

8. CEPHALOSTACHYUM Munro, Trans. Linn. Soc. London 26: 138. 1868.

空竹属 kong zhu shu

Li Dezhu (李德铢); Chris Stapleton

Arborescent or shrubby bamboos. Rhizomes short necked, pachymorph. Culms straight, pendulous, or occasionally clambering; internodes terete, smooth, usually glabrous; wall usually thin; nodal ridge not prominent; sheath scar prominent. Branches many, subequal or occasionally with a dominant branch replacing main culm. Culm sheaths deciduous, thickly papery to leathery, usually rigid, apex truncate or concave; auricles usually conspicuous; oral setae usually developed, often fimbriate; ligule truncate, short, serrulate; blade reflexed, sometimes erect. Leaf sheaths pubescent; auricles usually conspicuous; blade lanceolate or ovate-elliptical, variable in size, transverse veins scarcely visible. Inflorescence fully bracteate, iterarctant, initially densely glomerate with many pseudospikelets, terminal to a leafy shoot, later spicate, lateral to leafless flowering branches, subtended by several large bracts. Spikelets 1-flowered, with a rachilla extension. Glumes 2 or 3, long mucronate or awned; lemma similar to glumes, convolute. Palea thin, 2-keeled. Lodicules 3. Stamens 6; filaments free. Ovary stalked; style long, hollow; stigmas 2 or 3, plumose. Caryopsis nutlike, terete, apex with persistent style base.

About nine species: S and SE Asia; six species in China (Xizang, Yunnan).

Several early names were based on fragmentary material collected in NE India and Myanmar. The Chinese specimens cannot be reliably identified until better gatherings have been made both in China and in neighboring countries.

- 1a. Culms climbing; culm sheath blade erect, not articulate with sheaths.
 - 2a. Culm internodes solid; culm sheaths abaxially sparsely white hairy, centrally and on distal margins brown hirsute 1. *C. mannii*
 - 2b. Culm internodes with narrow cavity; culm sheaths abaxially dark brown or black tomentose 2. *C. scandens*
- 1b. Culms erect; culm sheath blade reflexed, articulate with sheaths.
 - 3a. Culm sheaths thickly leathery, brown, smooth, glossy, with dark brown hairs; culm internodes glaucous, white hispid 3. *C. pergracile*
 - 3b. Culm sheaths papery to leathery, yellow, grooved, dull, pubescent or hirsute.
 - 4a. Leaf blade ovate to elliptical, 8–10 cm wide; culm sheath apically projecting upward on each side of blade 4. *C. latifolium*
 - 4b. Leaf blade lanceolate, 2–5 cm wide; culm sheath apically truncate.
 - 5a. Culms 1.5–2.5 cm in diam., culm sheaths pale pubescent 5. *C. pallidum*
 - 5b. Culms 5–10 cm in diam.; culm sheaths yellow hispid 6. *C. virgatum*

1. *Cephalostachyum mannii* (Gamble) Stapleton & D. Z. Li, Kew Bull. 52: 700. 1997.

独龙江空竹 du long jiang kong zhu

Arundinaria mannii Gamble, Ann. Roy. Bot. Gard. Calcutta 7: 26. 1896; *Neomicrocalamus mannii* (Gamble) R. B. Majumdar.

Culms 12–20 m, 1.5–2.5 cm in diam., apically scrambling; internodes usually flexuose, 30–45 cm, solid. Branches many, central dominant. Culm sheaths persistent, base very tough, thinly white tomentose, brown hirsute centrally and on distal margins; auricles and ligule absent; blade erect, triangular, not articulate with sheath. Leaves 3–5 per ultimate branch; oral setae more than 10, brown hispid, 5–10 mm; ligule conspicuous; blade 12–15 × 1.5–2 cm, glabrous, base arched, apex acute. Inflorescence unknown.

Forests; 1300–1400 m, NW Yunnan [NE India].

The identification of Chinese material as this species is still rather speculative.

