



Taxonomy of Atlantic Central African orchids 3. A new species of *Bulbophyllum* Thouars (Orchidaceae) from the Monts de Cristal, Gabon

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Abstract

Two specimens of an apparently new *Bulbophyllum* species were found in the Monts de Cristal, Gabon. They have a unique leaf shape among the species of this genus in Continental Africa. The flower shares the general morphology of *Bulbophyllum saltatorium*, one of the most common members of *Bulbophyllum* in Central Africa. Eight other taxa of the Continental African *Bulbophyllum* possess unifoliate pseudobulbs and long hairs on the lip. Comparison with them indicates that the new collections from Gabon represent a distinctive species, not yet known in the genus. We describe it here as *Bulbophyllum pauwelsianum*. The distinguishing features of the species include its leaves, which are pendant, coriaceous, linear, semi-terete and v-shaped in transverse section, and its sepals, which possess relatively long hairs on their margins. A table of the taxonomic treatments of the nine Continental African *Bulbophyllum* taxa considered here is included. A taxonomic key and a table of the diagnostic characters of these nine taxa are given to facilitate identification. The new species is restricted to lowland forests of the Monts de Cristal in Gabon. A preliminary assessment of the conservation status, using the IUCN Red List Categories and Criteria is provided.

Keywords: Africa, forest refuge, IUCN Criteria, lowland forest, taxonomy

Introduction

With 1877 species currently recognized (Govaerts *et al.* 2012), *Bulbophyllum* Thouars (1822: t.3) is the largest genus of Orchidaceae and, with 291 species currently recognized in tropical Africa (Govaerts *et al.* 2012), is one of the largest orchid genera on this continent. The center of diversity of *Bulbophyllum* in Africa is Madagascar and the Mascarene islands, which harbour 148 species (Cribb & Hermans 2009). In Gabon, there are about 46 taxa (Sosef *et al.* 2006). In Continental Africa, *Bulbophyllum* is not varied vegetatively, always comprising a one or two leafed pseudobulb. It is well adapted to tropical epiphytic habitats. Most species are epiphytes, but a few are also encountered as lithophytes (facultative epiphytes). Since 1997, two large surveys of Atlantic Central African orchids have been conducted (Stévant 2003; Droissart 2009). These allowed the cultivation of more than 14,000 orchid specimens in nine shadehouses, situated in São Tomé, Gabon, Equatorial Guinea and Cameroon. This collection has yielded more than 6,000 fertile specimens preserved in liquid, including material of 26 taxa that have been described as new (i.e. Stévant *et al.* 2007; Droissart *et al.* 2009a; Droissart *et al.* 2009b; Stévant *et al.* 2010). An additional ten or more new species still remain to be described.

Gabon has about 297 orchid taxa (Sosef *et al.* 2006). In the Monts de Cristal (Stévant *et al.* 2006), species richness and endemism are higher than other regions of Gabon. The distribution of Orchidaceae in Gabon appears to be linked with a humidity gradient, and the Monts de Cristal area, which corresponds to a postulated forest refuge, is cloudy and mountainous.

We believe *Bulbophyllum pauwelsianum* to be most closely related to *B. saltatorium*, based on the floral morphology. It can be distinguished from other Continental African *Bulbophyllum* with unifoliate pseudobulbs and long-haired lip by the characters listed in Table 2.

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