

A NEW SPECIES OF *ELATOSTEMA* (URTICACEAE) FROM GUANGXI PROVINCE, CHINA

YI-GANG WEI¹ AND WEN-TSAI WANG²

Abstract. *Elatostema tenuinerve*, a new species from Guangxi province China is described and illustrated. *Elatostema tenuinerve* most closely resembles *E. pseudobrachyodontum*, but differs in the following characters: margin of the leaves crenate, teeth obtuse; cystoliths 0.15 mm long or less; stipules 1.5–2.0 mm long, subulate, glabrous; pistillate receptacle with cystoliths, bracts in 2 whorls, ca. 13, 0.2–0.5 mm long, apex shortly acuminate, not corniculate; achenes with 7 longitudinal ridges. In the *Flora of China*, *E. tenuinerve* would be placed in sect. *Elatostema* ser. *Nanchuanensia*.

Keywords: *Elatostema tenuinerve*, Urticaceae, Guangxi, China

Of the world's ca. 350 species of *Elatostema* Forest. (Urticaceae) (Wang, 1995), more than 146 occur in China (Lin et al, 2003). *Elatostema* is characterized and distinguished from other genera of Urticaceae by its inflorescences of determinate capitula with receptacles and involucre. During a field trip to Bama Xian, Guangxi in 2008, we collected several new species of *Elatostema*, one of which we describe here. The karst regions in Guangxi Province, China, where it is believed that many new species will be discovered in the future, are particularly rich in species of Urticaceae, Begoniaceae, and Gesneriaceae.

Elatostema tenuinerve W. T. Wang & Y. G. Wei, *sp. nov.* TYPE: CHINA. Guangxi Province, Nandan Xian, Liuzhai town, 800 m, E25°1'54.9" N 107°1'24.2" in limestone cave, 23 April 2009, Y. G. Wei 09142 (Holotype: PE; Isotype: IBK). Fig.1.

Species nova est affinis E. pseudobrachyodonto W. T. Wang, *quod foliis margine obtusus cystolithis majoribus usque ad 0.3 mm longis notatis, stipulis majoribus lanceolato-linearibus 3–4 mm longis margine cileolatis, capituli pistillati receptaculo cystolithis carente, ejus bracteis numerosis omnibus ad marginem*

receptaculi verticillatis apice longe corniculatis, cornibus 1.5–2.0 mm longis, acheniis longitudinaliter 4-costatis distinguitur.

Herbs. Underground organs not seen. *Stems* 32–38 cm tall, 2 mm in diam., unbranched or branched once from midpoint, glabrous; cystoliths 0.1–0.3(–0.4) mm. *Leaves* asymmetrical, upper half narrower than lower half, petiolate, 3.0–12.5 × 1.4–3.2 cm, lamina thinly papery, obliquely oblong, obovate-oblong, or elliptic; pinnately nerved, lateral nerves, 5 or 6 on narrow side of midrib, 5–8 on broad side of midrib, raised or flush with lower surface of lamina, flush with upper surface of lamina; base asymmetrical, narrower side obtuse or subauriculate; margins crenate, teeth obtuse, apex long acuminate to acuminate; lower surface strigose but soon glabrescent, upper surface glabrous; cystoliths only on upper surface, 0.10–0.15 mm long, dense, rod-shaped; petioles 0.8–2.8 mm long, glabrous; stipules 1.5–2.0 × 0.2 mm, subulate, glabrous. *Pistillate inflorescence* axillary, solitary, sessile, receptacle 6.2 × 4.8 mm, oblong, glabrous; cystoliths dense, punctiform or rod-shaped, 0.1 mm long; outer bracts 4, adjacent to margin of receptacle, depressed, deltate, ca. 0.4 mm × 1.0–1.8 mm, inner bracts ca. 9, on margin of receptacle, triangular, 0.4 × 0.4–0.6 mm, apex

We thank Mr. Sun Ying-Bao for preparing the illustration. This study was supported by the Guangxi Provincial Forestry Bureau and the Knowledge Innovation Program of the Chinese Academy of Sciences.

¹Guangxi Institute of Botany, Guangxi Zhuang Autonomous Region and the Chinese Academy of Sciences, Guilin 541006, China.

²State Key Laboratory of Systematic and Evolutionary Botany, Institute of Botany, Chinese Academy of Sciences, Beijing 100093, China. Email: wentsaiwang@yeah.net. Author for correspondence.

