

9. ADINANDRA Jack, Malayan Misc. 2(7): 49. 1822.

杨桐属 yang tong shu

Shrubs or trees, evergreen. Leaves petiolate; leaf blade margin entire or serrulate. Flowers bisexual, solitary or paired. Pedicel usually recurved, seldom erect; bracteoles 2, inserted at apex of pedicel, alternate or opposite, persistent or caducous. Sepals 5, persistent, imbricate, unequal, thick, concave, basally slightly connate. Petals 5, imbricate, outside glabrous or sericeous, basally connate. Stamens 15–60, in 1–5 whorls; filaments connate or distinct, adnate to base of sepals, glabrous or with pubescence; anthers basifixed, oblong, with filiform trichomes, connective projected into an apiculum. Ovary pubescent or glabrous, (2 or)3–5-loculed, placentation axile; ovules 20–100 per locule; style 1, simple or apically 3–5-lobed. Fruit baccate, many-seeded, with a persistent style. Seeds brown, minute, foveolate to pitted, shiny; embryo inflexed; endosperm abundant; cotyledons semiterete.

About 85 species: Bangladesh, Cambodia, China, India, Indonesia, S Japan, Laos, Malaysia, Myanmar, New Guinea, Philippines, Sri Lanka, Thailand, Vietnam; tropical Africa; 22 species (17 endemic) in China.

Adinandra stenosepala Hu is the basionym of *Xantolis stenosepala* (Hu) P. Royen in the Sapotaceae (see Fl. China 15: 209. 1996).

- 1a. Style apically parted or lobed.
- 2a. Ovary pubescent 6. *A. filipes*
- 2b. Ovary glabrous.
- 3a. Style villous 16. *A. elegans*
- 3b. Style glabrous.
- 4a. Style apically slightly 2-lobed 19. *A. retusa*
- 4b. Style apically 3- or 4-lobed.
- 5a. Leaf blade abaxially reddish glandular punctate; pedicel 0.6–0.8 cm 17. *A. pingbianensis*
- 5b. Leaf blade abaxially not glandular punctate; pedicel 1–2 cm 18. *A. nitida*
- 1b. Style simple.
- 6a. Ovary glabrous.
- 7a. Leaf blade 4–7 mm wide *A. angustifolia* (see Addendum, p. 477)
- 7b. Leaf blade 10 mm wide or more.
- 8a. Ovary more than 3-loculed.
- 9a. Petiole 10–20 mm, leaf blade elliptic, 13–18 × 5.5–8.5 cm, abaxially glabrous, base broadly cuneate, apex acute and with an obtuse tip; pedicel 1–1.8 cm 4. *A. grandis*
- 9b. Petiole 1–1.5 mm, leaf blade lanceolate to narrowly lanceolate, 7.5–12.5 × 1.9–2.5 cm, abaxially appressed pubescent and densely so along midvein, base obliquely auriculate, apex long acuminate to caudate-acuminate; pedicel 0.5–0.7 cm 5. *A. auriformis*
- 8b. Ovary 3-loculed.
- 10a. Petiole 0.3–0.5 cm; leaf blade abaxially not glandular; petals ovate to suborbicular, outside sericeous; filaments glabrous 20. *A. howii*
- 10b. Petiole 1.5–2 cm; leaf blade abaxially glandular punctate; petals broadly obovate to oblong-obovate, outside glabrous; filaments with dense filiform trichomes on apical 1/2 21. *A. nigroglandulosa*
- 6b. Ovary pubescent.
- 11a. Ovary 5(or 6)-loculed.
- 12a. Style glabrous 3. *A. latifolia*
- 12b. Style sericeous.
- 13a. Leaf blade abaxially reddish brown glandular punctate 2. *A. hainanensis*
- 13b. Leaf blade abaxially not glandular punctate.
- 14a. Leaf blade secondary veins 20–26 on each side of midvein; bracteoles oblong, 6–7 mm; sepal apex obtuse; petals 10–13 × 6–7 mm 1. *A. megaphylla*
- 14b. Leaf blade secondary veins 12–16 on each side of midvein; bracteoles ovate to long ovate, 2–3.5 mm; sepal apex acute; petals 8–10 × 5–6 mm 7. *A. integerrima*
- 11b. Ovary 3-loculed.
- 15a. Style pubescent at least basally (*A. hirta* var. *macrobracteata* sometimes with a glabrous style).
- 16a. Leaf blade abaxially hirsute with trichomes projecting beyond margin.
- 17a. Petiole 8–10 mm; pedicel 6–16 mm, bracteoles caducous; petals outside hirtellous along median portion; style densely hirsute on basal 2/3 or entire length 10. *A. glischroloma*
- 17b. Petiole 5–7 mm; pedicel 5–6 mm, bracteoles persistent; petals outside glabrous; style hirtellous or only basally hirtellous 11. *A. hirta*
- 16b. Leaf blade abaxially appressed pubescent with trichomes not projecting beyond margin.

- 18a. Pedicel 2–4 cm 6. *A. filipes*
 18b. Pedicel 0.5–0.7 cm.
 19a. Petiole 3–5 mm; leaf blade acuminate; bracteoles caducous; filaments 1.5–2 mm, glabrous; style ca. 10 mm 8. *A. lasiostyla*
 19b. Petiole 8–15 mm; leaf blade abruptly acute; bracteoles persistent; filaments 2–4 mm, pubescent; style 3–4 mm 9. *A. epunctata*
 15b. Style glabrous.
 20a. Sepals 4–6 mm; petals outside densely sericeous along median portion.
 21a. Petiole 2–3 mm; leaf blade lanceolate to oblong-lanceolate, base broadly cuneate to rounded; pedicel 0.5–0.9 cm; petals lanceolate to obovate-lanceolate, apex acuminate; stamens 15–17; persistent sepals reflexed 14. *A. lancipetala*
 21b. Petiole 5–7 mm; leaf blade oblong to oblong-ovate, base cuneate; pedicel 1–2 cm; petals ovate, apex rounded and mucronate; stamens 25–30; persistent sepals not reflexed 15. *A. bockiana*
 20b. Sepals 7–11 mm; petals outside glabrous.
 22a. Leaf blade margin apically serrate; pedicel 2.5–3.5 cm 12. *A. formosana*
 22b. Leaf blade margin entire; pedicel 0.5–2 cm.
 23a. Petiole 5–7 mm; leaf blade 9–12.5(–16) × 3–4.5(–5.8) cm; pedicel 5–6 mm, bracteoles 6–10 mm 11. *A. hirta*
 23b. Petiole 3–5 mm; leaf blade 4.5–9 × 2–3 cm; pedicel ca. 20 mm, bracteoles 2–3 mm 13. *A. millettii*

1. *Adinandra megaphylla* Hu, Bull. Fan Mem. Inst. Biol., Bot. 6: 172. 1935.

