

21. BEILSCHMIEDIA Nees in Wallich, Pl. Asiat. Rar. 2: 61, 69. 1831.

琼楠属 qiong nan shu

Li Xiwen (李锡文 Li Hsi-wen), Li Jie (李捷); Henk van der Werff

Lauromerrillia C. K. Allen.

Evergreen trees or shrubs. Terminal buds mostly conspicuous. Leaves opposite, subopposite, or alternate, leathery, thickly leathery, or papery, very rarely membranous, entire, pinninerved, veins usually conspicuous. Flowers small, bisexual. Inflorescences short, mostly cymose-paniculate, sometimes as axillary flower-bundles or subracemose, sometimes covered by imbricate caducous bracts when young; peduncles and pedicels enlarged or not enlarged after anthesis. Perianth tube short; perianth segments 6(or 8), equal or almost equal. Fertile stamens (6 or 8 or 9); filaments of 1st and 2nd whorls glandless, those of 3rd whorl generally each with 2 stalked or stalkless glands at base, anthers 2-celled, anther cells of 1st and 2nd whorls introrse, those of 3rd whorl extrorse. Staminodes of 4th whorl, ovoid, cordate, or deltoid, shortly stalked. Ovary attenuate at apex into a style. Fruits baccate, ellipsoid, ovoid-ellipsoid, cylindric, obovoid, or subglobose; fruiting pedicels swollen or not swollen; perianth in fruit generally wholly deciduous.

About 300 species: mainly in tropical Africa, SE Asia, Australasia, and America; 39 species (33 endemic) in China.

Beilschmiedia supraglandulosa Y. K. Li (Guihaia 5: 344. 1985) was described from SE Guizhou (Sandu) but could not be treated here because no material was seen by the present authors.

1a. Terminal buds glabrous.

2a. Leaf blade abaxially densely glandular-punctate.

3a. Leaf blade large, 12.5–40 × 7–21 cm, thickly papery, ovate to ovate-oblong 23. *B. fasciata*

3b. Leaf blade smaller, 7–16 × 2.5–5.5 cm, papery or leathery, narrowly elliptic or lanceolate.

4a. Leaf blade papery, narrowly elliptic, adaxially gray-brown and abaxially purple-black when dry, apex acuminate or long acuminate, always falcate-curved; terminal buds small; fruits oblong-ellipsoid, 3–4.3 cm 24. *B. pergamentacea*

4b. Leaf blade leathery, lanceolate or narrowly elliptic, adaxially green-brown or gray-brown and abaxially dark brown or purple-black when dry, apex obtuse or shortly acuminate; terminal buds large; fruits obovoid or subturbinate, ca. 3 cm 25. *B. robusta*

2b. Leaf blade abaxially not glandular-punctate.

5a. Midrib adaxially plane or elevated.

6a. Leaf apex rounded 26. *B. longepetiolata*

6b. Leaf apex not rounded.

7a. Leaves alternate, leaf blade ovate or ovate-lanceolate, abaxially powdery green or powdery brown, veins densely reticulate, adaxially foveolate when dry 27. *B. glauca*

7b. Leaves opposite or alternate, leaf blade narrowly elliptic or ovate-lanceolate, dark brown and shiny when dry, veins sparsely foveolate on both surfaces when dry 28. *B. erythrophloia*

5b. Midrib adaxially impressed (at least near base).

8a. Fruits small, ellipsoid or subglobose, less than 2 cm, always verruculose.

9a. Leaf blade large, (6–)8–12 × (2.5–)3–4.5 cm; inflorescences axillary 29. *B. fordii*

9b. Leaf blade small, 2.5–8 × 1–2.8(–3) cm; inflorescences terminal and/or axillary.

10a. Leaf blade longer, 4–8 cm, leathery, adaxially dark brown when dry, lateral veins slightly conspicuous, veins inconspicuous, petiole 1–1.5 cm; fruits ellipsoid, ca. 1.1 cm in diam. 30. *B. brevipaniculata*

10b. Leaf blade shorter, 2.5–4(–6) cm, thinly leathery, adaxially dark gray when dry, lateral veins and reticulate veins conspicuously elevated, abaxially dark brown, petiole 2–5 mm; fruits subglobose, ca. 1.5 cm in diam. 31. *B. brevifolia*

8b. Fruits large, more than 2.5 cm, smooth or verruculose.

