

中国菊科一新归化植物——白花金钮扣

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摘要: 报道了中国菊科一新归化植物——白花金钮扣 [*Acmella radicans* var. *debilis* (Kunth) R. K. Jansen], 并提供了该变种详细的特征描述和彩色照片。该变种原产南美洲和西印度群岛, 最近在我国安徽黟县发现一归化居群。野外调查发现, 该植物在黟县生长旺盛, 成熟时种子结实量大, 表现出一定的入侵性。

关键词: 白花金钮扣; 外来植物; 中国; 归化种; 新记录

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Acmella radicans var. *debilis* (Kunth) R. K. Jansen (Asteraceae), A Newly Naturalized Plant in China

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Abstract: *Acmella radicans* var. *debilis* (Kunth) R. K. Jansen, is recently found to be naturalized in Yixian, Anhui, China which is native to South America and the West Indies. Morphological variations of this variety have been carefully examined and habitats information have also been collected during field investigation. Detailed description and color photographs are provided for the facility of identification. Individuals of this plant form a large population in Yixian and produce many mature seeds, suggesting that it may be invasive to some extent.

Key words: *Acmella radicans* var. *debilis*; Alien plant; China; Naturalized species; New record

The genus *Acmella* Rich. (tribe Heliantheae, Asteraceae) was firstly described by Richard^[1] in 1807, but it has since long been treated under the another genus *Spilanthes* Jacq. by Cassini^[2] in 1822, De Candolle^[3] in 1836 and Moore^[4] in 1907. Lin^[5] also adopted this treatment in 1979 in the Flora Reipublicae Popularis Sinicae. Recent studies have provided convincing morphological and chromosomal evidence for recognition of *Acmella* and *Spilanthes* as distinct genera^[6-7], a treatment already widely accepted, e.g., by Strother in Flora of North America^[8] and Chen in

Flora of China^[9]. *Acmella* comprises about 30 species with nine infraspecific taxa mainly distributed in tropical and subtropical regions around the world^[6]. Six species, including four introduced species, have been recorded in China^[9]: *A. oleracea* (L.) R. K. Jansen is cultivated in south China, including Taiwan^[9-10], *A. ciliata* (Kunth) Cass. is naturalized in Taiwan and Guangxi^[9-10], *A. uliginosa* (SW.) Cass. is naturalized in Taiwan, Yunnan and Hong Kong^[9-11], and *A. brachyglossa* Cass. is naturalized in Taiwan^[10] and Zhejiang^[12].

During a survey on alien invasive plants of China

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in 2014, a population of *Acmella* was discovered from Yixian, Anhui Province. The plant has white corollas and achenes with an evident cork-like margin. The combination of features indicates it is a new alien species of *Acmella* in China. Based on a thorough survey of literature and specimens, we have determined that the species is *Acmella radicans* (Jacq.) R. K. Jansen var. *debilis* (Kunth) R. K. Jansen. Detailed description and photographs are provided to facilitate its identification.

Acmella radicans* var. *debilis (Kunth) R. K. Jansen, Syst. Bot. Monogr. **8**: 69. 1985; V. A. Funk, Cont. U.S. Natl. Herb. **55**: 255. 2007. — *Spilanthes debilis* Kunth, Nov. Gen. Sp. Ed. Fol. **4**: 165. 1820. — *Acmella debilis* (Kunth) Cass., Dict. Sci. Nat. **24**: 331. 1822. — *Spilanthes tenella* Kunth, Nov. Gen. Sp. ed. fol. **4**: 165. 1820. — *Spilanthes mandonii* Sch. Bip., Linnaea **34**: 529. 1866. Type: Venezuela, Orinoco River, May 1800, Bonpland s.n. [holotype (P-HBK)] 白花金纽扣(新拟) Fig. 1.