大叶杨桐 da ye yang tong

Adinandra petelotii Gagnepain; *A. serrulata* H. L. Li.

Trees 5–20 m tall. Bark grayish brown. Young branches brown, glabrous; current year branchlets densely ferruginous-brown appressed pubescent; terminal buds densely ferruginous appressed pubescent. Petiole 1–1.5 cm, appressed ferruginous pubescent; leaf blade oblong to oblong-elliptic, 14–25(–28.5) × 4–7(–8.5) cm, leathery, abaxially pale green, ferruginous appressed pubescent or glabrescent, and becoming pale brown when dry, adaxially dark green and pubescent along midvein when young but glabrescent, midvein abaxially elevated and adaxially impressed, secondary veins 20–26 on each side of midvein and slightly raised on both surfaces, base broadly cuneate to rounded, margin serrulate, apex acuminate. Flowers axillary, solitary. Pedicel 2–4 cm, slender, recurved, appressed pubescent, apically thickened; bracteoles caducous, oblong, 6–7 × ca. 3 mm, both surfaces appressed pubescent. Sepals broadly ovate, unequal, 1–1.3 × 0.8–1 cm, leathery, outside sericeous along median portion, inside glabrous, apex obtuse. Petals white, broadly ovate-oblong to elliptic, unequal, 10–13 × 6–7 mm, outside ferruginous sericeous along middle portion, inside glabrous. Stamens 40–45; filaments ca. 2 mm, distinct, glabrous; anthers ca. 4 mm, abaxially densely sericeous, connective exerted. Ovary conic, densely ferruginous sericeous, 5-loculed with many ovules per locule; style ca. 1 cm, simple, densely sericeous. Fruit purplish black when mature, globose, ca. 2 cm in diam., densely sericeous. Seeds brown, compressed reniform, shiny. Fl. Jun–Jul, fr. Oct–Nov.

Forests on mountain slopes or in valleys; 1200–1900 m. NW Guangxi, SE Yunnan [N Vietnam].

2. *Adinandra hainanensis* Hayata, Icon. Pl. Formosan. 3: 43. 1913.

海南杨桐 hai nan yang tong

Adinandra hainanensis Merrill (1923), not Hayata (1913); *A. maclurei* Merrill; *A. rubropunctata* Merrill & Chun.

Shrubs or trees, 5–10(–25) m tall. Young branches grayish brown to brown, glabrous; current year branchlets reddish brown, densely yellowish brown appressed pubescent; terminal buds yellowish brown pubescent. Petiole 5–10 mm, pubescent; leaf blade oblong-elliptic to oblong-obovate, 6–8(–13) × 2–3(–6) cm, leathery, abaxially pale green, appressed pubescent when young but glabrescent, and densely reddish brown glandular punctate, adaxially shiny green, midvein abaxially not impressed, secondary veins 10–13 on each side of midvein, secondary and reticulate veins evident on both surfaces, base cuneate, margin serrulate, apex shortly acuminate. Flowers axillary, solitary or paired. Pedicel 7–10(–20) mm, recurved, grayish brown pubescent or glabrescent; bracteoles caducous, ovate, 3–5 × 1.5–3 mm, outside appressed pubescent. Sepals ovate, 6–10 × 6–7 mm, outside grayish brown sericeous, apex slightly acute to subrounded; outer sepals thicker, margin reddish glandular denticulate; inner sepals membranous, margin entire. Petals white, oblong to oblong-elliptic, 7–9 × 3–5 mm, outside yellowish brown sericeous along median portion, basally connate, apex obtuse. Stamens 30–45, 5.5–7 mm; filaments 3–4 mm, glabrous, adnate to base of sepals; anthers linear, 2–3 mm, with filiform trichomes, connective with a ca. 1 mm apiculum. Ovary ovoid, densely tawny sericeous, 5-loculed with many ovules per locule; style simple, 5–7 mm, sericeous. Fruit purplish black, globose, 1–1.5 cm in diam., pubescent, 5-loculed with many seeds per locule. Seeds black, compressed reniform, shiny. Fl. May–Jun, fr. Sep–Oct.

Forests or thickets on mountain slopes or in valleys; 1000–1800 m. SW Guangdong, S Guangxi, Hainan [N Vietnam].

3. *Adinandra latifolia* L. K. Ling, Fl. Reipubl. Popularis Sin. 50(1): 189. 1998.

阔叶杨桐 *kuo ye yang tong*

Trees 10–15 m tall. Young branches grayish brown, glabrous, lenticellate; current year branchlets yellowish brown pubescent. Petiole ca. 5 mm, densely yellowish brown pubescent; leaf blade oblong-elliptic to oblong, 13–20.5 × 4–6.5 cm, leathery, abaxially yellowish green and yellowish brown appressed pubescent particularly along midvein and near margin with trichomes persistent and projecting beyond margin, adaxially dark green and glabrous, midvein abaxially elevated and adaxially impressed, secondary veins 25–30 on each side of midvein, secondary and reticulate veins raised on both surfaces, base broadly cuneate, margin entire and slightly reflexed, apex acuminate. Flowers axillary, solitary or paired. Pedicel 5–10 mm, thick, densely yellowish brown pubescent; bracteoles persistent, ovate, ca. 5 × 3 mm, outside appressed pubescent, apex abruptly acute. Sepals broadly ovate, 8–10 × 6–9 mm, outside yellowish brown sericeous, apex obtuse to rounded and mucronate. Petals white, obovate, 10–12 × 5–6 mm, outside yellowish sericeous along median portion, apex rounded. Stamens 30–35, 7–8 mm; filaments 2–3 mm, nearly distinct, glabrous; anthers linear-oblong, 3.5–4.5 mm, with filiform trichomes, connective exerted. Ovary ovoid, yellowish sericeous, 5(or 6)-loculed with many ovules per locule; style simple, ca. 8 mm, glabrous. Fruit globose, ca. 1.5 cm in diam., sericeous, 5(or 6)-loculed with many seeds per locule. Seeds blackish brown, shiny. Fl. Aug–Sep, fr. Nov–Dec.

• Forests on mountain slopes or along streams; 1300–1400 m. Yunnan (Gongshan).

This species is expected to be found in N Myanmar.

4. *Adinandra grandis* L. K. Ling, Fl. Reipubl. Popularis Sin. 50(1): 190. 1998.

