

Elatostema cataractum (Urticaceae), a new species from Guizhou Province, China

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Elatostema cataractum L.D. Duan & Q. Lin (Urticaceae), a new species from Libo county, Guizhou province, China, is described and illustrated. The relationship among this species and its morphological siblings are discussed.

Key words: angiosperms, morphology, new species, taxonomy

The genus *Elatostema* in the family Urticaceae consists of ca. 300 species and is distributed in tropical and subtropical Africa, Asia, and Oceania; 146 species occur in China, and 29 species in the Guizhou province of China (Lin *et al.* 2003). *Elatostema* is similar to *Pellionia*, differing by the perianth lobes of the female flowers that usually number four or five, are much shorter than the ovary or strongly reduced, and not corniculate at apex; by the 6–10 ribbed achene; by the male inflorescences that usually have a receptacle, rarely being cymose; and by the female inflorescences with a discoid receptacle and bracteoles along margin. In *Pellionia* the perianth lobes of the female flowers number 3–5 and are longer than ovary, and usually corniculate below apex; the achene is tuberculate or striate, rarely smooth, never ribbed; the male inflorescences are cymose, and the female inflorescences are cymose or capitate on a globose receptacle.

The most recent infrageneric classification for the Chinese taxa of *Elatostema* was proposed

by Wang (1980) and Lin and Duan (2008), who divided the genus into five sections and 21 series.

Libo county of south Guizhou lies between latitudes 25°7' and 25°9'N, and between longitudes 107°37' and 108°18'E, and it has numerous limestone hills. During our fieldwork in the county in July and October 2003, a previously unknown species belonging to *Elatostema* section *Weddelia* series *Stipulosa* (Wang 1980), was collected on rocks under a waterfall. This species was found to be very distinct when compared with specimens of its morphological siblings housed at AU, BM, CDBI, E, GFS, GZAC, GZTM, HAST, HGAS, HHBG, HNNU, IBSC, K, KUN, L, LBG, NAS, P, PE, SZ, TUS and ZJFC.

Elatostema cataractum L.D. Duan & Q. Lin, *sp. nova* (Fig. 1)

Haec species affinis E. striguloso W.T. Wang, *sed caulibus glabris (nec strigosis); laminis glabris,*

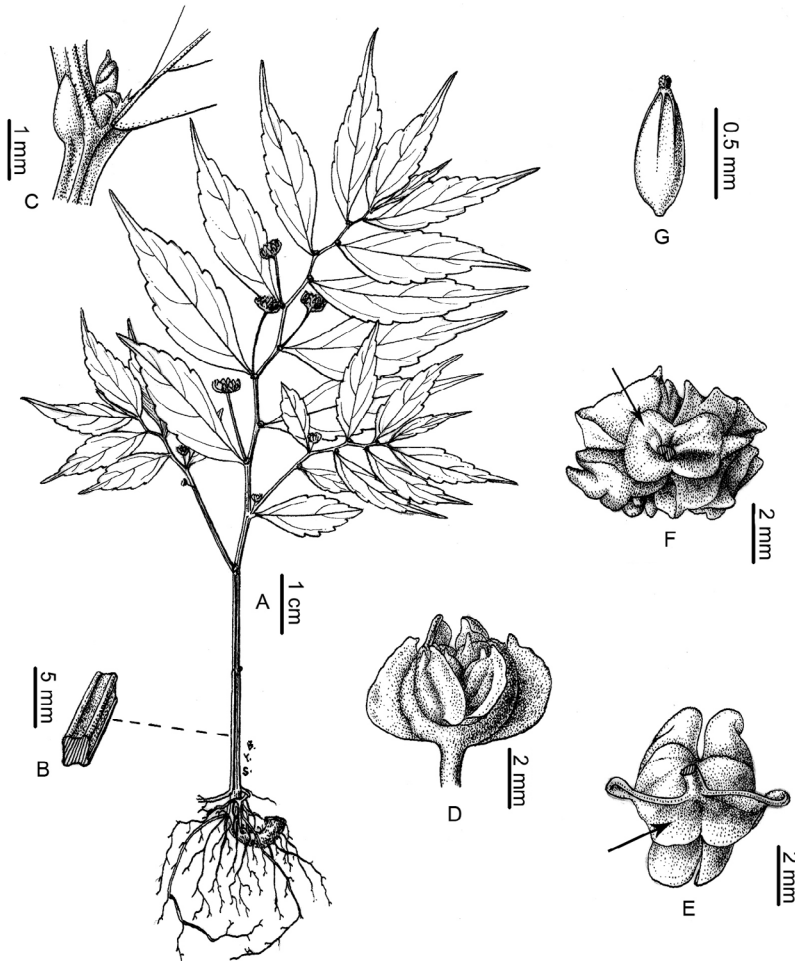


Fig. 1. *Elatostema cataractum* (from the holotype, except F and G from *Q. Lin & L. D. Duan 1029*, PE; drawn by Ying-Bao Sun). — **A:** Habit. — **B:** Portion of stem. — **C:** Node, showing also stipule. — **D:** Male inflorescence (lateral view). — **E:** Male inflorescence (ventral view, arrow showing receptacle). — **F:** Infructescence (ventral view, arrow showing receptacle). — **G:** Achene.

