



A new delineation for *Oreocharis* incorporating an additional ten genera of Chinese Gesneriaceae

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Abstract

Based on molecular data and a morphological evaluation, evidence is provided that the species of eleven, mostly small-sized and monotypic genera of Chinese Gesneriaceae (*Ancylostemon*, *Bournea*, *Briggsia s.str.*, *Dayaoshania*, *Deinocheilos*, *Isometrum*, *Opithandra*, *Oreocharis*, *Paraisometrum*, *Thamnocharis*, *Tremacron*) form a highly-supported group in which the species interrelationships run across traditional generic boundaries. The data confirm previous doubts on the naturalness of some of these genera and, after a detailed discussion of the particular genera, the conclusion is reached that the whole group is best regarded as a single genus, *Oreocharis*, which is thus expanded to comprise over 80 species. A list of the species is given and the necessary transfers are made. The new delimitation provides a framework for studying the species relationships and working out an infrageneric classification. *Oreocharis* provides an excellent example of a major monophyletic group that has experienced a rapid radiation early in its evolution and shows manifold convergences in floral characters (corolla form and coloration, fertility of stamens, anther shape and dehiscence mode), apparently reflecting different pollination strategies, but has little variation in vegetative habit and fruit structure.

Key words: *Ancylostemon*, *Bournea*, *Briggsia*, *Dayaoshania*, *Deinocheilos*, *Isometrum*, Lamiales, molecular systematics, *Opithandra*, *Paraisometrum*, pollination syndromes, *Thamnocharis*, *Tremacron*

Introduction

Recent molecular phylogenetic work on the Old World Gesneriaceae has revealed a high level of polyphyly on the one side, and species relationships running across traditional generic boundaries on the other (Möller *et al.* 2009, 2011). Examples include the several different lineages of *Chirita* Buch.-Ham. ex Don (1825: 89)—the one including the type now being included in *Henckelia* Sprengel (1817: 402)—and the expanded definitions of *Hemiboea* Clarke (1888: t. 1798) and *Petrocodon* Hance (1883: 167; Wang *et al.* 2011, Weber *et al.* 2011a, b, c).

In the present paper we focus on a case where molecular data suggest an extreme restructuring of existing genera and their union into one: *Oreocharis*. In this paper, we will define this genus anew to include species from 11 previously accepted genera (or 14 if the previously synonymised genera *Dasydesmus*, *Perantha* and *Schistolobos* are taken into account). A strongly supported clade comprising samples of *Oreocharis* mixed with species from several other genera was already found by Möller *et al.* (2011). In that work the clade included 29 samples of 28 species. Here, we increase the sampling in this *Oreocharis*-dominated clade to 43 samples, representing 39 species. The clade, and the new generic definition based upon it, is characterised by