



A new species of *Amitostigma* (Orchidinae, Orchidaceae) from India

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Abstract

Amitostigma pathakianum, a new species of the family Orchidaceae is described from Arunachal Pradesh, India.

Key words: *Amitostigma pathakianum*, *Amitostigma trifurcatum*, Arunachal Pradesh, *Ponerorchis*

Introduction

The orchid genus *Amitostigma* Schlechter (1919: 91) was established by Schlechter based on the type of ‘*Mitostigma* Blume’ (1856: 189), as it was an illegitimate name [later homonym of *Mitostigma* Decaisne (1844: 507), Apocynaceae]. *Amitostigma* is represented by c. 30 species (Pridgeon *et al.* 2001: 247; Chen *et al.* 2009: 124), mainly distributed in East Asia and adjacent areas. Most of the species of the genus (c. 22 spp.) are found in China, with 21 endemic species, which suggests the Chinese region as the centre of diversity of *Amitostigma*.

Amitostigma is closely allied to *Ponerorchis* Reichenbach (1852: 227) and at times it becomes difficult to make clear cut distinction between them and as a result several species have been interchanged between these two genera. *Amitostigma* can be distinguished from *Ponerorchis* by having naked viscidia (viscidia enclosed in bursicle in *Ponerorchis*) and two slightly raised lateral stigma lobes along with a small central lobe (one concave stigma lobe in *Ponerorchis*). However, exceptions have been recorded in a few species within both genera. Jin *et al.* (2014: 46) mentioned that it was almost impossible to assign some species such as *Amitostigma yuanum* Tang & Wang (1940: 26), *A. farreri* Schlechter (1924: 378), and *Ponerorchis nana* (King & Pantling 1898: 304) Soó (1966: 353), either to *Amitostigma* or *Ponerorchis* based on morphological characters. They also proposed to merge *Amitostigma* under *Ponerorchis* based on plastid *matK*, *rbcL* and nuclear ITS. However, the confusion was amplified when Tang *et al.* (2015) referred East Asian *Amitostigma* alliance to *Hemipilia* Lindley (*s.l.*) (1835: 296) based on two nuclear (nrITS, low-copy *Xdh*) and four chloroplast (*matK*, *psbA-trnH*, *trnL-trnF*, *trnS-trnG*) DNA markers.

Another closely related genus is *Chusua* Nevski (1935: 753) which Hunt (1971) and Pearce & Cribb (2002) treated separately, whereas Vermeulen (1972), Pridgeon *et al.* (2001), Bateman *et al.* (2003), Chen *et al.* (2009) included in the synonymy of *Ponerorchis*. Tang *et al.* (2015) treated *Chusua* (along with *Amitostigma*, *Ponerorchis*) under *Hemipilia*.

In the present treatment I am following Pridgeon *et al.* (2001) and Chen *et al.* (2009) by treating *Amitostigma* as distinct genus due to the characters of its viscidia and stigma-lobes and describing a new species under *Amitostigma* (*A. pathakianum*) which was collected in the Upper Siang district of Arunachal Pradesh, India.

Amitostigma puberulum (King & Pantling 1898: 304) Tang & Wang (1936: 6), a combination based on *Orchis puberula* King & Pantling (1898: 304), had been reported from India. However, *O. puberula* is now widely accepted as a species of *Ponerorchis*, viz. *P. puberula* (King & Pantl.) Vermeulen (1972: 30). Therefore, the present communication also constitutes first report of any true-member of the genus *Amitostigma* in India.