

Acmella repens (Asteraceae), a newly naturalized plant in Taiwan

臺灣新歸化植物—伏生金鈕扣

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Abstract

A newly naturalized species from the Northern part of Taiwan, *Acmella repens* (Walter) Rich., native to tropical and subtropical regions of the Americas, is reported herein. This species is distinguished from other *Acmella* species in Taiwan by its conspicuous ray flowers, with limb lengths of 3–6 mm, and its predominantly decumbent or prostrate stems.

Key words: Flora, Formosa, Naturalized species, Taxonomy

摘要

本文報導新歸化於臺灣北部的菊科植物—伏生金鈕扣 (*Acmella repens* (Walter) Rich.)。該種原生於熱帶與亞熱帶美洲，其形態與其他臺灣已記錄的金鈕扣屬物種相比，伏生金鈕扣的舌狀花相當顯眼，花瓣長度達 3–6 mm，而莖通常伏生或匍匐生長。

關鍵詞：植物誌、臺灣、新歸化種、分類學

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Introduction

The genus *Acmella* comprises approximately 35 species distributed across tropical and subtropical regions worldwide (POWO 2024). In Taiwan, the genus includes one native species, *A. paniculata* (Wall. ex DC.) R. K. Jansen, one widely cultivated species that occasionally escapes, *A. oleracea* (L.) R. K. Jansen, and three naturalized species—*A. brachyglossa* Cass., *A. ciliata* (Kunth) Cass., and *A. uliginosa* (Sw.) Cass. (Chung *et al.* 2007; Chung

et al. 2008). In this study, we report that *A. repens* (Walter) Rich. is a newly naturalized species in Taiwan. A detailed morphological description, photographic illustrations, and a revised key to the *Acmella* species in Taiwan are also provided.

Key to the *Acmella* species in Taiwan:

- 1a Capitula discoid, without ray florets2
- 1b Capitula radiate, with 4–10 ray florets 3

- 2a Capitula cylindric, > 1 cm wide; phyllaries 15–18, triseriate; achenes without evident cork-like margins
..... *A. oleracea*
- 2b Capitula conical, < 1 cm wide; phyllaries 9–12, biseriate; achenes with evident cork-like margins
..... *A. paniculata*
- 3a Leaves broadly obtuse, truncate or shallowly cordate at base; achenes with evident cork-like margins *A. ciliata*
- 3b Leaves attenuate or cuneate at base; achenes without evident cork-like margins4
- 4a Stems usually decumbent to prostrate; ray limbs conspicuous, 3–6 mm long.....
..... *A. repens*
- 4b Stems usually ascending to erect; ray limbs relatively inconspicuous, 0.5–2 mm long.....5
- 5a Disc florets 4- or 5-merous, corollas light yellow or greenish; phyllaries 7–11, biseriate; disc achenes 1.5–3 mm long ...
..... *A. brachyglossa*
- 5b Disc florets 4-merous, corollas yellow

to orange; phyllaries 5–6, uniseriate; disc achenes 1.2–1.8 mm long..... *A. uliginosa*

Taxonomic treatment

Acmella repens (Walter) Rich. in Persoon, Syn. Pl. 2: 473. 1807. Fig. 1.

Basionym: *Anthemis repens* Walter, Fl. Carol. 211–212. 1788.

Type: Not stated in the protologue (Walter 1788).

Neotype: USA. Texas: Chambers County, “0.5 mi W of Exit 812 (jct Texas 61 on rte to Hankamer) along I-10E”, 10 June 1979, *Jansen & Harriman 665* (OS, barcode: 0000006 image!, isoneotypes: F, MO, NY, OSH, TEX, US), designated by Jansen (1985: 34).

Synonyms: See Hind (2011) for the whole synonymy.

