

7. SCHIZOSTACHYUM Nees in Martius et al., Fl. Bras. Enum. Pl. 2: 535. 1829.

箬竹属 si lao zhu shu

Xia Nianhe (夏念和); Chris Stapleton

Leptocanna L. C. Chia & H. L. Fung.

Arborescent bamboos, sometimes shrubby or scrambling. Rhizomes short necked, pachymorph. Culms erect, pendulous, or clambering, straight or slightly flexuose; internodes terete, distally often white powdery; wall usually thin; nodal ridge not prominent; sheath scar prominent. Branches many, subequal. Culm sheaths deciduous, leathery to thickly papery, usually rigid, white powdery, apex truncate or concave, sometimes with subcircular projection at base of one margin; auricles usually inconspicuous; oral setae usually developed; ligule short, truncate, margin serrulate or fimbriate; blade usually reflexed, adaxially densely hispid, apex usually involute. Leaf sheaths usually grooved; auricles usually inconspicuous; blade large, transverse veins partially visible abaxially. Inflorescence fully bracteate, itercautant; with several to many sessile pseudospikelets in loose, spicate clusters on leafy or leafless flowering branches. Pseudospikelet prophyll triangular to linear-lanceolate; gemmiferous bracts 1 to several; fertile florets 1 or 2, or florets 3 or 4 with only terminal or subterminal floret fertile; rachilla usually disarticulating (not in *S. chinense*), extending beyond fertile floret, glumes usually absent (2 in *S. chinense*); lemma convolute; palea similar to lemma, but longer, not keeled; lodicules usually absent, sometimes 1–3. Stamens 6. Ovary stalked; style 1; stigmas 3, plumose. Caryopsis fusiform, apex with persistent style base.

About 50 species: SE Asia; nine species (five endemic) in China.

In addition to the species treated below, *Schizostachyum brachycladum* (Munro) Kurz (*Melocanna zollingeri* (Steudel) Kurz ex Munro var. *brachyclada* Munro) was included in FRPS (9(1): 23. 1996), but it is only of limited cultivation and does not merit a full treatment here. *Schizostachyum subvexorum* Q. H. Dai & D. Y. Huang (J. Bamboo Res. 16(3): 27. 1997) was described from cultivated material from Guangxi (Nanning). In the protologue it was compared with *S. funghomii*.

- 1a. Culm sheath blade erect; spikelets with glume and sterile lemma; rachilla not disarticulating 1. *S. chinense*
- 1b. Culm sheath blade reflexed; spikelets without glume and sterile lemma; rachilla disarticulating.
 - 2a. Culms self-supporting, apically suberect, 4–10 cm in diam. 8. *S. funghomii*
 - 2b. Culms apically subscandent or long pendulous, 0.5–4(–5) cm in diam.
 - 3a. Culm sheaths basally with rounded projection on outer margin.
 - 4a. Culm 0.5–1.1 cm in diam., internodes to 60 cm; leaf sheath 2–3.5 cm, oral setae 3–5 mm 5. *S. dumetorum*
 - 4b. Culm 2–5 cm in diam., internodes 70–90 cm; leaf sheath 4–10 cm, oral setae 6–18 mm.
 - 5a. Culm walls 3–5 mm thick; culm sheath yellow-brown, hairs brown, ligule margin with fimbriae 8–12 mm 4. *S. hainanense*
 - 5b. Culm walls 1–2 mm thick; culm sheath green, hairs white, ligule margin with fimbriae 1.5–2 mm 7. *S. auriculatum*
 - 3b. Culm sheaths basally truncate without projection.
 - 6a. Culm sheaths apically truncate.
 - 7a. Culm sheaths with deciduous, red-brown, stiff hairs, ligule fimbriate 2. *S. jaculans*
 - 7b. Culm sheaths with white strigose hairs, ligule ciliate 6. *S. pseudolima*
 - 6b. Culm sheaths apically concave.
 - 8a. Culm sheaths stiffly brown hairy; leaf blade 1.5–2.5 cm wide, base rounded 3. *S. diffusum*
 - 8b. Culm sheaths yellow-brown tomentose; leaf blade 4–5 cm wide, base cuneate 9. *S. sanguineum*

1. *Schizostachyum chinense* Rendle, J. Linn. Soc., Bot. 36: 448. 1904.

