

23. PSEUDOSASA Makino ex Nakai, J. Arnold Arbor. 6: 150. 1925.

矢竹属 shi zhu shu

Zhu Zhengde (朱政德 Chu Cheng-de), Li Dezhu (李德铎); Chris Stapleton

Plants small, shrublike, or arborescent, spreading and densely clumped; rhizomes leptomorph. Culms pluricaespitose, erect to drooping, 0.5–13 m tall, to 6 cm thick; internodes terete or moderately grooved; nodes not greatly swollen; supra-nodal ridge not evident. Branch buds tall, prophylls 2-keeled, initially closed at front, without promontory. Branches erect, initially 1–3 per node, short or long, central slightly dominant with basal nodes compressed, branches always fully sheathed, without replication of lateral branches, sheaths and prophylls ± glabrous. Culm sheaths deciduous to very persistent, tough; blade erect or reflexed, narrowly triangular to strap-shaped. Leaf sheaths persistent; blades moderately large for size of culm, without marginal necrosis in winter, arrangement random, transverse veins distinct. Inflorescence an open raceme or panicle; branching subtended by large or small bracts. Spikelets 2–20 cm; rachilla sinuous, disarticulation below florets; florets 3–30. Glumes 2, shorter than first lemma; lemma to 1 cm. Palea 2-keeled. Stamens 3. Stigmas 3.

Nineteen species: China, Japan, Korea; 18 species (17 endemic, one introduced) in China.

- 1a. Culm sheaths very persistent; midculm branches 1(–3) (*P.* subg. 1. *Pseudosasa*) 1. *P. japonica*
- 1b. Culm sheaths deciduous; midculm branches usually 3 (*P.* subg. 2. *Sinicae*).
 - 2a. Culm sheath blade ovate to broadly ovate, constricted at base.
 - 3a. Culm to 1.6 m, less than 4 mm in diam. 13. *P. gracilis*
 - 3b. Culm 2–5 m, 5–12 mm in diam.
 - 4a. Leaves 3–5(–7) per ultimate branch.
 - 5a. Culm sheath sparsely setose and white tomentellate; leaf sheaths densely setose and glaucous; culm internodes 10–15 cm 17. *P. viridula*
 - 5b. Culm sheath densely brown setose; leaf sheaths glabrous; culm internodes 20–32 cm 18. *P. magilaminaris*
 - 4b. Leaves 4–10 per ultimate branch.
 - 6a. Leaf sheath auricles absent; secondary veins of leaf blades 3–5-paired 14. *P. hindsii*
 - 6b. Leaf sheath auricles present, secondary veins of leaf blades 5–9-paired.
 - 7a. Culm sheath smooth or sparsely setose, light brown, base glabrous, apex truncate or weakly arched 15. *P. cantorii*
 - 7b. Culm sheath densely tomentellate, sparsely white setose, base with dense retrorse hairs, apex arched 16. *P. orthotropa*
- 2b. Culm sheath blade linear-lanceolate to narrowly lanceolate, weakly or rarely constricted at base.
 - 8a. Culm sheath ± spotted or streaked.
 - 9a. Culms to 8 m, to 5 cm in diam. 12. *P. longiligula*
 - 9b. Culms 1.2–4 m, 0.5–1.5 cm in diam.
 - 10a. Culm sheath obscurely streaked, ligule 7–9 mm or slightly shorter, auricles very small and circular, oral setae present 8. *P. subsolida*
 - 10b. Culm sheath distinctly spotted, ligule short, less than 4 mm.
 - 11a. Culm sheath glabrous, occasionally sparsely setose at base; culm internodes powdery-black below nodes 11. *P. wuyiensis*
 - 11b. Culm sheath setose, hairy at base; culm internodes ± glaucous.
 - 12a. Culm sheath with adnate, retrorse setae, tomentose at base, slightly yellow, sheath ligule 1.5–4 mm 9. *P. maculifera*
 - 12b. Culm sheath long hispid; sheath ligule less than 1 mm 10. *P. brevivaginata*
 - 8b. Culm sheath without spots or streaks.
 - 13a. Culm sheath auricles absent or elliptic when present, oral setae present, sheath linear-lanceolate.
 - 14a. Culm sheath auricles present, elliptic; sheath blade lanceolate, erect, base constricted 4. *P. aeria*
 - 14b. Culm sheath auricles absent; sheath blade.
 - 15a. Culm sheath densely brown setose, basally densely so 2. *P. amabilis*
 - 15b. Culm sheath white pubescent and sparsely light brown setose 3. *P. yuelushanensis*
 - 13b. Culm sheath auricles and oral setae absent.
 - 16a. Culm sheaths glabrous, auricles present 5. *P. jiangleensis*
 - 16b. Culm sheaths brown setose, auricles absent.
 - 17a. Culm sheath blade conical-lanceolate; ligule arched, ca. 1 mm, ciliate 6. *P. acutivagina*

17b. Culm sheath blade linear-lanceolate; ligule extremely short, nearly absent 7. *P. pubiflora*

1. *Pseudosasa* subg. *Pseudosasa*

矢竹亚属 *shi zhu ya shu*

Yadakeya Makino, nom. illeg. superfl.

