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Primulina guizhongensis (Gesneriaceae), a new species from Guangxi, China

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Abstract

A new species of *Primulina* is described and illustrated from southern China (Guangxi zhuang Autonomous Region) as *P. guizhongensis*. This new species is similar to *P. spadiciformis* based on morphological characters. Sequences of nuclear ribosomal internal transcribed spacer (ITS) region and the plastid *trn*L-F intronspacer (*trn*L-F) from the new species and its 22 relatives are used to resolve generic placement of the new species in *Primulina*. In spite of three species are vastly different in morphology, the molecular evidences showed that the closest relatives of *P. guizhongensis* are *P. mollifolia* and *P. luochengensis*. The conservation threat analysis is summarized according to the IUCN Red List Categories and Criteria.

Introduction

The genera *Chirita* Buch.-Ham. ex Don (1822: 83) and *Chiritopsis* Wang (1981: 21) were always considered to be closely related (Li & Wang, 2007). Recently molecular studies (Weber *et al*. 2011, Wang *et al*. 2011) has shown that the originally monotypic genus *Primulina* Hance (1883) belongs to this group, and that genus was enlarged to include *Chirita* and *Chiritopsis*. Meanwhile new species in this group were reported, for example *P. sinovietnamica* Wu & Zhang (2012: 13), which hinted to morphological characters of similar species not being consistent with molecular evidence (Wu *et al*. 2012). Guangxi is the distribution and diversity centre of *Primulina* in China and worldwide (Wei *et al*. 2010) and numerous new taxa have been recently discovered in this genus (e.g. Huang *et al*. 2012, Wen *et al*. 2012, Wen *et al*. 2012, Wu *et al*. 2012).

One of the authors of this paper, Bo Pan, found a population of *Primulina* at Liujiang County, Liuzhou, Guangxi, China in 2007. He collected some flowering specimens, and after carefully consulting the relevant literature (e.g. Li & Wang 2004, Wei *et al*. 2010), the *Flora of China* (Wang *et al*. 1990, Wang *et al*. 1998) and herbarium specimens, we concluded that it is a new species. The new species is described and illustrated here and its conservation status is evaluated.

Material and methods

We collected leaf material of our possible new species, using silica gel to dry it in the field (Chase & Hills 1991) for DNA extraction. The nuclear ribosomal internal transcribed spacer (ITS) region and the plastid *trn*L-F intronspacer (*trn*L-F) were used as molecular markers. The molecular methods and protocols followed Möller *et al*. (2009, 2011). Genbank accession numbers for ITS and *trn*L-F of our new species are JN644337 and JN644340, respectively (Table 1).

DNA sequences of the new species were found to be similar to the sequences of the recently recircumscribed *Primulina* (Wang *et al*. 2011, Weber *et al*. 2011b) based on comparison with Blast N in NCBI

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