

***ELATOSTEMA MAGNI-AURICULATUM* (URTICACEAE), A NEW SPECIES
FROM CHINA**

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Abstract

Elatostema magni-auriculatum, a new species from Guangxi Zhuangzu Zizhiqu, China is described and illustrated. The species is related to *E. myrtillus* (Lévl.) Hand.-Mazz., but differs from the latter by stems longitudinally angled, stipules linear-lanceolate, leaf blade obliquely ovate or obliquely ovate-elliptic, and staminate perianth lobes oblong-cymbiform.

Introduction

The genus *Elatostema* J.R. Forster & G. Forster is one of the largest genera in the family Urticaceae, consisting of approx. 500 species and is distributed in tropical and subtropical regions of Africa, Asia and Oceania (Wang, 2014). Southern and southwestern China is a centre of distribution for *Elatostema*. So far, about 280 species have been recorded in China (Wang, 2014).

In the recent years, a series of taxonomic studies on *Elatostema* have been published including several new taxa (Lin and Duan, 2008; Duan and Lin, 2010; Bi *et al.*, 2011; Lin *et al.*, 2011a, b; Yang *et al.*, 2011). During an expedition in Longzhou County, southwest Guangxi Zhuangzu Zizhiqu, southwest China in November 2011, and March and April 2012, previously unknown specimens of *Elatostema* were collected from evergreen broad-leaved forests in limestone hills at altitudes of 450–550 m, in latitude 22°39' N, longitude 106°49' E. After critical examination of the specimens and carefully consulting relevant literature (Wang, 1995, 2012, 2014; Lin *et al.*, 2003; Wei *et al.*, 2011, 2013a, b; Fu *et al.*, 2012; Wu *et al.*, 2013), it was identified as a new species of *Elatostema*. This paper describes and illustrates the new species as *Elatostema magni-auriculatum* L.D. Duan & Yun Lin.

***Elatostema magni-auriculatum* L.D. Duan & Yun Lin, sp. nov. (Figs 1 & 2).**

Diagnosis: *Elatostema magni-auriculatum* is morphologically most similar to *E. myrtillus* (Lévl.) Hand.-Mazz. It however differs from the latter in stems herbaceous, longitudinally angled (vs carnose, terete in *E. myrtillus*); leaf blade obliquely ovate or obliquely ovate-elliptic, 1.5–4.0 cm long, 1–2 cm wide (vs obliquely narrowly ovate, 1–3 cm long, 0.5–1.0 cm wide); staminate perianth lobes oblong-cymbiform, 2.2–3.0 mm long (vs obovate, 1.2–1.5 mm long); female bracts 2 (vs 6); achenes fusiform (vs narrowly ovoid).

Type: China. Guangxi Zhuangzu Zizhiqu: Longzhou County, Jinlong Town, Gaoshan Village, altitude 450–550 m, on rocks or between rock crevices in evergreen broad-leaved forests in limestone hills, 25 Nov 2011, ♂, L.D. Duan & Q. Lin 5422 **Holotype:** HUSY (Herbarium, Shaoyang University, Hunan, China); **Isotypes:** BJM, GZAC, HUFD (Herbarium, Hunan Food

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and Drug Vocational College, Hunan, China), HUSY, K, KUN, MO, P, PE, 5420 (*Paratypes*: HUF, HUSY); same locality, 25 Mar 2012, ♀, L.D. Duan & Q. Lin 5427 (*Paratypes*: HUF, HUSY), ♀, 5430 (*Paratypes*: HUF, HUSY); same locality, 3 Apr 2012, ♀, L.D. Duan & Q. Lin 5436 (*Paratypes*: HUF, HUSY), ♀, 5438 (*Paratypes*: HUF, HUSY).