Culm internodes moderately deeply grooved above branches. Branch initially solitary, with basal nodes compressed but without buds, laterals only arising from nodes further from culm. Culm sheaths persistent. Pedicels glabrous.

Two species: native to Japan and Korea; one species (introduced) in China.

1. *Pseudosasa japonica* (Siebold & Zuccarini ex Steudel) Makino ex Nakai, J. Jap. Bot. 2(4): 15. 1920.

矢竹 *shi zhu*

Arundinaria japonica Siebold & Zuccarini ex Steudel, Syn. Pl. Glumac. 1: 334. 1854; *A. usawae* Hayata; *Pleioblastus usawae* (Hayata) Ohki; *Pseudosasa usawae* (Hayata) Makino & Nemoto; *Yadakeya japonica* (Siebold & Zuccarini ex Steudel) Makino.

Culms erect or nodding, 1–3(–5) m tall, to 1.5 cm thick; internodes long, finely ridged, finely mottled, with light ring of wax below each node; nodes slightly raised; sheath scar large. Branches usually 1 per node, without basal buds or branches on that branch, sometimes rebranching from distal branch nodes. Culm sheaths persistent, to 25 cm, basally glabrous, distally

appressed hispid; auricles and oral setae absent; blade erect, 2–5 cm, abaxially glabrous. Leaf sheaths glabrous, margins membranous, not ciliate, auricles absent or small, erect; oral setae scarce, erect, or lacking; ligule oblique, long, slightly pubescent, eroded; abaxial ligule glabrous to finely ciliate; blade abaxially light green to glaucous, adaxially dark green, 15–37 × 1.5–5 cm, glabrous; pseudopetiole glabrous. Spikelets curving, narrowly terete, 3.5–10 cm; florets 5–20(–25). Lemma 1.2–1.5 cm, glabrous, often with fine mucro ca. 2 mm; palea nearly equal to lemma, glabrous, keels finely ciliate. Inflorescence not known.

Yangtze River to Guangdong, Taiwan [Japan, Korea].

This species is cultivated as an ornamental. It is traditionally used for arrows in Japan.

2. *Pseudosasa* subg. *Sinicae* S. L. Chen & G. Y. Sheng, Bull. Bot. Res., Harbin 11(4): 44. 1991.

茶秆竹亚属 *cha gan zhu ya shu*

Culm internodes terete, rarely grooved. Branches initially 3 per node at mid-culm, very erect. Culm sheaths deciduous. Pedicels pubescent.

• Seventeen species: China.

There is considerable uncertainty about the synonymy of Chinese names within *Pseudosasa* and relationships to certain names within *Pleioblastus* and other genera. Characters at both generic and specific ranks require further investigation.

2. *Pseudosasa amabilis* (McClure) P. C. Keng ex S. L. Chen et al., Fl. Reipubl. Popularis Sin. 9(1): 641. 1996.

茶秆竹 *cha gan zhu*

Culms 6–13 m, 2–6 cm in diam.; internodes olive-green, terete, 30–40(–50) cm, smooth, initially gray waxy; wall thick; cavity filled with lamellate or spongy pith; nodes weakly prominent. Branches (1–)3 per node, deflexed, secondary branchlets undeveloped. Culm sheaths gradually deciduous, brown, rigid, fragile when dry, densely setose, margins with cilia ca. 1.5 cm, apex truncate or raised on both sides; auricles absent; oral setae few, erect, ca. 1.5 cm, rigid, undulate; ligule arcuate, irregular, ciliate; blade erect, dark brown, narrowly triangular, scabrid, sharply pointed. Leaves 2 or 3 per ultimate branch; sheath glabrous, margins ciliolate; auricles minute; oral setae curved, 7–15 mm; ligule 1–2 mm, densely ciliolate; pseudopetiole ca. 5 mm; blade narrowly lanceolate, 16–35 × 1.6–3.5 cm, thick, glabrous, secondary veins 7–9-paired, one margin spinescent-serrulate, other margin obscure. Inflorescence paniculate, lateral spikelets 3–15, 2.5–5.5 cm, rachilla internodes ca. 3 mm; florets 5–16. Glumes 2, unequal, densely puberulous or glabrous, margins apically densely ciliolate; lemma ovate-lan-

ceolate, densely puberulous or glabrous; palea broadly lanceolate, keels puberulous. Lodicules unequal. Stamens 3. Ovary fusiform, glabrous. Caryopsis 5–6 mm. New shoots Mar to late May.