薄竹 bao zhu

Leptocanna chinensis (Rendle) L. C. Chia & H. L. Fung.

Culms 5–8 m, 2–3 cm in diam.; internodes straight, 30–45 cm, scabrous, white powdery, initially distally white pubescent, later glabrous. Branching from ca. 3rd node up, nearly horizontal. Culm sheaths initially purple-red, later straw-colored, triangular, usually ca. 1/2 as long as internodes, initially stiffly white hairy, later scabrous and white powdery, apex nearly truncate or concave; auricles very narrowly linear; ligule ca. 1 mm, subentire; blade erect, narrowly triangular, base ca. 1/3 as wide as apex of sheath, margin apically partly involute, apex

long acuminate. Leaf sheaths apically purple-red, glabrous; auricles and oral setae absent; ligule subtruncate, ca. 1 mm, subentire; petiole purple-red, ca. 5 mm, glabrous; blade lanceolate to oblong-lanceolate, 15–26 × 3–4.5 cm, abaxially scabrous, adaxially glabrous. Ultimate flowering branches 5–10 cm; sheaths amplexicaul, glabrous, apex attenuate into a slender mucro; pseudospikelets to 1.4 cm, apex acuminate; prophylls linear-lanceolate, 6–8 mm, apex acute or obtuse, keels 2; bracts ovate-lanceolate to linear-lanceolate, 7–11 mm, apex usually mucronate; rachilla not disarticulating. Glumes 2, ovate-lanceolate to broadly lanceolate, 7–9 mm, apex acute or obtuse; fertile lemma ovate-lanceolate, 1–1.1 cm, 15-veined; palea 9–12 mm, 6-veined, apex acuminate with a cluster of short hairs; lodicules 3, 0.5–2 mm, margin ciliate, ventral 2 oblanceolate, apex obtuse, dorsal subovate, apex acute. Anthers 4–9 mm, base un-

equally bifid. Ovary clavate; stigmas short, plumose. Fruit unknown.

• Evergreen broad-leaved forests; 1500–2000 m. S Yunnan (Jinping, Mengzi, Pingbian).

2. *Schizostachyum jaculans* Holttum, Kew Bull. [8] 1953: 494. 1954.

岭南簕竹 ling nan si lao zhu

Culms to 15 m long, to 1.5 cm in diam., apex long pendulous or clambering; internodes terete, to 72 cm, lower half glossy, glabrous, initially white powdery distally, with appressed red-brown hairs; wall ca. 1.5 mm thick. Branches 40–50 cm. Culm sheaths deciduous, oblong, with deciduous, stiff, red-brown hairs, base without a projection, margins glabrous, apex truncate or nearly so; auricles usually inconspicuous; oral setae 1–2 mm; ligule 1–2 mm, margin with fimbriae 8–15 mm; blade reflexed, linear-lanceolate, less than 1/2 length of sheath, abaxially glabrous, adaxially densely strigose, apex involute to acicular. Leaves 5–9 per ultimate branch; leaf blade linear-lanceolate or lanceolate, 5.5–15 × 0.6–1 cm, abaxially subglabrous, adaxially stiffly white hairy, margins glabrous, base rounded, apex acuminate. Inflorescence unknown.

Primary and secondary forests. Hainan [Malaysia].

3. *Schizostachyum diffusum* (Blanco) Merrill, Amer. J. Bot. 3: 62. 1916.

籐籐竹 sha le zhu

Bambusa diffusa Blanco, Fl. Filip. 269. 1837; *Dinochloa diffusa* (Blanco) Merrill.