Morphology: Perennial herbs, ca. 10–20 cm tall. Stems decumbent or prostrate, rooting at nodes, green to purple, pilose. Petioles 0.3–2.5 cm long, pilose, narrowly winged. Leaf-blades 1–4 × 0.4–3 cm, ovate-lanceolate

to ovate, base attenuate to truncate, apex acute, pilose on both surfaces, margin denticulate to coarsely dentate, sparsely ciliate. Peduncles 3.6–16 cm long, sparsely or pilose. Capitula radiate, 5.8–14 mm high, 4.5–13.5 mm in diam. Receptacle 3.2–10 mm high, 0.5–3 mm in diameter, apex acute to acuminate. Phyllaries 6–16, biseriate, herbaceous to membranous, pilose, margin ciliate, 2.5–6.8 × 0.6–3.5 mm. Paleae 2.5–4.5 × 0.3–1 mm, apex rounded to acuminate, stramineous. Ray florets 5–8, slightly to greatly exceeding the phyllaries; corollas 4–7 mm long, yellow to orange-yellow; tube ca. 1 mm long, pilose; limb 3–6 × 1.5–3.5 mm. Disc florets ca. 70–150; corollas 1.5–2.5 mm long, yellow to orange-yellow, 5-merous; tube 0.4–0.8 mm long; throat ca. 1 mm long; lobes 0.2–0.5 mm long and wide; stamens 0.8–1.2 mm long, anthers dark brown to black; style 1.2–2 mm long, the lobes 0.3–0.5 mm long. Achenes blackish, 1.5–2 mm × 0.6–0.8 mm, ciliate, lacking

a cork-like margin and shoulders; pappus of 1–2 subequal or unequal bristles, 0.2–0.5 mm long.

Distribution and ecology:

Acmella repens is native to tropical and subtropical regions of the Americas, ranging from the central and southeastern United States to Venezuela, Paraguay, and Cuba (Robinson 2006; POWO 2024). In Taiwan, two wild populations have been recorded, both located in New Taipei City. These populations were observed in open grassy areas, including a park and a trail. The phenology of *A. repens* in Taiwan remains insufficiently documented; however, it is presumed to flower year-round, similar to its behavior in its native range (Jansen 1985).

Additional specimens examined:

TAIWAN. New Taipei City: Ruifang District, Chinkuashih, 550 m elev., 9 May 2024, *Hsu 15523* (TAIF); Shulin District, Shanchia, 20 m elev., 11 May 2024, *Hsu 15531* (TAIF).

Etymology: The specific epithet

is likely derived from the species' repent growth form. We propose to use “伏生金鈕扣” as its Mandarin name.

Taxonomic remarks: The morphological characteristics and measurements described above are based solely on materials collected in Taiwan and exhibit a narrower range of variation compared to native populations (Jansen 1985). This species was originally identified as *Acmella oppositifolia* (Lam.) R.K. Jansen in Jansen's monograph on the genus *Acmella* (Jansen 1985). However, Robinson (2006) clarified that the original materials of *A. oppositifolia* (basionym: *Anthemis oppositifolia* Lam.) correspond to *Heliopsis buphthalmoides* (Jacq.) Dunal. Consequently, the next available name, *A. repens*, was then adopted (Hind 2011). Among the *Acmella* species in Taiwan, *A. repens* can be readily distinguished by its conspicuous ray flowers with 3–6 mm long limbs and its predominantly decumbent or prostrate stems.