• Widely cultivated in plantations along streams in mountain areas, open slopes; low elevations. Fujian, Guangdong, Guangxi, Hunan, S Jiangxi.

The culms are of high mechanical quality, and large quantities are exported to other countries of SE Asia and the United States. The species was once highly prized for making fishing rods and ski poles.

- 1a. Culm sheath apically raised on both sides; lemma glabrous 2b. var. *convexa*
- 1b. Culm sheath apically truncate; lemma glabrous to puberulous.
 - 2a. Culm sheaths thick, leathery; glumes and lemma densely puberulous 2a. var. *amabilis*
 - 2b. Culm sheaths thin; glumes and lemma densely glaucous, sparsely puberulous or nearly glabrous 2c. var. *farinosa*

2a. *Pseudosasa amabilis* var. *amabilis*

茶秆竹(原变种) cha gan zhu (yuan bian zhong)

Arundinaria amabilis McClure, Lingnan Sci. J. 10: 6. 1931.

Culm sheaths leathery, apex truncate. Glumes and lemma densely puberulous.

• Often cultivated along streams of mountain areas. Fujian, Guangdong, Guangxi, S Hunan, S Jiangxi.

2b. *Pseudosasa amabilis* var. *convexa* Z. P. Wang & G. H. Ye, J. Nanjing Univ., Nat. Sci. Ed. 1981(1): 98. 1981.

福建茶秆竹 fu jian cha gan zhu

Pseudosasa amabilis var. *tenuis* S. L. Chen & G. Y. Sheng.

Internodes initially densely glaucous; nodes sparsely retrorsely setose. Culm sheaths sparsely setose, apically prominent on both sides; ligule glaucous; auricles elliptic, with a few oral setae.

• Open slopes; low elevations. Fujian, Hunan.

2c. *Pseudosasa amabilis* var. *farinosa* S. L. Chen & G. Y. Sheng, Bull. Bot. Res., Harbin 11(4): 45. 1991.

厚粉茶秆竹 hou fen cha gan zhu

Culm sheaths thinner. Leaf blade narrower. Glumes and lemma densely glaucous or nearly glabrous.

• N Guangxi.

3. *Pseudosasa yuelushanensis* B. M. Yang, Nat. Sci. J. Hunan Norm. Univ. 9(3): 90. 1986.

岳麓山茶秆竹 yue lu shan cha gan zhu

Culms 2–3 m, 1.5–2 cm in diam.; internodes striate, glaucous, initially white pubescent above nodes; nodes weakly prominent. Culm sheaths late deciduous, white pubescent and sparsely brown setose, ciliate; auricles weak; oral setae 4–6; ligule truncate or arched; blade narrowly lanceolate, both surfaces pubescent. Leaf sheath sparsely puberulous; auricles absent; oral setae 5–7 mm; ligule arched, 2–2.5 mm; blade lanceolate or oblong-lanceolate, 15–30 × 2–4 cm, abaxially pubescent, secondary veins 5- or 6-paired, margins serrulate. Inflorescence paniculate; spikelets 3–8, pedicel 3–7 mm; florets 3–15. Glumes 2, unequally sized; lemma ovate-lanceolate; palea navicular, keels puberulous. Stamens (1–)3 or 4(–)6. Ovary fusiform, glabrous; styles very short; stigmas 3. Caryopsis oblong, 5–7 mm. New shoots May, fl. Apr–Jun.

• Undergrowth of hardwood forests. Hunan (Yuelu Shan).

This species is possibly a synonym of *Pseudosasa subsolida*.

4. *Pseudosasa aerea* T. H. Wen, Bull. Bot. Res., Harbin 3(1): 94. 1983.

空心竹 kong xin zhu

Culms to 6 m, ca. 2 cm in diam.; internodes green, terete, 30–40 cm, not grooved, glabrous; nodes not raised. Branches 1–3 per node. Culm sheaths nearly persistent, green, setose, densely setose at base, margins brown ciliate; auricles brown,

elliptic; oral setae slender; ligule truncate, 1–2 mm; blade erect, green, lanceolate, both surfaces glabrous, base constricted, margin serrulate, apex slightly rugose. Leaves 3–5 per ultimate branch; sheath glabrous, margin ciliate; auricles obscure; oral setae erect, to 1.3 cm; ligule truncate, short; blade lanceolate, 11–20 × 1–2.2 cm, both surfaces glabrous, secondary veins 6- or 7-paired, base broadly cuneate, apex long acuminate. Inflorescence terminal to lateral branches; spikelets 1–5, pedicel 5–7 mm, terminal one to 1.4 cm, glabrous; florets ca. 11. Glumes 1 or 2; lemma margins ciliate apically, mucronate; palea slightly shorter than lemma, densely hairy, apex rounded; lodicules ciliate. Ovary columnar. New shoots Jun.

• Zhejiang.

This species is possibly a synonym of *Pleioblastus rugatus*.

