

12. YUSHANIA P. C. Keng, Acta Phytotax. Sin. 6: 355. 1957.

玉山竹属 *yu shan zhu shu*

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Burmabambus P. C. Keng; *Butania* P. C. Keng; *Monospatha* W. T. Lin.

Shrubby spreading bamboos, sometimes subarborescent. Rhizomes facultatively long necked, pachymorph, neck to (0.3–)0.5 (–2) m, solid or hollow. Culms pluricaespitose or diffuse, erect or ascending; internodes terete, often scabrous, usually without prominent vertical ridges; wall thick; nodes (supra-nodal ridges) slightly prominent; buds lanceolate or rarely ovate, with reduced sheathing. Branches often 1 at lower nodes, initially 5–7(–12) at middle nodes, 9–11(–45) at upper nodes, on promontory, erect or deflexed, subequal or central branch strongly dominant at lower nodes; internodes \pm terete. Culm sheaths tardily deciduous or persistent, usually initially setose, usually shorter than internodes; ligule usually truncate; blade usually reflexed, lanceolate or triangular. Leaves usually small to medium-sized; blade with prominent transverse veins. Inflorescence ebracteate, semelauctant, open, usually paniculate. Spikelets robust, long pedicellate, several to many flowered, apical floret sterile. Glumes 2; lemma mucronate or rarely obtuse, many veined; palea equal to or shorter than lemma, 2-keeled, obtuse; lodicules 3, transparent. Stamens 3; filaments free, long exerted; anthers yellow. Ovary appendage absent or inconspicuous; style 1, short or absent; stigmas usually 2, plumose.

About 80 species: Africa, E, S, and SE Asia; 58 species (57 endemic) in China.

Because of the poor knowledge of many taxa and their relatively recent description, often from a limited number of sterile gatherings, certain critical characteristics, notably rhizome neck lengths and culm and leaf proportions, are not accurately known, and many species boundaries remain untested.

In addition to the species treated below, *Yushania pingshanensis* T. P. Yi (J. Bamboo Res. 19(1): 21. 2000) was described from sterile material from Sichuan (Pingshan). In the protologue it was compared with *Y. straminea*. *Yushania pubescens* T. P. Yi (J. Bamboo Res. 19(1): 24. 2000) was described from sterile material from Sichuan (Pingshan). In the protologue it was compared with *Y. pingshanensis*.

- 1a. Culms with 5–9 branches or more per mid-culm node (often fewer in *Y. canoviridis*).
- 2a. Culm sheath auricles present.
 - 3a. Culms 1.2–3 cm in diam.; culm sheaths equal in length to internodes or slightly longer, apex acuminate narrowly triangular 1. *Y. vigens*
 - 3b. Culms less than 1.7 cm in diam.; culm sheaths much shorter than internodes, apex arcuate or broadly triangular.
 - 4a. Culm sheaths with dense, dark brown blotches or spots.
 - 5a. Culms 2–2.5 m, 5–10 mm in diam., internodes with purple spots when young; culm sheaths proximally sparsely pale fulvous setose 2. *Y. brevipaniculata*
 - 5b. Culms 3–7 m high, 9–17 mm in diam., internodes without purple spots when young; culm sheaths glabrous.
 - 6a. Leaf sheath auricles oblong or falcate, petiole abaxially pubescent; leaf blade (7–)11–17 mm wide, abaxially pallid 3. *Y. glauca*
 - 6b. Leaf sheath auricles absent, petiole glabrous; leaf blade 4–11 mm wide, abaxially bright green 4. *Y. lineolata*
 - 4b. Culm sheaths without blotches or spots.
 - 7a. Culm internodes initially setose; leaf blade abaxially initially pubescent 5. *Y. hirticaulis*
 - 7b. Culm internodes glabrous; leaf blades abaxially glabrous.
 - 8a. Culms 2–2.5(–3.5) m, internodes 20–80 cm; branches to 15 per node; culm sheaths proximally nearly smooth; leaf sheath auricles well developed, oral setae radiating 6. *Y. falcataurita*
 - 8b. Culms to 1.6 m, internodes 15–25 cm; branches (1 or)2–6 per node; culm sheaths conspicuously longitudinally ribbed; leaf sheath auricles absent or fairly small, oral setae erect 7. *Y. canoviridis*
- 2b. Culm sheath auricles absent.
 - 9a. Rhizome necks hollow.
 - 10a. Culm sheaths hairy (sometimes glabrous in *Y. weixiensis* and *Y. qiaojaensis* var. *nuda*); leaf sheath auricles present, oblong or minute.
 - 11a. Rhizome necks thick, 7–10 mm in diam.; culm sheath blades reflexed; leaf blades glabrous, delicate 8. *Y. weixiensis*
 - 11b. Rhizome necks thin, 5–7 mm in diam.; culm sheath blades erect; leaf blades adaxially sparsely pubescent, tough 9. *Y. qiaojaensis*
 - 10b. Culm sheaths glabrous; leaf sheath auricles absent.
 - 12a. Culm sheath apically rounded, longitudinal ribs inconspicuous; culm sheath blades erect; leaf blades thick, with densely tessellate venation 10. *Y. cava*
 - 12b. Culm sheath apically acuminate, longitudinal ribs prominent; culm sheath blades reflexed; leaf blades thin, with sparsely tessellate venation 11. *Y. yadongensis*
 - 9b. Rhizome necks solid.

- 13a. Culm sheaths nearly as long as internodes or longer (rarely only 1/2 internode length in *Y. exilis* and *Y. varians*).
- 14a. Culm internodes initially entirely or distally setulose.
- 15a. Culms to 2 m; internodes with fine prominent ridges 12. *Y. violascens*
- 15b. Culms to 5 m, internodes smooth.
- 16a. Culm internodes not pruinose; culm sheaths with conspicuous longitudinal ribs, tessellate venation not evident; leaf sheath oral setae 1.5–3 mm 13. *Y. crassicollis*
- 16b. Culm internodes densely pruinose; culm sheaths with conspicuous longitudinal ribs, tessellate venation distinct; leaf sheath oral setae to 6 mm 14. *Y. bojieiana*
- 14b. Culm internodes glabrous.
- 17a. Culm internodes proximally flattened above branches.
- 18a. Culms to 4.5 m; leaf blades to 14 cm, with 4 or 5 pairs of secondary veins (E Guizhou) 15. *Y. complanata*
- 18b. Culms to 1.5 m; leaf blades to 9 cm, with 3 or 4 pairs of secondary veins (N Fujian) 16. *Y. longissima*
- 17b. Culm internodes not proximally flattened above branches.
- 19a. Culms to 5 m; culm sheaths densely setose 17. *Y. flexa*
- 19b. Culms to 2.5 m; culm sheaths sparsely setose.
- 20a. Culm internodes to 28 cm; branches 1–1.5 mm thick, apically pendulous; culm sheath oral setae 4–6; culm sheath blades revolute; leaf sheath auricles absent, oral setae erect; leaf blades to 8 mm wide 18. *Y. exilis*
- 20b. Culm internodes to 15 cm; branches to 3.5 mm thick, erect; culm sheath oral setae absent to 2; culm sheath blades usually erect; leaf sheath auricles oblong, oral setae radiating; leaf blades to 12 mm wide 19. *Y. varians*
- 13b. Culm sheaths less than 1/2(–3/5) internode length (to 2/3 in *Y. baishanzuensis*).
- 21a. Culm internodes initially apically pubescent or setose.
- 22a. Culm internodes solid or subsolid, cavity to 1/3 culm wall thickness.
- 23a. Culm sheaths cartilaginous, with dense purple-brown spots, glabrous or sparsely brown ciliate at base 20. *Y. maculata*
- 23b. Culm sheaths leathery, without spots, gray or fulvous setose or thickly hairy.
- 24a. Culm internodes initially apically densely pruinose and sparsely gray setose below nodes; leaf blade to 2 cm wide, tessellation distinct; lemma glabrous 21. *Y. longiuscula*
- 24b. Culm internodes densely pruinose, sparsely brown setose below nodes; leaf blade to 1.2 cm wide, tessellation indistinct; lemma initially sparsely pubescent 22. *Y. crispata*
- 22b. Culm internodes hollow, cavity more than 1/2 culm wall thickness.
- 25a. Leaf blade abaxially gray pubescent 23. *Y. lacera*
- 25b. Leaf blade abaxially glabrous.
- 26a. Culms 4–7 m, to 3(–6) cm in diam.; culm sheaths densely fulvous setose, especially at base; leaf sheath oral setae absent to 3; leaf blade secondary veins 2- or 3-paired 24. *Y. elevata*
- 26b. Culms 1.5–2 m, to 0.5 cm in diam.; culm sheaths sparsely white setose toward margins; leaf sheath oral setae more than 10; leaf blade secondary veins 4-paired 25. *Y. baishanzuensis*
- 21b. Culm internodes apically glabrous (sometimes setose in *Y. mitis* and *Y. xizangensis*).
- 27a. Culms to 7 m, to 3 cm in diam.
- 28a. Culm internodes with fine ridges, hollow.
- 29a. Culm internodes initially pruinose; branches 3–7 per node; culm sheaths densely purple-brown blotched; pseudopetioles glabrous 29. *Y. mitis*
- 29b. Culm internodes of young culms not pruinose; branches 10–19 per node; culm sheaths without blotches; pseudopetioles adaxially slightly setose 30. *Y. xizangensis*
- 28b. Culm internodes smooth, solid or subsolid.
- 30a. Culm sheaths densely brown to black setose, not striped, oral setae absent or scarce 26. *Y. farcticaulis*
- 30b. Culm sheaths glabrous or with adnate fulvous seta at base, initially with sporadic longitudinal stripes, oral setae absent.
- 31a. Culm internodes solid; leaf blades to 10(–12.5) cm, secondary veins 3–5-paired 27. *Y. levigata*
- 31b. Culm internodes hollow; leaf blades to 7.5 cm, secondary veins 2-paired 28. *Y. ailuropodina*
- 27b. Culms to 3(–4) m, to 1 cm in diam.
- 32a. Leaf blade abaxially proximally pale pubescent initially.
- 33a. Culms 4–6 mm in diam.; internodes terete; culm sheaths glabrous or basally yellow-brown setose; leaf blades 9–13 mm wide, with 3 or 4 pairs of secondary veins 31. *Y. brevis*
- 33b. Culms 10–13 mm in diam.; internodes flattened above branches; culm sheaths more uniformly yellow-brown setose; leaf blades 14–23 mm wide, with 4 or 5 pairs of secondary veins 32. *Y. menghaiensis*