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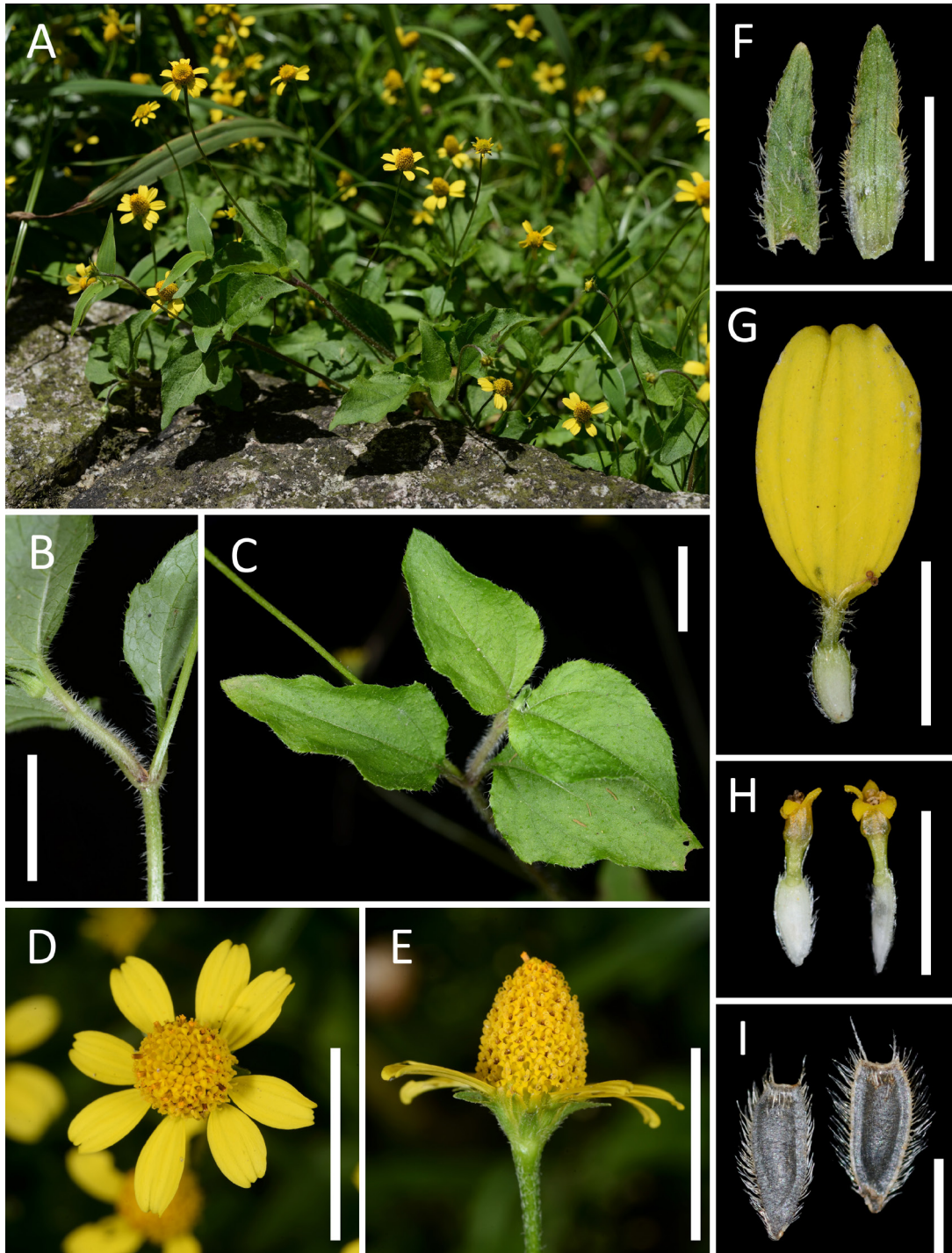


Fig. 1 Morphology of *Acmella repens* (from Hsu 15523). A. Habits. B. Stem. C. Leaves. D–E. Capitula. F. Phyllaries. G. Ray floret. H. Disc florets. I. Achenes. Scale bars: B–E = 1 cm; F–H = 3 mm; I = 1 mm.
圖 1 伏生金鈕扣的形態 (標本 Hsu 15523)。A. 植株全貌。B. 莖。C. 葉。D–E 頭花。F. 總苞片。G. 舌狀花。H. 管狀花。I. 瘦果。比例尺：B–E = 1 cm；F–H = 3 mm；I = 1 mm。