大杨桐 *da yang tong*

Trees 13–20 m tall. Young branches grayish brown; current year branchlets green and glabrous; terminal buds long conic, ca. 2 cm, glabrous. Petiole 1–2 cm, thick, glabrous; leaf blade elliptic, 13–18 × 5.5–8.5 cm, leathery, abaxially pale green and reddish brown glandular punctate, adaxially dark green, both surfaces glabrous, midvein abaxially elevated and adaxially impressed, secondary veins ca. 20 on each side of midvein and evident or slightly raised on both surfaces, base broadly cuneate, margin entire, apex acute and with an obtuse tip. Flowers axillary, 2 or 3 in a cluster. Pedicel 1–1.8 cm; bracteoles caducous, ovate, ca. 2.5 mm. Sepals broadly ovate, 8–10 × 6–7 mm, concave, leathery, glabrous, margin ciliolate, apex rounded to obtuse and mucronate. Petals white, broadly ovate, 1–1.4 × ca. 0.8 cm, glabrous. Stamens 46–50, 7–10 mm; filaments 2–3 mm, glabrous; anthers linear-oblong, 5–7 mm, with filiform trichomes. Ovary ovoid, glabrous, (4 or)5(or 6)-loculed with many ovules per locule; style simple, ca. 5 mm, glabrous. Fruit not seen. Fl. Jun–Jul.

• Forests; 900–1400 m. Yunnan (Yuanyang).

5. *Adinandra auriformis* L. K. Ling & S. Ye Liang in L. K. Ling, Fl. Reipubl. Popularis Sin. 50(1): 190. 1998.

耳基叶杨桐 *er ji ye yang tong*

Shrubs or small trees. Young branches grayish brown, glabrescent; current year branchlets densely yellowish brown spreading villous; terminal buds long conic, ca. 8 mm, yellowish brown sericeous. Petiole 1–1.5 mm, abaxially pubescent, adaxially grooved; leaf blade lanceolate to narrowly lanceolate, 7.5–12.5 × 1.9–2.5 cm, thinly leathery, abaxially yellowish green and appressed pubescent densely so along midvein, adaxially dark green and glabrous, midvein abaxially elevated and adaxially impressed, secondary veins 14–16 on each side of midvein, abaxially slightly raised, and adaxially visible, base obliquely auriculate and amplexicaul, margin inconspicuously serrulate, apex long acuminate to caudate-acuminate. Flowers axillary, solitary. Pedicel 5–7 mm, ca. 1.5 mm in diam., sparsely pubescent; bracteoles caducous. Sepals 5, ovate to long ovate, 7–9 × 5–6 mm, outside sericeous near apex, apex acute. Petals white. Stamens ca. 34, 4–4.5 mm; filaments ca. 1.5 mm, almost distinct, glabrous; anthers linear, ca. 1.5 mm, glabrous, connective exerted for ca. 1 mm. Ovary ovoid, glabrous, 5-loculed with many ovules per locule; style simple, ca. 3 mm, glabrous. Fruit ovoid, ca. 1.3 × 0.8–0.9 cm, with few seeds per locule. Seeds brown, compressed reniform, shiny.

• Guangxi (without precise locality or date).

This species is known only from the type.

6. *Adinandra filipes* Merrill ex Kobuski, J. Arnold Arbor. 28: 22. 1947.

细梗杨桐 *xi geng yang tong*

Shrubs to 4 m tall. Young branches grayish brown; current year branchlets reddish brown, appressed pubescent or glabrescent; terminal buds yellowish brown pubescent. Petiole ca. 2 mm, abaxially sparsely pubescent, adaxially grooved; leaf blade oblong-elliptic, 7–10 × 2–2.7 cm, leathery, abaxially pale green, sparsely pubescent when young but glabrescent, and reddish brown glandular punctate, adaxially dark green and glabrous, midvein abaxially elevated and adaxially impressed, secondary veins 12–15 on each side of midvein, abaxially obscure, and adaxially visible, base broadly cuneate, margin serrulate or rarely basally entire, apex acuminate. Flowers axillary, solitary. Pedicel 2–4 cm, slender, recurved; bracteoles caducous. Sepals ovate to oblong-ovate, 5–8 mm, outside obscurely pubescent, margin ciliolate, apex acute. Petals white, 7–8 mm, glabrous. Stamens 5–6 mm; anthers with filiform trichomes. Ovary densely pubescent, 3-loculed; style ca. 6 mm, pubescent, apically 3-parted. Fruit ovoid, ca. 1 cm in diam., sparsely pubescent. Fl. Apr, fr. Aug–Sep.

• Forests; 1400–1600 m. Guangxi (Lingyun).

7. *Adinandra integerrima* T. Anderson ex Dyer in J. D. Hooker, Fl. Brit. India 1: 282. 1874.

全缘叶杨桐 *quan yuan ye yang tong*

Adinandra lutescens Craib; *A. phlebophylla* Hance.

Trees 5–15 m tall. Young branches grayish brown, glabrous; current year branchlets densely fulvous pubescent; terminal buds fulvous sericeous. Petiole 5–7(–12) mm, appressed pu-

bescent when young but glabrescent; leaf blade oblong-elliptic to oblong-ovate, 8–13 × 3–5 cm, leathery, abaxially pale green, sparsely appressed pubescent or glabrescent, and becoming yellowish green when dry, adaxially dark green, slightly shiny, and glabrous, midvein abaxially elevated and adaxially impressed, secondary veins 12–16 on each side of midvein and raised on both surfaces, base broadly cuneate, margin entire or apical portion undulately denticulate, apex acuminate. Flowers axillary, solitary. Pedicel 2–3.5 cm, thick, recurved, appressed pubescent or glabrescent; bracteoles caducous, ovate to long ovate, 2–3.5 mm, sparsely pubescent. Sepals ovate to triangular-ovate, 1–1.3 × 1–1.3 cm, leathery, outside sparsely pubescent or glabrescent, margin glandular and ciliolate, apex acute. Petals white, broadly ovate to oblong-ovate, 8–10 × 5–6 mm, outside yellowish sericeous along median portion, apex obtuse to acute. Stamens ca. 30, 5–6 mm; filaments 1.5–2 mm, glabrous, basally slightly connate; anthers oblong, 2.5–3 mm, with filiform trichomes, connective exerted. Ovary depressed globose, yellowish brown sericeous, 5-loculed with many ovules per locule; style simple, 3–5 mm, sericeous. Fruit red when mature, ovoid to globose, 1–1.7 cm in diam., many seeded, appressed pubescent. Seeds brown, compressed-reniform, small, shiny. Fl. Apr–May, fr. Sep–Oct.

