Cypripedium bouffordianum (Orchidaceae), a new species from western Sichuan, China

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Cypripedium bouffordianum Y.H. Zhang & H. Sun is described and illustrated as a new species of Orchidaceae from western Sichuan, China. It is compared with the morphologically similar C. guttatum and C. yatabeanum.

Key words: Cypripedium, new species, Orchidaceae, taxonomy

The genus Cypripedium with about 45 species (Cribb 1997) was established by Linnaeus in the first edition of Species Plantarum (Linnaeus 1753). In China, the genus, represented by about 32 species (Chen & Tsi 1998), mainly occurs in southern parts of the country.

The specimens of the species described here were collected during a botanical expedition to western Sichuan in 2004. It is named in honor of David Boufford, the main collector of the type gathering and Assistant director for collections of Herbaria Harvard University. Cypripedium bouffordianum belongs to the section Bifolia and resembles C. guttatum and C. yatabeanum.

Cypripedium bouffordianum Y.H. Zhang & H. Sun, sp. nova (Fig. 1)

Species ex affinitate C. guttato et C. yatabeno, sed a qua caule brevo, subterraneo, flore pure flavo-albo, emaculato, bracteia 0.5–1.5 cm longa differt.

TYPE: China. Western Sichuan, Xiangcheng county, 29°6’N, 99°41’E, alpine rocky and grassy place with sparse scrub, between 4000 and 4200 m, 15.VII.2004 D.E. Boufford & H. Sun et al. 30759 (holotype KUN; isotype A).

A terrestrial plant 15–25 cm tall, with a creeping rhizome, rhizomes usually more than 1.0 cm long. Stem short, subterranean, slender, with 2–3 tubular sheaths at base. Leaves 2, subopposite, elliptic or ovate, 5–10 cm long, 3–5 cm wide, usually becoming black when dried, sparsely pubescent on dorsal veins. Inflorescence with one yellowish-white flower, terminal; peduncle densely glandular and pubescent, 8–15 cm long; bract ovate-lanceolate, 0.8–1.5 cm long, 0.6–1.2 cm broad, glabrous inside, pubescent on vein and edge; pedicel and ovary pubescent; ovary 1.5–2.0 cm long, 3 mm broad. Flower pure yellowish-white; synsepal ovate-lanceo-
late, greenish-yellow, bifid and acute at apex, 1.0–1.5 cm long, 0.5–0.8 cm wide, pubescent on back; dorsal sepal ovate-elliptic or broadly ovate-elliptic, acute acuminate, 1.5–2.5 cm long, 1.2–1.6 cm wide. Petals ligulate to subpandurate, slightly incurved, embracing lip, 1.5–2.0 cm long, 0.5–0.8 cm broad. Lip glabrous, yellowish-white, pitcher-shaped, 1.6–2.2 cm long, 1.2–1.5 cm wide, with a broad mouth and entire margin. Column 0.75 cm long; staminode ovate-elliptic, 0.5 cm long, 0.3 cm wide, retuse at apex, the edge slightly upward; pistil trifid at apex, upside sliver bigger, other two slivers smaller.

This new species belongs to section *Bifo- lia* (Morren 1851, Chen & Xi 1987), which is characterized by two leaves and one-flowered inflorescence, the flowers being white, with purple-or brown-spotted lip and petals; lip urn-shaped, without an incurved apical margin. This section previously included the species *C. guttatum* (Swartz 1800) and *C. yatabeanum* (Makino 1899). The morphological differences between the three species are presented in Table 1.

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Table 1. Morphological comparison among Cypripedium bouffordianum, C. guttatum and C. yatabeanum.

<table>
<thead>
<tr>
<th></th>
<th>C. bouffordianum</th>
<th>C. guttatum</th>
<th>C. yatabeanum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stem</td>
<td>short, subterranean</td>
<td>1.5–10 cm long</td>
<td>9–22 cm long</td>
</tr>
<tr>
<td>Bract</td>
<td>0.5–1.5 cm long</td>
<td>1.5–3.5 cm long</td>
<td>2.5–5 cm long</td>
</tr>
<tr>
<td>Petal</td>
<td>subpandurate, rounded at apex, slightly incurved, embracing lip, 1.5–2.0 cm long, 0.5–0.8 cm broad</td>
<td>ligulate to subpandurate or spathulate, rounded at apex, partly embracing lip, 1.3–2.0 cm long, 0.5–0.8 cm broad</td>
<td>spathulate, rounded and concave at apex, not embracing lip, 1.2–1.6 cm long, 0.4–0.6 cm broad</td>
</tr>
<tr>
<td>Lip</td>
<td>pitcher-shaped, 1.6–2.2 cm long, 1.2–1.5 cm broad</td>
<td>pitcher-shaped, 1.4–2.2 cm long, 1–1.3 cm broad</td>
<td>deeply urceolate, 2.2–2.7 cm long</td>
</tr>
<tr>
<td>Flower color</td>
<td>pure yellowish-white, without colorful spots</td>
<td>white with purple or brown spots</td>
<td>pale yellowish green with brown spots</td>
</tr>
</tbody>
</table>

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References


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