- 32b. Leaf blades completely glabrous.
- 34a. Culm internodes with fine conspicuous ridges; leaf sheaths 4.2–6 cm 33. *Y. collina*
- 34b. Culm internodes smooth or with inconspicuous fine ridges; leaf sheaths no longer than 5 cm.
- 35a. Culm sheaths persistently retrorsely setose, oral setae ca. 5; leaf blades with 4–6 pairs of secondary veins 34. *Y. farinosa*
- 35b. Culm sheaths glabrous or rarely gray setose, oral setae absent to 2; leaf blades with 3 or 4 pairs of secondary veins.
- 36a. Culm internodes hollow; branches 5–9 per node; culm sheath margins glabrous, ligules 1–1.4 mm; leaf sheath margins glabrous, auricles ca. 1 mm, leaf blade basally cuneate 35. *Y. laetevirens*
- 36b. Culm internodes solid or subsolid; branches (3–)8–30(–45) per node; culm sheath margins glabrous or initially ciliate; leaf sheath margin initially gray ciliate, auricles ca. 0.3 mm, leaf blade basally broadly cuneate or suborbicular 36. *Y. multiramea*
- 1b. Culms with 1 branch per mid-culm node, or 1 branch on lower nodes and 3–5(–8) on mid-culm and upper culm regions, rarely branches absent.
- 37a. Culm sheath auricles conspicuous.
- 38a. Culm internodes initially distally pubescent or setose.
- 39a. Leaf blades abaxially glabrous.
- 40a. Culms 4–8 mm in diam., branches with secondary branching 37. *Y. mabianensis*
- 40b. Culms 1.5–2.5 mm in diam., branches absent or solitary and without secondary branching 38. *Y. andropogonoides*
- 39b. Leaf blades abaxially pubescent.
- 41a. Branches solitary at all nodes; leaf sheath auricles and oral setae absent 39. *Y. grammata*
- 41b. Branches 3(–5) per node on upper culm; leaf sheath auricles conspicuous, oral setae radiating.
- 42a. Culm internodes to 25(–37) cm, initially with dense purple spots; culm sheaths with longitudinal ribs inconspicuous or distally conspicuous, oral setae 2–5 mm 40. *Y. polytricha*
- 42b. Culm internodes to 15(–37) cm, without spots; culm sheaths with longitudinal ribs conspicuous, oral setae 4–15 mm 41. *Y. basihirsuta*
- 38b. Culm internodes glabrous.
- 43a. Branches 1.5–3 mm in diam.; leaf blade 1.2–1.7 cm wide, secondary veins 4- or 5-paired 42. *Y. longiaurita*
- 43b. Branches 3–8(–12) mm in diam.; leaf blade 3–5.7 cm wide, secondary veins 7–11-paired.
- 44a. Branches always 1 per node; leaf blade (13–)19–26(–33) cm 43. *Y. chingii*
- 44b. Branches several per node on upper culm; leaf blade 7–19 cm.
- 45a. Culm sheaths densely setose.
- 46a. Culm internodes without spots; culm sheath oral setae to 2 cm; pseudopetioles villosulous, leaf blade secondary veins (3 or)4- or 5(or 6)-paired, tessellations rectangular 46. *Y. straminea*
- 46b. Culm internodes initially purple spotted; culm sheath oral setae 3–6 mm; pseudopetioles glabrous, leaf blade secondary veins 5–9-paired, tessellations square.
- 47a. Culms to 2.5 m, internodes 16–22 cm; oral setae 2–7 mm 44. *Y. auctiaurita*
- 47b. Culms to 3(–4) m, internodes to 32 cm; oral setae 10–12 mm 45. *Y. dafengdingensis*
- 45b. Culm sheaths glabrous.
- 48a. Culms to 4.5 m; leaf sheath oral setae 3–5 mm; pseudopetiole 7–9 mm; leaf blade 3.6–4 cm wide ... 47. *Y. oblonga*
- 48b. Culms to 2.5 m; leaf sheath oral setae 4–14 mm; pseudopetiole 2–3.5 mm; blade 1.8–2.8 cm wide 48. *Y. cartilaginea*
- 37b. Culm sheath auricles absent or reduced to small protuberances.
- 49a. Culm sheaths glabrous or basally yellow-gray setose.
- 50a. Culm internodes without purple spots when young; branches solitary at lower nodes, 3–5 at upper nodes.
- 51a. Culms to 10 mm in diam., internodes hollow, initially thickly pruinose below nodes and distally with siliceous stubble, longitudinal ribs inconspicuous; branchlets with 6–8 leaf blades; leaf sheaths 2.5–4 cm; blades to 13 cm 49. *Y. wuyishanensis*
- 51b. Culms 4–5 mm in diam., internodes subsolid, initially pruinose under nodes and distally villosulous, longitudinal ribs conspicuous; branchlets with 1–3 leaf blades; leaf sheaths 4–9 cm; blades to 19(–27) cm 50. *Y. glandulosa*
- 50b. Culm internodes with purple blotches when young, branches solitary at nodes.
- 52a. Culm shoots pruinose, brown setose at base; leaf blade oblong-lanceolate or ovate-elliptical, 3–5 cm wide, conspicuously rugose when dried 51. *Y. rugosa*
- 52b. Culm shoots not pruinose, glabrous; leaf blade lanceolate, 1.5–2.6 cm wide, usually flat when dried 52. *Y. uniramosa*
- 49b. Culm sheaths setose or initially so.
- 53a. Culm internodes terete.
- 54a. Culm internodes uniformly pruinose; sheath scars yellow setose initially; leaf blades 0.6–1.5(–2.1) cm

- wide, abaxially proximally gray-yellow pubescent by midrib and on pseudopetiole 53. *Y. confusa*
- 54b. Culm internodes only apically pruinose; sheath scars glabrous; leaf blades 1.5–2.2(–2.8) cm wide, glabrous.
- 55a. Culms to 3.5 m; culm sheaths cartilaginous, with erect setae; branchlets with 2–5 blades 54. *Y. pauciramificans*
- 55b. Culms to 1.8 m; culm sheaths leathery, with sparse, appressed setae; branchlets with 4–9 blades 55. *Y. punctulata*
- 53b. Culm internodes grooved above branches, especially in lower culm.
- 56a. Culm internodes glabrous 56. *Y. pachyclada*
- 56b. Culm internodes initially hispidulous.
- 57a. Leaf sheath distally villosulous, oral setae present, brown, 2–4 mm; leaf blade glabrous, 0.3–1.3 cm wide, secondary veins 2–4-paired 57. *Y. niitakayamensis*
- 57b. Leaf sheaths glabrous, oral setae absent (rarely 1–3, erect); leaf blade abaxially initially villosulous, 1–2.5 cm wide, secondary veins 4–8-paired 58. *Y. suijiangensis*

1. *Yushania vigens* T. P. Yi, J. Bamboo Res. 5(1): 40. 1986.

长肩毛玉山竹 chang jian mao yu shan zhu

Rhizome neck ca. 50 cm. Culms 2.5–7 m, 1.2–3 cm in diam.; internodes green, rarely light yellow striped, terete, 20–23 cm, glabrous, smooth, solid or nearly so; nodes with level supra-nodal ridge; sheath scar prominent with or without persistent remains of sheath base. Branches 5–9, roughly horizontal. Culm sheaths persistent, narrowly triangular, equal to or longer than internodes, basally cartilaginous, distally leathery, abaxially densely brown or dark brown setose, margins densely brown ciliate initially; auricles dark purple, triangular or elliptic; oral setae dense; ligule purple, arcuate, densely ciliate initially; blade erect, linear-lanceolate, glabrous. Leaves 3–5 per ultimate branch; leaf sheath margins glabrous; auricles absent; oral setae few, light yellow, 4–9 mm; ligule purple, arcuate, glabrous; blade linear-lanceolate, 8.5–19 × 1–1.6 cm, glabrous, secondary veins 5-paired, transverse veins indistinct, base cuneate, margins serrulate, apex acuminate. Inflorescence unknown. New shoots Jul–Aug.

- 1900–2500 m. W Yunnan.

The culms are used for weaving.

2. *Yushania brevipaniculata* (Handel-Mazzetti) T. P. Yi, J. Bamboo Res. 5(1): 44. 1986.

短锥玉山竹 duan zhui yu shan zhu

Arundinaria brevipaniculata Handel-Mazzetti, Anz. Akad. Wiss. Wien, Math.-Naturwiss. Kl. 57: 237. 1920; *A. chungii* Keng; *Sinarundinaria brevipaniculata* (Handel-Mazzetti) Keng ex P. C. Keng; *S. chungii* (Keng) P. C. Keng; *Yushania chungii* (Keng) Z. P. Wang.

Rhizome neck to 20 cm. Culms 2–2.5 m, 5–10 mm in diam.; internodes initially purple-brown spotted, terete, ca. 32 cm, densely white powdery, glabrous; wall ca. 2.5 mm thick; nodes with level or weakly prominent supra-nodal ridge; sheath scar prominent, initially brown setulose. Branches 3–7. Culm sheaths persistent, abaxially spotted, narrowly rounded, ca. 1/3 as long as internodes, cartilaginous, basally sparsely light yellow setulose, margins apically light yellow-brown ciliate; auricles very strongly developed, purple, falcate; oral setae radiating, 7–8 mm; ligule arcuate, ca. 4 mm, glabrous; blade linear-lanceolate, revolute, glabrous. Leaves ca. 3 per ultimate branch; leaf sheath glabrous; auricles brown, falcate, oral setae radi-

ating, yellow-brown, 2–5 mm; ligule arcuate, 1–2 mm, glabrous; blade lanceolate, 7–12 × 0.8–1.6 cm, glabrous, secondary veins 3–5-paired, base cuneate or broadly cuneate, margins spinescent-serrulate. Inflorescence paniculate; pedicel with axillary verruculose glands. Spikelets more than 20, 2.5–5 cm; rachilla 5–8 mm, hairy; florets 4–7, purple. Lemma purple, hairy at base, apex obtuse or acuminate; palea keels hairy. Caryopsis dark brown, trilateral, with persistent style base. New shoots Jun–Aug.

- 1800–3800 m. W Sichuan.

The shoots are edible and are an important food for the giant panda.

3. *Yushania glauca* T. P. Yi & T. L. Long, J. Bamboo Res. 8(2): 33. 1989.

白背玉山竹 bai bei yu shan zhu

Rhizome neck 15–45 cm. Culms 3–7 m, 1.1–1.7 cm in diam.; internodes terete, 26–33 cm, initially thickly white powdery, glabrous; wall 2.5–5 mm thick; nodes with weakly prominent supra-nodal ridge; sheath scar prominent, woody. Branches 3–5, roughly horizontal. Culm sheaths persistent, abaxially purple spotted, narrowly rounded, 1/3–1/2 as long as internodes, cartilaginous, glabrous, longitudinal ribs purple, margins glabrous; auricles prominent, purple-red, falcate; oral setae many, radiating, 3–4 mm; ligule arcuate, 1–4 mm; blade erect, triangular or lanceolate, glabrous, base excurrent. Leaves 1–5 per ultimate branch; leaf sheath margins glabrous; auricles gradually deciduous, oblong or falcate; oral setae present; ligule inclined, 1–2 mm; blade abaxially pale, lanceolate, 4–13.5 × (0.7–)1.1–1.7 cm, glabrous, secondary veins 3–5-paired, transverse veins dense, thin, tessellate, base cuneate or broadly cuneate, margins serrulate. Inflorescence unknown. New shoots May.

- 2500–3200 m. S Sichuan.

This species would appear to be very similar to the preceding one.

The shoots are an important food for the giant panda.

4. *Yushania lineolata* T. P. Yi, J. Bamboo Res. 4(2): 31. 1985.

石棉玉山竹 shi mian yu shan zhu

Rhizome neck 9–16 cm. Culms ca. 3.5 m, 9–15 mm in diam.; internodes terete, 16–24 cm, initially densely white powdery, glabrous; wall 2–3 mm thick; nodes with level supra-nodal ridge; sheath scar prominent, initially yellow-brown setu-

lose. Branches 3–7. Culm sheaths gradually deciduous, brown spotted, narrowly rounded, ca. 2/3 as long as internodes, cartilaginous, glabrous, margins gray-yellow ciliate; auricles falcate; oral setae radiating, yellow-brown or purple, 4–9 mm; ligule arcuate, 2–3 mm; blade linear-lanceolate, revolute, initially apically sparsely setulose. Leaves 1–3 per ultimate branch; leaf sheath glabrous; auricles absent; oral setae present or absent; ligule truncate or arcuate, ca. 1 mm; blade abaxially bright green, lanceolate, 3.5–9.5 × 0.4–1.1 cm, glabrous, secondary veins 3- or 4-paired, transverse veins prominent, base cuneate, one margin spinescent-serrulate, other margin obscurely so. Inflorescence panicle; pedicels without glands. Spikelets 6–12, 2.4–4 cm; rachilla 4–5 mm, hairy, margins densely ciliate, apex swollen; florets 3–7, purple. Glumes 2, unequal; lemma purple, hairy at base, margins ciliate, apex obtuse or acuminate; palea keels ciliate. Ovary ovoid, glabrous. Caryopsis unknown. New shoots May–Jun.

- 2600–2700 m. SW Sichuan.

The shoots are edible and are an important food for the giant panda.

5. *Yushania hirticaulis* Z. P. Wang & G. H. Ye, J. Nanjing Univ., Nat. Sci. Ed. 1981(1): 94. 1981.

毛竿玉山竹 mao gan yu shan zhu

Culms 0.7–3 m, 0.45–1 cm in diam.; internodes terete, 12–20 cm, initially densely white powdery, later basally white powdery only below nodes, initially setose; wall 1.2–2 mm thick; nodes with weakly prominent supra-nodal ridge; sheath scar prominent, initially densely yellow-brown setose with persistent remains of sheath base. Branches 3 to many, thickly white powdery below nodes. Culm sheaths persistent or gradually deciduous, triangularly narrowly rounded, shorter than internode, leathery, brown setose, especially densely so at base, margins densely brown ciliate; auricles elliptic, narrowly triangular, or falcate, small, puberulous; oral setae erect, yellow-brown, to 1.5 cm; ligule dark purple, arcuate, abaxially slightly hairy and white powdery; blade erect, triangular or linear-triangular, glabrous. Leaves 3–5 per ultimate branch; leaf sheath apically hairy; auricles small or obscure, subcircular or triangular; oral setae several, light yellow, 5–12 mm; ligule arcuate, glabrous; blade linear-lanceolate, 5–12 × 0.5–1 cm, abaxially initially pubescent, secondary veins 3–5-paired, transverse veins obscure, base cuneate, margins serrulate, apex acuminate. Inflorescence unknown. New shoots May.

- 1300–2000 m. E Jiangxi.

6. *Yushania falcataurita* Hsueh & T. P. Yi, J. Bamboo Res. 5(1): 22. 1986.

