Bulbophyllum menglaense (Orchidaceae), a new species from Yunnan, China

JIAN-WU LI¹, JIAN-TAO YIN¹ & XIAO-HUA JIN²

¹Center for Integrative Conservation, Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences, Menglun, Mengla, Yunnan, CN-666303, P.R.China. Email: jwli@xtbg.org.cn
²State Key Lab of Systematic and Evolutionary Botany, Institute of Botany, Chinese Academy of Sciences, Nanxincun 20, Xiangshan, Beijing, CN-100093, P. R. China. Email: xiaohua@ibcas.ac.cn

Bulbophyllum menglaense, a new species of Orchidaceae from China are described and illustrated by colorful photos. Bulbophyllum menglaense is similar to B. cariniflorum and B. triste, but can be easily distinguished from them by pseudobulbs conical (vs. pseudobulbs ovoid in B. cariniflorum; subglobose in B. triste); scape longer than leaves (vs. scape shorter than leaves both in B. cariniflorum and B. triste); petals narrowly lanceolate, marings ciliate (vs. petals entire both in B. cariniflorum and B. triste); stelidia lanceolate (vs. stelidia deltoid in B. cariniflorum, narrowly lanceolate in B. triste).

Key words: Bulbophyllum, new species, section Lemniscata, Taxonomy

Bulbophyllum Thouars (1822: tab.3) (Epidendroideae; Malaxideae; Dendrobiinae) is among the largest genera in Orchidaceae, consisting of 1868 species and widely distributed in tropical Africa, Asia and South America (Vermeulen et al. 2014; Chase et al. 2015). Bulbophyllum section Lemniscata Pfitz (1889) is characterized by pseudobulbs having two apical leaves, leaves deciduous, 2 to many flowered inflorescence, lateral sepals free or adnate along the lower margin, margins of petals entire to fimbriate (Seidenfaden 1979; Chen et al. 2009). There are approximately 32 species in sect. Lemniscata, mainly distributed in South to South-East Asia (Vermeulen 2014).


Taxonomic treatment

Bulbophyllum menglaense Jian W. Li & X. H. Jin sp. nov. (Figs. 1–2)

Type:—CHINA. Mengla County, Yunnan Province. Epiphytic on tree or rocks in capped forest in karst regions, alt. 1200 m, 13 September 2016, Jian-Wu Li 4578 (holotype, isotype: HITBC!)

Diagnosis: Bulbophyllum menglaense is morphologically similar to B. cariniflorum and B. triste, but differs from them by pseudobulbs conical; scape longer than leaves; petals narrowly lanceolate, marings ciliate; stelidia lanceolate.

Epiphyte. Rhizome stout, ca. 3.0 mm in diam. Bearing 2 leaves on the apex. Leaf deciduous in dry season (deciduous after flowering), leaf blade oblong, abaxially slightly white-green, 12.0–18.0 × 2.0–3.5 cm, middle with a vein, vein concave adaxially, abaxially convex, apex acute, base contracted into petiole-like, petiole-like inconspicuous. Scape from the base of pseudobulb, 18.0–25.0 cm, longer than leaf, glabrous; raceme 5.0–9.0 cm, pendulous, densely many flowered; peduncle with 4–5 sheaths, sheath tubular, 1.0–1.5 mm; floral bracts ovate-lanceolate, cymbiform, 3.0 × 1.5 mm, apex acuminate. Pedicel and ovary ca. 3.0 mm. Flowers pale purplish red, glabrous. Dorsal sepal ovate, cymbiform, 5.0 × 2.5–3.0 mm, 3-veined, entire, apex acuminate; lateral sepals oblong, cymbiform, 6.0 × 2.0 mm, 3-veined, mid-vein narrowly keeled abaxially, their lower edges connate to each other about 2/3 to apex, apex acute. Petals narrowly lanceolate, 4.0–4.2 × 0.6–0.7 mm, 1-veined, margins ciliate, apex acuminate. Lip ligulate, 2.5–2.7 × 1.7–1.8 mm, fleshy, base grooved, attached to end of column foot by an immobile joint, apex round. Column ca. 2.5 mm, with wings enlarged at upper part, ca. 0.2 mm high; column foot ca. 1.5 mm; stelidia narrowly lanceolate, ca. 1 mm; anther cap galeiform; pollinia 2. Capsule oblique ellipsoid, 12.0–15.0 × 5.5–7.0 mm.