11a. Fruits nearly obovoid-ellipsoid, ovoid, or globose to subglobose; leaf blade veins slender, always slightly conspicuous; petiole 7–15 mm.

12a. Leaf blade oblong or oblong-elliptic, 7–14 × 3–6 cm, adaxially opaque, abaxially furfuraceous, apex acute or somewhat obtuse; fruits nearly obovoid-ellipsoid or subglobose, brown, densely furfuraceous, ca. 3.2 × 2 cm; fruiting pedicels ca. 4 mm in diam. 32. *B. furfuracea*

12b. Leaf blade narrowly elliptic or ovate-elliptic, 5–8(–10) × 2–3.5 cm, adaxially shiny, apex abruptly caudate; fruits ovoid or globose, 2.5–3 × 2.3–2.5 cm; fruiting pedicels ca. 1.5 mm in diam. 33. *B. kweichowensis*

- 11b. Fruits ellipsoid or nearly olive-shaped; leaf blade veins mostly conspicuously elevated; petiole 10–30 mm.
- 13a. Leaf base decurrent 34. *B. intermedia*
- 13b. Leaf base not decurrent.
- 14a. Lateral veins 9–13 pairs.
- 15a. Leaf blade elliptic to oblong, 9–21 × 3.5–6 cm; lateral veins 9–13 pairs; fruits 3.3–3.7 × 1.5–2.3 cm, attenuate or subrounded at both ends 38. *B. linocieroides*
- 15b. Leaf blade elliptic or lanceolate-elliptic, 7–14 × 2–5 cm; lateral veins generally 10 pairs; fruits ca. 2.8 × 1.6 cm, apex apiculate 39. *B. henghsienensis*
- 14b. Lateral veins 6–9 pairs.
- 16a. Leaf blade ovate to oblong, veins adaxially obscure; fruits ellipsoid, always verruculose 35. *B. sichourensis*
- 16b. Leaf blade elliptic or narrowly so, veins adaxially conspicuously elevated; fruits narrowly ellipsoid or ovoid-oblong, smooth.
- 17a. Fruits narrowly ellipsoid 36. *B. percoriacea*
- 17b. Fruits ovoid-oblong 37. *B. ovoidea*
- 1b. Terminal buds hairy.
- 18a. Midrib adaxially impressed.
- 19a. Terminal buds small, densely yellow-brown tomentose or gray-brown villous.
- 20a. Leaf blade large, obovate, obovate-oblong, or oblong, 15–24 × 7–11 cm; fruits cylindrical, up to 5 cm, scattered verruculose 1. *B. cylindrica*
- 20b. Leaf blade small, elliptic, 4–11 × 1.5–4.5 cm; fruits small, below 2 cm, always verruculose.
- 21a. Terminal buds and branchlets densely yellow-brown tomentose or yellow-brown puberulent; leaf blade elliptic to oblong, 6–9(–14) × 1.5–4.5 cm, apex acute with an obtuse acumen or sometimes round or incised, veins conspicuously and densely reticulate on both surfaces, somewhat laxly foveolate when dry 2. *B. tsangii*
- 21b. Terminal buds and branchlets gray-brown puberulent; leaf blade oblong, 4–7 × 1.5–2.5 cm, apex shortly acuminate or somewhat obtuse, lateral veins and veinlets adaxially inconspicuous but abaxially slightly conspicuous 3. *B. muricata*
- 19b. Terminal buds large, ferruginous tomentose or ferruginous furfuraceous.
- 22a. Branchlets, leaf blade abaxially, and petioles densely ferruginous tomentose 4. *B. obconica*
- 22b. Branchlets, leaf blade abaxially, and petioles glabrous or furfuraceous only.
- 23a. Petiole 1.5–3 cm 7. *B. laevis*
- 23b. Petiole 0.6–1.2 cm.
- 24a. Leaf blade leathery, lanceolate or narrowly elliptic, adaxially green-brown or gray-brown and abaxially always purplish when dry; fruits large, ellipsoid or subglobose, up to 5 × 4 cm, brown-furfuraceous and rugulose; apex of fruiting pedicels and base of infructescence swollen, 7–15 mm in diam. 5. *B. macropoda*
- 24b. Leaf blade papery, oblong, abaxially purplish brown and somewhat furfuraceous; fruits ellipsoid, up to 3 × 2.3 cm, narrowed into a stalk at base, ferruginous-furfuraceous when young, dark brown and glabrous when old; fruiting pedicels up to 5 mm in diam. 6. *B. purpurascens*
- 18b. Midrib adaxially elevated or plane.
- 25a. Leaf blade abaxially not glandular-punctate.
- 26a. Leaf blade leathery, veins densely reticulate, conspicuously minutely foveolate adaxially or on both surfaces.
- 27a. Leaf blade larger, 8–16(–18) × 4–6(–7.5) cm, adaxially conspicuously foveolate; petiole 1–2.5 cm 18. *B. yunnanensis*
- 27b. Leaf blade smaller, 5–11 × 2–4 cm, adaxially minutely foveolate; petiole 0.6–1.5 cm.
- 28a. Leaf blade oblong or oblong-lanceolate, rarely ovate-lanceolate, 5–11 × 2–4 cm, green-brown when dry; fruits dark brown, densely and minutely furfuraceous; fruiting pedicels ca. 2 mm in diam. 16. *B. obscurinervis*
- 28b. Leaf blade elliptic or narrowly elliptic, 6–9(–12) × 2–3(–5) cm, brownish when dry; fruits black-brown, shiny, smooth; fruiting pedicels 3–4 mm in diam. 17. *B. tungfangensis*
- 26b. Leaf blade leathery, papery, or submembranous, veins laxly reticulate, not foveolate on both surfaces.