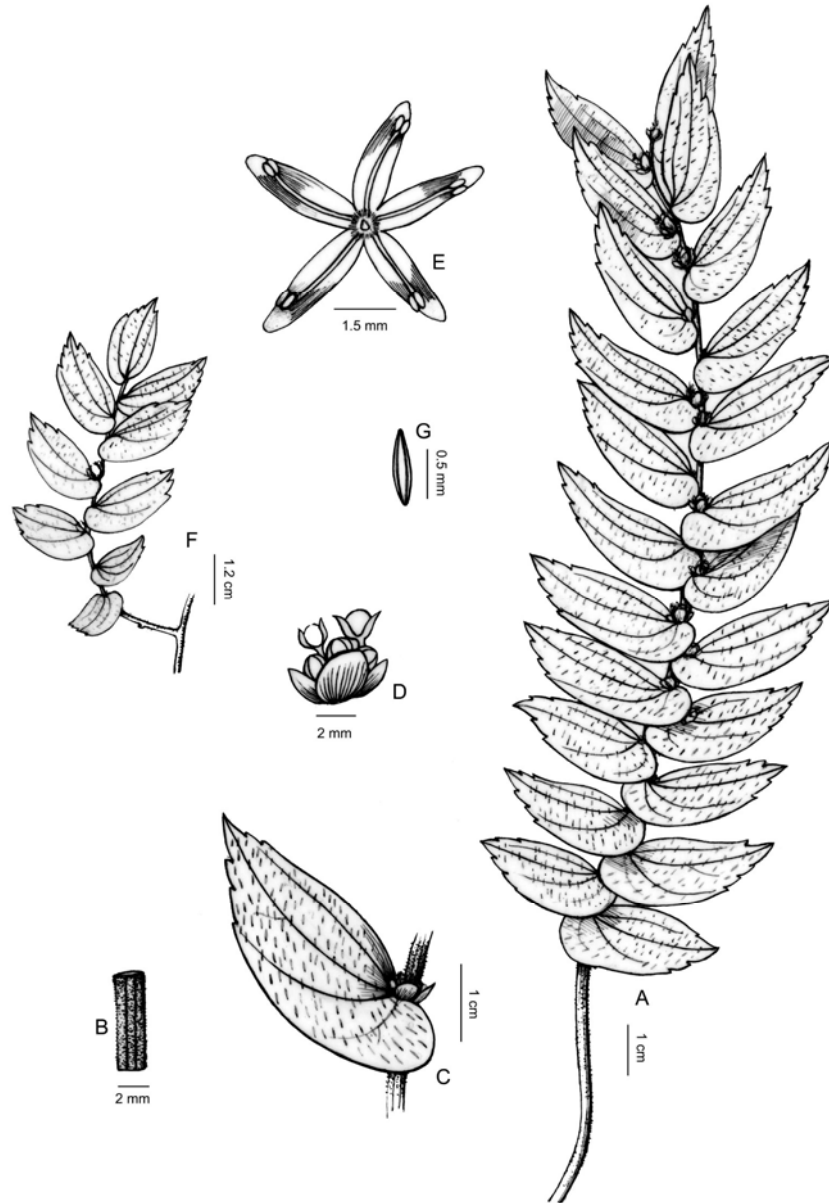


Fig. 1. *Elatostema magni-auriculatum* L.D. Duan & Yun Lin, **sp. nov.** A. Male habit; B. Portion of stem; C. Leaf blade; D. Staminate inflorescence; E. Male flower; F. Female habit; G. Achene (A–E: Drawn from L.D. Duan & Q. Lin 5422, HUSY; F & G: drawn from L.D. Duan & Q. Lin 5427, HUSY).

Perennial herbs, glabrous, monoecious, 15–60 cm tall. Stems herbaceous, longitudinally angled, ascending or decumbent, ramose, ferrugineous-furfuraceous. Leaves distichous, alternate, sessile; stipules 2, linear-lanceolate, 1.5–2.0 mm long, 0.3–0.5 mm wide, caducous; leaf blade herbaceous, or papyraceous, deep-green after drying, obliquely ovate or obliquely ovate-elliptic, 1.5–4.0 cm long, 1–2 cm wide, major basal lateral veins both arising at base of leaf blade, base with broader half auriculate (auricle 4–8 mm long) and narrower half cuneate; margin serrate, lower broader-half basal 2/3–3/4 entire and narrower-half basal 2/3 entire; apex acuminate to obtuse; cystoliths conspicuous, dense or sparse, linear, 0.5–1.0 mm long, random on adaxial surface, sparse on abxial surface; nanophylls absent. Male and female inflorescences borne on male and female stems respectively, or male inflorescence borne towards the stem apex and female inflorescence borne towards the stem base. Male inflorescence axillary, solitary, simple, nearly globose, 3–5 mm in diam.; sessile; receptacle very small; bracts 6, connate, unequal, 2 outer ones cymbiform, 2.0–2.5 mm long, 4 inner ones narrowly ovate-cymbiform; bracteoles linear, c. 2 mm long; male flowers 4–7, perianth lobes 5, white, oblong-cymbiform, 2.2–3.0 mm long, 0.8–1.0 mm wide, connate, stamens 5. Female inflorescence axillary, solitary, simple, nearly globose, 2–3 mm in diam.; peduncle up to 0.5 mm; receptacle very small; bracts 2, connate, ovate-cymbiform, c. 1.5 mm long, 1.2 mm wide; bracteoles linear. Achenes fusiform, 0.6–0.8 mm long, 6- or 7-ribbed.