Forests in valleys or on mountain slopes; 700–1900 m. S and SE Yunnan [Cambodia, Malaysia, Myanmar, Thailand, Vietnam].

8. *Adinandra lasiostyla* Hayata, J. Coll. Sci. Imp. Univ. Tokyo 30(1): 42. 1911.

毛柱杨桐 mao zhu yang tong

Trees 8–15 m tall. Young branches grayish brown, glabrous; current year branchlets yellowish brown appressed pubescent; terminal buds yellowish brown appressed pubescent. Petiole 3–5 mm, pubescent; leaf blade oblong-elliptic, 8–13 × 2–5 cm, leathery, abaxially pale green and appressed pubescent, adaxially shiny green and glabrous, secondary veins ca. 12 on each side of midvein, abaxially ± visible, and adaxially obscure, base broadly cuneate, margin entire or obscurely serrulate, apex acuminate. Flowers axillary, solitary. Pedicel ca. 5 mm, recurved, pubescent; bracteoles caducous. Sepals ovate, ca. 6 × 5 mm, outside pubescent, margin glandular. Petals white, oblong, ca. 9 × 5 mm, outside sericeous along median portion, apex obtuse and sometimes mucronate. Stamens 20–25, 5–5.5 mm; filaments 1.5–2 mm, distinct, glabrous; anthers linear-oblong, ca. 2.5 mm, with filiform trichomes, connective exerted for 1–1.5 mm. Ovary subglobose, densely sericeous, 3-loculed with many ovules per locule; style ca. 1 cm, completely united, basally sericeous. Fruit globose, ca. 5 mm in diam., many seeded, sparsely pubescent. Fl. May, fr. Oct.

• Forests; 2200–2500 m. C and S Taiwan.

9. *Adinandra epunctata* Merrill & Chun, Sunyatsenia 5: 132. 1940.

无腺杨桐 wu xian yang tong

Trees 12–18 m tall. Young branches grayish brown, glabrescent; current year branchlets ferruginous appressed pubescent; terminal buds conic, densely ferruginous sericeous. Petiole 0.8–1.5 cm, appressed pubescent; leaf blade elliptic-oblong,

5–11 × 2–4 cm, leathery, abaxially pale green becoming ferruginous brown when dry, grayish brown appressed pubescent or glabrescent, and not glandular punctate, adaxially dark green, shiny, and glabrous, midvein abaxially elevated and adaxially impressed, secondary veins 12–15 on each side of midvein and adaxially visible, base cuneate, margin entire, apex abruptly acute. Flowers axillary, solitary or rarely paired, ca. 1 cm in diam. Pedicel ca. 7 mm, slightly recurved, densely grayish brown pubescent; bracteoles persistent, ovate, ca. 3 × 1.7–2 mm, outside densely pubescent, apex acute. Sepals ovate, ca. 5 × 3–3.5 mm, outside densely yellowish brown appressed pubescent, apex acute. Petals white, oblong-ovate, 6–7 × 3–4 mm, outside yellowish brown sericeous along median portion, basally slightly connate, apex rounded to obtuse. Stamens ca. 25, unequal, 4–6 mm; filaments 2–4 mm, pubescent; anthers lanceolate, 1.5–2 mm, with filiform trichomes, connective exerted. Ovary conic to ovoid, densely gray sericeous, 3-loculed; style 3–4 mm, completely united, sericeous. Fruit ovoid, ca. 5 × 4 mm, 3-loculed with 7–10 seeds per locule, sericeous. Seeds brown, shiny. Fl. Nov–Dec.

• Forests on mountaintops; ca. 1300 m. Hainan (Ding'an).

10. *Adinandra glischroloma* Handel-Mazzetti, Anz. Akad. Wiss. Wien, Math.-Naturwiss. Kl. 60: 96. 1924.

两广杨桐 liang guang yang tong

Shrubs or trees, 3–8 m tall. Young branches grayish brown; current year branchlets and terminal buds densely spreading yellowish brown or ferruginous villous. Petiole 8–10 mm, densely hirsute; leaf blade oblong-elliptic, 8–13 × 2.5–4.5 cm, leathery, abaxially yellowish green and yellowish brown to ferruginous hirsute with trichomes projecting beyond margin, adaxially dark green and glabrous, secondary veins 10–12 on each side of midvein and conspicuous on both surfaces, base cuneate to rarely rounded, margin entire, apex acuminate. Flowers axillary, 2 or 3 in a cluster, rarely solitary. Pedicel 0.6–1.5 cm, often recurved, densely hirsute; bracteoles caducous. Sepals broadly ovate, 5–14 mm, outside densely ferruginous hirtellous, apex acute. Petals white, oblong to ovate-oblong, 8–15 × 4–6 mm, outside hirtellous along median portion, apex rounded. Stamens 25–30, 5–9 mm; filaments glabrous; anthers linear, 2–4.5 mm, with filiform trichomes, connective exerted. Ovary ovoid, densely hirsute, 3-loculed with many ovules per locule; style ca. 8 mm, completely united, densely hirsute on basal 2/3 or entire length. Fruit black when mature, globose, 0.8–1.3 cm in diam., densely hirsute. Fl. May–Jun, fr. Sep–Oct.

• Forests, thickets; 200–1800 m. Fujian, Guangdong, E and S Guangxi, S Hunan, E and S Jiangxi, S Zhejiang.

- 1a. Older leaf blades abaxially densely ferruginous hirsute on entire surface, trichomes to 5 mm 10c. var. *jubata*
- 1b. Older leaf blades abaxially densely hirsute at margin otherwise sparsely hirsute or glabrescent, trichomes to 3 mm.
 - 2a. Sepals 5–7 mm; petals ca. 0.8 cm 10a. var. *glischroloma*
 - 2b. Sepals 11–14(–15) mm; petals

1.3–1.5 cm 10b. var. *macrosepala*

10a. *Adinandra glischroloma* var. *glischroloma*

两广杨桐(原变种) liang guang yang tong (yuan bian zhong)

Adinandra chinensis Merrill & F. P. Metcalf.

Older leaf blades abaxially densely hirsute at margin otherwise sparsely hirsute or glabrescent, trichomes to 3 mm. Sepals 5–7(–8) mm. Petals ca. 8 mm. Fruit 8–9 mm in diam. Fl. May–Jun, fr. Sep–Oct.

• Forests on mountain slopes or in valleys; 600–1800 m. N Guangdong, E Guangxi, S Hunan, S Jiangxi.