- 29a. Fruits smooth, but slightly furfuraceous or wrinkled when dry.
 30a. Leaf blade black-brown when dry, oblong to oblong-lanceolate, 7–10 × 2–4 cm, papery or submembranous; fruits slightly furfuraceous when dry 21. *B. ningmingensis*
 30b. Leaf blade abaxially brownish when dry, narrowly elliptic to oblanceolate, 4.5–8.5 × 1.5–3.5 cm, leathery, adaxially densely glandular-spotted; fruits wrinkled when dry 22. *B. glandulosa*
 29b. Fruits densely verruculose.
 31a. Inflorescences 2–6 cm; fruits ellipsoid or obovoid-ellipsoid, 2–3 × 1–2 cm 19. *B. delicata*
 31b. Inflorescences 1.2–1.5 cm; fruits ellipsoid, ca. 3 × 1.3 cm 20. *B. brachythyrza*
 25b. Leaves abaxially (or sometimes adaxially) densely glandular-punctate.
 32a. Terminal buds densely ferruginous puberulent or ferruginous hirtellous.
 33a. Terminal buds and inflorescences densely ferruginous hirtellous 8. *B. rufohirtella*
 33b. Terminal buds and inflorescences densely ferruginous pubescent.
 34a. Leaf blade broadly elliptic or elliptic-lanceolate, 9–14 × 3.5–7 cm, apex obtuse or shortly acuminate, base subrotund or acute; panicles 4–8 cm, many ramified 9. *B. wangii*
 34b. Leaf blade lanceolate or narrowly elliptic-lanceolate, 6–13 × 2–4 cm, apex shortly acuminate with an obtuse acumen, base cuneate; panicles ca. 2 cm, few ramified 10. *B. shangsiensis*
 32b. Terminal buds yellow-brown pubescent or gray-brown pubescent.
 35a. Leaf blade submembranous or papery to subleathery, black or black-brown when dry.
 36a. Leaf blade abaxially white glandular-punctate, always alternate, submembranous, oblong to elliptic, apex acuminate, base cuneate or broadly cuneate; petiole 5–13 mm; fruits ovoid, ca. 3.3 × 2.7 cm, fruiting pedicels ca. 2 mm in diam. 11. *B. punctilimba*
 36b. Leaf blade abaxially also with glands but not white in color, opposite or sometimes alternate, papery or subleathery, elliptic to elliptic-lanceolate, apex obtuse, obtusely acuminate, acute, or subrounded, base broadly cuneate or rotund; petiole 15–20 mm; fruits ellipsoid, 4–5 × 2–3 cm, fruiting pedicels up to 7 mm in diam. 12. *B. roxburghiana*
 35b. Leaf blade leathery or thinly leathery, not black or black-brown when dry.
 37a. Leaf blade large, usually ca. 20 × 6 cm 13. *B. pauciflora*
 37b. Leaf blade small, 5–11 × 2–4.5 cm.
 38a. Fruits globose, ca. 1.8 cm in diam., densely brown furfuraceous 14. *B. baotingensis*
 38b. Fruits ellipsoid or ovoid-ellipsoid, ca. 1 cm in diam., always verruculose 15. *B. appendiculata*

1. *Beilschmiedia cylindrica* S. K. Lee & Y. T. Wei, Acta Phytotax. Sin. 17(2): 63. 1979.