粉竹 fen zhu

Culms 2–3.5 m, 0.8–1.5 cm in diam.; internodes 20–28 cm, flattened, grooved, thickly white powdery below nodes, nearly solid; nodes with level or weakly prominent supra-nodal ridge; sheath scar prominent, with persistent remains of sheath base. Branches 5–15, deflexed. Culm sheaths gradually deciduous, ca. 1/2 as long as internodes, conspicuously longitudinally ribbed only toward their apex, cartilaginous, gray or yellow-

gray setose, margins densely yellow-brown setulose; auricles falcate, unequal; oral setae yellow-brown, 2–7 mm; ligule arcuate, short; blade erect, linear-lanceolate, glabrous. Leaves 2–4 per ultimate branch; leaf sheath initially gray setose, margins densely gray-yellow ciliate; auricles developed, purple, falcate; oral setae several, radiating, yellow-brown, 5–12 mm; ligule truncate or arcuate; blade lanceolate, 2–8.5 × 0.5–1.3 cm, glabrous, secondary veins 3–5-paired, transverse veins slightly visible, base nearly rounded or broadly cuneate, margins serrulate, apex acuminate. Inflorescence unknown. New shoots May–Jun.

- About 1200 m. W Yunnan.

The culms are split for weaving.

7. *Yushania canoviridis* G. H. Ye & Z. P. Wang, Acta Phytotax. Sin. 27: 228. 1989.

灰绿玉山竹 hui lu yu shan zhu

Monospatha canoviridis (G. H. Ye & Z. P. Wang) W. T. Lin; *M. triloba* W. T. Lin.

Rhizome neck 20–50 cm. Culms ca. 1.6 m, 4–5 mm in diam.; internodes terete, 15–25 cm, initially slightly white powdery, glabrous, nearly solid. Branches (1 or) 2–6, deflexed; nodes with weakly prominent supra-nodal ridge; sheath scar prominent, glabrous. Culm sheath persistent, cartilaginous, narrowly rounded, 2/5–1/2 as long as internodes, abaxially gray or yellow-gray adnately clavate-setose, setae especially dense at base, longitudinal ribs prominent, margins densely ciliate, apex rounded; auricles falcate, with 5–15 oral setae 5–16 mm; ligule arcuate, short; blade erect or reflexed, linear-lanceolate or striped. Leaves 2–5 per ultimate branch. Leaf sheath purple, glabrous; auricle absent or small, oral setae 3–5, erect, 3–6 mm; ligule arcuate, ca. 0.2 mm; blade linear-lanceolate, 4.5–10 × 0.5–0.9 cm, glabrous, secondary veins 3- or 4-paired, transverse veins prominent, base cuneate. Inflorescence unknown. New shoots Jun.

- About 1100 m. NW Hunan.

8. *Yushania weixiensis* T. P. Yi, J. Bamboo Res. 5(1): 42. 1986.

竹扫子 zhu sao zi

Rhizome neck 20–50 cm; internodes 7–10 mm in diam., hollow. Culms 1–2 m, 3–10 mm in diam.; internodes terete, 18–25 cm, initially white powdery, white-gray setulose; wall ca. 2 mm thick; nodes with level or weakly prominent supra-nodal ridge; sheath scar prominent, initially yellow-brown setose. Branches 3–7. Culm sheath persistent, narrowly rounded, glabrous or sparsely yellow-brown setose, longitudinal ribs prominent; auricles and oral setae absent; ligule truncate or arcuate, ca. 0.5 mm, glabrous; blade conical or linear-lanceolate, revolute. Leaves 3–5 per ultimate branch; sheath margins glabrous; auricles absent; oral setae 3–5, yellow, 1–4 mm; ligule truncate or arcuate, glabrous; blade narrowly lanceolate, 3.4–7 × 0.3–0.6 cm, glabrous, secondary veins 2- or 3-paired, transverse veins slightly visible, base broadly cuneate, margins smooth. Inflorescence unknown. New shoots Jul.

- 2300–2600 m. W Yunnan.

9. *Yushania qiaojiaensis* Hsueh & T. P. Yi, J. Bamboo Res. 5(1): 8. 1986.

海竹 hai zhu

Rhizome neck 15–40 cm. Culms 0.5–3.1 m, to 1.5 cm in diam.; internodes terete, to 11 cm, glabrous, initially white powdery, longitudinal ribs prominent; wall 1–1.5 mm thick; pith membranous; nodes with level or weakly prominent supra-nodal ridge; sheath scar prominent. Branches 5 or 6. Culm sheath deciduous, narrowly triangular, shorter than internodes, thickly papery, retrorsely gray-yellow setose or glabrous, longitudinal ribs prominent; auricles and oral setae absent; ligule truncate or arcuate, ca. 0.5 mm, glabrous; blade erect, linear-triangular, glabrous. Leaves 1–3 per ultimate branch; sheath margins glabrous; auricles absent; oral setae 1–5, yellow, 1–2 mm; ligule purple-brown, truncate or irregularly fissured, glabrous; blade lanceolate or linear-lanceolate, 1.7–3.2 × 0.3–0.6 cm, abaxially glabrous, adaxially sparsely white-gray pubescent, secondary veins 2- or 3-paired, transverse veins slightly distinct, base broadly cuneate or nearly rounded, one margin densely serrulate, other margin nearly smooth. Inflorescence unknown. New shoots May or Aug.

- 2000–3100 m. NE Yunnan.

- 1a. Culms 0.5–0.6 m, to 0.4 cm in diam.; culm sheath retrorsely gray-yellow setose or glabrous; new shoots May 9a. var. *qiaojianensis*
1b. Culms 2–3.1 m, to 1.5 cm in diam., culm sheath glabrous; new shoots Aug 9b. var. *nuda*

9a. *Yushania qiaojiaensis* var. *qiaojiaensis*

海竹(原变种) hai zhu (yuan bian zhong)

Culms 0.5–0.6 m, to 0.4 cm in diam. New shoots May.

- About 3100 m. NE Yunnan.

9b. *Yushania qiaojiaensis* var. *nuda* (T. P. Yi) D. Z. Li & Z. H. Guo, *stat. nov.*

裸箨海竹 lu tuo hai zhu

Basionym: *Yushania qiaojiaensis* f. *nuda* T. P. Yi, J. Bamboo Res. 9(3): 42. 1990.

Culms 2–3.1 m, to 1.5 cm in diam., culm sheaths glabrous. New shoots Aug.

- 2000–2100 m. NE Yunnan.

The shoots are edible, and the culms provide material for weaving.

10. *Yushania cava* T. P. Yi, J. Bamboo Res. 4(2): 33. 1985.

空柄玉山竹 kong bing yu shan zhu

Rhizome neck 14–42 cm, internodes and nodes hollow. Culms 3.5–6 m, 6–15 mm in diam.; internodes terete, 14–34 cm, with white powdery ring below nodes, glabrous; wall 1.5–2.5 mm; pith initially lamellate, later granular; nodes with level or weakly prominent supra-nodal ridge; sheath scar weakly prominent. Branches 4–9 with white powdery internodes. Culm sheaths deciduous, narrowly rounded, shorter than internodes, inconspicuously longitudinally ribbed, cartilaginous, glabrous,

abaxially waxy, margins initially white-gray ciliate; auricles absent; oral setae absent to 3, yellow-brown, 1–6 mm; ligule 1–1.5 mm, convex, margins initially ciliate; blade erect, linear-triangular or linear-lanceolate, glabrous. Leaves 2–5 per ultimate branch; sheath margins initially gray ciliate; auricles absent; oral setae 5–7, yellow, 1.5–7 mm; ligule truncate, glabrous; blade linear-lanceolate, 3.3–5 × 0.5–0.6 cm, glabrous, secondary veins 2- or 3-paired, transverse veins distinct, base cuneate, one margin spinescent-serrulate, other margin obscurely so. Inflorescence unknown. New shoots May–Jun.

- 2000–2600 m. N Sichuan.

Yushania cava is an important food for the giant panda.

11. *Yushania yadongensis* T. P. Yi, J. Bamboo Res. 4(2): 33. 1985.

亚东玉山竹 ya dong yu shan zhu

Yushania longissima T. P. Yi, J. Bamboo Res. 2(2): 46. 1983, not K. F. Huang & Q. F. Zheng (1982); *Fargesia longissima* T. P. Yi, nom. illeg. superfl.

Rhizome neck 11–65 cm, internodes hollow. Culms to 4 m, 1–2 cm in diam.; internodes terete, 21–34 cm, white powdery in ring below nodes, slightly setulose initially; wall 2–3 mm; longitudinal ribs prominent; nodes with weakly prominent supra-nodal ridge; sheath scar level, glabrous. Branches 3–7. Culm sheath gradually deciduous, rectangular, conspicuously longitudinally ribbed, leathery, abaxially glabrous and waxy, margins dark gray ciliate; auricles and oral setae absent; ligule truncate, ca. 0.5 mm, glabrous; blade linear-triangular, adaxially yellow-brown hairy proximally, revolute. Leaves 2 or 3 per ultimate branch; sheath apically puberulous with glabrous margins; auricles absent; oral setae gray, 3–4 mm; ligule truncate, glabrous; blade lanceolate, 3.3–6 × 0.5–0.8 cm, basally broadly cuneate or rounded, abaxially gray pubescent, secondary veins 2-paired, transverse veins distinct, margins scabrous. Inflorescence unknown. New shoots May–Jun.

Forests, pastures; 2000–2800 m. S Xizang [Bhutan].

12. *Yushania violascens* (Keng) T. P. Yi, J. Bamboo Res. 5(1): 45. 1986.

紫花玉山竹 zi hua yu shan zhu

Arundinaria violascens Keng, J. Wash. Acad. Sci. 26(10): 396. 1936; *Sinarundinaria violascens* (Keng) P. C. Keng.

Rhizome neck 18–60 cm. Culms 1.5–2 m, 5–10 mm in diam.; internodes terete, 15–28 cm, initially densely white powdery, apically sparsely white or yellow-brown setose; wall 2–4 mm thick; nodes with level supra-nodal ridge; sheath scar prominent, initially light yellow setulose. Branches 7 or 8, nearly solid. Culm sheath gradually deciduous, green or purple striped, nearly as long as internodes or longer, conspicuously longitudinally ribbed, leathery, sparsely light yellow setose, margins initially ciliate; auricles small; oral setae 3–6, yellow-brown, curved, 3–8 mm; ligule purple, truncate, ca. 1 mm, apically puberulous; blade revolute or rarely erect, linear-lanceolate, margins serrulate, rolled when dry. Leaves 2–4 per ultimate branch; sheath margins yellow-brown ciliate; auricles

absent; oral setae present, 1–2.5 mm; ligule truncate, ca. 1 mm, glabrous; blade lanceolate, 4.5–8.5 × 0.5–0.9 cm, glabrous, secondary veins 3- or 4-paired, transverse veins well-defined, base cuneate, margins spinescent-serrulate or one margin smooth. Inflorescence racemose. Spikelets 3–5, 2.7–4 cm; rachilla ca. 4 mm, apex pubescent; florets 5–9, dark purple. Glumes 2, unequal, slightly hairy apically; lemma hairy, apex mucronate or acuminate. Palea bifid, keels ciliate. Lodicules 3, margins fimbriate. Anthers yellow. Ovary fusiform; styles 2–4, very short; stigma plumose; caryopsis unknown. New shoots Jun–Jul.

- 2400–3400 m. W Sichuan, NW Yunnan.

13. *Yushania crassicollis* T. P. Yi, Bull. Bot. Res., Harbin 8(4): 68. 1988.

粗柄玉山竹 *cu bing yu shan zhu*

Rhizome neck 26–62 cm. Culms 3–5 m, 1–2.5 cm in diam.; internodes terete, 15–24 cm, initially gray or light yellow clavate-setose, solid or nearly so; nodes ridged, prominent, with prominent sheath scar. Branches 6–11, solid, 1–3 dominant, setose at base of internodes and sheath scar. Culm sheaths persistent, narrowly triangular, longer than internodes, abaxially variably yellow or yellow-brown adnately clavate-setose, prominently longitudinally ribbed, cross veinlets obscure, margins yellow-brown setose, apex narrowly triangular; auricles absent; oral setae 3–7, white-gray, 2–7 mm; ligule short, convex, glabrous; blade erect or revolute, linear-lanceolate, glabrous, rugose, margins revolute, serrulate. Leaves 3–6 per ultimate branch; sheath purple, glabrous; auricles absent; oral setae 3–5, gray, 1.5–3 mm; ligule very short, glabrous; blade lanceolate, 3–11 × 0.5–1.3 cm, glabrous, secondary veins 2–4-paired, transverse veins slightly visible, base cuneate or broadly cuneate, one margin serrulate, other margin obscurely so. Inflorescence unknown. New shoots Aug.

- 2400–2600 m. W Yunnan.

The shoots are edible, and the split culms are used for weaving.

14. *Yushania bojieiana* T. P. Yi, J. Bamboo Res. 5(1): 8. 1986.