10b. *Adinandra glischroloma* var. *macrosepala* (F. P. Metcalf) Kobuski, J. Arnold Arbor. 28: 20. 1947.

大薯杨桐 da e yang tong

Adinandra macrosepala F. P. Metcalf, Lingnan Sci. J. 11: 18. 1932.

Older leaf blades abaxially densely hirsute at margin otherwise sparsely hirsute or glabrescent, trichomes to 3 mm. Sepals 1.1–1.4(–1.5) cm. Petals 1.3–1.5 cm. Fruit to 1.3 cm in diam. Fl. May–Jul, fr. Sep.

• Forests, thickets; 200–1700 m. Fujian, N Guangdong, E Guangxi, E and S Jiangxi, S Zhejiang.

10c. *Adinandra glischroloma* var. *jubata* (H. L. Li) Kobuski, J. Arnold Arbor. 28: 21. 1947.

长毛杨桐 chang mao yang tong

Adinandra jubata H. L. Li, J. Arnold Arbor. 25: 422. 1944.

Older leaf blades abaxially densely ferruginous hirsute on entire surface, trichomes to 5 mm. Fl. May–Jun, fr. Sep–Oct.

• Forests. S Fujian, Guangdong, S Guangxi.

11. *Adinandra hirta* Gagnepain, Notul. Syst. (Paris) 10: 113. 1942.

粗毛杨桐 cu mao yang tong

Shrubs or trees, 3–15(–25) m tall. Current year branchlets densely brown to ferruginous spreading hirsute, indumentum ± persistent; terminal buds densely brown to ferruginous hirsute. Petiole 5–7 mm, ferruginous hirsute; leaf blade oblong-elliptic to elliptic, 9–12.5(–16) × 3–4.5(–5.8) cm, leathery, abaxially yellowish green, densely grayish brown to ferruginous hirsute with trichomes projecting beyond margin, and becoming brown when dry, adaxially green to yellowish green and glabrous, midvein abaxially elevated and adaxially impressed, secondary veins 10–13 on each side of midvein and raised on both surfaces, base broadly cuneate, margin entire and densely hirsute, apex acuminate. Flowers axillary, solitary or to 3 in a cluster. Pedicel 5–6 mm, hirsute; bracteoles persistent, ovate to broadly ovate, 4–10 × 3–5 mm, outside hirtellous, apex acute. Sepals ovate to long ovate, 8–11 × 3.5–5 mm, outside densely yellowish brown hirtellous, inside glabrous, apex acute. Petals

white, long ovate to ovate-lanceolate, 10–12 × 4–5 mm, outside glabrous. Stamens 30–35, 8–9 mm; filaments 4–5 mm, pubescent, basally adnate to petals; anthers linear, 3–4 mm, with filiform trichomes, connective exerted. Ovary densely hirtellous, 3-loculed with many ovules per locule; style 8–10 mm, completely united, hirtellous, only basally hirtellous, or glabrous. Fruit globose, ca. 8 mm in diam., densely hirtellous. Fl. Apr–May, fr. Jul–Aug.

• Forests on mountain slopes or in valleys; 400–1900 m. SW Guangdong, E, N, and SW Guangxi, SE Guizhou, SE Yunnan.

1a. Bracteoles 4–6 × 3–4 mm; style hirtellous on entire length 11a. var. *hirta*

1b. Bracteoles 6–10 × 4.5–5 mm; style slender, glabrous or only basally hirtellous 11b. var. *macrobracteata*

11a. *Adinandra hirta* var. *hirta*

粗毛杨桐(原变种) cu mao yang tong (yuan bian zhong)

Adinandra glischroloma Handel-Mazzetti var. *hirta* (Gagnepain) Kobuski.

Bracteoles 4–6 × 3–4 mm. Style hirtellous on entire length.

• Forests on mountain slopes or in valleys; 400–1900 m. SW Guangdong, N and SW Guangxi, SE Guizhou, SE Yunnan.

11b. *Adinandra hirta* var. *macrobracteata* L. K. Ling, Fl. Reipubl. Popularis Sin. 50(1): 191. 1998.

大薯粗毛杨桐 da e cu mao yang tong

Bracteoles 6–10 × 4.5–5 mm. Style slender, glabrous or only basally hirtellous.

• Forests on mountain slopes or in valleys; 700–1000 m. E and N Guangxi, SE Guizhou.

12. *Adinandra formosana* Hayata, J. Coll. Sci. Imp. Univ. Tokyo 22: 45. 1906.

台湾杨桐 tai wan yang tong

Shrubs or small trees. Young branches grayish brown, glabrous; current year branchlets reddish brown, grayish brown pubescent; terminal buds pubescent. Petiole 3–7 mm, pubescent or glabrescent; leaf blade ovate-oblong, obovate-oblong, oblong, or elliptic, (4–)5–9 × (2–)2.5–3.5 cm, thinly leathery, abaxially pale green and sparsely pubescent or glabrescent, adaxially shiny green and glabrous, secondary veins 10–12 on each side of midvein and visible on both surfaces, base cuneate, margin basally entire and apically serrulate, apex shortly acuminate, acute, or obtuse. Flowers axillary, solitary. Pedicel (1.5–)2.5–3.5 cm, slender, slightly recurved; bracteoles ovate-lanceolate, lanceolate, or linear, (2–)4–5 × (1–)2(–3) mm, outside sparsely pubescent to subglabrous. Sepals ovate to ovate-lanceolate, 7–9 × 3–5 mm, outside sparsely pubescent to subglabrous, margin glandular, apex acute. Petals white, oblong-ovate, 7–10 × 4–6 mm, outside glabrous, apex acute. Stamens 20–25, 6–7 mm; filaments 2–3 mm, glabrous; anthers linear-

lanceolate, 2–2.5 mm, with filiform trichomes, connective exerted. Ovary pubescent, 3-loculed with many ovules per locule; style 4–5 mm, completely united, glabrous. Fruit globose, 7–8 mm in diam., many seeded, sparsely pubescent. Seeds brown, shiny. Fl. Apr–Jun, fr. Aug–Sep.

- Forests, thickets; 200–1900 m. Taiwan.

- 1a. Leaf blade apex acute, acuminate, or shortly caudate; bracteoles ovate-lanceolate to obovate-lanceolate, 2–3 mm wide 12a. var. *formosana*
1b. Leaf blade apex obtuse to shortly acute; bracteoles linear, ca. 1 mm wide 12b. var. *obtusissima*

12a. *Adinandra formosana* var. *formosana*

台湾杨桐(原变种) tai wan yang tong (yuan bian zhong)

Adinandra formosana var. *caudata* H. Keng; *A. formosana* var. *hypochlora* (Hayata) Yamamoto ex H. Keng; *A. hypochlora* Hayata; *A. millettii* (Hooker & Arnott) Bentham & J. D. Hooker ex Hance var. *formosana* (Hayata) Kobuski; *A. pedunculata* Hayata.