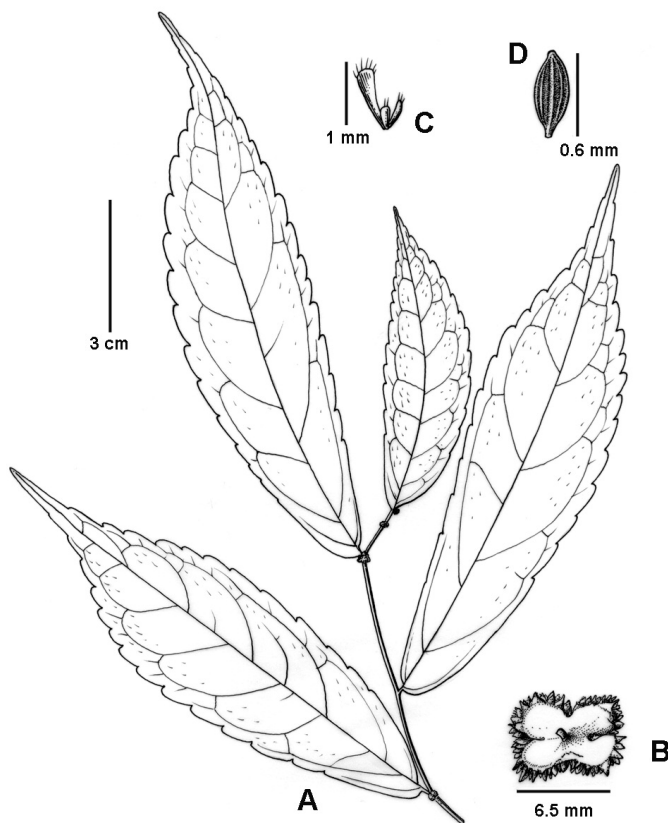


FIGURE 1. *Elatostema tenuinerve* W. T. Wang & Y. G. Wei. **A**, distal part of flowering branchlet; **B**, pistillate inflorescence (dorsal view) showing 4 inner (involucral) bracts (outer 9 bracts removed), and bracts of individual flowers; **C**, bracteoles and pistillate flower; **D**, achene. Drawn by Sun Ying-Bao from the holotype (PE).

of bracts 0.2–0.5 mm long, glabrous, thickly mucronate; bracteoles dense, spatulate or linear, 0.4–1.0 mm long, apex ciliate; perianth inconspicuous, ovary narrowly ellipsoid, 0.3 mm long, stigma 0.1 mm long. Tepals not seen. *Achenes* ca. 0.6 mm long, brownish, ellipsoid, with 7 longitudinal ribs. *Staminate inflorescence* not seen.

Habitat and distribution: on walls at back of limestone caves (ca. 50 m diam.). Approximately 25 species of *Elatostema* grow in limestone caves in Guangxi; half of them are endemic to the province, but further investigations are needed to determine if additional undescribed species of *Elatostema* grow in this habitat.

Conservation status: propositional IUCN endangered grade Critically Endangered, CR B1ab(i; ii,v) (IUCN, 2001).

Additional specimen examined: CHINA. Guangxi province, Nandan county, Liuzhai town, in limestone cave, 5 May 2005, *Y. G. Wei 05113* (IBK!).

Elatostema tenuinerve most closely resembles *E. pseudobrachyodontum* W. T. Wang. The two species may be distinguished by differences in the leaf margin and cystoliths, stipules, pistillate inflorescence, and achene morphology, as summarized in Table 1. Observations were made using a stereoscopic zoom microscope (50 \times); measurements of *E. pseudobrachyodontum* W. T. Wang are based on eight collections, including two type collections (CHINA. Guangxi province, Longlin county, Shechang town, near by stream on grass, 5 Aug. 1977, *T. H. Wei 334180* [Holotype: GXMI!]).

TABLE 1. Diagnostic characteristics of *Elatostema tenuinerve* W. T. Wang & Y. G. Wei and *E. pseudobrachyodontum* W. T. Wang.

	<i>ELATOSTEMA TENUINERVE</i>	<i>E. PSEUDOBRACHYODONTUM</i>
LEAF MARGIN	crenate	acutely dentate
CYSTOLITHS	0.10–0.15 mm long	0.25–0.30 mm long
STIPULE	1.5–2.0 mm long, glabrous	3–4 mm long, ciliolate on margin
CYSTOLITHS OF PISTILLATE RECEPTACLE	numerous	absent
BRACTS (PISTILLATE FLOWERS)	inner bracts 4, outer bracts 9	verticillate
APPENDAGE OF BRACTS (PISTILLATE FLOWERS)	absent	1.5–2.0 mm long
ACHENES	longitudinally 7-ribbed*	longitudinally 4-ribbed*

*Comparisons are based on a observations of 8 fruits from 2 collections of *E. tenuinerve*, and 5 fruits from one collection of *E. pseudobrachyodontum*.

LITERATURE CITED

- IUCN. 2001. *IUCN: Red List Categories and Criteria: Version 3.1*. IUCN Species Survival Commission. IUCN, Gland, Switzerland and Cambridge, UK. ii + 30pp.
- LIN, Q., I. FRIIS, C. M. WILMOT-DEAR. 2003. Pages 127–163 in Z. Y. Wu AND P. H. RAVEN, EDS. *Flora of China*. Beijing: Science Press, Missouri Botanical Garden Press. 5.
- WANG, W. T. 1995. *Elatostema*. Pages 187–317 in W. T. WANG AND C. J. CHEN, EDS., *Flora Reipublicae Popularis Sinica*, Vol. 23. Beijing: Science Press.