5. *Pseudosasa jiangleensis* N. X. Zhao & N. H. Xia in Z. Yu Li, Pl. Longqi Mountain, Fujian, China, 600. 1994.

将乐茶秆竹 jiang le cha gan zhu

Culms 7–10(–12) m, 1–3(–5) cm in diam.; internodes terete, ca. 40 cm; wall 6–8 mm thick; nodes not prominent, farinose; intranode ca. 7 mm. Branches 3 per node, erect, base nearly appressed. Culm sheaths deciduous, green, not spotted, slightly longer than internode, thickly papery, glaucous, abaxially sparsely deciduous-setose, margins glabrous, apex truncate or subconcave; auricles subovoid, small, margins ciliate or glabrous; oral setae glabrous; ligule 4–5 mm, membranous, margins glabrous or ciliate; blade reflexed, linear-lanceolate, both surfaces densely pubescent, base slightly contracted. Leaves 4–6(or 7) per ultimate branch, glabrous; sheath glabrous; auricles and oral setae absent; ligule ca. 2 mm, membranous, margins glabrous; blade linear-lanceolate or narrowly lanceolate, 9–20 × 1–2.5 cm, cartilaginous, abaxially proximally pubescent, otherwise glabrous, secondary veins 4–6-paired, transversal veins conspicuous, margins revolute, apex caudate acuminate. Inflorescence unknown. New shoots May.

• Margins of mountains; 400–500 m. W Fujian.

6. *Pseudosasa acutivagina* T. H. Wen & S. C. Chen, J. Bamboo Res. 3(2): 31. 1984.

尖箨茶秆竹 jian tuo cha gan zhu

Culms to 4 m, to 2.5 cm in diam.; internodes initially green, to 35 cm, glabrous, glaucous. Culm sheaths narrowly triangular, longer than internodes, brown setose, densely so at base, margins ciliate, auricles and oral setae absent; ligule arched, ca. 1 mm, ciliate; blade erect, conical-lanceolate, 1–3 cm, glabrous. Leaves 2 or 3 per ultimate branch; sheath pale, initially pubescent, margins glabrous; auricles and oral setae absent; ligule ca. 5 mm, fragile; pseudopetiole 7–15 mm; blade elliptic-lanceolate to ovate-lanceolate, 22–32 × 2–4.5 cm, abaxially pubescent, secondary veins 9–11-paired, base cuneate, margins serrulate, apex acuminate or acute. Inflorescence unknown.

• Slopes; below 500 m. S Zhejiang.

This species is possibly a synonym of *Acidosasa nanunica*.

7. *Pseudosasa pubiflora* (Keng) P. C. Keng ex D. Z. Li & L.

M. Gao, **comb. nov.**

毛花茶秆竹 *mao hua cha gan zhu*

Basionym: *Arundinaria pubiflora* Keng, *Sinensia* 7: 416. 1936; *Acidosasa paucifolia* W. T. Lin; *Arundinaria lanshanensis* (T. H. Wen) T. H. Wen; *A. pallidiflora* (McClure) T. H. Wen; *A. tenuivagina* W. T. Lin; *Indocalamus pallidiflorus* McClure; *I. pubiflorus* (Keng) P. C. Keng; *Pseudosasa pallidiflora* (McClure) S. L. Chen & G. Y. Sheng; *P. parilis* T. P. Yi & D. H. Hu; *Yushania lanshanensis* T. H. Wen.

Culms ca. 1 m, 2–3 mm in diam.; internodes terete, woolly or tomentose below nodes; nodes weakly prominent. Branches 1–3 per node, elongated, slender. Culm sheaths persistent; auricles and oral setae absent; ligule extremely short, nearly absent; blade deciduous, small. Leaves 1 or 2 per ultimate branch; sheath glabrous or apically slightly hairy, margins ciliate; auricles and oral setae weakly developed or absent; ligule extremely short; blade lanceolate or elliptic-lanceolate, ca. 15 × 19 cm, abaxially setulose, adaxially glabrous, one margin roughly hairy. Inflorescence paniculate, lateral; spikelets ca. 10; rachilla glabrous or hairy at base; pedicel densely puberulous; florets 2 or 3, loosely arranged. Glumes 2; lemma ovate, adnately hairy; palea about as long as lemma, keels densely hairy; lodicules 3, subequal. Ovary glabrous; stigmas 2. Caryopsis unknown. New shoots Apr.

- Slopes; low elevations. N Guangdong, S Hunan, S Jiangxi.

The combination *Pseudosasa pubiflora* was not previously validly published by P. C. Keng (*Claves Gen. Sp. Gram. Prim. Sin.* 154. 1957 and *Fl. III. Pl. Prim. Sin. Gram.* 32. 1959) because a clear and direct reference to the basionym was not given.

The woolly internode apex is unusual in *Pseudosasa* and rather suggestive of *Indocalamus*.

