Dendrocalamus xishuangbannaensis (Poaceae: Bambusoideae), a new species from Yunnan, China

Wei Mao¹, Han-Qi Yang²,* & De-Zhu Li³

¹) Southwest Forestry College, Bailongsi, Kunming 650224, Yunnan, China
²) Research Institute of Resources Insects, Chinese Academy of Forestry, Bailongsi, Kunming 650224, Yunnan, China (*corresponding author’s e-mail: yanghanqikm@yahoo.com.cn)
³) Key Laboratory of Biodiversity and Biogeography, Kunming Institute of Botany, Chinese Academy of Sciences, Heilongtan, Kunming 650204, Yunnan, China


Dendrocalamus xishuangbannaensis D.Z. Li & H.Q. Yang (Poaceae: Bambusoideae), a new species from southern Yunnan, China, is described and illustrated. It is characterized by branching from the nodes ca. 0.5–1.0 m above ground, white hairs on lower surface of leaf blade, yellow-green pseudospikelets, four or five florets per pseudospikelet, and only four fertile florets.

Key words: Dendrocalamus, new species, Poaceae, taxonomy

During examining of local bamboo species for pulp in Xishuangbanna Autonomous Prefecture, Yunnan Province, China, we found a species resembling Dendrocalamus giganteus, yet with clearly different features. After a closer morphological study, concerning in particular inflorescence structures, literature research (Li & Hsueh 1988, 2003, Dransfield & Widjaja 1995, Keng & Wang 1996, Li & Stapleton 2006), and examination of many specimens, we concluded that it represented a new species of Dendrocalamus.

Dendrocalamus xishuangbannaensis D.Z. Li & H.Q. Yang, sp. nova (Fig. 1)

Affinis D. giganteo, sed infra nodos ramiferos 0.5–1.0 m alti, laminis subtus pilosis, pseudospiculis flavovirentibus, lemmatis apice aristis 0.3–1.0 mm longis, flosculis 4 vel 5, et flosculis fertilis 4 differt.

Type: China. Yunnan, Menghai County, Gelanghe, 1320 m, roadside on edge of bamboo forest, 12.IX.2007 Yang Han-Qi 074 (holotype KUN; isotype SWFC).

Arborescent, culms 14–28 m, 10–22 cm in diameter; tip slightly drooping. Internodes terete, with a ring of brown tomentum below sheath scars; 25–50(55) cm long, wall 1–3 cm thick, initially brown setose and white powdery, becoming glabrous and deep green. Branching from lower nodes ca. 0.5–1.0 m above ground; branches several, usually equal or sometimes 3 dominant. Culm sheaths deciduous, yellowish brown, thickly leathery, brown hairy; margins broadly rounded; auricles 1–3 mm high, reflexed, wavy; oral setae absent; ligule 10–15 mm high, serratulate to dentate; blade reflexed,
lanceolate, 10–25 cm long, involute at the tip. Leaf sheaths glabrous; ligule 1–2 mm high, serrulate; auricles sparsely hispid, usually deciduous; blade 5–10, narrowly lanceolate, 15–35 cm long, 2.0–4.0 cm wide, with white hairs on lower surface. Flowering branches pendulous, leafless, 1–3 m long. 5–10(15) pseudospikelets clustered in a spiky globose mass at each node of flowering branches, 1.5–3.0 cm in diameter. The internodes of secondary flowering branches 1.5–10.0 cm long. Pseudospikelets ovate-lanceolate, apically acute, nearly glabrous, yellow-green, 11–15 mm long, 4–7 mm wide. Florets 4, occasionally 5, apical one sterile when 5; densely imbricated. Glumes 1–3, 4–6 mm long; lemma broadly ovate, 1.0–1.5 cm long, 0.8–1.0 cm wide, margins ciliate, apex mucronate, 0.3–1.0 mm long; palea equal to or slightly longer than lemma, 2-keeled, keels ciliate. Lodicule absent. Stamens 6, ca. 7.5 mm long. Pistil 1.2–1.5 cm long, shortly hairy. Ovary ovoid, hairy; stigma 1, plumose. Flowering June–October. Fruit unknown.

*Dendrocalamus xishuangbannaensis* is known only from Xishuangbanna Autonomous Prefecture, at altitudes of ca. 600–1800 m. The first flowering specimens collected in Menghai County, Xishuangbanna, indicate its generic placement. It morphologically resembles *D. giganteus* by having white powdery covering on the surface of internodes when young, and a similar culm sheath. However, there are several differences between the two species (Table 1).

*Dendrocalamus xishuangbannaensis* is an economically important species in Xishuangbanna. It is one of the toughest bamboos and is thus extensively used for construction purposes and for producing furniture. In addition, the fiber
length and SiO$_2$ content of _D. xishuangbannaensis_ (5.25 mm and 0.25%, respectively, Lin 2006), indicate that this bamboo has a great potential for paper and pulp industries.

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**Table 1.** Comparison of _Dendrocalamus xishuangbannaensis_ with _D. giganteus_.

<table>
<thead>
<tr>
<th>Character</th>
<th><em>D. xishuangbannaensis</em></th>
<th><em>D. giganteus</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Branching habit</td>
<td>branching from nodes ca. 0.5–1.0 m above ground</td>
<td>branching from nodes ca. 2.5–3.0 m above ground</td>
</tr>
<tr>
<td>Leaf blade</td>
<td>white hairs on lower surface</td>
<td>glabrous</td>
</tr>
<tr>
<td>Color of pseudospikelet</td>
<td>yellow-green</td>
<td>purple</td>
</tr>
<tr>
<td>Apex of lemma</td>
<td>spinescent, awn 0.3–1.0 mm</td>
<td>acuminate</td>
</tr>
<tr>
<td>Pseudospikelet</td>
<td>4 or 5 florets</td>
<td>5–8 florets</td>
</tr>
<tr>
<td>Fertile florets</td>
<td>4</td>
<td>4–7</td>
</tr>
</tbody>
</table>

**References**


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