oblique ovato-lanceolatis vel oblique lanceolatis, 10–40 mm longis, 3.5–13 mm latis (nec puberulis, *oblique ellipticis*, 15–55 mm longis, 5–25 mm latis); *pedunculis inflorescentiarum masculinarum* 5–13 mm longis (nec 10–35 mm longis); *bracteis* 6 (nec 8); *floribus masculinis quadrimeris* (nec *quinquemeris*) *differt*. Proximum *E. filipedi* W.T. Wang, sed *stipulis* 1.0–1.5 mm longis, 0.3–0.4 mm latis (nec 4–9 mm longis, 1.5–2 mm latis); *laminis* 10–40 mm longis, 3.5–13 mm latis (nec 60–110 mm longis, 14–30 mm latis); *pedunculis inflorescentiarum masculinarum* 5–13 mm longis (nec 10–30 mm longis); *achenis longitudinaliter* 4- vel 5-costatis (nec *longitudinaliter* 10-costatis) *differt*.

TYPE: China. Guizhou Province, Libo County, Jialiang, rocks under a waterfall, alt. 750 m, 15.VII.2003 *L. D. Duan*

& *Q. Lin 2002131* (holotype PE; isotypes BM, E, K, L, IBSC, P, PE). — PARATYPE: Same locality, 26.X.2003 *Q. Lin & L. D. Duan 1029* (PE).

Herbs perennial, monoecious, 8–18 cm tall, glabrous. Stems ascending, longitudinally angled, simple or branched. Leaves alternate; nanophylls absent; stipules broadly lanceolate or lanceolate, 1.0–1.5 × 0.3–0.4 mm; petiole 0–3 mm; leaf blades obliquely ovate-lanceolate to obliquely lanceolate, 10–40 × 3.5–13 mm, herbaceous, major basal lateral veins asymmetric, 1 basal, the other arising above the base, cystoliths conspicuous, dense; base asymmetric with broader half cuneate or nearly rounded and narrower half narrowly cuneate, margin denticulate, apex acuminate. Male inflorescences solitary, simple, 3–6 mm in diam.; peduncles 5–13 mm; recepta-

Table 1. Morphological comparison of *Elatostema cataractum*, *E. strigulosum* and *E. filipes*.

Characters	<i>E. cataractum</i>	<i>E. strigulosum</i>	<i>E. filipes</i>
Hairs	plants glabrous	stems crispately strigose, leaf blade puberulent	plants glabrous
Stipules	broadly lanceolate or lanceolate, 1.0–1.5 × 0.3–0.4 mm	narrowly triangular or subulate, ca. 1.5 × 0.1 mm	lanceolate, 4–9 × 1.5–2 mm
Leaf blade	obliquely ovate-lanceolate to obliquely lanceolate, 10–40 × 3.5–13 mm, major basal lateral veins asymmetric, 1 basal, the other arising above base	obliquely elliptic, 15–55 × 5–25 mm, major basal lateral veins both arising at base or 1 arising above base	obliquely oblong or oblong-lanceolate, 60–110 × 14–30 mm, major basal lateral veins both arising at base
Male inflorescences	3–6 mm in diam.; peduncle 5–13 mm; receptacle 1–2 × 1 mm; bracts 6	2–5 mm in diam.; peduncle 10–35 mm; receptacle very small; bracts 8	3–9 mm in diam.; peduncle 10–30 mm; receptacle 1–1.5 mm in diam.; bracts 3 or more
Male flower	perianth lobes 4; stamens 4	perianth lobes 5; stamens 5	perianth lobes 4; stamens 4
Female inflorescences	1.5–4 mm in diam.; receptacle 1–3 mm in diam.	1.8 mm in diam.; receptacle very small	ca. 5.5 mm in diam.; receptacle ca. 2 mm in diam.
Achene	4- or 5-ribbed	unknown	10-ribbed

cles oblong, ca. 1–2 × 1 mm; bracts 6, connate, ovate, unequal, 2 outer ones 2–3 mm, 4 inner ones small; bracteoles ovate. Male flower: ovoid; perianth lobes 4, white, connate at base; stamens 4; rudimentary pistils very small, nearly 0.1 mm. Female inflorescences solitary or in pairs, nearly oblong, 1.5–4 mm in diam., sessile; receptacles oblong, 1–3 mm in diam.; bracts 8, ovate; bracteoles linear. Female flowers: perianth lobes very small. Achenes narrowly ovoid, 0.8–1 mm, 4- or 5-ribbed. Flowering from June to July and fruiting from August to November.

DISTRIBUTION AND HABITAT: *Elatostema cataractum* is only known from its type locality, Jialiang, Libo county, south Guizhou province, southwestern China. It grows on limestone rocks under a waterfall, at an altitude of ca. 750 m.

There are 12 species in ser. *Stipulosa* in China. Morphologically *Elatostema cataractum* resembles *E. strigulosum* of the same series and growing in the NW Guizhou, Sichuan and SE Yunnan province (Wang 1980, Lin & Duan, 2002a, 2002b). However, *E. cataractum* can be distinguished from *E. strigulosum* as well as from another similar species, *E. filipes*, by several characters (Table 1).

From the other species in ser. *Stipulosa* in China *E. cataractum* differs by a unique suite of characters, such as glabrous plants, and obliquely ovate-lanceolate to obliquely lanceolate, 10–40 × 3.5–13 mm leaf blades with denticulate margins.

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