



Lysimachia dabieshanensis sp. nov. (Primulaceae), a new species from Dabieshan Mountain, China

KUN LIU¹, SHOU-BIAO ZHOU^{1*}, YAN-SONG CHEN^{1,2} & XIN HONG¹

¹Anhui Provincial Key Laboratory of the Conservation and Exploitation of Biological Resources, College of Life Sciences, Anhui Normal University, CN-241000, Wuhu, China. Email: hudixiao@126.com, zhoushoubiao@vip.163.com, hongxin200710084@126.com

²Department of Life Sciences, Hefei Normal University, CN-230601, Hefei, China. Email: ottffss7531_cn@126.com

*Author for Correspondence

Abstract

A new species of Primulaceae, *Lysimachia dabieshanensis* K. Liu & S.B. Zhou, is described and illustrated from Dabieshan mountain, Anhui, China. It is similar to *L. melampyroides* var. *amplexicaulis* and *L. klattiana* in leaf and flower shape, but can be distinguished by its taller plant, connate-perfoliate leaves at lower nodes of stem and branch, and obviously raised veins abaxially.

Key words: *Lysimachia*, Anhui, new species, taxonomy

Introduction

Lysimachia is a genus of about 180 species mainly distributed in the temperate and subtropical parts of the northern hemisphere, but with a few species in Africa, Australia and South America. In the *Flora of China*, 138 species were recorded as native in China (Hu & Kelso, 1996), with the greatest concentration of species in Yunnan, southern Sichuan, western Guizhou and Guangxi. The center of origin of this genus may be in the south-western part of China (Chen & Hu, 1979). New species in this genus are still being described in China (Shao *et al.* 2004, Shao *et al.* 2006, Yan & Hao, 2012).

In June 2008, the first author found a wild *Lysimachia* plant during field work at Yaoluoping Village, Yuexi County, Anhui Province. One year later, the authors made four botanical expeditions to Mt Dabieshan, Anhui Province in May, June, July and September 2009 where many populations of this plant were discovered and collected, including several living plants which were cultivated at Anhui Normal University, Wuhu, for further observation and research. After careful comparative studies, and consulting the relevant literature (Chen & Hu 1979, Chen *et al.* 1989, Hu & Kelso 1996, Shao *et al.* 2004, Shao *et al.* 2006, Yan & Hao 2012), we conclude that the plants represent an undescribed species.

Taxonomic treatment

Lysimachia dabieshanensis Kun Liu & S.B.Zhou, sp. nov. (Figs. 1, 2)

Differing from *Lysimachia melampyroides* var. *amplexicaulis* Chen et C.M. Hu and *L. klattiana* Hance in being a relatively taller plant (40–110 cm), having opposite and larger leaves with their bases fusing around the stem at lower nodes, veins obviously raised abaxially, and the terminal inflorescences in capitate clusters at the apex of stems and branches.

Type:—CHINA. Anhui Province: Jinzhai County, Qianping village, growing at margins of mountain woodlands, grassy slopes, mountain streamsides, elevation ca. 780 m, 2 June 2009 (fl.), *Kun Liu 2009030* (holotype, ANU!, isotypes, IBK!).

- Leaf blade 30–90 × 5–25 mm; flowers 7–9 mm6
- 6. Leaves petiolate*L. melampyroides* var. *melampyroides*
- Leaves sessile, clasping at base*L. melampyroides* var. *amplexicaulis*

TABLE 1. Diagnostic differences among *Lysimachia dabieshanensis*, *L. melampyroides* var. *amplexicaulis* and *L. klattiana*.

| Characters | <i>Lysimachia dabieshanensis</i> | <i>L. melampyroides</i> var. <i>amplexicaulis</i> | <i>L. klattiana</i> |
|------------------------|--|---|--|
| Stem | 40–110 cm high, branched from middle | 20–50 cm high, usually branched from middle | 15–45 cm high, seldom branched |
| Leaf | opposite or 6 to many aggregated at apex of stems and branches | opposite | 3 or 4 per whorl or opposite at lower nodes |
| Blade base on the stem | semiclasping and connate with opposite leaf base | sessile, clasping at base | cuneate |
| Blade size (cm) | 3–14 × 1–4 | 4–7 × 1–2.5 | 2–5.5 (–11) × 0.5–1.2 (–2.5) |
| Vein | veins 4–7 pairs, obviously raised abaxially; veinlets visible | veins 4–5 pairs; veinlets inconspicuous. | veins 3–5 pairs, slightly raised abaxially; veinlets invisible |
| Flower | inflorescences terminal, in capitulate clusters at apex of stems and branches, rarely with solitary flowers in axils of lower leaves | Flowers solitary, in axils of upper leaves, occasionally flowers aggregated toward apex | umbels terminal, rarely with solitary flowers in axils of lower leaves |
| Corolla | 1.2–1.9 cm long, tube 3–4.5 mm long | 0.7–0.9 cm long, tube 1–2 mm long | 1.1–1.2 cm long, tube 2.5–3 mm long |

Acknowledgements

We thank Fang Sun and Xiao-Ming Xu for drawing the handsome illustration. This study was financially supported by the Natural Science Foundation of Anhui Province (11040606M77), the Key Foundation of Education Department of Anhui Province (KJ2011A129) and The Innovation Funds of Anhui Normal University (2012cxjj07).

References

- Chen, F.H., Hu, C.M. (1979) Taxonomic and phytogeographic studies on Chinese species of *Lysimachia*. *Acta Phytotaxonomica Sinica* 17: 21–53.
- Chen, F.H., Hu, C.M., Fang, Y.L., Cheng, C.Z. (1989) Primulaceae. In: Chen, F.H. & Hu, C.M. (Eds) *Flora Reipublicae Popularis Sinicae* 59. Science Press, Beijing, pp. 3–133.
- Hu, C.M., Kelso, S. (1996) Primulaceae. In: Wu, Z.Y. & Raven, P.H. (Eds) *Flora of China* 15. Science Press, Beijing, and Missouri Botanical Garden Press, St Louis, pp. 39–189.
- IUCN (2001) IUCN Red List Categories and Criteria, Version 3.1. Gland, Switzerland and Cambridge, United Kingdom, IUCN Species Survival Commission.
- Shao, J.W., Zhang, X.P., Guo, X.H. (2004) A new species of *Lysimachia* in Primulaceae. *Bulletin of Botanical Research* 24: 389–391.
- Shao, J.W., Zhang, X.P., Guo, X.H. (2006) *Lysimachia dextrorsiflora* X.P. Zhang, X.H. Guo & J.W. Shao, a new species of Primulaceae from China. *Acta Phytotaxonomica Sinica* 44: 589–594.
<http://dx.doi.org/10.1360/aps050135>
- Yan, H.F., Hao, G. (2012) *Lysimachia huchimingii* sp. nov. (Primulaceae) from China. *Nordic Journal of Botany* 30: 443–445.
<http://dx.doi.org/10.1111/j.1756-1051.2012.01401.x>