2. *Cephalostachyum scandens* Bor, Kew Bull. [12] 1957: 419. 1958.

真麻竹 zhen ma zhu

Cephalostachyum scandens Hsueh & C. M. Hui (1997),

not Bor (1958); *Schizostachyum scandens* (Bor) H. B. Naithani & Bennet.

Culms climbing, 20–30(–50) m, 1–3.5 cm in diam., internodes 50–80(–120) cm, apically brown setose, thickly walled but hollow. Branches many, dominant branch often replacing main culm. Culm sheaths persistent, shorter than internode, base very tough, apex papery, with stiff, dark brown or black, appressed hairs; auricles absent; ligule truncate, ca. 1 mm; blade erect, not articulate with sheath, ciliate. Leaves 4 or 5 per ultimate branch; sheaths glabrous; auricles with setae 5–10 mm; ligule truncate, less than 1 mm; pseudopetiole ca. 5 mm; blade 17–25 × 2–3 mm, apex caudate. Inflorescence capitate, solitary at tip of leafy branch, subtended by several bracts; bracts marginally ciliate, long mucronate or awned. Glumes 2 or 3, long mucronate or awned; lemma similar to glume, margins distally ciliate; lodicules 3, conspicuous; membranous. Stamens 6; filaments long. Ovary broadly globose, stalked; style small. Fl. Mar–Apr.

Broad-leaved forests; 1600–2000 m. NW Yunnan [N Myanmar].

Bor described this species from Myanmar (where further gatherings are required). Hsueh and Hui were apparently unaware of Bor's name when they described the same species from Yunnan and coincidentally gave it the same name.

3. *Cephalostachyum pergracile* Munro, Trans. Linn. Soc. London 26: 141. 1868.

香糯竹 xiang nuo zhu

Schizostachyum pergracile (Munro) R. B. Majumdar.

Culms erect, 9–12 m, 5–7.5 cm in diam., apically drooping; internodes 30–45 cm, initially densely appressed setose; wall thin. Culm sheaths tardily deciduous, brown, shorter than culms, 10–15 × 15–20 cm, thickly leathery, smooth, densely glossy black-brown setose; auricles rounded, undulate, hirsute near margins; ligule inconspicuous; blade reflexed, ovate-acuminate, ca. 5 cm, articulate with sheath, adaxially densely hairy. Leaf sheath margins ciliate; ligule ciliate; blade narrowly lanceolate, 15–35 × 2.5–3.8(–6) cm, base rounded. Inflorescences capitate, at nodes of leafless branch, 1.5–3 cm in diam., subtended by bracts. Pseudospikelet 1.2–2 × ca. 0.2 cm, densely yellow hirtellous, rachilla extended, 5–6 mm. Glumes 2 or 3, 0.6–1.1 cm; lemma 1.3–1.8 cm, densely hairy, apex long mucronate or awned; palea about as long as or longer than lemma, apex bifid; lodicules lanceolate, narrow, membranous, apex acute. Anthers purple. Stigmas 3. Caryopsis 6–8 × 2–3 mm, glabrous, apex with persistent style base.

Hills; 500–1200 m. S Yunnan [Myanmar].

4. *Cephalostachyum latifolium* Munro, Trans. Linn. Soc. London 26: 140. 1868.

空竹 kong zhu

Cephalostachyum fuchsianum Gamble; *Schizostachyum fuchsianum* (Gamble) R. B. Majumdar; *S. latifolium* (Munro) R. B. Majumdar.