FIGURE 1. *Bulbophyllum menglaense* (Edited by Rui Zhou, photo by Jian-Wu Li) A. Type specimen (fresh). B. Type specimen (dry).

Phenology:—Flowering from August to October.

Distribution and habitat:—Bulbophyllum menglaense is found in Mengla County, Yunnan Province, P. R. China. It is epiphytic on tree or rocks in capped forest in karst regions, at elevation 1100–1250 m, together with two congenerics, B. hirtum and B. muscarirubrum.

Conservation status:—Approximate 150 clusters of Bulbophyllum menglaense were discovered epiphytic on trees or rocks in two populations. However, both sites are surrounded by rubber plantations. Due to the booming rubber plantation in southern Yunnan, southwestern China, most forests in tropical regions have been destroyed and the same is being expected for the type locality of the new species. During our field survey from 2009 to 2016, capsules were discovered in these two populations every year, but young plants and seedlings have not been observed. Therefore, it was considered as Endangered (EN) under criterion according to IUCN categories and criteria (IUCN 2016).

Taxonomic Notes:—Morphologically, Bulbophyllum menglaense is similar to B. cariniflorum Rchb. f. (1861: 253) and B. triste Rchb. f. (1861: 253), but it can be easy distinguished from them, such as shapes of pseudobulbs, length of scape, margins of petals, etc (Table 1).

<table>
<thead>
<tr>
<th>Character</th>
<th>B. menglaense</th>
<th>B. cariniflorum</th>
<th>B. triste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pseudobulbs</td>
<td>conical, longer than broad.</td>
<td>ovoid, longer than broad</td>
<td>subglobose, broader than long.</td>
</tr>
<tr>
<td>Leaf</td>
<td>oblong, 12.0–18.0 × 2.0–3.5 cm, deciduous after flowering (synanthous).</td>
<td>oblong, 12.0–15.0 × 2.7–4.0 cm, deciduous after flowering (synanthous).</td>
<td>lanceolate, ca. 10 × 2 cm, deciduous before flowering (hysteranthous).</td>
</tr>
<tr>
<td>Inflorescens</td>
<td>scape 18–25 cm long, longer than leaves, receme 5–9 cm long.</td>
<td>scape ca. 8 cm, shorter than leaves, receme 2 cm long.</td>
<td>scape 5–10 cm long, as long as or shorter than leaves, raceme 2–4 cm long.</td>
</tr>
<tr>
<td>Sepals</td>
<td>dorsal sepal ovate, cymbiform, 5.0 × 2.5–3.0 mm, lateral sepals oblong, 6.0 × 2.0 mm.</td>
<td>sepals similar, ovate-oblong, ca. 6 × 3 mm, dorsal sepal concave.</td>
<td>dorsal sepal ovate, concave, 4.0 × 2.2 mm, lateral sepals ovate, 5.0 × 2.2 mm.</td>
</tr>
<tr>
<td>Petals</td>
<td>narrowly lanceolate, 4.0–4.2 × 0.6–0.7 mm, margins ciliate.</td>
<td>lanceolate, ca. 3.5 × 1.5 mm, margins entire.</td>
<td>triangular, 2.2 × 1.2 mm, margins entire.</td>
</tr>
<tr>
<td>Lip</td>
<td>2.5–2.7 mm long.</td>
<td>ca. 3 mm long.</td>
<td>ca. 3.2 mm long.</td>
</tr>
<tr>
<td>Stelidia</td>
<td>lanceolate, ca. 1 mm long.</td>
<td>deltoid, ca. 1 mm long.</td>
<td>narrowly lanceolate, ca. 0.6 mm long.</td>
</tr>
<tr>
<td>Flowering</td>
<td>August to October</td>
<td>July</td>
<td>January to February</td>
</tr>
</tbody>
</table>

Acknowledgements
We are grateful to C. R. Ai & A. Q. Hu for their literature, to K. R. Pu for his help in field works and to R. Zhou for her edited the figure. This study was supported by grants from the National Natural Science Foundation of China (31470299, 31670194), Southeast Asia Biodiversity Research Institute, Chinese Academy of Sciences (Y4ZK111B01).

References


Phyto taxa 311 (1) © 2017 Magnolia Press • 99
Thouars, L. (1822) *Histoire particulière des plantes orchidées recueillies sur les trois îles australes d’Afrique*. De France, de Bourbon et de Madagascar, t. 3.
https://doi.org/10.11646/phytotaxa.166.2.1