



## *Begonia pulchrifolia* (sect. *Platycentrum*), a new species of Begoniaceae from Sichuan of China

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### Abstract

*Begonia pulchrifolia* D.K.Tian & C.H.Li, a new species in *Begonia* sect. *Platycentrum* A.DC. (Begoniaceae) from Sichuan of China, is described and illustrated. Morphologically, it is only similar to the young or smaller individuals of *B. dielsiana* and *B. emeiensis* in plant shape and some leaf characters but differs easily by its foliage color and deeper divided leaf lobes, small-sized flowers, hairy outer petals of the male flowers, and long abaxially winged fruits. Molecular phylogenetic analysis based on nrDNA also supported the distinction of *B. pulchrifolia* from *B. dielsiana* and *B. emeiensis*.

**Key words:** China, Sichuan, *Begonia*, new species

### Introduction

*Begonia* is considered the world sixth largest genus in vascular plants (Hoover *et al.* 2004) and about 1600 species have been described so far (Thomas, 2010; Aitawade *et al.* 2012). The species occur in subtropical and tropical regions, with the greatest diversity in America and Asia (> 600 species each), whilst being relatively poor in Africa (160 species) and absent in Australia (Goodall-Copestake *et al.*, 2010). In Asia, China has the largest number of *Begonia* species. Based on Flora of China (Gu *et al.* 2007), 173 species are recorded in China. Since publication of the Flora of China, nearly 20 new species from China have been published (Ding *et al.* 2014, Ku *et al.* 2008, Li *et al.* 2008, Liu *et al.* 2007, Ma *et al.* 2006, Peng *et al.* 2008a,b, 2009, 2010, 2012, 2013, 2014a,b, Shui 2007, Tian *et al.* 2014, Wei *et al.* 2007). According to our investigation in the past years, there are still some potential new taxa needing to be studied and published in the future. Here, we described and illustrated *Begonia pulchrifolia*, a new species from Sichuan of China.

In November 2013, Daike Tian, traveled to Beijing and found one specimen of a potential new taxon of *Begonia* at the Herbarium of the Health Science Center, Peking University (PEM). This specimen was collected from Mount Emei in Sichuan Province but did not include collector's name and collection date (possibly 30 years ago). To investigate this doubtful species, Daike Tian traveled to Mount Emei in September 2014 and met with Cehong Li, a staff member of Mount Emei Experimental Station of Biological Resources, Sichuan Provincial Academy of Natural Resources. Cehong Li turned out to be the one who first found the taxon in Mount Emei in July 1990, and he had introduced wild plants to glasshouse for cultivation in October 2003. Through a further survey, we determined several populations of this potential new species in both Meinvfeng of Leshan and Mount Emei of Emeishan, Sichuan.

Morphologically, *Begonia pulchrifolia* is only similar to the immature or small-sized individuals of *B. dielsiana* E. Pritz ex Diels (1900: 479) and *B. emeiensis* C.M. Hu ex C.Y. Wu & T.C. Ku (1995: 273) in plant shape and some leaf characters, but differs clearly by its foliage color and usually deeper lobed leaves, small-sized flowers, hairy outer petals of the male flowers, and long abaxially winged fruits. In order to understand more about its taxonomic status and similarity with other species, a molecular phylogenetic analysis based on the nuclear ribosomal DNA (nrDNA) internal transcribed spacer (ITS) was conducted using 33 accessions representing a total of 30 species from the five main sections of *Begonia* delimited in China and one section from Africa based on the treatments by Doorenbos *et al.* (1998) and Shui *et al.* (2002).