Petiole 3–7 mm; leaf blade ovate-oblong, obovate-oblong, or oblong, 5–9 × 2.5–3.5 cm, apex acute, shortly acuminate, or caudate. Bracteoles ovate-lanceolate to obovate-lanceolate, 2–3 mm wide.

- Forests, thickets; 200–1900. Taiwan.

12b. *Adinandra formosana* var. *obtusissima* (Hayata ex Yamamoto) H. Keng, *Taiwania* 1: 245. 1950.

钝叶台湾杨桐 dun ye tai wan yang tong

Adinandra obtusissima Hayata ex Yamamoto, *J. Soc. Trop. Agric.* 5: 347. 1933; *A. millettii* var. *obtusissima* (Hayata ex Yamamoto) Kobuski.

Petiole 5–7 mm; leaf blade elliptic, 4–8 × 2–3.5 cm, apex very obtuse to shortly acute. Bracteoles linear, ca. 1 mm wide.

- Forests; 400–1000 m. S Taiwan.

13. *Adinandra millettii* (Hooker & Arnott) Bentham & J. D. Hooker ex Hance, *J. Bot.* 16: 9. 1878.

杨桐 yang tong

Cleyera millettii Hooker & Arnott, *Bot. Beechey Voy.* 171. 1833; *Adinandra drakeana* Franchet; *A. hemsleyi* Handel-Mazzetti ex F. P. Metcalf.

Shrubs or trees, 2–10(–16) m tall. Young branches brown, glabrous; current year branchlets grayish brown appressed pubescent; terminal buds appressed pubescent. Petiole 3–5 mm, sparsely pubescent or glabrescent; leaf blade oblong-elliptic, 4.5–9 × 2–3 cm, leathery, abaxially pale green to yellowish green and appressed pubescent when young but glabrescent, adaxially shiny green and glabrous, secondary veins 10–12 on each side of midvein and visible on both surfaces, base cuneate,

margin entire or apically sparsely serrate, apex shortly acuminate to rarely acuminate and with an obtuse tip. Flowers axillary, solitary. Pedicel ca. 2 cm, slender, sparsely pubescent or glabrescent; bracteoles caducous, linear-lanceolate, 2–3 × ca. 1 mm. Sepals ovate-lanceolate to ovate-triangular, 7–8 × 4–5 mm, outside sparsely pubescent or glabrescent, margin ciliolate and glandular, apex acute. Petals white, ovate-oblong to oblong, ca. 9 × 4–5 mm, glabrous, apex acute. Stamens ca. 25, 6–7 mm; filaments ca. 3 mm, distinct or nearly so, glabrous or apically white pubescent; anthers linear-oblong, 1.5–2.5 mm, with filiform trichomes, connective exerted. Ovary globose, pubescent, 3-loculed with many ovules per locule; style 7–8 mm, completely united, glabrous. Fruit black when mature, globose, ca. 1 cm in diam., many seeded, pubescent. Seeds shiny brown. Fl. May–Jul, fr. Aug–Oct.

Thickets or forests on mountain slopes; 100–1300(–1800) m. Anhui, Fujian, Guangdong, Guangxi, E Guizhou, SE Hubei, S Hunan, Jiangxi, SW Zhejiang [Vietnam].

14. *Adinandra lancipetala* L. K. Ling, *Fl. Reipubl. Popularis Sin.* 50(1): 192. 1998.

狭瓣杨桐 xia ban yang tong

Shrubs or trees, 2–18 m tall. Young branches grayish brown, glabrous; current year branchlets densely yellowish brown spreading villous; terminal buds yellowish brown spreading villous. Petiole 2–3 mm, pubescent; leaf blade lanceolate to oblong-lanceolate, 6–10 × 1.7–3 cm, thinly leathery, abaxially pale green and densely yellowish brown appressed pubescent particularly along midvein, adaxially dark green and glabrous, secondary veins 10–13 on each side of midvein and visible on both surfaces or abaxially slightly raised, base broadly cuneate to rounded, margin entire, apex acuminate, long acuminate, or rarely subcaudate. Flowers axillary, solitary or paired. Pedicel 5–9 mm, densely pubescent; bracteoles persistent, ovate to long ovate, 1–3 mm, outside densely pubescent, apex acute. Sepals long ovate, 4–6 × 2–2.5 mm, outside densely yellowish brown appressed pubescent, margin ciliolate or sometimes intermixed with glands, apex acute. Petals yellowish white, lanceolate to obovate-lanceolate, 6–12 × 2–3 mm, outside densely yellowish brown sericeous along median portion, apex acuminate. Stamens 15–17, 4–6 mm; filaments 1.5–2 mm, nearly distinct, glabrous; anthers linear-lanceolate, 2–2.5 mm, with filiform trichomes, connective exerted for 1–1.5 mm. Ovary ovoid, yellowish brown tomentose, 3-loculed with many ovules per locule; style 4–9 mm, completely united, glabrous. Fruit globose, ca. 8 mm in diam., many seeded; persistent sepals reflexed. Seeds brown, compressed reniform, shiny. Fl. Jan–Feb, fr. May–Jun.

Forests on mountain slopes or tops; 500–1000 m. Guangxi (Longzhou), Yunnan (Funing) [N Vietnam].

15. *Adinandra bockiana* E. Pritzl, *Bot. Jahrb. Syst.* 29: 474. 1900.

川杨桐 chuan yang tong

Shrubs or trees, 2–9 m tall. Young branches blackish brown, glabrous or subglabrous; current year branchlets, terminal buds, petioles, and pedicels densely yellowish brown to fer-

ruginous spreading villous or grayish brown appressed pubescent. Petiole 5–7 mm; leaf blade oblong to oblong-ovate, 9–13 × 3–4 cm, leathery, abaxially pale green and densely yellowish brown to ferruginous villous or sparsely appressed pubescent to glabrescent, adaxially dark green and shiny, secondary veins 11–12 on each side of midvein and inconspicuous on both surfaces, base cuneate, margin entire and slightly revolute, apex acuminate to long acuminate and with a 1–2 mm acumen. Flowers axillary, solitary. Pedicel 1–2 cm; bracteoles caducous, linear-oblong, 3–4 × ca. 1.5 mm, densely villous. Sepals broadly ovate to ovate, 5–6 × 3.5–4 mm, margin glandular and ciliolate, apex obtuse to rounded and mucronate. Petals white, broadly ovate, 6–7 × 4–5 mm, outside yellowish brown sericeous along median portion, apex rounded and mucronate. Stamens 25–30, ca. 5 mm; filaments 1.5–2.5 mm, distinct, glabrous; anthers linear-lanceolate, 1.5–2 mm, with filiform trichomes, connective exerted. Ovary globose, sericeous, 3-loculed with many ovules per locule; style, 5–6 mm, completely united, glabrous. Fruit purplish black when mature, globose, ca. 1 cm in diam., many seeded, sparsely pubescent; persistent sepals not reflexed. Seeds reddish brown, shiny. Fl. Jun–Aug, fr. Sep–Nov.

