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

TARIQ STÉVART1,2,3,8, JEAN PHILIPPE BITEAU3, VALÉRIE CAWOY4 & VINCENT DROISSART1,3,6,7
1 Missouri Botanical Garden, Africa & Madagascar Department, P.O. Box 299, St. Louis, MO 63166-0299, U.S.A.
2 Botanic Garden, Meise, Domein van Bouchout, Nieuwelaan 38, B-1860 Meise, Belgium.
3 Herbarium et Bibliothèque de Botanique africaine, Université Libre de Bruxelles - ULB, Boulevard du Triomphe, CP 265, B-1050, Brussels, Belgium.
4 IGEAT-Institut de Gestion de l’Environnement et d’Aménagement du Territoire, 50 Av. F.D. Roosevelt, CP 130/02, B-1050 Bruxelles Belgium.
5 Jardi-Gab, B.P. 2345 Libreville, Gabon.
6 Institut de Recherche pour le Développement (IRD), UMR AMAP, Botanique et Bioinformatique de l’Architecture des Plantes, Bd de la Lironde, TA A51/PS2, 34398 Montpellier cedex 5, France.
7 Plant Systematic and Ecology Laboratory, Higher Teacher’s Training College, University of Yaoundé I, Yaoundé, Cameroon.
8 Author for correspondence (tariq.stevart@mobot.org).

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 (Stévart 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. Stévart et al. 2007; Droissart et al. 2009a; Droissart et al. 2009b; Stévart 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 (Stévart 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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