Fig. 2. *Elatostema magni-auriculatum* L.D. Duan & Yun Lin, **sp. nov.** A. Male plant (L.D. Duan & Q. Lin 5422); B. Female plant (L.D. Duan & Q. Lin 5436), the arrow shows a longitudinally angled stem.

Phenology: Flowering from November to March, fruiting from April to May.

Etymology: *Elatostema magni-auriculatum* is named after the big auricle base with broader half of leaf blade.

Vernacular name: Juer Louticao.

Distribution and habitat: *Elatostema magni-auriculatum* is only known from its type locality, Gaoshan Village, Jinlong Town, Longzhou County, southwest Guangxi Zhuangzu Zizhiqu,

southwest China. This species grows on rocks or between rock crevices in evergreen broad-leaved forests in limestone hills at altitudes of 450–550 m, comprises about 1200 individuals growing in more than eight populations within a nature reserve.

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References

- Bi, H.Y., Yang, Z.R. and Lin, Q. 2011. New taxa of *Elatostema* (Urticaceae) from Thailand and India. *Bangladesh J. Plant Taxon.* **18**(2): 149–152.
- Duan, L.D. and Lin, Q. 2010. *Elatostema cataractum* (Urticaceae), a new species from Guizhou Province, China. *Ann. Bot. Fenn.* **47**: 229–232.
- Fu, L.F., He, C.X., Wang, W.T. and Wei, Y.G. 2012. Two new species of *Elatostema* (Urticaceae) from Guangxi, China. *Ann. Bot. Fenn.* **49**: 397–401.
- Lin, Q. and Duan, L.D. 2008. Two new species and a new series of *Elatostema* (Urticaceae) from China. *Bot. J. Linn. Soc.* **158**: 674–680.
- Lin, Q., Friis, I. and Wilmot-Dear, C.M. 2003. *Elatostema* (Urticaceae). *In*: Wu, Z.Y. and Raven, P.H. (Eds), *Flora of China*, Vol. **5**. Science Press, Beijing & Missouri Botanical Garden Press, St. Louis, pp. 127–163.
- Lin, Q., Shui, Y.M. and Duan, L.D. 2011a. *Elatostema oppositum* (Urticaceae), a new species from Yunnan, China. *Novon* **21**(2): 212–215.
- Lin, Q., Yang, Z.R., Duan, L.D. and Gao, T.G. 2011b. Miscellaneous taxonomic notes on *Elatostema* (Urticaceae) from China and its adjacent area. *Nord. J. Bot.* **29**: 590–597.
- Wang, W.T. 1995. *Elatostema* J.R. Forster & G. Forster. *In*: Wang, W.T. and Chen, C.J. (Eds), *Flora of Reipulicae Popularis Sinicae*, Tomus **23**, No. 2. Science Press, Beijing, pp. 187–317.
- Wang, W.T. 2012. Nova Classificatio Specierum Sinicarum *Elatostematis* (Urticaceae). *In*: Fu, D.Z. (Ed.), *Paper Collection of W.T. Wang*. Vol. **2**. Higher Education Press, Beijing, pp. 1061–1178.
- Wang, W.T. 2014. *Elatostema* (Urticaceae) in China. Qingdao Publishing House, Qingdao, pp. 1–393.
- Wei, Y.G., Monro, A.K. and Wang, W.T. 2011. Additions to the Flora of China: Seven new species of *Elatostema* (Urticaceae) from the karst landscapes of Guangxi and Yunnan. *Phytotaxa* **29**: 1–27.
- Wei, Y.G., Wen, F., Fu, L.F. and Wang, W.T. 2013a. Three new species of *Elatostema* J.R. Forst. & G. Forst. (Urticaceae) in limestone caves from Guangxi and Guizhou, China. *Bangladesh J. Plant Taxon.* **20**(1): 1–8.
- Wei, Y.G., Monro, A.K. and Wang, W.T. 2013b. Additions to the Flora of China: Three new species of *Elatostema* (Urticaceae) from Guangxi. *Phytotaxa* **147**(1): 1–12.
- Wu, Z.Y., Li, D.Z., Wang, H. and Wang, W.T. 2013. Two new species and one new variety of *Elatostema* (Urticaceae) from China. *Ann. Bot. Fenn.* **50**: 75–78.
- Yang, Z.R., Duan, L.D. and Lin, Q. 2011. *Elatostema scaposum* sp. nov. (Urticaceae) from Guizhou, China. *Nord. J. Bot.* **29**: 420–423.

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