Culms flexuose, slender, to 40 m long, 0.5–1.5 cm in diam., apically clambering; internodes 15–60 cm, with ring of white powder below node; wall 2–4 mm thick. Culm sheaths deciduous, leathery, rigid, with stiff, brown hairs, base without a projection, margins ciliate, apex concave; auricles inconspicuous; oral setae well developed, curved; ligule short or inconspicuous; blade reflexed, linear-lanceolate, apex involute to aciculate. Leaves 5–12 per ultimate branch; sheaths 5–12 cm, glabrous, outer margin ciliate; auricles inconspicuous; oral setae well developed, initially white, becoming brown; ligule suborbicular or subtruncate, dentate; petiole short; blade oblong-lanceolate, 10–25 × 1.5–2.5 cm, abaxially glabrous, margin densely scabrous to setaceous, base rounded, apex acute. Pseudospikelets 1.8–2.8 cm; bracts 2, oblong-lanceolate, ca. 1 cm, glabrous, many veined; rachilla disarticulating. Glumes absent; lemma ovate-oblong, ca. 14 × 6 mm, glabrous, many veined. Palea ca. 19 × 6 mm, many veined, apex shortly bifid, not keeled; lodicules 2, elliptic-lanceolate, membranous. Filaments long; anthers ca. 9 mm. Ovary glabrous; stigmas 3, short, plumose. Caryopsis obovate, 2–4 mm in diam., glabrous, apex with persistent style base. New shoots May–Aug.

Primary forests; 200–1200 m. E and S Taiwan [Philippines].

The identification of Chinese material as *Schizostachyum diffusum* requires further study.

This species is grown as an ornamental.

4. *Schizostachyum hainanense* Merrill ex McClure, Lingnan Sci. J. 14: 591. 1935.

山骨罗竹 shan gu luo zhu

Culms ascending, 8–30 m long, 2–3(–5) cm in diam., apically long pendulous or clambering; internodes to 75 cm or longer, smooth and glabrous near base, other portions white powdery and appressed stiffly hairy; wall 1.5–2 mm thick. Branches 40–80 cm. Culm sheaths deciduous, asymmetrical, pruinose, with appressed, stiff, brown hairs, base of outer margin usually with a conspicuous, subcircular projection below point of attachment, both sides of apex rounded and extending upward but unequal, yellow-brown; auricles absent; oral setae well developed, to 2.4 cm; ligule 1.5–2 mm, margin with fimbriae 8–12 mm; blade reflexed, more than 1/2 length of sheath proper. Leaves 5–10 per ultimate branch; sheaths 4–9 cm; auricles usually inconspicuous; oral setae numerous, pale, 6–18 mm; ligule ca. 1 mm; blade oblong-lanceolate or linear-lanceolate, 6–27 × 0.6–3.7 cm. Pseudospikelets fusiform, 1.2–1.5 cm; prophylls ovate-lanceolate, ca. 2.5 mm; bracts 3 or 4, ovate or ovate-lanceolate, margin ciliate or glabrous, apex obtuse to acute or mucronate. Glumes absent; lemma ovate-lanceolate, ca. 1.3 cm, margin with or without cilia, involute, many veined, apex acuminate, mucronate; palea to 1.4 cm, markedly involute, papery, lower portion pellucid, apex mucronate; lodicules absent. Filaments white, ca. 1.4 cm, basally connate in pairs; anthers yellow-brown, ca. 6 mm. Ovary ovoid, glabrous, stalked; stigmas 3, purple, 1–1.5 mm. Fruit unknown.

Primary tropical forests. Hainan [Vietnam].

The culms are split for weaving baskets, mats, etc.

5. *Schizostachyum dumetorum* (Hance ex Walpers) Munro, Bot. Voy. Herald 424. 1857.

苗竹仔 miao zhu zi

Culms flexuose, 3–10 m long, 0.5–1.1 cm in diam., apically clambering; internodes to 60 cm, smooth and glabrous near base, otherwise white powdery and white strigose; wall ca. 1 mm thick. Branches ca. 40 cm. Culm sheaths deciduous, abaxially slightly hairy or glabrous, base of outer margin usually with a conspicuous subcircular expansion below point of attachment, apex truncate with equal sides; auricles usually inconspicuous; oral setae many, straight, 5–7 mm; ligule less than 1 mm, glabrous, margin undulate; blade reflexed, those on lower nodes of culm less than 1/2 length of sheath, those on upper nodes of culm longer. Leaves 5–7 per ultimate branch; sheaths 2–3.5 cm, glabrous; auricles usually inconspicuous; oral setae several, 3–5 mm; ligule less than 1 mm; blade lanceolate, 5–18 × 1.2–7 cm. Pseudospikelets fusiform, 1–2.2 cm; prophylls small; bracts 4–6, navicular, 1–5.5 mm, papery, rigid, keeled, apex obtuse; rachilla disarticulating. Glumes absent; lemma oblong-lanceolate, 1.2–1.4 cm, involute, many veined, apex acute, mucronate; palea oblong-lanceolate, to 1.5 cm, markedly involute, thinly papery, apex truncate or emarginate; lodicules absent. Filaments white, ca. 2 cm, base ± connate; anthers yellow, 5–6 mm. Ovary ovoid, glabrous, stalked; style purple; stigmas 3, purple-red, 3–5 mm, plumose. Caryopsis fusiform,