8. *Pseudosasa subsolida* S. L. Chen & G. Y. Sheng, *Acta Phytotax. Sin.* 21: 405. 1983.

近实心茶秆竹 *jin shi xin cha gan zhu*

Arundinaria subsolida (S. L. Chen & G. Y. Sheng) C. S. Chao & G. Y. Yang.

Culms ca. 2.5 m, 5–12 mm in diam.; internodes terete, 18–30 cm, nearly solid, basally slightly grooved above branches; wall thick, pith spongy; nodes flattened; sheath scars weakly distinct; intranode 6–7 mm. Culm sheaths light yellow-brown, apically purplish, obscurely streaked, striate, glabrous, margins ciliate; auricle circular, small, ciliate; oral setae deciduous, erect, uneven; ligule arcuate, 7–9 mm or slightly shorter, abaxially scabrid, ciliolate; blade erect on basal sheaths, revolute on apical ones, small, involute when dry. Leaves 6 or 7 per ultimate branch; basal sheath densely pubescent, sparsely setose; auricles obscure; oral setae few, short; pseudopetiole ca. 2 mm; blade oblong-lanceolate, 15–20(–23) × 1.2–2.3(–2.7) cm, abaxially densely hairy, secondary veins 5- or 6-paired, base rounded, margins minutely serrulate, apex acuminate. Inflorescence unknown. New shoots early Apr.

- Low slopes of hills. Fujian, Hunan, Jiangxi.

Pseudosasa yuelushanensis is possibly a synonym of this species.

9. *Pseudosasa maculifera* J. L. Lu, *J. Henan Agric. Coll.* 2: 71. 1981.

鸡公山茶秆竹 *ji gong shan cha gan zhu*

Culms 2–4 m, 0.5–1.5 cm in diam.; internodes initially green, yellow-green when old, 21–31 cm, weakly glaucous, distinctly powdery below node, glabrous; supra-nodal ridge more prominent than persistent sheath base; intranode 5–8 mm. Branches (1 or) 3 per node. Culm sheaths light green, sometimes brown spotted, glabrous or sparsely setose, setae light brown and readily deciduous, margins ciliolate; auricles absent; oral setae few, readily deciduous; ligule arcuate, truncate, or acute, 1.5–4 mm, glaucous; blade reflexed or erect, triangular-lanceolate or narrowly linear-lanceolate, entire. Leaves 2–4 per ultimate branch; sheath glabrous, margins ciliolate; auricles elliptic or falcate; oral setae radiate; blade elliptic-lanceolate, 7–14 × 1.2–2.2 cm, abaxially proximally slightly hairy, scabrid, secondary veins 5–9-paired, one margin distally serrulate, other margin entire. Inflorescence racemose, terminal. Spikelets 1 or 2, 3–5 cm; florets 5–7, terminal one sterile; rachilla internodes ca. 6 mm, shortly hairy. Glumes 2; lemma ovate; palea navicular, apex obtuse or 2-cleft, keels ciliolate; lodicules 3, nearly equal. Stamens 3. Ovary densely hairy; style 1; stigmas 3. Caryopsis oblong, 9–13 × 3–4 mm. New shoots early Jun, fl. May.

- Slopes, roadsides. S Henan, S Zhejiang.

Pleioblastus intermedius, *P. maculosoides*, *Pseudosasa longiligula*, and *P. wuyiensis* are all possibly synonyms of this species.

- 1a. Culm sheaths glabrous, or apex sparsely setose on both sides; ligule arcuate 9a. var. *maculifera*
- 1b. Culm sheaths densely setose; ligule truncate or acute 9b. var. *hirsuta*

9a. *Pseudosasa maculifera* var. *maculifera*

鸡公山茶秆竹(原变种) *ji gong shan cha gan zhu* (yuan bian zhong)

Culm sheaths brown spotted, densely setose at base; ligule arcuate; blade triangular-lanceolate.

- S Henan.

9b. *Pseudosasa maculifera* var. *hirsuta* S. L. Chen & G. Y. Sheng, *Bull. Bot. Res.*, Harbin 11(4): 45. 1991.

毛箨茶秆竹 *mao tuo cha gan zhu*

Culm sheaths densely setose; ligule truncate or acute; blade narrowly linear-lanceolate.

- Slopes, roadsides. S Zhejiang.

10. *Pseudosasa brevivaginata* G. H. Lai, *J. Bamboo Res.* 19(2): 37. 2001 [“2000”].