Culms erect, 16–20 m, 3–3.5 cm in diam.; internodes 50–80 cm, smooth, glabrous; wall thin; nodal ridge not prominent. Branches many, clustered at each node, subequal. Culm sheaths deciduous, yellow, 20–38 cm, papery, densely brown ciliate, apex rounded and projecting upward on both sides of blade; auricles conspicuous; oral setae developed; ligule short; blade reflexed, narrowly lanceolate, to 25 cm, papery, articulate with sheath, adaxially ciliate, apex acute. Leaf sheaths 7–8 cm, pubescent, auricles inconspicuous; ligule truncate, short; blade ovate-elliptic, 25–30 × 8–10 cm, glabrous. Inflorescence capitate, solitary at tip of leafy branch, 2.5–5 cm in diam., subtended by bracts. Pseudospikelet 2–2.5 × 0.3–0.4 cm, with a rachilla extension. Glumes 1.5–2 cm, long mucronate or awned; lemma similar to glumes; palea slightly longer than lemma, membranous; lodicules 3, lanceolate, apex ciliate. Stamens 6; anthers yellow. Ovary ovoid; style 1; stigmas 2 or 3, plumose. Caryopsis nutlike, shortly apiculate.

1200–2000 m. Yunnan [Bhutan, NE India, Myanmar].

Cephalostachyum fuchsianum was described from older material of *C. latifolium*, most of which lacked the distinctive but soon deciduous oral setae. This description from Chinese material is not entirely consistent with typical *C. latifolium*.

5. *Cephalostachyum pallidum* Munro, Trans. Linn. Soc. London 26: 139. 1868.

小空竹 xiao kong zhu

Culms 6–12 m, 1.5–2.5 cm in diam., subscandent; internodes 50–80 cm, smooth; wall thin; nodal ridge not prominent; sheath scar prominent. Branches many, clustered at each node, subequal. Culm sheaths deciduous, yellow, oblong-lanceolate, 15–20 cm, thickly papery, abaxially appressed ciliate, apex truncate; ligule short; blade reflexed, narrowly lanceolate, 5–10 × 1–3 cm. Leaf sheaths pubescent; ligule conspicuous; blade ovate-lanceolate, 15–25 × 2–4 cm. Inflorescence capitate, solitary at tip of leafy branch, 1.5–2.5 cm in diam., subtended by many bractlets. Pseudospikelet 1.2–1.7 × 0.3–0.4 cm. Glumes ovate, long mucronate or awned; lemma similar to glumes; palea thin; lodicules 3, apex ciliate. Ovary ovoid-coniform; stigmas 2. Caryopsis ovoid, apex with persistent style base.

Broad-leaved forests; 1200–2000 m. Xizang, Yunnan [India, Myanmar].

This species was misidentified as *Cephalostachyum capitatum* Munro in Fl. Xizang. (5: 55. 1987).

6. *Cephalostachyum virgatum* (Munro) Kurz, Prelim. Rep. Forest Pegu, App. A: 137. 1875.

金毛空竹 jin mao kong zhu

Melocanna virgata Munro, Trans. Linn. Soc. London 26: 133. 1868.

Culms erect, 12–15 m, 5–10 cm in diam.; internodes 50–88 cm, with white, appressed setae and powder, becoming smooth and glabrous; wall thin. Culm sheaths deciduous, triangular, 15–20 cm, thinly leathery to leathery, densely yellow hirsute, mouth truncate; auricles conspicuous; oral setae developed; ligule short, fimbriate; blade reflexed or erect, triangular, 10–12.5 cm, adaxially with appressed bristles. Leaf sheaths smooth; auricles inconspicuous; ligule short, fimbriate; blade oblong-lanceolate to linear-lanceolate, 15–30 × 2–4.5 cm. Pseudospikelets glomerate at tips of leafy branches, 1.5–2 cm in diam., subtended by membranous bracts. Spikelets 1.25–1.5 cm, hispidulous; rachilla smooth. Glumes ovate, long mucronate or awned; lemma ca. 1 cm, hispidulous, apiculate. Palea slightly longer than lemma, nearly glabrous, weakly 2-keeled. Lodicules lanceolate, apex ciliate. Anthers narrow, apex obtuse. Ovary ovoid, glabrous; style robust; stigmas 2 or 3, purple, plumose. Fruit unknown.

Hills; 700–1000 m. Yunnan [India, Myanmar].

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