金平玉山竹 *jin ping yu shan zhu*

Rhizome neck 15–50 cm. Culms 3–5 m, 1–1.5 cm in diam.; internodes terete, 23–32 cm, initially basally densely white powdery and brown setose; wall 1.5–5 mm thick; nodes with level or weakly prominent supra-nodal ridge; sheath scar prominent. Branches 6–8. Culm sheath persistent, narrowly triangular, shorter than internode but at least 3/5 as long, thinly leathery, abaxially sparsely yellow or yellow-brown setose, setae especially dense at base, margins densely yellow or yellow-brown setose apically, longitudinal ribs and cross veinlets very prominent, apex triangular; auricles absent; oral setae deciduous, absent or light yellow; ligule truncate, ca. 1 mm, initially ciliate; blade linear or linear-lanceolate, glabrous, revolute. Leaves 3–6 per ultimate branch; sheath glabrous or basally yellow setose; auricles absent; oral setae 3–9, gray-yellow, ca. 6 mm; ligule truncate, ca. 0.5 mm, glabrous; blade lanceolate, 4.3–9.2 × 1–1.5 cm, glabrous, secondary veins 4- or 5-paired, transverse veins slightly distinct, base broadly cuneate

or rounded, one margin serrulate, other obscurely so. Inflorescence unknown. New shoots Sep.

- 2100–2300 m. S Yunnan.

15. *Yushania complanata* T. P. Yi, J. Bamboo Res. 5(1): 15. 1986.

梵净山玉山竹 *fan jing shan yu shan zhu*

Rhizome neck more than 15 cm; internodes solid. Culms 3–4.5 m, 0.5–1.2 cm in diam.; internodes terete, 16–24 cm, longitudinally ribbed, flattened above branches, initially densely waxy, white powdery, glabrous; wall 1.5–2 mm; supra-nodal ridge weakly prominent; sheath scar prominent. Branches 3–6. Culm sheath deciduous, triangular-rectangular, longer than internode, thinly leathery, with sparse adnate light yellow or yellow-brown setae, apical margins densely yellow-brown setulose, longitudinal ribs greatly prominent; auricles absent; oral setae present initially; ligule convex, irregularly fissured, initially ciliate; blade linear-triangular or linear-lanceolate, glabrous, revolute. Leaves 5–7 per ultimate branch; sheath glabrous; auricles absent, oral setae absent or present initially; ligule truncate, glabrous; blade lanceolate, 7–14 × 1–1.6 cm, glabrous, secondary veins 4- or 5-paired, transverse veins well-defined, one margin serrulate, other obscurely so. Inflorescence unknown. New shoots Apr.

- 2100–2400 m. E Guizhou.

16. *Yushania longissima* K. F. Huang & Q. F. Zheng, Wuyi Sci. J. 2(2): 20. 1982.

长鞘玉山竹 *chang qiao yu shan zhu*

Rhizome neck ca. 30 cm; internodes solid. Culms to 1.5 m, to 1.2 cm in diam.; internodes terete, ca. 13 cm, longitudinally ribbed, flattened above branches, initially with white powdery ring below node, glabrous; wall 1.5–3 mm thick; supra-nodal ridge weakly prominent; sheath scar prominent, with persistent remains of sheath base. Branches 3–7. Culm sheath gradually deciduous, narrowly triangular, longer than internodes, brown setulose, apically more densely so, longitudinal ribs greatly prominent, margins ciliate; auricles absent or small; oral setae initially 3 or 4, 8–10 mm; ligule arcuate, ca. 5 mm, margin glabrous; blade linear-lanceolate, glabrous, revolute. Leaves 5 or 6 per ultimate branch; sheath glabrous; auricles absent, oral setae 1–4, erect, yellow-brown, 2–5 mm; ligule truncate, ca. 0.5 mm, glabrous; blade linear-lanceolate, 4–9 × 0.5–0.9 cm, glabrous, secondary veins 3- or 4-paired, transverse veins not distinct, base cuneate, one margin serrulate, other obscurely so, apex acuminate. Inflorescence unknown.

- About 2100 m. N Fujian.

17. *Yushania flexa* T. P. Yi, Acta Phytotax. Sin. 25: 480. 1987.

鸾毛玉山竹 *wan mao yu shan zhu*

Rhizome neck more than 37 cm; internodes solid, 6–10 mm in diam. Culms 3–5 m, 1–2.5 cm in diam.; internodes terete, 25–40 cm, not ribbed, initially thickly white powdery below nodes, glabrous, nearly solid; supra-nodal ridge weakly prominent; sheath scar prominent. Branches 5–8, deflexed. Culm sheaths persistent, triangularly narrowly rounded, shorter

than internodes, prominently longitudinally ribbed, leathery, with densely appressed brown clavate-setose, margins glabrous; auricles absent; oral setae absent or present; ligule convex or truncate, 1–3 mm, sparsely ciliate; blade easily deciduous, linear-lanceolate, glabrous, margins serrulate, revolute. Leaves 4–6 per ultimate branch; sheath purple or purple-green, glabrous; auricles absent; oral setae absent or rarely present; ligule arcuate, 1–2 mm, glabrous; blade lanceolate, 7.5–15.5 × 1.2–2.1 cm, glabrous, secondary veins 3–5-paired, transverse veins slightly visible, base cuneate, one margin serrulate, other obscurely so. Inflorescence unknown. New shoots Aug–Sep.

- 2100–2300 m. S Yunnan.

The culms are used for weaving, furniture, and farm tools.

18. *Yushania exilis* T. P. Yi, J. Bamboo Res. 5(1): 20. 1986.

沐川玉山竹 mu chuan yu shan zhu

Rhizome neck ca. 50 cm; internodes less than 8 mm in diam., solid. Culms 1.5–2.5 m, 5–8 mm in diam.; internodes initially purple spotted, terete, 25–28 cm, white powdery especially below nodes, glabrous, not ribbed; wall 1.5–2 mm; nodes with level or weakly prominent supra-nodal ridge; sheath scar prominent. Branches 1–8, pendent toward apex. Culm sheaths persistent, purple-brown, narrowly triangular, shorter than or equal to internodes, leathery, sparsely brown setulose, margins initially brown setulose, longitudinal ribs prominent; auricles absent; oral setae 4–6, erect, 5–12 mm; ligule purple-brown, truncate, 1–2 mm, glabrous; blade linear-lanceolate, glabrous, margins serrulate, rolled, revolute. Leaves 4–6 per ultimate branch; sheath glabrous; auricles absent; oral setae 1–3, erect, gray-brown or brown, 2–5 mm; ligule arcuate, ca. 1 mm, glabrous; blade linear-lanceolate, 2.3–9.5 × (0.35–)0.5–0.8 cm, glabrous, secondary veins 3-paired, transverse veins visible, base cuneate, margins serrulate. Inflorescence unknown. New shoots May.

- 1200–1500 m. S Sichuan.

19. *Yushania varians* T. P. Yi, J. Bamboo Res. 5(1): 38. 1986.

庐山玉山竹 lu shan yu shan zhu

Rhizome neck more than 21 cm; internodes solid, less than 8 mm in diam. Culms 1–2 m, 3–8 mm in diam.; internodes terete, 8–15 cm, initially white powdery, densely so below nodes, glabrous, not ribbed; wall 1.5–2 mm thick; supra-nodal ridge level or prominent; sheath scar prominent, yellow-brown setose. Branches 1–7, erect or ascending. Culm sheath persistent, purple-brown, narrowly rounded-triangular, ca. 1/2 as long as internodes to equal in length, leathery, sparsely appressed brown setose, setae especially dense at base, margins glabrous or initially brown setulose, longitudinal ribs prominent; auricles absent; oral setae absent or present; ligule arcuate or truncate, 1–1.5 mm, glabrous; blade erect or rarely revolute, linear-lanceolate, glabrous. Leaves 2–7 per ultimate branch; sheath glabrous; auricles erect, narrowly rounded or small; oral setae 2–4, radiating, purple or yellow, 2–5 mm; ligule truncate, ca. 1 mm, glabrous; blade linear-lanceolate, 6–11.5 × 0.8–1.2 cm, glabrous, secondary veins 3–5-paired, transverse veins distinct, base cuneate, one margin densely serrulate, other sparsely so,

apex long acuminate. Inflorescence unknown. New shoots May–Jul.

- About 1400 m. N Jiangxi.

20. *Yushania maculata* T. P. Yi, J. Bamboo Res. 5(1): 33. 1986.

斑壳玉山竹 ban ke yu shan zhu

Rhizome neck ca. 40 cm; internodes solid. Culms 2–3.5 m, 0.8–1.5 cm in diam.; internodes terete, 30–40 cm, initially densely white powdery, with gray or light yellow setae; wall 2–3 mm thick; supra-nodal ridge level or weakly prominent; sheath scar prominent, initially densely brown setose. Branches 7–12. Culm sheaths persistent, dark purple-brown spotted, oblong-triangular, ca. 1/3 as long as internodes, cartilaginous, mainly glabrous but sparsely brown setose at base, margins initially brown setulose, longitudinal ribs prominent; auricles absent; oral setae 3–5, erect, purple, 5–10 mm; ligule truncate, 1–2.5 mm; blade linear-lanceolate, glabrous, revolute. Leaves 3–5 per ultimate branch; sheath glabrous; auricles absent; oral setae 3–5, erect, purple, 4–7 mm; ligule truncate or arcuate, ca. 1 mm, glabrous; blade linear-lanceolate, 9–15 × 0.9–1.1 cm, glabrous, secondary veins 4-paired, transverse veins not distinct, base cuneate, margins initially serrulate, apex long acuminate. Inflorescence unknown. New shoots Aug.

- 1800–3500 m. SW Sichuan, NE Yunnan.

21. *Yushania longiuscula* T. P. Yi, J. Bamboo Res. 5(1): 30. 1986.

蒙自玉山竹 meng zi yu shan zhu

Rhizome neck ca. 50 cm; internodes solid. Culms 4–5 m, 1–2 cm in diam.; internodes terete, 32–45 cm, thickly white powdery below nodes, distally sparsely gray setulose, solid or nearly so; supra-nodal ridge weakly prominent; sheath scar prominent. Branches 8–13, deflexed. Culm sheaths persistent, narrowly rounded-triangular, ca. 1/2 as long as internodes, leathery, sparsely brown setose, margins apically yellow-brown setulose; auricles absent or small; oral setae deciduous; ligule truncate or convex, ca. 1 mm; blade deciduous, linear-lanceolate, glabrous, revolute. Leaves 2–4 per ultimate branch; sheath initially white powdery, glabrous; auricles absent; oral setae present; ligule truncate or convex, ca. 1 mm; blade lanceolate, 7.2–19 × (1.2–)1.5–2 cm, glabrous, secondary veins 4- or 5-paired, transverse veins conspicuous, base cuneate, one margin spinescent-serrulate, other margin obscure. Inflorescence paniculate. Spikelets purple-red, 2–4 cm, robust; rachilla 3.5–5 mm, apically pubescent and swollen; florets 4–10, terminal one sterile. Glumes 2, unequal, glabrous; lemma glabrous, lowermost 1–1.6 cm, apex acuminate; palea keels ciliate, apex bifid. Ovary ovoid. Caryopsis unknown. New shoots Aug.

- 2100–2800 m. S Yunnan.

22. *Yushania crispata* T. P. Yi, J. Bamboo Res. 10(1): 26. 1991.

波柄玉山竹 bo bing yu shan zhu

Rhizome neck 7–60 cm; internodes solid. Culms 2–7 m, 1–3 cm in diam.; internodes terete, 30–35 cm, nearly solid, initially densely white powdery and sparsely brown setose below nodes, longitudinal ribs prominent; nodes with level supra-nodal ridge; sheath scar prominent. Branches 5–15, subequal, nearly solid. Culm sheaths persistent, shorter than internode, leathery, rigid, sparsely gray-yellow or brown setose, margins initially yellow-brown setulose, apex narrowly rounded; auricles absent; oral setae 8–15; ligule truncate or arcuate, 1–1.5 mm, glabrous; blade deciduous, linear-lanceolate, slightly hairy, margins serrulate, revolute. Leaves 2–5 per ultimate branch; sheath apically white powdery, glabrous or densely yellow setose, margins initially ciliate; auricles absent; oral setae present; ligule truncate or convex, ca. 1 mm, glabrous; blade lanceolate, 5–16 × 0.7–1.2 cm, glabrous, secondary veins 3–5-paired, transverse veins obscure, base cuneate, margins spinescent-serrulate. Inflorescence paniculate. Spikelets purple-green or purple, 1.6–4 cm, slender; rachilla 2–5 mm, apically pubescent and swollen, margins ciliate; florets 4–14, terminal one sterile. Lemma abaxially pale hairy, hairs deciduous, to 8–11 mm, apex acuminate; palea apically bifid, 2-keeled, keels ciliate; lodicules 3, margins apically ciliate. Anthers yellow. Ovary ovoid, yellow-brown; style 1; stigmas 3, plumose. Caryopsis oblong, ventrally grooved, with persistent style. New shoots Jun.

- 2100–3400 m. SW Sichuan.