Annual herbs. Plants 10–40 cm tall. Stems usually erect to ascending, rarely rooting at nodes, green to purple, glabrous to moderately pilose. Petioles 5–12 mm long, narrowly winged; leaf blades usually ovate to narrowly ovate, 1–7 cm×0.7–5 cm, base attenuate, apex acute to short acuminate, denticulate to coarsely dentate, glabrous to sparsely pilose above and below, margins sparsely hispid. Peduncles 4–7 cm long. Heads white, radiate, 4–11 mm×3–8 mm, in groups of 2–3 axillary or terminal clusters. Ray florets 5–7, usually shorter or only slightly exceeding the phyllaries; corollas 2.5 mm long, white; sparsely pilose. Disc florets 80–160; outer series tubular, sometimes with sterile anthers and then functionally pistillate; corollas 1.4–2.2 mm long, white, 4–5 lobed; lobes 0.2–0.4 mm long; stamens 0.8–1.2 mm long, style 1–1.6 mm long, the branches 0.4–0.6 mm long; achenes brown-black; 2–2.8 mm×0.5–0.8 mm, moderately to densely ciliate with straight-tipped hairs, with an evident cork-like margin; pappus of usually 2 (disc achenes) or 3 (ray achenes) subequal bristles, 0.3–0.5 mm long. Flowering and fruiting:

July to December.

Specimens examined: China, Anhui: Yixian, parking lot out of Xidi Cun, 29°54′10.8102″ N, 117°59′9.0492″ E, alt. 215 m, 31 Aug., 2014, Yan X L, Yan J, Wang Z H et al., RQHD00671 (CSH); out of Xidi Cun, 4 Dec., 2014, Yan X L, Yan J, Wang Z H et al., RQHD01543 (CSH); along Zhangshui River, 4 Dec., 2014, Yan X L, Yan J, Wang Z H et al., RQHD01544 (CSH); Biyang Road, 4 Dec., 2014, Yan X L, Yan J, Wang Z H et al., RQHD01545 (CSH).

Distribution. *Acmella radicans* var. *debilis* is native to South America (the island of Hispaniola, Lesser Antilles, Trinidad) and the West Indies (Colombia, Venezuela, Peru, Bolivia), and recently naturalized in South Asia (India)^[7,13] and China (Anhui).

Similar taxa. *Acmella radicans* has been divided into two varieties by Jansen^[7]. *Acmella radicans* var. *debilis* can be easily distinguished from *Acmella radicans* var. *radicans* by its short ray florets^[7]. *Acmella radicans* var. *debilis* resembles *A. brachyglossa* in the very short ray florets that only slightly exceed the phyllaries, but differs in having white corollas and achenes with well-developed corky margins. In contrast, *A. brachyglossa* has yellow corollas and achenes without corky margins. *Acmella radicans* var. *debilis* is easily distinguished from other Chinese *Acmella* taxa by its white corollas.

In China, *Acmella radicans* var. *debilis* is currently known only in Yixian, Anhui Province, where it was first found to occur in a parking lot in Xidi Cun. The way of its dispersal to the site is unknown, but intentional or careless human introduction may be one of the plausible alternative explanations. This variety may prefer wet habitats, especially disturbed areas along streams, roadsides and cultivated fields. The population grows along a stream extended to several kilometers and produces many mature seeds. Two population were later found along the Zhangshui River and in the town of Yixian, respectively. The distribution range of this variety may continue to expand and it may reach other places through seed dispersal by water. More attention should be paid to the invasiveness of *A. radicans* var. *debilis* because of its current large population size and