• Forests, forest margins, or thickets on mountain slopes or in valleys; 200–1500 m. Fujian, E and N Guangdong, Guangxi, S and W Guizhou, S and W Hunan, E and S Jiangxi, E Sichuan.

- 1a. Current year branchlets and terminal buds densely spreading villous 15a. var. *bockiana*
1b. Current year branchlets and terminal buds appressed pubescent 15b. var. *acutifolia*

15a. *Adinandra bockiana* var. *bockiana*

川杨桐(原变种) chuan yang tong (yuan bian zhong)

Current year branchlets, terminal buds, petioles, and pedicels densely yellowish brown to ferruginous spreading villous. Leaf blade abaxially villous particularly along midvein and margin. Fl. Jun–Jul, fr. Sep–Oct.

• Forests or thickets on mountain slopes; 800–1300 m. N Guangxi, S and W Guizhou, E Sichuan.

15b. *Adinandra bockiana* var. *acutifolia* (Handel-Mazzetti) Kobuski, J. Arnold Arbor. 28: 17. 1947.

尖叶川杨桐 jian ye chuan yang tong

Adinandra acutifolia Handel-Mazzetti, Anz. Akad. Wiss. Wien, Math.-Naturwiss. Kl. 59: 105. 1922.

Current year branchlets, terminal buds, petioles, and pedicels appressed pubescent. Leaf blade abaxially sparsely pubescent to glabrescent. Fl. Jun–Aug, fr. Sep–Nov.

• Forests or forest margins on mountain slopes or in valleys; 200–1500 m. Fujian, E and N Guangdong, Guangxi, S and W Hunan, E and S Jiangxi.

16. *Adinandra elegans* F. C. How & W. C. Ko ex Hung T. Chang, Acta Sci. Nat. Univ. Sunyatseni 6(1): 27. 1960.

长梗杨桐 chang geng yang tong

Shrubs to 1.5 m tall. Young branches grayish brown, gla-

brous; current year branchlets pale reddish brown, sparsely pubescent or almost glabrous; terminal buds appressed pubescent. Petiole ca. 1 mm, subglabrous; leaf blade narrowly lanceolate to oblanceolate, 4–6(–7) × 1–1.5 cm, thinly leathery, abaxially pale green and sparsely appressed pubescent or glabrescent, adaxially dark green, shiny, and glabrous, secondary veins ca. 10 on each side of midvein and obscure on both surfaces, base cuneate, margin undulate serrate, apex obtuse and with a retuse tip. Flowers axillary, solitary. Pedicel 2–3 cm, slender, recurved, glabrous; bracteoles caducous, linear, ca. 3 mm, glabrous. Sepals ovate-lanceolate, ca. 5 mm, outside glabrous, margin glandular or ciliolate, apex acute. Petals white, oblong-ovate, 8–10 × ca. 4 mm, outside sericeous along median portion. Stamens ca. 25, 4–6 mm; filaments glabrous; anthers linear-oblong, shorter than filaments, with filiform trichomes. Ovary ovoid, glabrous, 3-loculed with many ovules per locule; style ca. 3 mm, villous, apically 3-parted. Fruit black, ovoid, 6–7 mm in diam., many seeded. Seeds brown, compressed reniform, shiny. Fl. Jun–Jul, fr. Sep–Oct.

• Thickets along streams or on rocks; 400–500 m. Guangdong (Yangchun).

17. *Adinandra pingbianensis* L. K. Ling, Fl. Reipubl. Popul. Sin. 50(1): 188. 1998.

屏边杨桐 ping bian yang tong

Trees 12–25 m tall. Current year branchlets reddish brown, sparsely appressed pubescent or glabrescent; terminal buds densely tawny sericeous. Petiole 1–1.2 cm, subglabrous; leaf blade obovate-elliptic to oblong-elliptic, 8–12.5 × 2.7–3.8 cm, leathery, abaxially pale green, sparsely appressed pubescent particularly along midvein, glabrescent, and sparsely reddish brown glandular punctate, adaxially green and glabrous, midvein abaxially elevated and adaxially impressed, secondary veins 12–14 on each side of midvein, abaxially slightly visible, and adaxially obscure, base cuneate, margin serrulate, apex abruptly shortly acuminate to shortly caudate. Flowers axillary, 2 or 3 in a cluster. Pedicel 6–8 mm, ascending to rarely slightly recurved, sparsely pubescent; bracteoles caducous. Sepals ovate, ca. 1.5 × 1.5 mm, outside sparsely pubescent or glabrescent, margin ciliolate, apex rounded and mucronate. Petals white, oblong to obovate-oblong, ca. 8 × 4 mm, outside glabrous, apex rounded. Stamens 17–20, 4–6 mm; filaments 2.5–4.5 mm, almost distinct, basally glabrous, apical 1/2 with dense filiform trichomes; anthers ovoid, ca. 1 mm, with filiform trichomes, connective exerted. Ovary ovoid, glabrous, 3- or 4-loculed with many ovules per locule; style 3–4 mm, glabrous, apically 3- or 4-lobed. Immature fruit ovoid, ca. 5 mm in diam., with 7–10 seeds, glabrous. Seeds brown, shiny. Fl. Apr–May.

• Forests on mountain slopes; 1200–1300 m. Yunnan (Jinping, Pingbian).

18. *Adinandra nitida* Merrill ex H. L. Li, J. Arnold Arbor. 25: 422. 1944.