23. *Yushania lacera* Q. F. Zheng & K. F. Huang, Acta Phytotax. Sin. 22: 218. 1984.

撕裂玉山竹 *si lie yu shan zhu*

Rhizome neck ca. 27 cm; internodes solid. Culms to 2 m, to 0.8 cm in diam.; internodes terete, 11–23 cm, distally white setulose with a thickly white powdery ring below each node; wall 1.5–2.2 mm thick; nodes with weakly prominent supra-nodal ridge; sheath scar prominent. Branches 3–6. Culm sheath gradually deciduous or persistent, shorter than internode, thinly leathery, purplish setulose, margins purplish ciliate, longitudinal ribs greatly prominent; auricles absent or small; oral setae absent; ligule ca. 1.5 mm, fissured, tomentulose, purple ciliate; blade linear-lanceolate, revolute. Leaves 3–8 per ultimate branch; sheath glabrous; auricles absent or small; oral setae 2–6, easily deciduous, erect, 3–8 mm; ligule truncate, ca. 1 mm, glabrous; blade lanceolate, 4.5–13 × 1–1.2 cm, abaxially gray pubescent, secondary veins 4- or 5-paired, transverse veins not distinct, base cuneate or broadly cuneate, one margin densely serrulate, other margin sparsely so, apex acuminate. Inflorescence unknown. New shoots May.

- 1700–1800 m. N Fujian.

24. *Yushania elevata* T. P. Yi, J. Bamboo Res. 5(1): 17. 1986.

腾冲玉山竹 *teng chong yu shan zhu*

Rhizome neck to 70 cm; internodes solid. Culms 4–7 m, 1.4–6 cm in diam.; internodes terete, 24–60 cm, initially brown setulose below nodes; wall 4–8 mm thick; nodes with weakly prominent to prominent supra-nodal ridge; sheath scar initially brown setose. Branches 10–20, solid or nearly so. Culm sheaths

gradually deciduous, narrowly triangular, shorter than internodes, leathery to cartilaginous, densely yellow-brown woolly setose, margins densely brown setose, longitudinal ribs prominent; auricles absent; oral setae gradually deciduous; ligule convex or rarely truncate, ca. 1 mm, glabrous; blade linear-lanceolate, revolute, glabrous. Leaves 4–6 per ultimate branch; sheath glabrous; auricles absent; oral setae absent or few, erect, brown, 0.5–1 mm; ligule convex, ca. 0.5 mm, glabrous; blade narrowly lanceolate, 4.5–9.5 × 0.4–0.9 cm, glabrous, secondary veins 2- or 3-paired, transverse veins distinct, base cuneate, one margin serrulate, other margin smooth, apex acuminate. Inflorescence unknown. New shoots Jul.

- 2000–2300 m. W Yunnan.

25. *Yushania baishanzuensis* Z. P. Wang & G. H. Ye, J. Nanjing Univ., Nat. Sci. Ed. 1983(3): 494. 1983.

百山祖玉山竹 *bai shan zu yu shan zhu*

Rhizome neck ca. 25 cm; internodes solid. Culms 1.5–2 m, to 0.5 cm in diam.; internodes terete, ca. 19 cm, initially sparsely setose, thickly white powdery below nodes; wall 1.5–2 mm thick; nodes with weakly prominent supra-nodal ridge; sheath scar weakly prominent. Branches 3 to many. Culm sheaths gradually deciduous, 1/2–2/3 as long as internodes, abaxially or marginally sparsely white setose; auricles absent or obscure; oral setae absent or few, erect, purple; ligule convex or truncate, ca. 1 mm, ciliate; blade erect, linear or conical, glabrous. Leaves 3–5 per ultimate branch; sheath glabrous, initially white powdery; auricles absent or obscure; oral setae 5–8, erect, 0.5–1 mm; ligule truncate or convex, ca. 0.5 mm, glabrous; blade linear-lanceolate, 6–14 × 0.7–1.2 cm, glabrous or abaxially hairy at base, secondary veins 4-paired, transverse veins slightly obscure, one margin serrulate, other margin smooth. Inflorescence unknown. New shoots Apr–May.

- 1000–1100 m. S Zhejiang.

26. *Yushania farcticalis* T. P. Yi, J. Bamboo Res. 5(1): 24. 1986.

独龙江玉山竹 *du long jiang yu shan zhu*

Rhizome neck to 70 cm; internodes solid. Culms 4–7 m, 1–2 cm in diam.; internodes purple spotted when dry, terete, 32–45 cm, solid or nearly so, glabrous; supra-nodal ridge level or weakly prominent; sheath scar prominent, initially yellow-brown setose. Branches many. Culm sheaths persistent, triangularly narrowly rounded, 1/2–3/5 as long as internodes, leathery, prominently longitudinally ribbed, densely brown to dark brown setose, margins densely yellow-brown setulose; auricles absent; oral setae few, gradually deciduous, erect, yellow, 2–6 mm; ligule truncate or arcuate, ca. 1 mm, initially ciliate, later slightly fissured; blade reflexed, linear-lanceolate, glabrous, margins serrulate. Leaves 4–6 per ultimate branch; sheaths sometimes gray-brown setose; auricles absent; oral setae few, erect, brown, 3–5 mm; ligule truncate, glabrous; blade lanceolate, 5–15 × 0.6–1.2 cm, abaxially sparsely gray pubescent, secondary veins 3- or 4-paired, transverse veins distinct, base cuneate, margins spinescent-serrulate, apex acuminate. Inflorescence unknown. New shoots Aug.

- 1900–2000 m. W Yunnan.

27. *Yushania levigata* T. P. Yi, J. Bamboo Res. 5(1): 27. 1986.

光亮玉山竹 *guang liang yu shan zhu*

Rhizome neck to 62 cm; internodes solid. Culms 2–4.5 m, 1–3 cm in diam.; internodes terete, 16–40 cm, initially white powdery, glabrous, nearly solid; supra-nodal ridges level; sheath scar prominent. Branches 3–15 per node, erect or deflexed. Culm sheaths persistent, dark purple or with light yellow stripes, narrowly rounded-triangular or narrowly triangular, 2/5–1/2 as long as internodes, cartilaginous, glabrous or basally yellow-brown setulose, margins initially setulose; auricles and oral setae absent; ligule truncate or convex, glabrous; blade reflexed, linear-lanceolate, glabrous, margins initially serrulate. Leaves 3–5 per ultimate branch; sheath margins glabrous or initially ciliate; auricles absent; oral setae present or absent; ligule truncate, glabrous; blade lanceolate or linear-lanceolate, 3–12.5 × 0.7–1.2 cm, glabrous, secondary veins 3–5-paired, transverse veins distinct, base cuneate, one margin spinescent-serrulate, other margin smooth. Inflorescence a panicle or raceme. Spikelets 2–12, dark purple, 2.2–7 cm; rachilla 3–4 mm, margins densely ciliate, apically setulose and swollen; florets 4–9, terminal one sterile. Lemma mucronate or acuminate at apex; palea 2-keeled, keels ciliate, apically bifid. Ovary ovoid; style 1. Caryopsis purple, oblong, with persistent style base. New shoots Sep.

- 2300–3000 m. SW Yunnan.

The culms are split for weaving.

28. *Yushania ailuropodina* T. P. Yi, J. Bamboo Res. 15(3): 6. 1996.

紫斑玉山竹 *zi ban yu shan zhu*

Rhizome neck (10–)20–45 cm; internodes solid. Culms 3–4(–5) m, 0.8–1.5 cm in diam.; internodes terete, 22–26(–36) cm, glabrous, white powdery and with purple spots when young; wall 2–3 mm thick; sheath scar prominent, brown, glabrous. Branches 6–10. Culm sheaths persistent, with dense, brown to deep purple spots, narrowly rounded, 1/3–1/2 as long as internodes, cartilaginous, adaxially glabrous; auricles and oral setae absent; ligule purple, truncate, 1–2 mm; blade reflexed, linear-lanceolate, (4–)10–40 × 1.5–2.5 mm, glabrous. Leaves 2–4(or 5) per ultimate branch; sheath 2–3 cm, glabrous; auricles absent; oral setae absent to 3; ligule truncate, glabrous; blade linear-lanceolate, 4–7.5 × 0.5–0.7 cm, glabrous, secondary veins 2-paired, transverse veins distinct, base cuneate, margin initially serrulate. Inflorescence unknown. New shoots Jun.

- 2600–3000 m. Sichuan.

This species is named after the giant panda, *Ailuropoda melanoleuca*.

29. *Yushania mitis* T. P. Yi, J. Bamboo Res. 9(3): 35. 1990.

泡滑竹 *pao hua zhu*

Rhizome neck 8–40 cm; internodes solid. Culms 3–4.5 m, 1–2 cm in diam.; internodes terete, 18–45 cm, longitudinally

ribbed, initially white powdery, glabrous or initially white-gray setose; wall 2–4 mm thick; supra-nodal ridge weakly prominent; sheath scar prominent, initially slightly setose. Branches 3–7. Culm sheath deciduous, densely purple-brown spotted, triangularly narrowly rounded or narrowly triangular, ca. 1/2 as long as internodes, leathery, prominently longitudinally ribbed, sparsely yellow setulose, margins initially yellow-brown ciliate; auricles absent, oral setae absent or 1, ca. 1 cm; ligule truncate, 1.5–4 mm; blade erect or reflexed, linear-triangular or triangular-lanceolate. Leaves 3–6 per ultimate branch; sheath margins initially ciliate; auricles absent; oral setae few, 1–5 mm; ligule truncate or arcuate, external ligule ciliate; blade narrowly lanceolate, 1.2–10.5 × 0.4–0.8 cm, glabrous, secondary veins 2–4-paired, transverse veins distinct, base cuneate, margins serrulate. Inflorescence unknown. New shoots Apr.

- 1800–2500 m. NE Yunnan.

The culms are used for weaving.

30. *Yushania xizangensis* T. P. Yi, J. Bamboo Res. 2(2): 50. 1983.

西藏玉山竹 *xi zang yu shan zhu*

Rhizome neck 4–20 cm; internodes solid. Culms to 4.5 m, 1–2 cm in diam.; internodes terete, 25–40 cm, glabrous or initially distally brown setulose; wall 2–3.5 mm thick; nodes with level supra-nodal ridge; sheath scar prominent, glabrous or initially slightly setose. Branches 10–19. Culm sheaths gradually deciduous or persistent, triangularly narrowly rounded, shorter than internode, leathery, prominently longitudinally ribbed, brown to dark brown setose, margins densely brown ciliate; auricles absent; ligule arcuate, ca. 1 mm; blade readily deciduous, revolute. Leaves 2–4 per ultimate branch; sheath glabrous; auricles absent; oral setae few, 2–4 mm; ligule truncate or convex, glabrous, margins slightly fissured; blade narrowly lanceolate, 3–11 × 0.5–0.8 cm, secondary veins 3- or 4-paired, transverse veins distinct, adaxially and basally sparsely setose, base cuneate or broadly so, margins serrulate. Inflorescence unknown.

- About 2400 m. S Xizang.

31. *Yushania brevis* T. P. Yi, J. Bamboo Res. 5(1): 11. 1986.

绿春玉山竹 *lü chun yu shan zhu*

Rhizome neck 4.5–20 cm; internodes solid. Culms 1–2.5 m, 4–6 mm in diam.; internodes terete, 20–30 cm, glabrous, initially with white powdery ring below nodes, nearly solid; supra-nodal ridges level; sheath scar prominent. Branches 1–6 per node. Culm sheaths persistent, narrowly rounded, ca. 1/5 as long as internodes, leathery, slightly prominently longitudinally ribbed, glabrous or basally yellow-brown setose, margins densely brown-ciliate; auricles absent; oral setae few, deciduous; ligule truncate, ca. 0.5 mm, glabrous; blade deflexed or erect, linear-triangular or linear-lanceolate. Leaves 2–6 per ultimate branch; sheath glabrous; auricles absent; oral setae 7–9, yellow, 2–3 mm; ligule truncate or convex, external ligule initially gray-puberulous; blade linear-lanceolate, 4–14.5 × (0.6–) 0.9–1.3 cm, glabrous or abaxially proximally sparsely setose, secondary veins 3- or 4-paired, transverse veins distinct, base cuneate, one margin serrulate, other margin smooth. Inflores-

cence unknown. New shoots Aug–Sep.

- About 2000 m. S Yunnan.

32. *Yushania menghaiensis* T. P. Yi, Acta Bot. Yunnan. 10: 441. 1988.

