



***Deyeuxia debilis* (Poaceae, Agrostidinae): typification, taxonomy and update of the Chinese distribution**

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Abstract

The name *Deyeuxia debilis* (Poaceae, Agrostidinae), based on *Calamagrostis debilis*, is lectotypified by a specimen originating from India (Sikkim, Chola) in accordance with the original description and with the current use of the name by the majority of Indian and Chinese authors. The taxonomy of the species is clarified and discussed, especially in relation to the similar *Deyeuxia moupinensis* and *D. gaoligongensis*. An amended circumscription of *D. debilis* is given, together with an illustration of the spikelet and culm morphology. The distribution area of *D. debilis* includes India and China. The range of this species in China is extended as it is recorded for the first time from the Gaoligong Shan region of NW Yunnan, SW China. A key to distinguish *D. debilis*, *D. gaoligongensis* and *D. moupinensis* is provided.

Key words: *Agrostis*, *Calamagrostis*, China, Gaoligong Shan, Yunnan, NE India, new records, taxonomy

Introduction

The three large genera *Agrostis* Linnaeus (1753: 61), *Calamagrostis* Adanson (1763: 31) and *Deyeuxia* Clarion ex Beauvois (1812: 43) are incompletely separated entities in the subtribe Agrostidinae, Poaceae (Lu *et al.* 2006). They are characterized by complex patterns of morphology and overlapping diagnostic characteristics (Phillips & Chen 2003, Howard *et al.* 2009, Paszko & Nobis 2010, Paszko 2011). The Himalayas are one of the major centers of diversity for these taxa (Frey & Paszko 1999). The lead author and collaborators have been working to resolve various taxonomic and nomenclatural problems in Asian species of these genera (Chen 2001, Chen 2002, Chen & Lee 2005, Paszko & Ma 2011, Paszko 2012b, 2013, Paszko & Soreng 2013). New species have been discovered and described (Paszko 2012a, Paszko & Pendry 2013, Paszko & Chen 2013). Here we address the taxonomy of *Deyeuxia debilis* (Hooker 1896: 262) Veldkamp in Korthof & Veldkamp (1984: 220) and its relationship with two close relatives: *D. moupinensis* (Franchet 1888: 106) Pilger in Diels (1901: 225) and *D. gaoligongensis* Paszko in Paszko & Pendry (2013: 41). There are limited herbarium collections of all three species and they are not well known across their ranges.

The generic position of *Deyeuxia debilis*, originally described as *Calamagrostis debilis* Hooker (1896: 262), has changed twice. It was transferred by Bor (1960) to *Agrostis*, as *A. debilis* (Hook. f.) Bor (1960: 387) [not *A. debilis* Poiret (1810: 249)] and replaced by *A. neodebilis* Bennet & Raizada (1981: 433). Veldkamp (Korthof & Veldkamp 1984) placed it within *Deyeuxia* as *D. debilis*. The focus of the present study is on species delimitation and we do not consider generic placement.

A revision of *Calamagrostis* and *Deyeuxia* specimens collected from the Gaoligong Shan region of NW Yunnan Province, China, found some specimens previously identified as *D. moupinensis* but morphologically similar to *D. debilis*. We concluded that the keys and some descriptions available for *D. debilis* under *Agrostis*