10–13 × ca. 1.5 mm, glabrous, apex beaked.

- Thickets, forests; 100–200 m. Guangdong, Jiangxi.

This species is grown as an ornamental.

1a. Culm sheaths glabrous 5a. var. *dumetorum*

1b. Culm sheaths stiffly yellow-brown
hairy 5b. var. *xinwuense*

5a. *Schizostachyum dumetorum* var. *dumetorum*

苗竹仔(原变种) miao zhu zi (yuan bian zhong)

Bambusa dumetorum Hance ex Walpers, Ann. Bot. Syst. 3: 781. 1853.

Culm sheaths glabrous.

- Guangdong.

5b. *Schizostachyum dumetorum* var. *xinwuense* (T. H. Wen & J. Y. Chin) N. H. Xia, J. Trop. Subtrop. Bot. 1: 7. 1993.

火筒竹 huo tong zhu

Schizostachyum xinwuense T. H. Wen & J. Y. Chin, J. Bamboo Res. 1: 28. 1982.

Culm sheaths stiffly yellow-brown hairy.

- Jiangxi (Xunwu).

6. *Schizostachyum pseudolima* McClure, Lingnan Sci. J. 19: 537. 1940.

簕筍竹 si lao zhu

Culms basally erect or suberect, to 10 m, to 4 cm in diam., apically long pendulous or clambering; internodes terete, straight, to 60 cm, basally glossy and glabrous, distally white powdery and stiffly white hairy; wall 1–2 mm thick. Branches 50(–100) cm. Culm sheaths tardily deciduous, straw-colored, white powdery and stiffly white hairy abaxially, distal margins with cilia 1–2 cm, base without a projection, apex truncate; auricles inconspicuous; oral setae many, 1–1.8 cm; ligule truncate, short, 1–1.5 mm, margin ciliate; blade reflexed, linear-lanceolate, more than 1/2 or 2/3 length of sheath, abaxially glabrous, apex acuminate. Leaves 6–8 per ultimate branch; sheaths 6–9 cm, often white powdery; auricles inconspicuous; oral setae numerous, 2–3 mm; blade oblong-lanceolate or linear-lanceolate, 18–30 × 2–3.5 cm. Pseudospikelets fusiform, 2–3.5 cm, glabrous; prophyll ovate or ovate-lanceolate, 4–8 mm, thin, translucent, apex obtuse, keels 2, ciliate; bracts 1 to several, oblong to oblong-lanceolate, 7–22 mm, papery, many veined, apex obtuse to acute or mucronate; rachilla disarticulating. Glumes absent; fertile lemma oblong-lanceolate, to 2.4 cm, many veined, apex acute, long mucronate, mucro ca. 3 mm; sterile lemma oblong-lanceolate, ca. 1.5 cm, mucro short. Palea to 2.7 cm, involute, papery, many veined, apex bifid; lodicules absent. Filaments to 25 mm, bases often connate; anthers initially dull green, pale yellow when mature, 7–9 mm. Pistil purple, 1.8–2.5 cm. Fruit unknown. New shoots Jul–Aug.

Forests, cultivated near villages. Hainan [Vietnam].

The culms are used for making flutes and walling and are split for weaving.

7. *Schizostachyum auriculatum* Q. H. Dai & D. Y. Huang, J. Bamboo Res. 16(3): 29. 1997.