隔界竹 *ge jie zhu*

Rhizome neck 18–55 cm; internodes solid. Culms 2–3.5 m, 1–1.3 cm in diam.; internodes terete, 23–32 cm, initially thinly white powdery, especially below nodes; wall 2–5 mm thick; supra-nodal ridges level; sheath scar prominent. Branches 5–20 per node. Culm sheath persistent, triangularly narrowly rounded, 1/3–1/2 as long as internodes, thinly leathery, prominently longitudinally ribbed, appressed yellow or brown clavate-setose, margins initially ciliate; auricles absent; oral setae 1 or 2 initially, erect, gray, 3–4 mm; ligule truncate or convex, ca. 1 mm; blade reflexed, triangular or linear, glabrous, margins rolled. Leaves 4–7 per ultimate branch; sheath glabrous; auricles absent or small; oral setae 3 or 4, yellow, 1.5–4 mm; ligule truncate, initially hairy; external ligule initially puberulous; blade lanceolate, 10–24 × (0.8–)1.4–3.1 cm, abaxially densely gray pubescent, secondary veins 4- or 5-paired, transverse veins not prominent, base cuneate, margins serrulate. Inflorescence unknown. New shoots Sep.

- About 2300 m. S Yunnan.

33. *Yushania collina* T. P. Yi, J. Bamboo Res. 5(1): 13. 1986.

德昌玉山竹 *de chang yu shan zhu*

Rhizome neck more than 20 cm; internodes solid. Culms to 3 m, 0.5–1 cm in diam.; internodes terete, 25–40 cm, conspicuously longitudinally ribbed, glabrous, initially with white powdery ring below each node, nearly solid; supra-nodal ridges weakly prominent; sheath scar weakly prominent. Branches 6–10 per node. Culm sheaths persistent, narrowly triangular, 1/3–1/2 as long as internodes, leathery, conspicuously longitudinally ribbed, glabrous or sparsely brown setulose, margins initially densely brown setulose, longitudinal ribs prominent; auricles absent; oral setae 2–8, erect, yellow-brown, 5–10 mm; ligule truncate or convex, ca. 1 mm, glabrous; blade linear-lanceolate, revolute, glabrous, margins serrulate. Leaves 2–5 per ultimate branch; sheaths glabrous; auricles absent; oral setae absent or initially 1–3, gray, 2–3 mm; ligule truncate, glabrous; blade lanceolate, 11–22.5 × 1.2–1.8 cm, glabrous, secondary veins 4- or 5-paired, transverse veins not prominent, base cuneate, one margin serrulate, other margin obscurely so. Inflorescence unknown. New shoots Jul–Aug.

- About 2200 m. SW Sichuan.

34. *Yushania farinosa* Z. P. Wang & G. H. Ye, J. Nanjing Univ., Nat. Sci. Ed. 1981(1): 93. 1981.

湖南玉山竹 *hu nan yu shan zhu*

Rhizome neck ca. 22 cm; internodes solid. Culms to 2.5 m, ca. 6 mm in diam.; internodes terete, 12–22.5 cm, obscurely longitudinally ribbed, glabrous, initially thinly white powdery, especially in ring below nodes; wall 1.2–2 mm thick; supra-nodal ridges level or prominent; sheath scar prominent, glabrous or initially gray-yellow hairy. Branches 3 to many per

node. Culm sheaths gradually deciduous, triangularly narrowly rounded, shorter than internode, thinly leathery, prominently longitudinally ribbed, appressed yellow-brown clavate-setose, margins yellow-brown ciliate; auricles absent; oral setae ca. 5, readily deciduous; ligule truncate or convex, ca. 1 mm, margin ciliate, cilioles readily deciduous; blade erect or decumbent, narrowly lanceolate or linear, glabrous. Leaves 3–5 per ultimate branch; sheath glabrous; auricles absent; oral setae 2–5, yellow, 2–4 mm; ligule arcuate or truncate, glabrous; blade oblong-lanceolate, 9–12 × 1.3–1.6 cm, glabrous, secondary veins 4–6-paired, transverse veins obscure, base cuneate or broadly so, one margin serrulate, other margin smooth. Inflorescence unknown. New shoots May.

- About 1600 m. S Hunan.

35. *Yushania laetevirens* T. P. Yi, J. Bamboo Res. 9(3): 33. 1990.

亮绿玉山竹 *liang lu yu shan zhu*

Rhizome neck 17–42 cm; internodes solid. Culms 2.5–3.5 m, 6–10 mm in diam.; internodes terete, 20–45 cm, obscurely longitudinally ribbed, initially white powdery, glabrous; wall 1.5–2.5 mm thick; supra-nodal ridges level or prominent; sheath scar prominent. Branches 5–9. Culm sheath persistent, triangularly narrowly rounded, ca. 1/2 as long as internodes, leathery, prominently longitudinally ribbed, glabrous; auricles and oral setae absent; ligule truncate, 1–1.4 mm; blade reflexed, linear-triangular or linear-lanceolate. Leaves 3–9 per ultimate branch; sheath glabrous; auricles and oral setae absent; ligule truncate, ca. 1 mm, usually white powdery; blade linear-lanceolate, 7.5–13 × 1–1.3 cm, glabrous, secondary veins 3- or 4-paired, transverse veins slightly distinct, base cuneate, one margin serrulate, other margin smooth. Inflorescence unknown. New shoots Aug.

- 1300–1500 m. NE Yunnan.

36. *Yushania multiramea* T. P. Yi, Bull. Bot. Res., Harbin 8(4): 69. 1988.

多枝玉山竹 *duo zhi yu shan zhu*

Rhizome neck 20–55 cm. Culms 3–4 m, 5–10 mm in diam.; internodes terete, 24–43 cm, initially white powdery, glabrous, solid or nearly so; supra-nodal ridges level or prominent, initially white powdery; sheath scar prominent, initially purple and white-gray setose, becoming light yellow-brown and glabrous. Branches 3–45. Culm sheaths persistent, triangularly narrowly rounded, 1/3–1/2 as long as internodes, leathery, prominently longitudinally ribbed, abaxially glabrous or gray setose, adaxially waxy, margins glabrous or initially ciliate; auricles absent; oral setae absent to 2, gray, 1–8 mm; ligule truncate or convex, ca. 0.5 mm, glabrous; blade reflexed, linear-lanceolate, glabrous. Leaves 3–6 per ultimate branch; sheath initially slightly hairy; auricles absent; oral setae 3–5, yellow, 1.5–4.5 mm; ligule truncate, glabrous; blade lanceolate, 4.5–13 × 0.8–1.3 cm, glabrous, secondary veins 3- or 4-paired, transverse veins distinct, base broadly cuneate or nearly rounded, margins serrulate. Inflorescence unknown. New shoots Aug.

- 2300–2600 m. W Yunnan.

37. *Yushania mabianensis* T. P. Yi, J. Bamboo Res. 5(1): 47. 1986.

马边玉山竹 *ma bian yu shan zhu*

Rhizome neck 20–35 cm. Culms 1–2 m, 4–8 mm in diam.; internodes initially purple spotted, terete, 17–27 cm, white powdery and gray-brown setulose below nodes, smooth; wall ca. 2 mm; supra-nodal ridges level or prominent; sheath scar weakly prominent, initially densely retrorsely brown setose. Branches 1 at lower nodes to more than 3 at upper nodes. Culm sheaths persistent, yellow-brown, narrowly triangularly rounded, shorter than internodes, leathery, retrorsely yellow-brown setose, margins densely ciliate; auricles falcate; oral setae erect, ca. 5 mm; ligule truncate or arcuate, ca. 0.5 mm, glabrous; blade readily deciduous, reflexed, linear-lanceolate, glabrous. Leaves 3–5 per ultimate branch; sheath glabrous or setulose, margins initially ciliate; auricles falcate or elliptic; oral setae ca. 11, radiating, 5–7 mm; ligule truncate or arcuate, glabrous; blade lanceolate or linear-lanceolate, 7–20 × 1.4–2.8 cm, glabrous, secondary veins 5- or 6-paired, transverse veins distinct, base broadly cuneate, one margin densely serrulate, other margin obscurely so. Inflorescence unknown. New shoots Sep.

- 1400–2000 m. S Sichuan.

38. *Yushania andropogonoides* (Handel-Mazzetti) T. P. Yi, J. Bamboo Res. 5(1): 66. 1986.

草丝竹 *cao si zhu*

Indocalamus andropogonoides Handel-Mazzetti, Anz. Akad. Wiss. Wien, Math.-Naturwiss. Kl. 62: 255. 1925; *Arundinaria andropogonoides* (Handel-Mazzetti) Handel-Mazzetti; *Sinarundinaria andropogonoides* (Handel-Mazzetti) Keng ex P. C. Keng.

Rhizome neck 18–38 cm. Culms 0.35–1.1 m, 1.5–2.5 mm in diam.; internodes terete, 12–18 cm, sparsely yellow setose and white powdery below nodes, nearly solid; supra-nodal ridge prominent; sheath scar prominent, initially sparsely retrorsely yellow-brown setose. Branches absent or rarely 1, without secondary branches. Culm sheaths persistent, light yellow-brown, narrowly rounded, leathery, glabrous; auricles purple, falcate; oral setae many, 2–3 mm; ligule truncate, ca. 1 mm, glabrous; blade readily deciduous, reflexed, triangular-lanceolate, glabrous. Leaves 3–5 per ultimate branch; sheath margins glabrous; auricles purple, elliptic; oral setae many, yellow-brown, 3–5 mm; ligule truncate, margins slightly fissured; blade lanceolate, 11–16 × 0.9–2.2 cm, glabrous, secondary veins 4–7-paired, transverse veins distinct, base broadly cuneate or rounded, margins serrulate. Inflorescence paniculate; spikelets with 5 or 6 florets; rachilla internodes ca. 1/2 as long as florets, apex puberulous. Lemma scabrous; palea margins ciliate at apex. Anthers white. New shoots Aug–Sep.

- 2000–2300 m. E Yunnan.

The inflorescence details are based on Handel-Mazzetti's type, whereas the vegetative description is based on a non-flowering specimen from the same locality assumed to represent the same species.

39. *Yushania grammata* T. P. Yi, J. Bamboo Res. 9(3): 30.

1990 [“*grammata*”].

棱纹玉山竹 *leng wen yu shan zhu*

Rhizome neck 20–50 cm. Culms 1.5–3 m, 4–15 mm in diam.; internodes terete, 13–37 cm, longitudinally ribbed, initially white powdery and brown clavate-setulose below nodes; wall 2–3 mm thick; supra-nodal ridges level or weakly prominent; sheath scar prominent. Branches 1 per node, about as wide as culm. Culm sheath persistent, narrowly triangularly rounded, short, leathery, densely appressed brown clavate-setose, margins brown ciliate; auricles readily deciduous, elliptic, small; oral setae 2–5, 2–4.5 mm; ligule truncate, ca. 1 mm, slightly hairy; blade reflexed, linear-lanceolate, erect or abaxially slightly hairy at base. Leaves 4–14 per ultimate branch; sheath margins glabrous; auricles absent; oral setae absent or few; ligule truncate; blade lanceolate, 16–25 × 1.6–2.5 cm, abaxially white-gray pubescent, secondary veins 5–7-paired, transverse veins distinct, base cuneate. Inflorescence unknown. New shoots Jul–Aug.

- About 1300 m. NE Yunnan.

40. *Yushania polytricha* Hsueh & T. P. Yi, J. Bamboo Res. 5(1): 58. 1986.

滑竹 *hua zhu*

Rhizome neck 13–40 cm. Culms 1–2 m, 3–8 mm in diam.; internodes initially densely purple spotted, terete, 13–37 cm, smooth, thinly white powdery and yellow-brown setulose below nodes, solid; supra-nodal ridges weakly prominent or prominent; sheath scar prominent, initially densely yellow-brown retrorse-setose. Branches 1–5 per node, central branch dominant. Culm sheaths persistent, narrowly triangularly rounded, ca. 2/3 as long as internodes, cartilaginous, yellow-brown setose, margins yellow-brown setose; auricles purple, falcate; oral setae many, radiating, yellow-brown, 2–4 mm; ligule truncate or arcuate, ca. 1 mm, glabrous, margins irregularly fissured; blade reflexed, linear-lanceolate, abaxially sparsely white-gray setose. Leaves 4–6 per ultimate branch; sheath densely brown setose, margins densely yellow ciliate; auricles purple, falcate or elliptic; oral setae several, erect or radiating, yellow-brown, 2–5 mm; ligule truncate, margins initially densely yellow ciliate; blade lanceolate, 9–21 × 1.2–2.5 cm, abaxially gray pubescent, secondary veins 4–6-paired, transverse veins obscure, base broadly cuneate, margins scabrous. Inflorescence unknown. New shoots Aug.

- 1900–2000 m. C and W Yunnan.

The culms are used for making chopsticks.

41. *Yushania basihirsuta* (McClure) Z. P. Wang & G. H. Ye, J. Nanjing Univ., Nat. Sci. Ed. 1981(1): 92. 1981.

毛玉山竹 *mao yu shan zhu*

Indocalamus basihirsutus McClure, Sunyatsenia 6: 35. 1941; *Sinarundinaria basihirsuta* (McClure) C. D. Chu & C. S. Chao; *S. papillosa* W. T. Lin; *Yushania actinoseta* W. T. Lin & Z. M. Wu; *Y. longipilosa* T. H. Wen & S. C. Chen; *Y. papillosa* (W. T. Lin) W. T. Lin.

