwan, is provided.

## TAXONOMIC TREATMENT

*Callisia repens* (Jacq.) L., Sp. Pl., ed. 2. 1: 62. 1762.

鋪地錦竹草 Fig. 1. & 2.

Herbs perennial. Stems prostrate, forming mats, much branched, rooting at nodes, flowering stems ascending. Leaves alternate, gradually becoming smaller distally along flowering shoots; leaf blade ovate to lanceolate or lanceolate-oblong, fleshy, 1-4 × 0.6-1.5 cm, glabrous except for scabrous margin and apex, base subcordate or obtuse, apex acuminate. Inflorescence of paired, sometimes solitary, sessile, dense cincinni in axils of distal leaves. Flowers bisexual, pistillate, rare staminate. Sepals inconspicuous, green, linear-oblong, 3-4 mm, hirsute along midvein, margin scarios. Petals inconspicuous, white, lanceolate, 3-6 mm. Stamens 0-6; filaments glabrous, long exserted; connectives broadly deltoid. Ovary oblong, subtrigonus, 2-loculed, apex pilose; ovules 2 per locule. Style filiform, long; stigma penicillate. Capsule oblong, ca. 1.5 mm, 2-valved. Seeds 2 per valve, brown, ca. 1 mm, rugose (Faden, 2000).

**Specimens examined:** Taiwan. Taipei County (台北縣). Sanhsia Town (三峽鎮), Chungcheng Road (中正路) 20 May 2010, *Tseng* 4993 (TCF); Taipei City, Kungkuan (公館), 30 Aug. 2010, *Tseng s.n.* (TCF); Taichung City (台中市). Kuokuang Road (國光路), 12 Aug. 2009, *Tseng s.n.* (TCF); Chiayi County (嘉義縣). Chuchi Township (竹崎鄉), Fenchihu (奮起湖), 4 Jun. 2008, *Tseng s.n.* (TCF); Hsikou Township (溪口鄉), Hsitung Village (溪東村), 28 May. 2009, *Tseng s.n.* (TCF); Pingtung City (屏東市), Talien Road (大連路), 1 Jun. 2010, *Tseng* 4925 (TCF).

**Notes:** *Callisia* Loefl. closely resembles *Tradescantia* L., but it is distinct for having cyme pairs subtended by small, inconspicuous bracts (vs. large conspicuous spathaceous bracts) (Hardy & Stevenson, 2000). *C. repens* is easy distinguished from *C. fragrans* for having 1-4 × 0.6-1.5 cm leaf size, ovate to lanceolate leaf shape, bisexual or unisexual flowers and axillary cyme (vs. 15-30 × 3-5.5 cm leaf size, lanceolate-oblong leaf shape, bisexual flowers and terminal panicle) (Table 1).

*C. repens* (Jacq.) L. is native to tropical America from south United States to Argentina. Previously, it had naturalized in Hong Kong (Hong, 1997). In Taiwan it has invaded for many years at open areas, forming wild populations near urban areas along to the west of this island. It flowers in spring and sets fruits from summer to autumn. During our field survey in recent years we found that the wild populations of *C. repens* (Jacq.) L. has been adapted stably to the mountainous regions about 1,500 m in elevation (Fig. 3). This species is a growing well exotic perennial plant with very strong invasiveness, especially to the roofs of houses or roadsides of urban areas and villages.