短箨茶秆竹 *duan tuo cha gan zhu*

Rhizomes amphipodial. Culms erect, 1.2–1.6 m, 5–7 mm in diam.; internodes initially green, setose, apically glaucous; supra-nodal ridge prominent, persistent sheath base corky, initially densely long, purple-brown hispid. Branches erect, basally adnate to culm. Culm sheath late deciduous to persist-

tent, initially dark green and purple, distinctly spotted, ca. 1/2 as long as internode, brittle, subleathery, densely long, purple-brown hispid, becoming scabrous and verruculose from persistent bristle bases, basally long, dark purple hispid; auricles and oral setae absent; ligule arcuate, less than 1 mm, ciliate; blade reflexed, subulate or linear, 1.6–2.8 cm, glabrous. Leaves (2 or)3 or 4 per branchlet; sheaths glabrous, margins initially long ciliate; auricles and oral setae deciduous; ligule truncate, less than 1 mm; blade 11–18 × 1.4–2.5 cm, glabrous, secondary veins 6- or 7-paired, transverse veins distinct. Inflorescence unknown.

- Riversides; below 500 m. Anhui (Tiantang, Yuexi).

11. *Pseudosasa wuyiensis* S. L. Chen & G. Y. Sheng, Bull. Bot. Res., Harbin 11(4): 46. 1991.

武夷山茶秆竹 wu yi shan cha gan zhu

Culms 2.5–3.5 m, ca. 8 mm in diam.; internodes basally grooved above branches, with light powdery traces, black powdery below nodes; nodes weakly raised; sheath base persistent; intranode ca. 4 mm. Culm sheaths purple spotted, glabrous, occasionally sparsely setose at base, margins ciliate; auricles and oral setae absent; ligule arcuate, 3–4 mm, nearly glabrous; blade reflexed, narrowly linear-lanceolate, ca. 1/2 as wide as sheath apex, both surfaces puberulous, base slightly constricted, margin serrulate, apex acute. Leaves 3 or 4 per ultimate branch; sheath densely glaucous, hairy at base, margin ciliate; auricles and oral setae absent; ligule acute or arcuate, ca. 3 mm; pseudopetiole ca. 3 mm; blade narrowly lanceolate, 11–17 × 0.6–0.7 cm, abaxially densely puberulous, base broadly cuneate, margins spinescently serrulate, apex tapering, long acuminate. Inflorescence unknown. New shoots Jun.

- Valley slopes. N Fujian (Wuyi Shan).

This species might be better included within *Pseudosasa maculifera*.

12. *Pseudosasa longiligula* T. H. Wen, J. Bamboo Res. 1(1): 27. 1982.

广竹 guang zhu

Culms ca. 8 m, to 5 cm in diam.; internodes green, 40–50 cm, glaucous below nodes, glabrous; nodes not raised, remains of sheath base persistent. Culm sheaths green, brown spotted or not, base subglabrous, margins brown ciliate, apex broad and concave; auricles elliptic; oral setae present; ligule arched, sometimes truncate or slightly concave; blade erect, striate, narrowly lanceolate to linear-lanceolate, ca. 1/4 as wide as sheath apex, glabrous, base slightly constricted, apex acuminate. Leaves 4–6 per ultimate branch; sheath densely pubescent, soon caducous, margins densely ciliate; auricle circular to elliptic, very small; oral setae soon caducous, straight or curved, rigid; ligule acute, to 8 mm; blade oblong-lanceolate or narrowly lanceolate, 12.5–22 × 3–2.4 cm, abaxially pubescent with denser hairs along midrib, secondary veins 5–7-paired, base cuneate, margins sharply serrulate, apex acute. Inflorescence unknown.

- N Guangxi.

Pseudosasa longiligula is not to be confused with *P. longiligulata* (McClure) Koidzumi, a much smaller species currently placed in *Sasa*.

This species might be better included within *P. maculifera*.

The edible shoots are sweet, and the culms are used for making small items of furniture and props.

13. *Pseudosasa gracilis* S. L. Chen & G. Y. Sheng, Acta Phytotax. Sin. 21: 405. 1983.

纤细茶秆竹 xian xi cha gan zhu

Culms ca. 1.6 m, to 4 mm in diam.; internodes terete, to 24 cm, not powdery, apically adnately and retrorsely setulose; wall thick, cavity with woolly or irregularly lamellate pith; nodes not raised, remains of sheath base persistent. Culm sheaths gradually deciduous, or rather persistent, ca. 4/7 as long as internodes, glabrous or slightly hairy, densely white hairy toward edges, margins ciliate; auricles obscure; oral setae present, straight or slightly curved, ca. 8 mm, rigid; ligule short, unevenly lacinate; blade erect, striate, broadly ovate-lanceolate, about as long as sheath, both surfaces glabrous, margins ciliate, apex acuminate. Leaves 2 or 3 per ultimate branch; sheath densely pilose, margins ciliate; auricles obscure; oral setae present, to 1.4 cm; ligule short, 0.5–1.5 mm; pseudopetiole 2–3 mm; blade lanceolate or narrowly lanceolate, 14–19 × 1.2–1.7 cm, abaxially glabrous, adaxially hairy, base cuneate, margins serrulate, apex acuminate. Inflorescence unknown. New shoots late Apr.

- S Hunan.