Rhizome neck ca. 50 cm. Culms 1.5–3 m, 3–8 mm in diam.; internodes terete, 10–29 cm, white powdery below nodes, initially light yellow setose; wall 1.5–3 mm thick; supra-nodal ridges level; sheath scar prominent, initially densely yellow-brown retrorse-setose, with persistent remains of sheath base. Branches 1 per node at lower nodes and 3 at upper nodes. Culm sheaths persistent, narrowly triangularly rounded, 2/5–2/3 as long as internodes, leathery, densely yellow-brown clavate-setose, margins densely yellow-brown setose; auricles purple, falcate; oral setae many, radiating, yellow-brown, 4–10 mm; ligule truncate or arcuate, ca. 1 mm, initially densely brown ciliate; blade reflexed, linear-lanceolate, margins serrulate. Leaves 5–9 per ultimate branch; sheath retrorsely white setose, margins densely white ciliate; auricles purple, falcate; oral setae many, radiating, yellow-brown, 4–15 mm; ligule truncate, margins ciliate; blade lanceolate, 7–18.5 × 0.7–1.8 cm, abaxially initially gray setose, secondary veins 4–6-paired, transverse veins distinct, base cuneate, one margin serrulate, other margin obscurely so. Inflorescence paniculate; spikelets 12–17, dark purple; rachilla internodes ca. 5 mm, margins gray ciliate, apex swollen. Lemma glabrous, apex acuminate; palea glabrous, apex bifid. Other parts unknown. New shoots Apr.

- 1500–1600 m. N Guangdong, S Hunan.

42. *Yushania longiaurita* Q. F. Zheng & K. F. Huang, Acta Phytotax. Sin. 22: 217. 1984.

长耳玉山竹 chang er yu shan zhu

Rhizome neck ca. 27 cm. Culms to 1.5 m, 4–6 mm in diam.; internodes terete, 9.5–14 cm, initially white powdery below nodes, glabrous; wall ca. 2 mm thick; supra-nodal ridges prominent or weakly so; sheath scar prominent, glabrous. Branches 1–5 per node. Culm sheath gradually deciduous, shorter than internodes, thickly papery, abaxially glabrous, margins brown ciliate; auricles falcate or subcircular, tomentulose; oral setae radiating, 6–8 mm; ligule arcuate, ca. 1 mm; blade reflexed, narrowly lanceolate, glabrous. Leaves 5–9 per ultimate branch; sheath margins glabrous; auricles falcate or subcircular; oral setae radiating; ligule truncate, ca. 1 mm, glabrous; blade lanceolate, 4–12 × 1.2–1.7 cm, glabrous, secondary veins 4- or 5-paired, transverse veins distinct, base broadly cuneate, one margin densely serrulate, other margin obscure so. Inflorescence unknown.

- About 1500 m. SE Fujian.

43. *Yushania chingii* T. P. Yi, J. Bamboo Res. 5(1): 45. 1986.

仁昌玉山竹 ren chang yu shan zhu

Rhizome neck 25–45 cm. Culms 1–2.5 m, 3–8 mm in diam.; internodes terete, 15–22 cm, initially with white powdery ring below nodes, glabrous, nearly solid; supra-nodal ridges level or weakly prominent; sheath scar weakly prominent. Branches 1 per node. Culm sheaths persistent, triangularly narrowly rounded, 1/4–1/3 as long as internodes, cartilaginous, glabrous, margins densely yellow-brown setulose; auricles purple, falcate; oral setae 3–5, purple or yellow, 5–8 mm; ligule truncate, glabrous; blade reflexed, linear-lanceolate, glabrous. Leaves 5–13 per ultimate branch; sheath apically white powdery, margins densely yellow-brown ciliate; auricles purple,

elliptic; oral setae 7–12, purple or yellow, 5–12 mm; ligule truncate, glabrous; blade lanceolate, (13–)19–26(–33) × 1.2–4 cm, glabrous, secondary veins 7–9-paired, transverse veins distinct, base cuneate, margins serrulate and obscure or one margin prominent, other margin obscurely so. Inflorescence unknown. New shoots Jul.

- 1400–1500 m. W Guangxi, S Guizhou.

44. *Yushania auctiaurita* T. P. Yi, Acta Bot. Yunnan. 13: 145. 1991.

显耳玉山竹 xian er yu shan zhu

Rhizome neck 15–35 cm. Culms 1–2.5 m, 3–8 mm in diam.; internodes initially purple spotted, terete, 16–22 cm, white powdery below nodes, glabrous; wall 1–3 mm thick; supra-nodal ridges level or prominent; sheath scars prominent, initially retrorsely brown setose, with persistent remains of sheath base. Branches 1 at lower nodes and more than 3 at upper nodes. Culm sheaths persistent, 1/3–2/5 as long as internodes, cartilaginous, yellow-brown setose, margins densely ciliate; auricles falcate, large; oral setae many, radiating, yellow-brown, 3–6 mm; ligule arcuate, ca. 0.5 mm, glabrous; blade erect or decumbent, narrowly triangular or lanceolate, glabrous, margins serrulate. Leaves 3–8 per ultimate branch; sheath glabrous or gray pubescent, apically white powdery, margins yellow-brown ciliate; auricles purple, falcate; oral setae many, 2–7 mm; ligule arcuate, ca. 1 mm, glabrous; blade lanceolate, 8–16 × 1.3–3 cm, glabrous, secondary veins 5–9-paired, transverse veins distinct, base broadly cuneate, one margin densely serrulate, other margin obscurely so. Inflorescence unknown. New shoots Jul.

- 1700–1800 m. SE Guizhou.

45. *Yushania dafengdingensis* T. P. Yi, J. Bamboo Res. 15(3): 9. 1996.

大风顶玉山竹 da feng ding yu shan zhu

Rhizome neck 13–70 cm, 6–11 mm in diam. Culms 2–3 (–4) m, 1.2–1.6(–2) cm in diam.; basal internodes 5–10 cm, upper internodes purple spotted, terete, 18–22(–32) cm, initially white powdery below nodes, glabrous; wall 2.5–5 mm thick; supra-nodal ridges level or prominent; sheath scars prominent, initially purple, gradually brown, glabrous; intranode 4–9 mm. Branches 1 per node, nearly as thick as culm. Culm sheaths persistent, 1/3–1/2 as long as internodes, cartilaginous, glabrous, margins initially purple ciliate; auricles falcate; oral setae many, ca. 1.2 cm; ligule purple, truncate, 1–2.5 mm, glabrous; blade erect, narrowly triangular or linear-lanceolate, 8–25 × 3–6 mm, glabrous. Leaves 3 or 4(–6) per ultimate branch; sheath (4–)6–10 cm, glabrous; auricles purple, falcate; oral setae many, ca. 1 cm; ligule truncate, 1–1.5 mm, glabrous; blade lanceolate, (4.5–)12–18 × (1.2–)2–3.7 cm, glabrous, secondary veins (4 or)5–7(or 8)-paired, transverse veins distinct, base cuneate, margins serrulate. Inflorescence unknown. New shoots Jun–Jul.

- 2200–2600 m. Sichuan.

46. *Yushania straminea* T. P. Yi, J. Bamboo Res. 9(3): 37. 1990.

黄壳竹 *huang ke zhu*

Rhizome neck 17–58 cm. Culms 2–4 m, 0.6–1 cm in diam.; internodes gray-green, terete, 18–29 cm, thinly white powdery, glabrous; wall 2–3 mm thick, rigid; supra-nodal ridges level or weakly prominent; sheath scar prominent, woody, initially retrorsely setose. Branches 1 at lower nodes and more than 3 at upper nodes. Culm sheaths persistent, yellow-brown, narrowly rounded-triangular, 1/3–2/5 as long as internodes, leathery, densely setose, margins densely ciliate; auricles purple, falcate, 6–7 mm, 1.5–3 mm in diam.; oral setae many, ca. 2 cm; ligule 1–2 mm, glabrous; blade erect or decumbent, narrowly triangular or elliptic-lanceolate. Leaves 3–9 per ultimate branch; sheath glabrous, usually white powdery; auricles falcate; oral setae radiating, ca. 6 mm; ligule arcuate, 1–2 mm; blade linear-lanceolate, 7–19 × 1.6–2.6 cm, basally gray hairy, secondary veins 3–6-paired, transverse veins distinct, base cuneate, margins sparsely serrulate. Inflorescence unknown. New shoots Aug.

- 2300–2600 m. NE Yunnan.

The culms are used for weaving.

47. *Yushania oblonga* T. P. Yi, J. Bamboo Res. 5(1): 52. 1986.

马鹿竹 *ma lu zhu*

Rhizome neck 8–40 cm. Culms 3–4.5 m, 1–2 cm in diam.; internodes terete, 28–40 cm, initially white powdery, glabrous; wall ca. 2 mm thick; supra-nodal ridges level or prominent; sheath scar prominent, with persistent remains of sheath base. Branches 1–5 per node. Culm sheaths persistent, rectangular, ca. 2/3 as long as internodes, cartilaginous, rigid, white powdery, glabrous, margins densely yellow setulose; auricles purple, oblong; oral setae 5–8, yellow, 5–10 mm; ligule truncate, ca. 1 mm, glabrous; blade erect, purple-green, sometimes white powdery, linear-lanceolate, margins fissured. Leaves 3–7 per ultimate branch; sheath glabrous, usually initially white powdery; auricles elliptic, small; oral setae 5–12, yellow, 3–5 mm; ligule truncate, glabrous; blade broadly lanceolate, 14–17 × 3.6–4 cm, glabrous, secondary veins 7- or 8-paired, transverse veins obscure, base rounded, margins sparsely serrulate. Inflorescence unknown. New shoots Aug–Sep.

- 2600–3000 m. SE Yunnan.

The shoots are edible and are highly prized; the culms are used for weaving.

48. *Yushania cartilaginea* T. H. Wen, J. Bamboo Res. 3(2): 28. 1984.

硬壳玉山竹 *ying ke yu shan zhu*

Rhizome neck 16–35 cm. Culms 0.2–2.5 m, 5–7 mm in diam.; internodes terete, 15–17 cm, initially with white powdery ring below nodes, glabrous; wall 2–3 mm thick, pith initially spongy, becoming granular; supra-nodal ridges level or weakly prominent; sheath scar prominent. Branches 1 at lower nodes and 2 at upper nodes. Culm sheath persistent, triangularly narrowly rounded, 1/2–4/5 as long as internodes, cartilaginous, abaxially glabrous and waxy, margins glabrous or gray ciliate; auricles purple, oblong to falcate; oral setae several, yel-

low, ca. 7 mm; ligule truncate or convex, ca. 0.25 mm, glabrous; blade erect or reflexed, linear-lanceolate. Leaves 4–6 per ultimate branch; sheath margins gray ciliate; auricles well developed, elliptic to falcate; oral setae 7–11, purple, 4–14 mm; ligule truncate or convex, glabrous, margin fissured; blade broadly lanceolate to oblong, 10–15 × 1.8–2.8 cm, glabrous, secondary veins 5–9-paired, transverse veins distinct, base cuneate or rounded, margins smooth or one margin serrulate. Inflorescence unknown. New shoots Apr.

- About 1700 m. N Guangxi.

49. *Yushania wuyishanensis* Q. F. Zheng & K. F. Huang, Acta Phytotax. Sin. 22: 219. 1984.

武夷山玉山竹 *wu yi shan yu shan zhu*

Rhizome neck ca. 23 cm. Culms to 4 m, to 1 cm in diam.; internodes terete, 10–30 cm, scabrous, initially thickly white powdery below nodes; wall 1.5–2 mm thick; supra-nodal ridges weakly prominent; sheath scar prominent. Branches 1 at lower nodes, 3–5 at upper nodes. Culm sheaths gradually deciduous or persistent, shorter than internodes, thinly leathery, basally purple setose, margins purple ciliate; auricles absent or small; oral setae few; ligule truncate, 1–1.5 mm, tomentose, margin fissured; blade erect, linear-lanceolate, glabrous. Leaves 6–8 per ultimate branch; sheath margins glabrous; auricles absent; oral setae 4–6, 5–7 mm; ligule truncate, ca. 1 mm, glabrous; blade linear-lanceolate, (4–)6–13 × 0.8–1.2 cm, glabrous, secondary veins 4- or 5-paired, transverse veins obscure, one margin serrulate, other margin obscurely so. Inflorescence unknown. New shoots May.

- About 1800 m. N Fujian.

50. *Yushania glandulosa* Hsueh & T. P. Yi, Bull. Bot. Res., Harbin 8(4): 73. 1988.

