



Petrocosmea funingensis (Gesneriaceae): a new species from southeastern Yunnan, China

QIANG ZHANG^{1,*}, BO PAN¹, TAO MENG¹, GUO-FENG LI², WEI-BIN XU¹ & ZHI-MING LI³

¹Guangxi Inst. of Botany, Guangxi Zhuang Autonomous Region and Chinese Academy of Sciences, 541006, Guilin, China.

²South China Botanical Garden, Chinese Academy of Sciences, 510650, Guangzhou, China.

³Yunnan Academy of Scientific and Technical Information, Kunming, 650051, Yunnan, China.

*Author for Correspondence. E-mail: Qiangzhang04@126.com

Abstract

Petrocosmea funingensis, a new species from southeastern Yunnan, China is here described and illustrated. Based on morphological characters it is assumed to belong to section *Anisochilus*, because of the shallow or slight split of the corolla lobes with the upper lip being nearly half as long as the lower one. Within the section, the new species is associated with the species from series *Iodioides*, due to the particularly extensive fusion of the two adaxial lobes and is morphologically most similar to *P. huanjiangensis* and *P. iodioides*, especially in floral structure and traits, but can be distinguished from these species by several quantitative and qualitative characters of the leaves, peduncles, calices, stamens, staminodes and styles.

Introduction

Petrocosmea Oliver, with ca. 30 formally recognized species (Wang, 1985, Li & Wang 2004, Wei *et al.* 2010), is a genus of small lithophytic herbs in the family Gesneriaceae. The genus has a centre of diversity in the plateau of southwestern China, where more than 20 species have been recorded (Wang *et al.* 1998, Li & Wang 2004, Wei *et al.* 2010). According to the last complete revision of the genus by Wang (1985), 27 species with 4 varieties were recognized in three sections: section *Deinantha* Wang, which is characterized by its constricted anther apex; section *Anisochilus* Hemsl., which possesses slightly split corolla lobes, with the upper lip nearly half as long as the lower one; and section *Petrocosmea*, which has deeply split and almost equally long lobes (Li & Wang 2004). Almost all the known *Petrocosmea* taxa have been recorded as being restricted to small areas on moist limestone rocks in montane forests, usually at elevations over 1000 meters and several new species have been described in the genus during the last decade (e.g. Wei & Wen 2009, Middleton & Triboun 2010, Zhao & Shui, 2010, Xu *et al.* 2011c, Qiu *et al.* 2012). In addition to new species of *Petrocosmea*, numerous new species of Gesneriaceae have recently been described from southern China, further increasing the knowledge of this diverse family (e.g. Xu *et al.* 2008, Li & Möller 2009, Huang *et al.* 2010, Li & Zhu 2010, Xu *et al.* 2010, Huang *et al.* 2011, Wu *et al.* 2011, Xu *et al.* 2011a, 2011b, 2011c, Hong *et al.* 2012, Huang *et al.* 2012, Qiu *et al.* 2012, Wen *et al.* 2012, Wu *et al.* 2012, Xu *et al.* 2012).

During recent field studies in May 2012, a population of *Petrocosmea* was found flowering at a limestone cave entrance at an elevation of ca. 1400 m in Funing County in the province of Yunnan. This new population has flowers with a slightly divided upper lip that is much shorter than the lower one, so this species can be attributed to *Petrocosmea* section *Anisochilus*. After comparing the plants with all recognized species of the genus in relevant literature (e.g. Wang *et al.* 1998, Li & Wang 2004, Wei & Wen 2009, Middleton & Triboun 2010, Wei *et al.* 2010, Zhao & Shui 2010, Xu *et al.* 2011c) and comparing our plants against other specimens of *Petrocosmea*, the population was confirmed to be distinguishable from all others and therefore it must represent an undescribed species, which we describe below.