耳垂竹 er chui zhu

Culms erect or suberect, to 10–14 m, 3–5 cm in diam.; internodes terete, straight, 70–90 cm, scabrous, ± white powdery, initially white appressed hispid; wall 3–5 mm. Branches ca. 50 cm. Culm sheaths deciduous, white powdery, stiffly pale yellow hairy, margin white ciliate; base of outer margin usually with a conspicuous subcircular expansion below point of attachment, apex truncate; auricles absent; oral setae many, 1.5–2 cm; ligule ca. 1 mm, with dense fimbriae 1.5–2 mm; blade reflexed, narrowly lanceolate, 14–18 × 1–1.5 cm, abaxially appressed, white hispidulous, adaxially white strigose. Leaves 5–8 per ultimate branch; sheaths 7–10 cm, white strigose; auricles absent; oral setae numerous, erect, straight, to 1 cm; ligule ca. 0.5 mm, white ciliate; blade narrowly lanceolate, 20–25 × 2–3 cm, abaxially white pubescent, lateral veins 6–8 pairs. Inflorescence unknown. New shoots Jun–Sep.

- Cultivated. Guangxi (Nanning).

8. *Schizostachyum funghomii* McClure, Lingnan Sci. J. 14: 585. 1935.

沙罗箬竹 sha luo dan zhu

Schizostachyum subvexorum Q. H. Dai & D. Y. Huang.

Culms erect, to 12 m, 4–10 cm in diam., apically suberect; internodes terete, straight, to 67 cm, scabrous, white powdery, initially often strigose; wall ca. 3 mm. Branches 50–70 cm. Culm sheaths tardily deciduous, straw-colored, white powdery, with stiff, pale yellow hairs, margins glabrous, apex truncate or slightly concave; auricles inconspicuous; oral setae many, ca. 5 mm; ligule truncate, short, 1–2 mm, glabrous, margin lobed, with fimbriae 3–5 mm; blade reflexed, linear-lanceolate, less than 1/2 length of sheath, abaxially glabrous, apex acuminate. Leaves 6–9 per ultimate branch; sheaths often white powdery; auricles inconspicuous; oral setae numerous, 5–6 mm; blade oblong-lanceolate or ovate-lanceolate, 20–30 × 2.5–4 cm. Pseudospikelets terete, ca. 3 cm, white villous; prophylls oblong-obovate, 5–7 mm, papery, apex obtuse, keels 2, ciliate; bracts 1 to several, oblong, 6–15 mm, papery, many veined, apex obtuse to acute and mucronate; florets 1 or 2, terminal floret usually fertile; rachilla disarticulating. Glumes absent; lemma oblong-lanceolate, 1.5–1.7 cm, densely white-villous, strongly involute, many veined, apex scabrous, acute, mucronate, mucro ca. 2 mm. Palea to 2.6 cm, base spirally involute, papery, distally obviously grooved, nearly glabrous, white ciliate, many veined, apex bifid (fertile spikelets) or unequally 2-keeled (sterile spikelets); lodicules absent. Filaments to 1.8 cm, bases usually connate in pairs; anthers yellow-brown, to 1.2 cm. Ovary glabrous, shortly stalked; style pale yellow; stigmas 3, purple, plumose. Fruit unknown. New shoots Jul–Aug.

- Hills, forests, cultivated near villages. Guangdong, Guangxi, Yunnan.

The culms are used for making paper pulp and are split for weaving. The species is also grown as an ornamental.

9. *Schizostachyum sanguineum* W. P. Zhang, Bamboo Res. 1989(4): 12. 1989.

红毛箬笋竹 hong mao si lao zhu

Culms 5–7 m, 2–3 cm in diam., apically scrambling; internodes 25–35 cm, scabrous, white powdery; wall thin; nodes flat, with a white powdery ring below sheath scar. Culm sheaths deciduous, suboblong, shorter than internodes, densely yellow-brown tomentose, base without a projection, apex arched-concave; auricles absent; ligule short, margin with brown cilia ca. 2 mm; blade reflexed, linear-lanceolate, abaxially with sparse, stiff hairs, adaxially densely yellow-brown tomentose, apex rugose. Leaves 4–6 per ultimate branch; leaf blade ovate-lanceolate, 18–20 × 4–5 cm, base cuneate, apex long acuminate. Inflorescence unknown.

- Forests; ca. 1600 m. SE Yunnan (Malipo).

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