This species is possibly a synonym of *Pseudosasa pubiflora*.

14. *Pseudosasa hindsii* (Munro) S. L. Chen & G. Y. Sheng ex T. G. Liang, Fujian Bamboos 142. 1987.

簕竹 hui zhu

Arundinaria hindsii Munro, Trans. Linn. Soc. London 26: 31. 1868; *Acidosasa denigrata* W. T. Lin; *Arundinaria cerata* McClure; *A. flexuosa* Hance; *A. hirtivaginata* W. T. Lin; *A. maudiae* (Dunn) Keng; *A. multifloscula* W. T. Lin; *A. orthotropoides* (W. T. Lin) W. T. Lin; *A. panda* Keng; *A. quadrangula* W. T. Lin & Z. J. Feng; *A. yangshanensis* W. T. Lin; *Oligostachyum orthotropoides* W. T. Lin; *Phyllostachys maudiae* Dunn; *Pleioblastus hindsii* (Munro) Nakai; *P. hispidulus* W. T. Lin; *P. pandus* (Keng) P. C. Keng; *Pseudosasa aureovagina* W. T. Lin; *P. baiyunensis* W. T. Lin; *P. multifloscula* (W. T. Lin) W. T. Lin; *P. nigrinodis* G. A. Fu; *Thamnocalamus hindsii* (Munro) E. G. Camus.

Culms 3–5 m, ca. 1 cm in diam.; internodes dark green, 20–36 cm, basal ones glabrous but apical internodes hairy, initially glaucous. Branches 3–5 per node, erect. Culm sheaths persistent, sparsely white or light brown setose; auricles falcate; oral setae curved; ligule arcuate, ca. 3 mm; blade erect, broadly ovate-lanceolate, nearly as wide as sheath apex, base slightly constricted. Leaves 4–9 per ultimate branch; sheath deciduous, glabrous or sparsely setulose, margins ciliate; auricles absent; oral setae few; ligule truncate, rigid, 1–1.5 mm; pseudopetiole ca. 2 mm; blade linear-lanceolate or narrowly oblong, 7–22 × ca. 1.6 cm, glabrous or abaxially slightly hairy, secondary veins 3–5-paired, base cuneate, one margin spinescently serrulate, other margin entire, apex acuminate. Inflorescence unknown. New shoots May–Jun.

• Coastal hills, mountains. Fujian, Guangdong, Guangxi, Hunan, Jiangxi, Zhejiang.

This taxon was repeatedly published as a “new species” by some authors because of its rather broad distribution. After checking a large number of herbarium specimens, a conclusion was reached that *Pseudosasa magilaminaris*, *P. orthotropa*, and *P. viridula* are possibly synonyms of this species.

15. *Pseudosasa cantorii* (Munro) P. C. Keng ex S. L. Chen et al., Fl. Reipubl. Popularis Sin. 9(1): 654. 1996 [“*cantori*”].

托竹 tuo zhu

Bambusa cantorii Munro, Trans. Linn. Soc. London 26: 111. 1868 [“*cantori*”]; *Arundarbor cantorii* (Munro) Kuntze; *Arundinaria basiaurita* W. T. Lin; *A. basigibbosa* McClure; *A. cantorii* (Munro) L. C. Chia ex C. S. Chao & G. Y. Yang; *A. funghomii* McClure; *A. pubiannula* W. T. Lin & Z. J. Feng; *Oligostachyum pulchellum* (T. H. Wen) G. H. Ye & Z. P. Wang; *Pseudosasa hainanensis* G. A. Fu; *Sinobambusa pulchella* T. H. Wen.

Culms 2–4 m, 5–10 mm in diam.; internodes terete; nodes obscure. Branches 3 per node. Culm sheaths gradually deciduous, purple-brown to yellow, ca. 1/2 as long as internodes, glabrous or sparsely setose, margins densely ciliate; ligule arcuate or truncate, slightly concave, scabrid, ciliate; blade erect, narrowly ovate-lanceolate, glabrous, basally 1/2–3/5 as wide as sheath apex, margins serrulate, apex acuminate. Leaves 5–10 per ultimate branch; sheath purple, glabrous or slightly hairy, margins ciliate; auricles falcate or suborbicular; oral setae ca. 5 mm; ligule truncate, short, slightly hairy, entire or lacinate; pseudopetiole ca. 4 mm; blade narrowly lanceolate or oblong-lanceolate, 12–20(–32) × 1.2–2.5(–3.7) cm, both surfaces glabrous, secondary veins 5–9-paired, base broadly cuneate, margins serrulate, apex acuminate. Inflorescence paniculate or racemose, terminal; spikelets 3–4 cm, pedicel 5–15 mm; florets 4–9; rachilla internodes 4–6 mm. Glumes 2; lemma glabrous, margins densely ciliate; palea shorter than lemma. Stamens 3. Ovary oblong, glabrous; styles very short; stigmas 3. New shoots Mar.