柱果琼楠 zhu guo qiong nan

Shrubs to small trees. Branchlets gray, slightly striate; young branchlets and terminal buds densely yellow-brown tomentose. Leaves alternate or subopposite; petiole 7–13 mm, densely yellow-brown tomentose or later glabrate; leaf blade abaxially brownish or purple-brown when dry, adaxially gray-brown, obovate, obovate-oblong, or oblong, 15–24 × 7–11 cm, papery, densely or sparsely yellow-brown puberulent along midrib and veins on both surfaces, densely and minutely whitish punctate and verruculose, midrib abaxially elevated, adaxially impressed, midrib and lateral veins yellow-brown pubescent on both surfaces, lateral veins 12–16 pairs, abaxially more conspicuously elevated than adaxially, interconnected by transverse veins near leaf margin, veins laxly reticulate, slightly elevated on both surfaces, base broadly cuneate to subrounded, apex acute, shortly caudate-acuminate, obtuse, or subrounded. Inflorescences unknown. Infructescences short. Fruits black, cylindrical, up to 5 × 1.5 cm, conspicuously plicate, scattered verruculose; fruiting pedicels thickened, ca. 3 mm in diam. Fr. Jan.

- Valley forests. SE Yunnan (Pingbian).

2. *Beilschmiedia tsangii* Merrill, Lingnan Sci. J. 13: 27. 1934.

网脉琼楠 wang mai qiong nan

Beilschmiedia formosana C. E. Chang.

Trees, up to 25 m tall, ca. 60 cm d.b.h. Bark gray-brown or gray-black. Branchlets and terminal buds densely yellow-brown tomentose or yellow-brown puberulent. Terminal buds small. Leaves alternate or sometimes subopposite; petiole 5–14 mm, densely brown tomentose; leaf blade abaxially pallid, adaxially gray-brown or green-brown, shiny on both surfaces, elliptic to oblong, 6–9(–14) × 1.5–4.5 cm, leathery, midrib adaxially impressed, lateral veins 7–9 pairs, veins conspicuously and densely reticulate, somewhat laxly foveolate when dry, base acute or subrotund, apex acute with an obtuse acumen or sometimes round or incised. Panicles axillary, 3–5 cm, puberulent. Pedicels 1–2 mm. Flowers white or yellow-green. Perianth segments broadly ovate, puberulent outside. Filaments puberulent, those of 3rd whorl each with 2 stalkless glands near base. Staminalodes sagittate. Fruits ellipsoid, 1.5–2 cm × 9–15 mm, verruculose; fruiting pedicels 1.5–3.5 mm in diam. Fl. summer, fr. Jul–Dec.

Humid mixed forests on mountain slopes. Guangdong, Guangxi, Hainan, Taiwan, Yunnan [Vietnam].

3. *Beilschmiedia muricata* Hung T. Chang, Acta Sci. Nat. Univ. Sunyatseni 1960(1): 22. 1960.

瘤果琼楠 liu guo qiong nan

Shrubs or small trees. Branchlets gray-brown, lenticellate; young branchlets and small terminal buds gray-brown puberulent. Leaves alternate or subopposite; petiole 7–8 mm, puberulent; leaf blade abaxially gray-brown, adaxially shiny green, oblong, 4–7 × 1.5–2.5 cm, leathery, puberulent when young but soon glabrate, midrib abaxially elevated, adaxially impressed, lateral veins 7 or 8 pairs, inconspicuous, somewhat elevated abaxially, slender, green-brown adaxially, purple-brown abaxially when dry, veinlets slender, densely reticulate, conspicuous abaxially, base cuneate, apex shortly acuminate or somewhat obtuse. Inflorescences unknown. Fruits dark brown, ellipsoid, ca. 1.8 × 1.2 cm, obtuse at both ends, densely and conspicuously verruculose; fruiting pedicels ca. 2 mm in diam.

- Mixed forests. S Guangxi (Shiwan Dashan).

4. *Beilschmiedia obconica* C. K. Allen, J. Arnold Arbor. 23: 453. 1942.