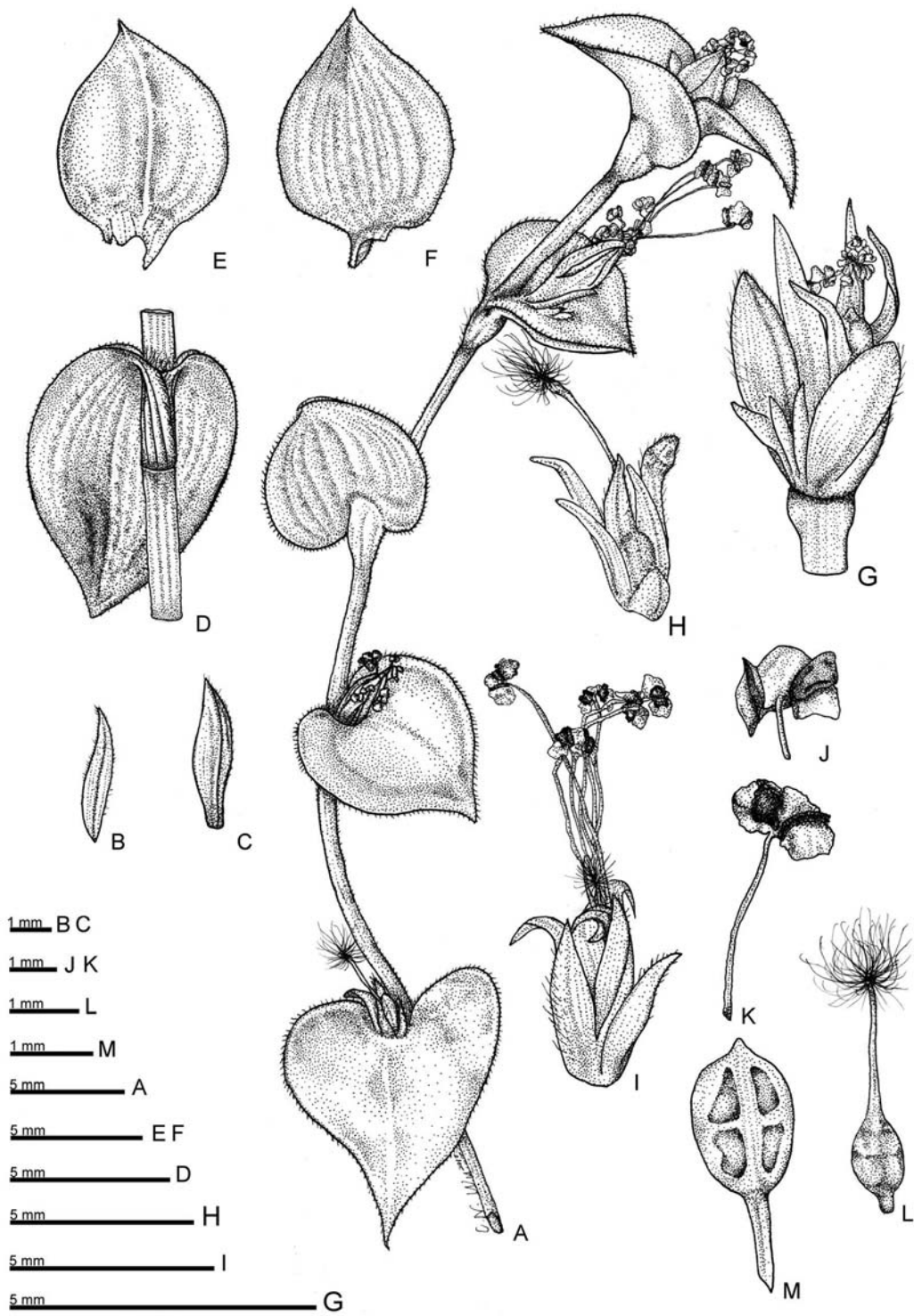


Figure.1. *Callisia repens* (Jacq.) L. A. Habit B. Bract C. Sepal D. Leaf sheath E. Leaf adaxial surface F. Leaf abaxial surface G. Staminate flowers H. Pistillate flower I. Bisexual flower J. Stamen dorsal view K. Stamen ventral view L. Pistil M. Fruit



Figure. 2. *Callisia repens* (Jacq.) L. A. Habitat (on stone wall) B. Habitat (on roof) C. Habit D. E. Leaves F. Leaf sheath G. Bisexual flower H. Pistillate flower I. Infructescence



Table 1. Comparison of *Callisia repens* (Jacq.) L., *C. fragrans* (Lindl.) Woodson and *Tradescantia fluminensis* Vell.

	<i>C. repens</i>	<i>C. fragrans</i>	<i>T. fluminensis</i>
Leaves			
Size (cm)	1-4 × 0.6-1.5	15-30 × 3-5.5	5 × 2
Shape	ovate to lanceolate	lanceolate-oblong	oblong to ovate
Inflorescence	cyme	panicle	cyme
Bracts Flowers	inconspicuous	inconspicuous	conspicuous
Sexual	bisexual or unisexual	bisexual	bisexual
Petals	inconspicuous	inconspicuous	conspicuous
Stigma	penicillate	penicillate	capitate

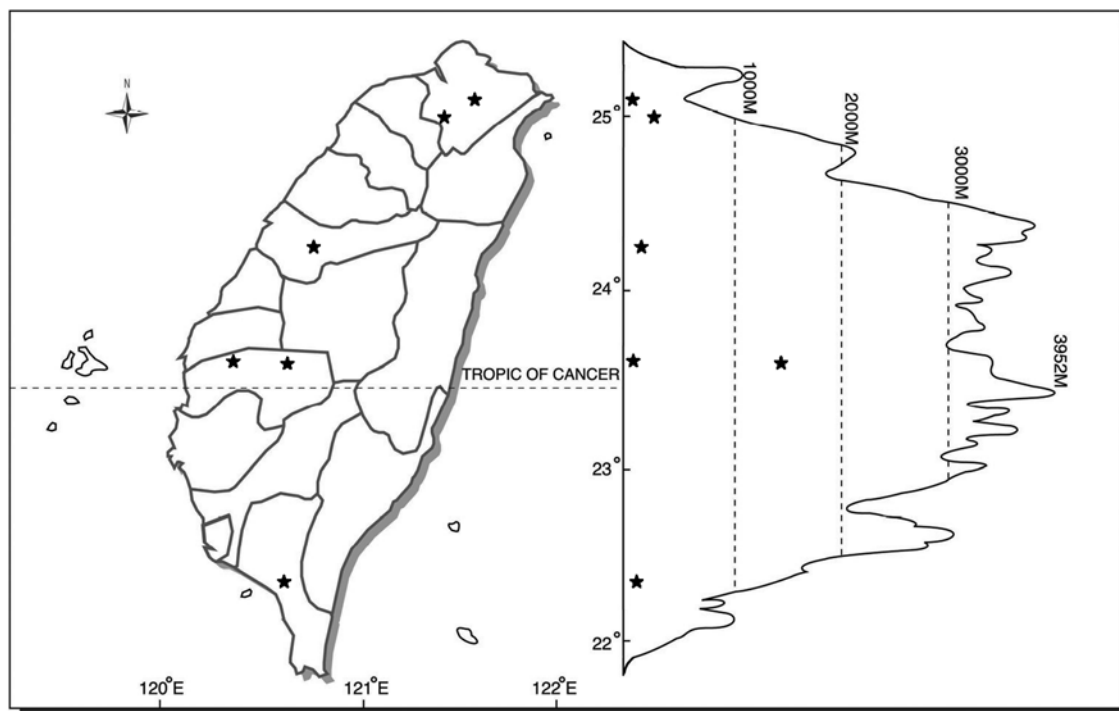


Fig. 3. Distribution of *Callisia repens* (Jacq.) L. in Taiwan.

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