



Primulina rubribracteata, a new species of Gesneriaceae from southern Hunan, China

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Abstract

Primulina rubribracteata Z.L. Ning & M. Kang, a new species of Gesneriaceae from southern Hunan, China, is described and illustrated. The new species morphologically resembles *P. polycephala* (Chun) Mich. Möller & A. Weber and *P. porphyria* X.L. Yu & Ming Li, but it can be easily distinguished by having ovate or broadly ovate leaf blade, purple red bracts and calyx, shorter peduncle and pedicel, thoroughly purple corolla, unbranched cymes with 1–4 flowers, and densely glandular pubescent inside corolla lobes.

Key words: Gesneriaceae, *Primulina rubribracteata*, new species

Introduction

Primulina Hance (1883: 169), re-circumscribed based on recent molecular phylogenetic studies, has become a large genus in the Old World Gesneriaceae family. The genus is consisted of more than 130 species distributed in southern China and northern Vietnam (Webber *et al.* 2011, Möller *et al.* 2013), with about 40 more described over recent years. The karst regions of S China and N Vietnam show the highest biodiversity and differentiation of *Primulina* species, and most are narrow endemics with small population sizes at each locality (Wen & Zhong 1998, Li & Wang 2004, Wei *et al.* 2004, Kang *et al.* 2014).

During our field explorations in limestone karst caves of southern Hunan, the authors (Kang 2011, Pan 2013, Ning *et al.* 2014) discovered a new taxon of *Primulina*. The plants were growing in the entrance of a small limestone cave, were not in flower, and showed abaxially dark purple leaf blade. We introduced several living individuals from the field population into cultivation in the South China Botanical Garden and Guilin Botanical Garden, China, but the leaf color remained dark purple grown in a shaded bed from the time of its cultivation to the present. The color of abaxially leaf blade is similar to *P. porphyria* X.L. Yu & Ming Li (2015: 157). When the plants flowered, the bracts and calyx lobes are purple red, and densely glandular pubescent inside corolla lobes. It is obviously different from *P. porphyria*, and more resembles *P. polycephala* (Chun 1981: 58) Mich. Möller & A. Weber (2011: 767) (Fig. 2J–k) in general appearance. To further elucidate the phylogenetic affinities of the new taxon, we reconstructed a phylogeny of 90 *Primulina* species based on internal transcribed spacer (ITS) and three plastid markers (*trnL-trnF*, *rpl32-trnL*, and *atpB-rbcL*). Sequence data for 89 *Primulina* species were obtained from Kang *et al.* (2014), and sequence data for two accessions of this new taxon, with each collected from different populations, were newly prepared for this study (GenBank accession no. KU173791–KU173802, Appendix 1). The phylogenetic reconstruction was described as in Kang *et al.* (2014). Taking together the field observations, phylogenetic analysis and literature studies (Wang 1981, Liu & Guo 1989, Wang 1990, Wang *et al.* 1998, Wei *et al.* 2000, Fang *et al.* 2004, Li & Wang 2004, Shen *et al.* 2010, Wei *et al.* 2010, Liu *et al.* 2010, Wen *et al.* 2012a, Wen *et al.* 2012b, Ning *et al.* 2013, Cai *et al.* 2014, Li *et al.* 2014, Ning *et al.* 2015, Wen *et al.* 2015, Li *et al.* 2015), we considered these plants as a new species, which is in detail described and illustrated here.