

A New Species of *Erigeron* (Asteraceae) from Sichuan, China

Zhang Zhi-Feng

Ethnic Pharmaceutical Institute of Southwest University for Nationalities, No. 16, South 4th
Section 1st Ring Road, Sichuan 610041, People's Republic of China

Li Jie, An Jing, Wang Jian-Gang, and Zhang Hao*

West China School of Pharmacy, Sichuan University, No. 17, Section 3, Ren-Min-Nan-Lu Road,
Chengdu, Sichuan 610041, People's Republic of China. *Author for correspondence:
zhanghxx@vip.sina.com; zhangzhf@netease.com

ABSTRACT. *Erigeron latifolius* Hao Zhang & Z. F. Zhang (Asteraceae, Astereae), a new species of *Erigeron* L. from Sichuan, China, is described and illustrated. It is similar to *E. multiradiatus* (Lindl. ex DC.) Benth. ex C. B. Clark, but can be distinguished by features of the flowers and leaves. The capitula are small (1.2–2.5 cm); the anthers do not protrude beyond the corolla; the midcauline leaves are large (8–15 × 1–2.5 cm) and lanceolate to oblong-lanceolate; and the distal leaves are lanceolate, dense, and not much reduced, but smaller (2–5 × 0.5–1 cm). The new species is endemic to China and is identified as Endangered (EN), according to IUCN Red List criteria.

Key words: Asteraceae, Astereae, China, *Erigeron*, IUCN Red List, Sichuan.

Erigeron L. (Asteraceae, Aster tribe), with ca. 400 species worldwide, is distributed mainly on the northern American and Eurasian continents. In China, 35 species are recorded and principally occur on the Qinghai-Tibetan Plateau, which is the center of diversity for *Erigeron*. The species are divided into two subgenera including subgenus *Erigeron* and subgenus *Trimorpha* (Cass.) Popov (Ling & Chen, 1973, 1985).

Since the 1980s, there have been few reports on the taxonomy of *Erigeron* in China. A new variety of *E. breviscapus* (Vaniot) Hand.-Mazz. was described from Yunnan in 2003 as variety *leucanthus* X. D. Dong & Ji H. Li (Dong & Li, 2003). In our previous study, the morphology of several *Erigeron* species from the European Alps was investigated (Walter & Zhang, 1991), as well as the distribution and chemical constituents of *Erigeron* species from the Qinghai-Tibetan Plateau (Zhang et al., 1998; Hu et al., 2001, 2005; Zhang et al., 2003; Zhang & Zhang, 2004).

During continued expeditions and sample collecting on the Qinghai-Tibetan Plateau, a new herbaceous *Erigeron* was discovered, which exhibits morpholog-

ical characters distinctive from other species of this genus.

Erigeron latifolius Hao Zhang & Z. F. Zhang, sp. nov. TYPE: China. Sichuan: Ma'erkang Co., Mt. Zhegu, meadow of mtn. slope & scrub edge, 3100 m, 13 July 2007, Z. F. Zhang & J. G. Wang 07001 (holotype, SZ; isotype, WCU). Figure 1.

Species haec habitu *Erigeronti multiradiato* (Lindl. ex DC.) Benth. ex C. B. Clark similis, a quo foliis caulinis inferioribus et mediis sessilibus oblongo-lanceolatis vel lanceolatis 8–15 cm longis, capitulis minoribus 1.2–2.5 cm diam., phyllariis extensis 0.8–1 cm longis atque antheris corollas non superantibus bene differt.

Perennial herb, 25–50 cm tall; rhizomatous and fibrous-rooted, erect to ascending, caudices simple or branched, with persistent old leaf bases; stems simple or branched from base, erect, green proximally, striate, sparsely strigose and villous, less commonly hirtellous and stipitate-glandular, stem internodes 2–7 cm. Leaves basal and cauline; basal blades in rosettes, usually withering by flowering, oblong-ob lanceolate to oblanceolate, 7–13 × 0.7–1.5 cm, margins entire, apex acute to obtuse, basal petiole 10–15 cm, 3- to 5-nerved, blades sparsely strigose to villous and stipitate-glandular; lower and midcauline blades without a petiole, lanceolate to oblong-lanceolate, 8–15 × 1–2.5 cm, margins entire, apex acute to obtuse, bases auriculate-clasping; distal leaves relatively dense, lanceolate, densely white-villous, 2–5 × 0.5–1 cm, apex acuminate. Capitula 1 or 2 to 7 in corymbiform arrays, 1.2–2.5 cm diam.; involucre 0.8–1.5 × 0.8–1.2 cm, outer involucral bracts shorter than inner ones; phyllaries in 3 series, linear-lanceolate, moderately woolly villous, lustrous green, 8–10 × 1–2 mm, longer than the conspicuous disk, apex acuminate, purple. Ray (pistillate) florets in 3 series, the outer series numbering from 150 to 250(to 400) florets, corollas usually purple, 5–10 mm,



Figure 1. Paratype of *Erigeron latifolius* Hao Zhang & Z. F. Zhang from Ma’erkang County, Sichuan, China (Zhang & Wang E070892, WCU).

laminae not coiling; disk florets numbering from 250 to 450, bisexual, corollas tubular, corolla 5–7 mm, tube 1.5–2 mm, limb campanulate, 5-lobed at apex, lobes short-triangular, 0.5–1 mm, purple, anthers not protruding beyond corolla. Cypselae oblong, 2–3 mm, tan, compressed, 1-ribbed, sparsely hispidulous; pappi in 2 series, as white bristles, outer pappi short, interior ca. 4 mm.

Distribution and habitat. Only known from its type locality on Mt. Zhegu, Ma’erkang County, Sichuan Province, China, *Erigeron latifolius* was observed as common in the montane meadow and at the edge of scrub. It occurred with the associated taxa *Cephalonoplos segetum* (Bunge) Kitam., *Pulsatilla chinensis* (Bunge) Regel, and *Aconitum kusnezoffii* Rehb.

IUCN Red List category. *Erigeron latifolius* is only known from a small area in Ma’erkang County and grows commonly in thickets. Based on our expedition in recent years in Ma’erkang County, we find the area of occupancy of this species to be limited, and the number of the mature individuals is declining. Therefore, this taxon is best assessed as Endangered (EN) according to IUCN Red List criteria (IUCN, 2001).

Phenology. The new species was collected in July, but observed to flower June through September.

Etymology. The specific epithet refers to the leaves, which are wide and densely arranged at the middle and distal parts of the stem.

Discussion. The new species is quite similar to *Erigeron multiradiatus* (Lindl. ex DC.) Benth. ex C. B. Clark, but can be distinguished by characters of its flowers and leaves, as shown in the following couplet. We intend to further investigate the taxonomy by microscopic technique and molecular methods.

- 1a. Lower and midcauline leaves 8–15 × 1–2.5 cm, with distal leaves 2–5 × 0.5–1 cm, not much reduced from the lower; capitula 1.2–2.5 cm diam.; anthers included within the corollas *Erigeron latifolius*
- 1b. Lower and midcauline leaves 4–6 × 0.5–2 cm, gradually reduced distally; capitulae 3–4 cm diam.; anthers exerted from the corollas *Erigeron multiradiatus*

Paratype. CHINA. **Sichuan:** Ma’erkang Co., meadow of mtn. slope & scrub edge, 3100 m, 13 July 2007, Z. F. Zhang & J. G. Wang E070892 (WCU).

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