盈江玉山竹 *ying jiang yu shan zhu*

Rhizome neck 14.5–23 cm. Culms 2–3 m, 4–5 mm in diam.; internodes terete, 20–23 cm, with white powdery ring below nodes, initially thinly setulose, nearly solid; supra-nodal ridges prominent; sheath scar prominent. Branches 1 at lower nodes, to 3 at upper nodes. Culm sheaths persistent, triangularly narrowly rounded, leathery, glabrous or yellow setulose at base, margins glabrous or ciliate; auricles and oral setae absent; ligule truncate or convex, ca. 0.5 mm, margins glabrous or ciliate; blade erect or reflexed, linear-lanceolate. Leaves 1–3 per ultimate branch; sheath glabrous; auricles and oral setae absent; ligule purple, arcuate, 0.5–0.8 mm, glabrous, margin fissured; blade narrowly rounded-lanceolate, (3.5–)8–19(–27) × (1–)1.8–5 cm, glabrous, secondary veins 3–10-paired, transverse veins distinct, base rounded to broadly cuneate, margins serrulate. Inflorescence paniculate; spikelets 13–33, purple, 1.2–2.5 cm; florets 3–5; rachilla internodes 3–3.5 mm, white or yellow setulose. Lemma lanceolate, glabrous or apically ciliate, apex mucronate; palea keels setulose, apex bifid. Anthers yellow. Ovary oblong, glabrous. Caryopsis unknown.

- About 1800 m. W Yunnan.

51. *Yushania rugosa* T. P. Yi, J. Bamboo Res. 5(1): 61. 1986.

皱叶玉山竹 *zhou ye yu shan zhu*

Rhizome neck 20–40 cm. Culms 1–2 m, 5–8 mm in diam.; internodes initially purple spotted, terete, 12–18 cm, white powdery below nodes, glabrous; wall 1.5–2.3 mm thick; supra-nodal ridges weakly prominent; sheath scar weakly prominent, initially brown setulose. Branches 1 per node, nearly as wide as culm. Culm sheath persistent, triangularly narrowly rounded, leathery, base sparsely purple-brown setose, margins purple setose; auricles purple, small; oral setae 3–5, purple, 2–3 mm; ligule convex, ca. 1 mm; blade reflexed, lanceolate, glabrous, margins slightly serrulate. Leaves 5–9 per ultimate branch; sheath glabrous, initially white powdery; auricles absent; oral setae 3–5, readily deciduous, 2–3 mm; ligule purple, truncate, ca. 1 mm, glabrous; blade broadly lanceolate or ovate-elliptic, 9–20 × 3–5 cm, glabrous, secondary veins 7–9-paired, transverse veins distinct, base rounded or broadly cuneate, margins serrulate. Inflorescence unknown. New shoots Aug.

- 1400–1600 m. NW Guangxi, S Guizhou.

52. *Yushania uniramosa* Hsueh & T. P. Yi, *J. Bamboo Res.* 5(1): 64. 1986.

单枝玉山竹 *dan zhi yu shan zhu*

Rhizome neck 20–50 cm. Culms 0.6–1.6 m, 3–5 mm in diam.; internodes initially purple spotted, terete, 8–15 cm, white powdery below nodes, glabrous, nearly solid; supra-nodal ridges level or weakly prominent; sheath scar prominent, glabrous. Branches 1 per node. Culm sheaths persistent, triangularly narrowly rounded, 1/2–2/3 as long as internodes, cartilaginous, glabrous, margins densely brown ciliate; auricles and oral setae absent; ligule truncate or convex, ca. 0.5 mm; blade reflexed or erect, narrowly lanceolate or conical, glabrous. Leaves 6–11 per ultimate branch; sheath glabrous, margins sometimes gray ciliate; auricles and oral setae absent; ligule truncate or convex, ca. 0.5 mm, glabrous; blade narrowly lanceolate, 11–22 × 1.5–2.6 cm, glabrous, secondary veins 5–7-paired, transverse veins distinct, base cuneate, margins serrulate. Inflorescence unknown. New shoots Jul.

- 1300–1600 m. N Guizhou.

53. *Yushania confusa* (McClure) Z. P. Wang & G. H. Ye, *J. Nanjing Univ., Nat. Sci. Ed.* 1981(1): 92. 1981.

鄂西玉山竹 *e xi yu shan zhu*

Indocalamus confusus McClure, *Lingnan Univ. Sci. Bull.* 9: 20. 1940; *Sinarundinaria confusa* (McClure) P. C. Keng.

Rhizome neck 10–40 cm, (2–)4–7 mm in diam. Culms 1–2 m, 2–10 mm in diam.; internodes purple spotted, terete, 10–33 cm, initially white powdery, glabrous, nearly solid; supra-nodal ridges level; sheath scar prominent, initially yellow setose. Branches 1 or 2 at lower nodes and 3–5 at upper nodes. Culm sheaths persistent, narrowly triangular, leathery, brown setose, margins setose; auricles absent; oral setae readily deciduous; ligule truncate, ca. 1 mm, glabrous; blade reflexed, linear-lanceolate or linear, basally slightly hairy adaxially, margins serrulate. Leaves 2–5(–7) per ultimate branch; sheath margins white-gray ciliate; auricles absent; oral setae 2–5 mm; ligule

truncate, ca. 1 mm, glabrous; blade lanceolate, 8–13 × 0.6–1.5(–2.1) cm, abaxially thinly hairy basally, secondary veins 4–6-paired, transverse veins distinct, base cuneate, one margin serrulate, other margin obscurely so. Inflorescence paniculate; spikelet 1.2–3.4 cm; florets 2–6, green-purple; rachilla 3–4 mm, hairy. Lemma lanceolate, margins ciliate; palea keels ciliate, apex bifid. Anthers yellow. Ovary ovoid, glabrous. Caryopsis unknown. New shoots Apr–Aug.

- 1000–2300 m. N Guizhou, W Hubei, W Hunan, SW Shanxi, E Sichuan.

54. *Yushania pauciramificans* T. P. Yi, *Bull. Bot. Res., Harbin* 8(4): 71. 1988.

少枝玉山竹 *shao zhi yu shan zhu*

Rhizome neck 14–50 cm, 6–12 mm in diam. Culms 2–3.5 m, 0.6–1.2 cm in diam.; internodes purple, terete, 15–27 cm, initially with a white powdery ring below each node, glabrous; wall 2.5–3.5 mm thick; nodes with weakly prominent supra-nodal ridge; sheath scar greatly prominent, woody, glabrous. Branches 1–3 at lower nodes, ca. 5 at upper. Culm sheaths persistent, triangularly narrowly rounded, 2/5–1/2 as long as internodes, cartilaginous, erectly gray setose, adaxially waxy, margins densely gray-yellow setose; auricles absent; oral setae present initially; ligule truncate or convex, 1–1.5 mm, glabrous; blade linear-lanceolate, glabrous, revolute. Leaves 2–5 per ultimate branch; sheath margins glabrous; auricles absent; oral setae 5–7, gray-yellow, 3–9 mm; ligule truncate, glabrous; blade lanceolate or elliptic-lanceolate, 5.2–16 × 1.1–2.8 cm, glabrous, secondary veins 4–6-paired, transverse veins distinct, base broadly cuneate or rounded, one margin serrulate, other margin obscurely so. Inflorescence unknown. New shoots Aug.

- About 2500 m. C Yunnan.

55. *Yushania punctulata* T. P. Yi, *J. Bamboo Res.* 5(1): 59. 1986.

抱鸡竹 *bao ji zhu*

Rhizome neck to 46 cm, 2.5–4.5 mm in diam. Culms 1–1.8 m, 3–5 mm in diam.; internodes initially purple spotted, terete, 18–25 cm, with white powdery ring below each node, glabrous, nearly solid; supra-nodal ridge level or weakly prominent; sheath scar prominent, glabrous. Branches 1 at lower nodes to 3 at upper nodes. Culm sheaths persistent, triangularly narrowly rounded, ca. 1/3 as long as internodes, leathery, sparsely adnately gray setose, becoming glabrous, margins densely yellow-brown setose; auricles absent or small; oral setae radiating; ligule truncate or convex, ca. 0.5 mm, glabrous; blade reflexed, linear-lanceolate, glabrous. Leaves 2–12 per ultimate branch; sheath margins glabrous; auricles absent; oral setae absent or present; ligule truncate or arcuate, glabrous; blade lanceolate, 13–23 × 1.5–2.7 cm, glabrous, secondary veins 5- or 6-paired, transverse veins distinct, base cuneate, margins serrulate. Inflorescence unknown. New shoots May.

- 1200–1500 m. S Sichuan.

56. *Yushania pachyclada* T. P. Yi, *J. Bamboo Res.* 5(1): 54. 1986.

粗枝玉山竹 *cu zhi yu shan zhu*

Rhizome neck 15–35 cm. Culms 1–2 m, 3–10 mm in diam.; internodes 20–30 cm, grooved or flattened above branches, glabrous, initially with white powdery ring below each node, nearly solid; supra-nodal ridges weakly prominent; sheath scar prominent. Branches 1 at lower nodes, 2–5 at upper nodes. Culm sheaths persistent, narrowly rounded, leathery, usually glabrous, margins glabrous; auricles and oral setae absent; ligule truncate or arcuate, ca. 1 mm, glabrous; blade conical or linear-lanceolate, glabrous, revolute. Leaves 2–5 per ultimate branch; sheath glabrous; auricles and oral setae absent; ligule truncate, ca. 1 mm, glabrous; blade lanceolate, 6–14 × 1.1–2 cm, glabrous, secondary veins 4–6-paired, transverse veins slightly distinct, base cuneate, margins serrulate. Inflorescence unknown. New shoots Jun.

- 1700–1800 m. S Sichuan, NE Yunnan.

57. *Yushania niitakayamensis* (Hayata) P. C. Keng, Acta Phytotax. Sin. 6: 357. 1957.

玉山竹 *yu shan zhu*

Arundinaria niitakayamensis Hayata, Bot. Mag. (Tokyo) 21: 49. 1907; *A. oiwakensis* Hayata; *Indocalamus niitakayamensis* (Hayata) Nakai; *I. oiwakensis* (Hayata) Nakai; *Pleioblastus niitakayamensis* (Hayata) Ohki; *P. oiwakensis* (Hayata) Ohki; *Pseudosasa oiwakensis* (Hayata) Makino; *Sasa niitakayamensis* (Hayata) E. G. Camus; *S. niitakayamensis* var. *microcarpa* E. G. Camus; *Sinarundinaria niitakayamensis* (Hayata) P. C. Keng.

Rhizome neck ca. 30 cm. Culms 1–4 m, 5–20 mm in diam.; internodes 10–30 cm, grooved or flattened above branches, initially setulose, becoming glabrous and waxy; supra-nodal ridge level; sheath scar with persistent remains of sheath base. Branches 1 at lower nodes, 3 or 4 at upper nodes. Culm sheaths gradually deciduous or persistent, light brown, leathery, densely setose; auricles small; oral setae brown, ca. 2 mm; ligule truncate, ca. 0.5 mm, margin fissured; blade deciduous, linear, glabrous. Leaves 3–10 per ultimate branch; sheath sparsely hairy on margins and apex; auricles small; oral setae several, 2–3 mm; ligule truncate, ca. 1 mm, margin fissured, ciliate; blade lanceolate, 2–18 × 0.3–1.3 cm, glabrous, secondary veins 2–4-paired, transverse veins distinct, base rounded, one margin serrulate, other margin obscurely so. Inflorescence paniculate; spikelet 2–4 cm; florets 2–7, purple-brown; rachilla internodes ca. 5 mm, hairy. Lemma lanceolate, margins ciliate at apex; palea keels ciliate, apex bifid. Anthers yellow-green. Ovary fusiform, glabrous. Caryopsis olivaceous.

- 1000–3000 m. Taiwan.

58. *Yushania suijiangensis* T. P. Yi, J. Bamboo Res. 9(3): 40. 1990.

绥江玉山竹 *sui jiang yu shan zhu*

Rhizome neck 20–30 cm. Culms 1–2 m, 3–6 mm in diam.; internodes 14–23 cm, grooved or flattened above branches, white powdery in a ring below each node, initially distally gray-yellow setose, nearly solid; supra-nodal ridge weakly prominent; sheath scar prominent, initially setose. Branches 1 at

lower nodes, to 3 or 4 at upper nodes. Culm sheaths persistent, triangularly narrowly rounded, 1/3–1/2 as long as internodes, leathery, adnately gray-brown setose; auricles and oral setae absent; ligule truncate, ca. 0.5 mm; blade reflexed, triangular to linear-lanceolate, margins smooth. Leaves 3–11 per ultimate branch; sheath glabrous; auricles absent; oral setae absent or present; ligule truncate, ca. 1 mm; blade narrowly rounded-lanceolate, 4.5–17 × 1–2.5 cm, abaxially slightly hairy initially, secondary veins 4–8-paired, transverse veins easily seen, base cuneate. Inflorescence unknown. New shoots Aug.

- 1300–1500 m. NE Yunnan.

