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A NEW SPECIES OF *ARTEMISIA* (ASTERACEAE: ANTHEMIDEAE) FROM SICHUAN, CHINA

LEILA M. SHULTZ¹ AND DAVID E. BOUFFORD²

Abstract. A new species of *Artemisia*, *A. lingyeouruennii*, from western Sichuan Province, China, is described, illustrated and discussed.

Keywords: Asteraceae, Artemisia, China, Sichuan, Hengduan

Recent collections from the Hengduan Mountains region of China have resulted in the discovery of a number of previously undescribed species of flowering plants, mosses and fungi. We here describe a species of *Artemisia*, which was initially recognized as new by Professor Yeou-Ruenn Ling from among specimens sent to him for identification. The plants were collected during a field expedition to a rarely explored region in the Hengduan Mountains of western Sichuan.

Artemisia lingyeouruennii L. Shultz & Boufford, *sp. nov*. TYPE: CHINA. Sichuan Province, Serxu Xian: road between hwy S217 at Sancha He to the town of Luoxu on the Jinsha Jiang (upper Chang Jiang); 32°22'59"N, 98°14'20"E; 3790–3810 m. Dry, stony, screelike slope at base of limestone cliffs and adjacent meadows. Meadows. Common. 31 July 2005, *D. E. Boufford, J. H. Chen, K. Fujikawa, S. L. Kelley, R. H. Ree, H. Sun, J. P. Yue, D. C. Zhang & Y. H. Zhang 33908* (Holotype: KUN; Isotypes: A, CAS, IBSC, MBK, MO, UTC). Fig. 1.

Similar to species of *Artemisia* subgen. *Artemisia* sect. *Artemisia* in the naked receptacle, marginal pistillate florets and perfect central florets, but differing in the following combination of characters: multiple-stemmed herbs from woody caudex; leaves deeply bipinnate, densely pubescent with dolabriform

trichomes; capitulescence narrowly paniculate with upright branches; capitula broadly campanulate, nodding, sessile, heteromorphic; florets reddish-purple, externally glandular, embedded in pale green woolly involucral bracts; marginal florets 4 or 5, pistillate, fertile; central florets 8—10, perfect, fertile; anthers and style branches dark reddish purple.

Herbs, perennial, with multiple flowering stems rising from a woody subterranean caudex and rooting near the base, aromatic. Stems erect, 10–47 cm tall, striate with parallel lines of pubescence. Leaves sessile; blade deeply bipinnate, broadly ovate-lanceolate in outline, $1.5-4 \times 0.5-2$ cm, largest at midpoint on flowering stems, reduced proximally, base of leaf expanded, finely divided segments ca. 1 mm wide, grayish green, densely woolly or floccose pubescent with dolabriform trichomes, abaxially whitish green, adaxially light green. Capitulescences narrowly paniculate, with upright branches; lowermost branches to 4 cm long; uppermost branches < 2mm long; heads nodding, densely clustered, 1–15 per branch, usually sessile and solitary, but sometimes in clusters of 2 or 3, subtended by a narrow bract, broadly campanulate, $3-4 \times 2-5$ mm; involucral bracts in 2 or 3 series, oblong to narrowly ovate, $3-4 \times 1$ mm, base and midrib blackish purple, margins white-membranous but obscured by floccose pubescence on dorsal

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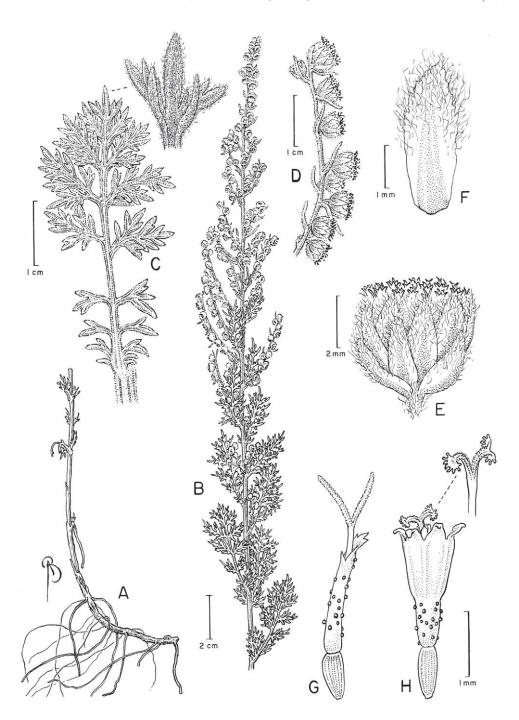