锈叶琼楠 xiu ye qiong nan

Trees, up to 20 m tall. Bark grayish brown. Young branchlets and terminal buds ferruginous tomentose. Terminal buds ovoid. Leaves opposite or subopposite; petiole 1.5–2.5 cm, ferruginous tomentulose; leaf blade elliptic or oblong, 7–15 × 3.5–6.5 cm, slightly oblique, papery, abaxially ferruginous tomentulose, adaxially always glabrous, midrib abaxially elevated, adaxially impressed, lateral veins 7–11 pairs, veins elevated on both surfaces, base cuneate or rotund, apex shortly acuminate or acuminate with an obtuse acumen. Panicles subterminal, robust, less than 4 cm, ferruginous tomentulose. Fruits black, globose, minutely verruculose, brownish punctate; fruiting pedicels clavate, somewhat ferruginous tomentose. Fl. Sep, fr. Feb of next year.

- Along streamsides, humid shady places in mixed forests. Hainan (Dongfang).

5. *Beilschmiedia macropoda* C. K. Allen, J. Arnold Arbor. 23: 452. 1942.

肉柄琼楠 rou bing qiong nan

Large trees, up to 22 m tall, ca. 60 cm d.b.h. Bark blackish brown. Branchlets always narrowly angled or shallowly sulcate, glabrous, blackish brown and irregularly gray-brown rugose when old. Terminal buds ovoid, ferruginous tomentose. Leaves opposite or subopposite, clustered at apex of branchlet; petiole 6–10 mm; leaf blade abaxially always purplish, adaxially shiny, green-brown or gray-brown when dry, lanceolate or narrowly elliptic, 8–15 × 1.5–5 cm, leathery, glabrous on both surfaces, midrib abaxially elevated, adaxially somewhat impressed or at least impressed on lower 1/2, lateral veins 8–10 pairs, elevated on both surfaces, veins densely reticulate, slightly elevated on both surfaces, base cuneate or broadly cuneate, margin slightly revolute, apex obtuse or shortly acuminate with an obtuse acumen. Panicles axillary, 2–6 cm, few flowered. Pedicels thickened and swollen at both ends after anthesis. Infructescences

robust, swollen at base. Fruits ellipsoid, subglobose, or obovoid, 4–5 × 3–4 cm, pallid ferruginous or black in color, brown furfuraceous, densely plicate and ferruginous punctate when dry; fruiting pedicels enlarged on one end or on both ends, enlarged part 7–15 mm in diam. Fr. Aug–Oct.

- Humid places in mixed forests on mountain slopes. Hainan.

6. *Beilschmiedia purpurascens* H. W. Li, Acta Phytotax. Sin. 17(2): 63. 1979.

紫叶琼楠 zi ye qiong nan

Trees, 4–20 m tall, up to 50 cm d.b.h. Bark gray. Young branchlets purple-brown, slightly compressed, sulcate, slightly furfuraceous-puberulent or glabrate. Terminal buds ovoid, ferruginous-brown furfuraceous-puberulent. Leaves opposite or alternate; petiole 6–12 mm; leaf blade abaxially purplish brown, adaxially purple-brown, oblong, 9–15 × 2.5–5 cm, papery, somewhat furfuraceous when dry, midrib abaxially conspicuously elevated, adaxially impressed, lateral veins ca. 10 pairs, conspicuous on both surfaces, reticulate veinlets conspicuous on both surfaces, base broadly cuneate or subrotund, apex shortly acuminate with an obtuse acumen. Flowers unknown. Infructescences 3.5–6 cm, paniculate; peduncles 1.2–3 cm, always thickened, peduncles and rachises ferruginous furfuraceous-puberulent. Fruits ellipsoid, up to 3 cm, ca. 2.3 cm in diam., narrowed into a stalk at base, ferruginous furfuraceous-puberulent when young, dark brown and glabrous when old; fruiting pedicels swollen, up to 5 mm in diam. Fl. Feb–Mar, fr. Mar–Apr.

- Dense or sparse forests along humid streamsides or riverbanks; 700–1100 m. S and W Yunnan.

7. *Beilschmiedia laevis* C. K. Allen, J. Arnold Arbor. 23: 446. 1942.