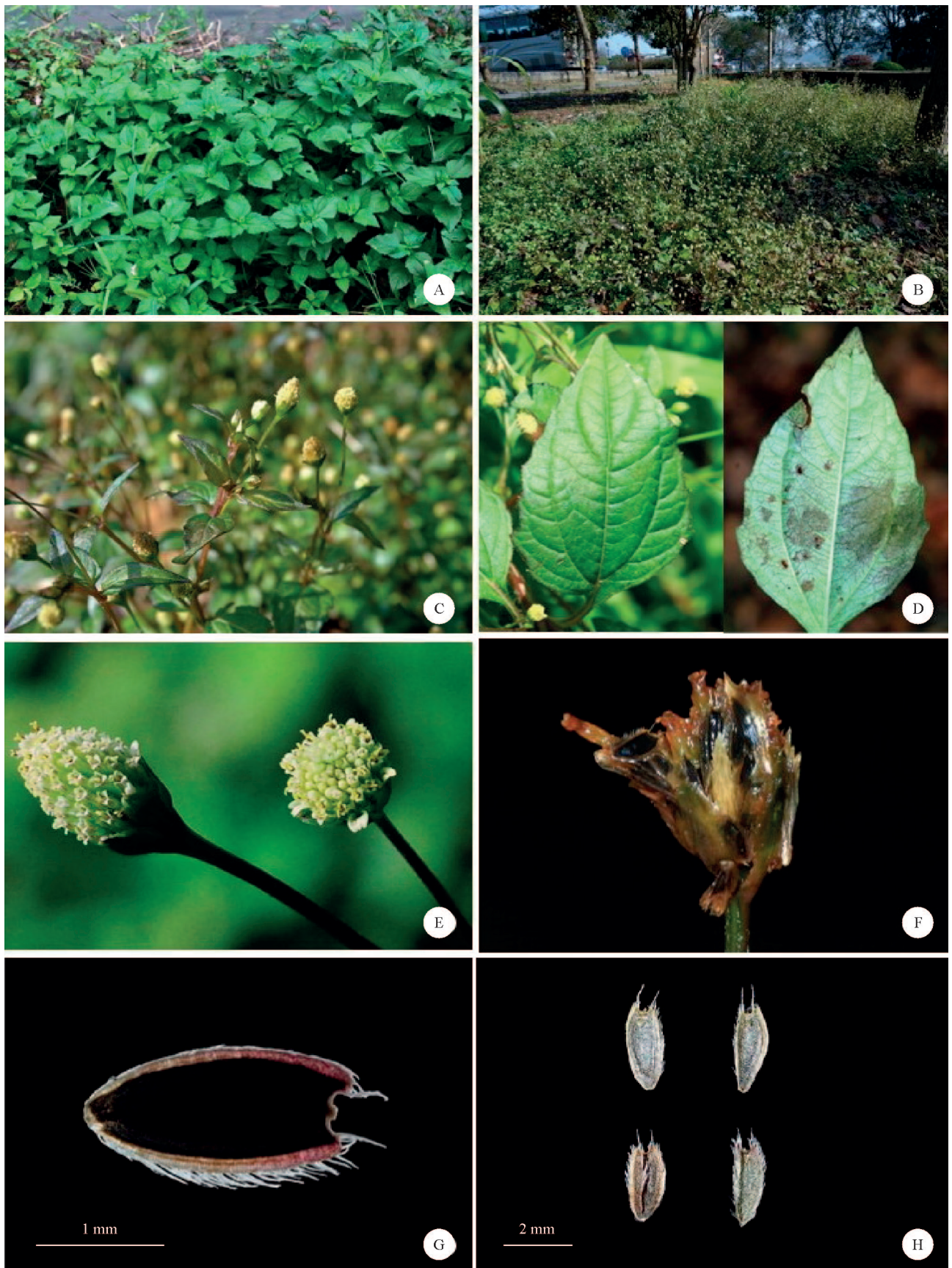


Fig. 1 *Acmella radicans* var. *debilis*. A,B: Habitat; C: Habit; D: Leaves, left: adaxial side; right: abaxial side; E: Capitula (flowering); F: Capitulum (fruiting); G: Disc achene; H: Disc achenes (above) and ray achenes (below).

the ease of seed dispersal through water. Its impact on environment and economy urgently needs to be evaluated before it rapidly grows out of control.

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