



Elatostema arcuatobracteatum (Urticaceae), a new species from Vietnam

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Abstract

Elatostema arcuatobracteatum a new species from Ha Giang, Vietnam is described and illustrated and a Global Species Conservation Assessment presented. *Elatostema arcuatobracteatum* is most similar to *E. xanthophyllum*.

Key words: Flora of Vietnam, Global Conservation Assessment, new taxon

Introduction

Elatostema Forster & Forster (1775: 53; Urticaceae) consists of several hundred species of herbs, small shrubs and subshrubs (Wang 2012) that grow in deep shade in forests, gorges, stream sides and caves. *Elatostema* is distributed throughout tropical and subtropical Africa, Asia, Australia and Oceania.

31 species of *Elatostema* have been recorded in Vietnam (Wang & Chen 1995, Pham 2003, Lin *et al.* 2003, 2011, Fu *et al.* 2013). However, few studies of *Elatostema* from Vietnam have been undertaken in recent years (Lin *et al.* 2011, Fu *et al.* 2013). During extensive fieldwork on karst landscape from Vietnam in recent years, we have found that several species of *Elatostema* shared between North Vietnam and South China.

Ha Giang Province is located in North Vietnam where the mean annual temperature is 23°C and annual rainfall is ca. 2400 mm. An unknown species of *Elatostema* was collected from this Province during recent fieldwork and confirmed as a new taxon following thorough consultation of the relevant literatures and specimens at IBK, PE and VNMN. This new taxon will be an addition to the 'Flora of Vietnam' (in progress).

Materials & methods

A morphological species concept was employed to distinguish and compare taxa. A new concept as supplement part of previous taxonomic research was put forward (Wei *et al.* 2011) and differed mainly including peduncle bracts, the number of bracteoles per flower and the use of Length:Width ratios of the leaf lamina. Material was examined under a Changfang XTL-240 binocular microscope and Planapo lens at ×14 to ×90 magnification and ca. 120 observations were made for the taxon (Wei *et al.* 2011). Conservation assessments were undertaken using IUCN (2001) criteria (IUCN 2001).

Taxonomy

Elatostema arcuatobracteatum L.F. Fu, V. T. Do & C.X. He, *sp. nov.* (Fig. 1 & 2)

TABLE 1. Morphological comparison between *Elatostema arcuatobracteatum* and *E. xanthophyllum*

	<i>E. arcuatobracteatum</i>	<i>E. xanthophyllum</i>
stem form	branched	simple
pistillate bract diameter	8–10 mm	ca. 1 mm
pistillate bract shape	arcuate	triangular
pistillate bract surface	abaxial surface with cystoliths	without cystoliths
pistillate bracteoles diameter	0.6 mm	ca. 0.2 mm
pistillate bracteole shape	ovate	linear
pistillate bracteole surface	with cystoliths	without cystoliths

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References

- Forster, J.R. & Forster, J.G.A. (1775) *Characteres Generum Plantarum*, second edition. London.
- Fu, L.F., Do, V.T., Wen, F., Liu, S.Y. & Wei, Y.G. (2013) New records of *Elatostema* and *Pellionia* (Urticaceae) from Vietnam. *Guihaia* 33(6): 801–803.
- IUCN (2001) *IUCN Red List Categories: Version 3.1*. International Union for Conservation of Nature and Natural Resources, Gland and Cambridge, pp. 70.
- Lin, Q., Friis, I. & Wilmot-Dear, M.C. (2003) *Elatostema*. In: Wu, Z. & Raven, P.H. (Eds.) *Flora of China*, Science Press, Beijing and Missouri Botanical Garden Press, St. Louis, Missouri 5: 76–189.
- Lin, Q., Yang, Z.R., Duan, L.D. & Gao, T.G. (2011) Miscellaneous taxonomic notes on *Elatostema* (Urticaceae) from China and its adjacent area. *Nordic Journal of Botany* 29: 590–597.
<http://dx.doi.org/10.1111/j.1756-1051.2011.01060.x>
- Pham, H.H. (2003) *An Illustrated Flora of Vietnam Vol. 2*. NXB Tre Press, Ho Chi Minh. pp. 589–593.
- Wang, W.T. (1982) Taxa nova Pellioniae Elatostematisque E Sina. *Bulletin of Botanical Research* 2: 19–20.
- Wang, W.T. (2010) Morphology of the bracts of *Elatostema* (Urticaceae) and the evolutionary trends in them. *Guihaia* 30(5): 571–583.
- Wang, W.T. (2012) Nova Classificatio Speierum Sinicarum *Elatostematis* (Urticaceae). In: Paper Collection of W.T. Wang Beijing: Higher Education Press 2: 1067–1178.
- Wang, W.T. & Chen, C.J. (1995) *Elatostema*. In: Flora Reipublicae Popularis Sinicae 23. Science Press, Beijing. pp. 187–317.
- Wei, Y.G., Monro, A.K. & 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.