FIGURE 1. Artemisia lingyeouruennii L. Shultz & Boufford. A, Base of plant showing portion of rhizome; **B**, upper portion of stem; **C**, leaf, with enlargement of leaf apex; **D**, inflorescence branch showing arrangement of capitulae; **E**, single capitulum; **F**, involucral bract, **G**, marginal floret; **H**, central floret with enlargement of style and stigma to show fringed style branches. Drawn by Bobbi Angel from an isotype Boufford et al. 33908 (A).

surface; receptacle conical, glabrous; marginal florets 4 or 5, narrowly tubular, irregularly lobed, pistillate, fertile, dark reddish purple, externally glandular along length of tube; central florets 8–10, narrowly campanulate, regularly 5-lobed, perfect, fertile, light reddish purple, externally dotted with glands near base; style of marginal florets with upright linear branches and marginal stigmatic lines, light purple; style branches of central florets recurved, apically fringed, dark purple; anthers (in central florets only) 5, dark purple; cypselae glabrous, with obscure ribs, without rudimentary crown; cypselae of marginal florets obtuse, ca. 0.5 mm long, pale brown; cypselae of central florets obtuselanceolate, 0.5–0.7 mm long.

The specimens from which this species is described were collected during an expedition to a rarely-visited region of western Sichuan Province, China, in 2005. The purple florets embedded in the pale green woolly involucral bracts distinguish A. lingyeouruennii from most species of Artemisia. Professor Ling Yeou-Ruenn, the authority on the taxonomy of Artemisia in Asia (summarized in Ling 1992a), recognized these plants as representing an undescribed species in 2007 and proposed the name A. jiangdaensis for them. Jiangda Xian (江达 县,འང་མདའ་རྡ་ང་) is in eastern Tibet, not far from the type locality, but on the opposite side of the Jinsha Jiang from the town of Luoxu, Sichuan. We do not know if he had additional specimens of A. lingveouruennii from Jiangda, but that would have accounted for his choice of epithet. In Luoxu, Serxu Xian, A. lingyeouruennii was growing in a meadow at the base of limestone cliffs with such plants as Artemisia tainingensis Handel-Mazzetti var. nitida (Pampanini) Y. R. Ling and Saussurea tatsienensis Franchet (Asteraceae), Lappula cf. redowskii (Hornemann) Greene (Boraginaceae), Axyris hybrida Linnaeus (Chenopodiaceae), Pterocephalodes hookeri (C. B. Clarke) V. Mayer & Ehrendorfer (Dipsacaceae), Gentiana leucomelaena Maximowicz ex Kusnezow (Gentianaceae). Chamerion angustifolium (Linnaeus) Holub subsp. angustifolium (Onagraceae), various species of *Pedicularis* (Orobanchaceae), Delphinium trichophorum Franchet (Ranunculaceae) and other herbaceous plants.

Because of health problems, Professor Ling has been unable to continue his studies and has therefore not published a description of this new species. Instead of adopting the epithet he proposed, we are pleased to name this species in his honor in recognition of his life-long interest in and his many contributions to the systematics of *Artemisia* and its relatives.

The morphology of the flowering heads of *Artemisia lingyeouruennii*, with marginal pistillate florets and perfect central florets, places it systematically within *Artemisia* subgen. *Artemisia* sect. *Artemisia* (sensu Shultz 2009). Section *Artemisia* and sect. *Absinthium* have recently been placed together in the large and complex Subgenus *Artemisia* whose center of diversity is central Asia (Ling 1992a, 1992b).

LITERATURE CITED

Ling, Y. R. 1992a. The Old World *Artemisia* Linn. (Compositae). Bull. Bot. Res. North-East. Forest. Univ. 12. (1): 1–108.

——. 1992b. On the study of *Artemisia* L. & its allies form (sic) Compositae I. South China Institute of Botany, Guangzhou. (This publication

is a collection of 36 papers authored by Ling Yeou-Ruenn reproduced and bound in a single volume). Shultz, L. M. 2009. Monograph of *Artemisia* subgen. *Tridentatae* (Asteraceae: Anthemideae). Sys. Bot. Monogr. 89: 1–131.