• S Fujian, Guangdong, Hainan, S Jiangxi.

16. *Pseudosasa orthotropa* S. L. Chen & T. H. Wen, J. Bamboo Res. 1(1): 46. 1982.

面秆竹 mian gan zhu

Culms to 3 m, ca. 1 cm in diam.; internodes terete, to 40 cm, basally grooved above branches; wall thick, pith spongy; nodes weakly prominent or not; intranode 7–9 mm; sheath base persistent, initially glaucous and retrorsely hairy. Branches 1–3 per node. Culm sheaths late deciduous, nearly persistent, green, ca. 1/3 as long as internodes, densely pubescent and sparsely setose or subglabrous, apically glaucous; auricles ovate or oblong, densely ciliate; oral setae curved; ligule very short, slightly prominent, margin shortly ciliate; blade ovate-lanceolate, glabrous, margin ciliate, apex acuminate. Leaves 6–10 per ultimate branch; sheath initially pubescent, margin ciliate; auricles initially small and rounded, obscure when old; oral setae 3–15 mm, fringed, or deciduous; ligule truncate, very short, densely hairy and glaucous, entire or unevenly lacinate; blade 9–27(–34) × 0.8–2.5(–3.5) cm, abaxially shortly hairy,

secondary veins 5- or 6-paired, base rounded, margin minutely serrulate, apex acuminate. Inflorescence unknown. New shoots early May.

• Valleys, slopes; low elevations. Fujian, Jiangxi, Zhejiang.

This species is possibly a synonym of *Pseudosasa hindsii*.

17. *Pseudosasa viridula* S. L. Chen & G. Y. Sheng, Bull. Bot. Res., Harbin 11(4): 46. 1991.

笔竹 bi zhu

Culms ca. 4 m, ca. 1 cm in diam.; internodes striate, terete, 10–15 cm, basally slightly flattened above branches, glaucous, pith spongy; nodes weakly prominent; intranode ca. 6 mm; sheath base persistent, glaucous at nodes, dark brown when old. Culm sheaths late deciduous, light brown, sparsely spotted, leathery, sparsely setose and pubescent, margins densely ciliate; auricles brown, circular to elliptic, small; oral setae radiate, curved, 5–10 mm; ligule arcuate, ca. 1.5 mm, scabrid, ciliate; blade triangular-lanceolate, base slightly constricted, 2/3–3/4 as wide as sheath apex, margin serrulate, apex acuminate. Leaves (2–)4 or 5(–7) per ultimate branch; sheath setose, glaucous, margins ciliate; auricles absent; oral setae 7–10; ligule very short, slightly scabrous; blade oblong-lanceolate, 8–30 × 2–3.3 cm, abaxially partially densely hairy, secondary veins (5–)7–10-paired, base broadly cuneate, margins serrulate, apex acute. Inflorescence unknown. New shoots May.

• Plains. Zhejiang (Hangzhou).

This species is possibly a synonym of *Pseudosasa hindsii*.

18. *Pseudosasa magilaminaris* B. M. Yang, J. Hunan Sci. Technol. Univ. 1(1): 111. 1985.

江永茶秆竹 *jiang yong cha gan zhu*

Culms 2–5 m, 5–12 mm in diam.; internodes terete, 20–32 cm, pith spongy; nodes weakly prominent, sheath base persistent, corky, glaucous, pilose; intranode ca. 9 mm. Culm sheaths persistent or late deciduous, brown, shorter than internodes, fragile, densely setose; auricles falcate; oral setae ca. 5 mm; ligule arcuate, ca. 2 mm; blade triangularly ovate-lanceolate, abax-

ially slightly hairy at base. Leaves 3–7 per ultimate branch; blade elliptic-lanceolate 12–18 × 9–2.3 cm, abaxially slightly hairy, secondary veins 6- or 7-paired, base broadly cuneate, margins serrulate, apex acute. Inflorescence unknown.

- Slopes of hills; low elevations. S Hunan.

This species is possibly a synonym of *Pseudosasa hindsii*.

Taxa incertae sedis

Pseudosasa membraniligulata B. M. Yang (Bamboo Res. 1989(2): 3. 1989) was described from Hunan. It is difficult to decide the identity of this species because the type specimen (*B. M. Yang 06537*, HNNU) is abnormal. According to G. Y. Yang's Ph.D. dissertation, it does not belong to *Pseudosasa*.

Pseudosasa pubicatrix W. T. Lin (J. Bamboo Res. 13(2): 22. 1994, "*pubioicatrix*") was described from Hainan. According to G. Y. Yang's Ph.D. dissertation, the holotype specimen (*Huang Quan 0002*, CANT) is a mixture, which probably includes elements of three different genera: the culm sheaths look like *P. hindsii*, whereas the culms look like *Indocalamus*, and the leafy branches are *Bambusa*.

