



Primulina mabaensis (Gesneriaceae), a new species from a limestone cave of northern Guangdong, China

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Abstract

We describe and illustrate the new species *Primulina mabaensis* from northern Guangdong, China. Its generic placement in the recently recircumscribed *Primulina* is confirmed by phylogenetic analyses of ITS and *trnL-F* intron-spacer DNA sequences. *Primulina mabaensis* is similar to *P. repanda* var. *guilinensis*, differing from the latter by its much larger flowers with corollas 2.5–3.0 cm (vs. 8–10 mm) long and corolla tubes 2.0–2.5 cm (vs. 6–8 mm) long and ca. 7 mm (vs. ca. 3 mm) in diameter at the corolla mouth. *Primulina mabaensis* is currently only known from limestone caves and rock surfaces of a karst tower in the Maba Man Archeology Site.

Key words: *Chirita*, *Chiritopsis*, ITS, molecular taxonomy, Old World Didymocaroid Gesneriaceae, rare plant, Sino-Vietnamese limestone karst, *trnL-F* intron-spacer

Introduction

The region stretching across the border areas of southern China and northern Vietnam is renowned for its spectacular limestone karst terrains and rich biodiversity (Xu 1995, Hou *et al.* 2010, López-Pujol *et al.* 2011). As karst ecosystems elsewhere in Southeast Asia (Clements *et al.* 2006), the Sino-Vietnamese limestone karst flora is also distinctive in harboring a myriad of species-rich plant genera with exceptionally high endemism. *Aspidistra* Ker Gawler (1822: p628; Asparagaceae; e.g., Lin *et al.* 2010), *Begonia* Linnaeus (1753: 1056; Begoniaceae; Peng *et al.* 2012), *Elatostema* Forster & Forster (1775: 53; Urticaceae; e.g., Wei *et al.* 2011), *Impatiens* Linnaeus (1753: 937; Balsaminaceae; e.g., Yu *et al.* 2009), *Polystichum* Roth (1800: 31; Dryopteridaceae; He & Zhang 2011) and several genera of Gesneriaceae (Wei 2010, Weber *et al.* 2011a, Liu *et al.* 2012, Wen *et al.* 2012a, Xu *et al.* 2012a) are but a few of the many species-rich and highly diversified genera, represented by species often confined to a few caves and crevices of limestone formations in the Sino-Vietnamese karsts.

During the course of botanical inventory of limestone karst caves in northern Guangdong in 2010, we collected an unknown Gesneriaceae whose gross morphology appears to be intermediate between *Chirita* sect. *Gibbosaccus* Clarke (1883: 130) and *Chiritopsis* Wang (1981: 21), especially resembling that of *Chiritopsis repanda* var. *guilinensis* (Wang 1992: 299) Möller & Weber in Weber *et al.* (2011b: 784). After consulting relevant literature (Wang *et al.* 1998, Ye & Peng 2006, Wei 2010, Wang *et al.* 2011, Weber *et al.* 2011b, Liu *et al.* 2012, Wen *et al.* 2012b, Wu *et al.* 2012a, Wu *et al.* 2012b, Xu *et al.* 2012a, Xu *et al.* 2012b) and performing molecular phylogenetic analyses (Xu *et al.* 2012a), we confirm it is an undescribed species of *Primulina* Hance (1883: 169; Gesneriaceae), a recently recircumscribed genus (now including *Chirita* Buch.-Ham. ex Don (1825: 89) and *Chiritopsis* Wang (1981: 21)) comprising ca. 150 species of predominately calciphilous herbs distributed mainly in southern China and northern Vietnam (Wei 2010, Wang *et al.* 2011, Weber *et al.* 2011b, Xu *et al.* 2012a).