亮叶杨桐 liang ye yang tong

Shrubs or trees, 4–20 m tall. Young branches grayish brown; current year branchlets purplish brown, glabrous; terminal buds apically appressed pubescent. Petiole 1–1.5 cm, gla-

brous; leaf blade ovate-oblong to oblong-elliptic, 7–13 × 2.5–4 cm, thickly leathery, abaxially pale green, adaxially dark green and shiny, both surfaces glabrous or abaxially sparsely appressed pubescent when young, midvein abaxially elevated and adaxially level, secondary veins 12–16 on each side of midvein and visible on both surfaces, base cuneate, margin serrulate, apex acuminate. Flowers axillary, solitary. Pedicel 1–2 cm, glabrous; bracteoles persistent, ovate to oblong, 6–10 × 3–5 mm, glabrous, apex acute to obtuse. Sepals ovate, ca. 1.5 × 0.7–0.9 cm, glabrous, apex acute and mucronate. Petals white, oblong-ovate, 1.7–1.9 × 0.9–1.2 cm, glabrous, apex obtuse to rounded. Stamens 25–30, 6–11 mm; filaments 2–5 mm, basally connate and adnate to petals; anthers linear-lanceolate, 4–6 mm, with filiform trichomes, connective exerted. Ovary ovoid, glabrous, 3-loculed with many ovules per locule; style ca. 1 cm, glabrous, apically 3-lobed. Fruit orange to yellow when mature, globose to ovoid, ca. 1.5 cm in diam., many seeded. Seeds brown, shiny. Fl. Jun–Jul, fr. Sep–Oct.

• Forests on mountain slopes or along streams; 500–1000 m. Guangdong, E and S Guangxi, SE Guizhou.

19. *Adinandra retusa* D. Fang & D. H. Qin, Acta Bot. Yunnan. 24: 709. 2002.

凹萼杨桐 ao e yang tong

Shrubs to 1 m tall. Young branches terete, 2.5–5 mm thick, glabrous; terminal buds long conic, 1.8–2.3 cm, glabrous. Petiole 0.5–1.2 cm, thick, glabrous, adaxially grooved; leaf blade elliptic to rarely broadly obovate, 4.5–12.5 × 2.7–6 cm, thickly leathery, abaxially dark brown glandular punctate and ferruginous when dry, adaxially dark green and shiny, both surfaces glabrous, midvein abaxially elevated and adaxially impressed, secondary veins 17–25 on each side of midvein, abaxially obscure, and adaxially slightly visible, base broadly cuneate to cuneate and decurrent, margin entire, apex abruptly acute, obtuse, or retuse. Flowers axillary, solitary or paired. Pedicel 1–1.6 cm, apically thickened, glabrous; bracteoles caducous. Sepals broadly orbicular to suborbicular, 3–4 × 4–5 mm, thickly leathery, glabrous, margin ciliolate, apex retuse. Petals and stamens not seen. Ovary ovoid, glabrous, 3-loculed with 20–30 ovules per locule; style 7–8 mm, glabrous, apex slightly 2-lobed. Fruit not seen. Fl. Jun–Jul.

• Forests on limestone hills; 1200–1300 m. Guangxi (Napo).

20. *Adinandra howii* Merrill & Chun, Sunyatsenia 5: 131. 1940.

保亭杨桐 bao ting yang tong

Trees 6–7 m tall. Young branches reddish brown, glabrous; current year branchlets grayish brown, sparsely appressed pubescent when young but glabrescent; terminal buds ovate, ca. 1.5 cm, densely gray appressed pubescent. Petiole 3–5 mm, sparsely pubescent or glabrescent; leaf blade oblong-elliptic, 6–11 × 2.5–4 cm, leathery, abaxially pale green and appressed pubescent when young but glabrescent, adaxially dark green, shiny, and glabrous, secondary veins 15–20 on each side of midvein and visible on both surfaces, base cuneate, margin serrulate, apex acuminate. Flowers axillary, solitary. Pedicel

1.5–2 cm, glabrous; bracteoles caducous. Sepals broadly ovate to ovate, 6–8 × 4–5 mm, glabrous, margin entire or reddish brown glandular serrulate, apex obtuse. Petals white, ovate, 8–11 × 6–8 mm, outside gray appressed pubescent along median portion. Stamens 30–35, 5–6 mm; filaments 3–4 mm, almost distinct, glabrous; anthers ovate to linear-oblong, 1–1.5 mm, with filiform trichomes, connective exerted. Ovary ovoid, glabrous, 3-loculed with many ovules per locule; style 3–3.5 mm, completely united, glabrous. Fruit red when mature, ovoid, ca. 1 cm in diam., many seeded. Seeds brown. Fl. Jul–Aug, fr. Oct–Sep.

• Forests on mountain slopes or along streams; 900–2300 m. Hainan.

21. *Adinandra nigroglandulosa* L. K. Ling, Fl. Reipubl. Popularis Sin. 50(1): 193. 1998.

腺叶杨桐 xian ye yang tong

Trees 10–20 m tall. Young branches grayish brown, glabrous; current year branchlets reddish brown, sparsely appressed pubescent when young but glabrescent; terminal buds ovate, gray to grayish yellow sericeous. Petiole 1.5–2 cm, glabrous or sparsely pubescent when young; leaf blade oblong-elliptic to elliptic, 9.5–14 × 3.5–5.5 cm, leathery, abaxially densely reddish brown glandular punctate, when dry abaxially pale yellowish green and adaxially yellowish green, both surfaces glabrous, midvein abaxially elevated and adaxially impressed, secondary veins 11–13 on each side of midvein and raised on both surfaces when dry, base broadly cuneate to cuneate, margin serrulate, apex acuminate to abruptly shortly acuminate. Flowers axillary, solitary or to 3 in a cluster. Pedicel 1–1.5 cm, slightly recurved, sparsely pubescent; bracteoles caducous. Sepals oblong to oblong-ovate, 2–3.5 × 1.5–3 mm, outside sparsely appressed pubescent, margin ciliolate and some

times glandular, apex rounded and retuse with a mucronate tip. Petals white, broadly obovate to oblong-obovate, 8–11 × 6–7 mm, outside glabrous, apex rounded to emarginate. Stamens ca. 32, 4–6 mm; filaments 2–3.5 mm, basally almost distinct, apical 1/2 with dense filiform trichomes; anthers ca. 1.5 mm, with filiform trichomes, connective exerted for ca. 1 mm. Ovary ovoid, glabrous, 3-loculed with many ovules per locule; style 4–6 mm, completely united, glabrous. Immature fruit ovoid to globose, ca. 9 mm in diam., with 8 or 9 seeds per locule. Seeds brown, shiny. Fl. Aug–Sep, fr. Nov–Dec.

• Forests or thickets on mountain slopes; 1300–1700 m. Yunnan (Hekou, Malipo, Xichou).

Flora of China 12: 435–443. 2007.