红枝琼楠 hong zhi qiong nan

Trees, up to 20 m tall. Bark gray-black or gray-brown. Branchlets green, robust, always sulcate, glabrous. Terminal buds ovoid, leathery, always gray-brown tomentulose or subglabrous. Leaves opposite or subopposite; petiole 1.5–3 cm; leaf blade abaxially green, adaxially shiny green, elliptic or broadly elliptic, 7–11(–15) × 4–6 cm, thickly leathery or leathery, chestnut-colored and glabrous on both surfaces when dry, midrib adaxially impressed, lateral veins 6–10 pairs but nearly always 7 pairs, veins laxly reticulate, robust, elevated on both surfaces, base broadly cuneate-decurrent, apex obtuse or shortly acuminate with an obtuse acumen. Inflorescences unknown. Infructescences subterminal. Fruits green when immature, dark brown when mature, ellipsoid or broadly ellipsoid, 1.7–2.6 × 1.2–2 cm, rotund at both ends, smooth and glabrous; fruiting pedicels robust, 1–3.5 cm × 3–6 mm. Fr. Feb–Dec.

- Mountain slopes, dense valley forests; 500–900 m. Guangxi, Hainan [Vietnam].

The wood is hard and used for furniture, farm tools, and house construction.

8. *Beilschmiedia rufohirtella* H. W. Li, Acta Phytotax. Sin. 17(2): 63. 1979.

红毛琼楠 hong mao qiong nan

Trees, 5–25(–30) m tall. Terminal buds densely ferruginous hirtellous. Young branchlets compressed, angled and finely striate, ferruginous hirtellous. Leaves alternate, opposite, or subopposite; petiole 1–2.5 cm, densely ferruginous hirtellous when young but soon glabrate; leaf blade abaxially tea-brown and adaxially blackish brown when dry, elliptic to oblong, 11–23 × 3.6–10.2 cm, papery, abaxially densely glandular-punctate when dry, densely ferruginous hirtellous on both surfaces when young, ferruginous hirtellous along midrib and veins only or glabrous abaxially and ferruginous hirtellous on reticulate veins when old, midrib and lateral veins abaxially conspicuously elevated, adaxially slightly elevated or plane, lateral veins 9–12 pairs, obliquely patent, reticulate veinlets conspicuous on both surfaces, margin cartilaginous, apex shortly acuminate to acuminate, sometimes acute to subrotund. Cymose panicles axillary or subterminal, 1.8–3 cm; peduncles and rachises densely ferruginous hirtellous; bracts and bracteoles obovate, up to 3 × 2 cm, hirtellous. Pedicels ca. 2.5 mm. Flowers yellow, ca. 3.5 mm. Perianth segments broadly ovate, ca. 2.5 × 2 mm. Fruits ellipsoid-oblong, 4.5–5.5 × 2.5–2.7 cm, attenuate at both ends, apiculate at apex. Fl. and fr. Dec–Mar of next year.

• Thickets or broad-leaved forests along valleys; 1100–1700 m. SE Yunnan.

9. *Beilschmiedia wangii* C. K. Allen, J. Arnold Arbor. 23: 452. 1942.

海南琼楠 hai nan qiong nan

Trees, up to 10 m tall. Bark gray. Young branchlets compressed. Buds ferruginous pubescent. Leaves opposite; petiole 1.2–2.5 cm, always verruculose; leaf blade elliptic, broadly elliptic, or elliptic-lanceolate, 9–14 × 3.5–7 cm, subleathery or papery, abaxially densely glandular-punctate, pubescent, or subglabrate, adaxially glabrous, midrib adaxially plane, lateral veins 8 or 9 pairs, abaxially robust, adaxially slender, veins slender, densely reticulate, slightly elevated on both surfaces, base subrotund or acute, always asymmetric on sides, apex obtuse or shortly acuminate. Panicles subterminal or axillary, 4–8 cm, ferruginous pubescent, many ramified; lower bracts short, subobovate or lanceolate, ca. 2.5 mm. Pedicels ca. 1 cm. Flowers white, 4–5 mm. Perianth segments elliptic, ca. 3 mm, yellow-brown pubescent and glandular-punctate. Fruits purple-black or black, narrowly ellipsoid, ca. 5.5 × 2.2 cm; fruiting pedicels up to 2.5 cm, ca. 5 mm in diam. Fl. Nov–Mar of next year.

Dense mixed forests or thickets along streams. Guangxi, Hainan, Yunnan [Vietnam].

10. *Beilschmiedia shangsiensis* Y. T. Wei, Guihaia 4: 196. 1984.

上思琼楠 shang si qiong nan

Trees, up to 24 m tall. Bark dark gray. Branchlets green, glabrous. Terminal buds small, densely ferruginous pubescent. Leaves opposite; petiole slender, 1–3 cm; leaf blade adaxially shiny, lanceolate or narrowly elliptic-lanceolate, 6–13 × 2–4 cm, thinly leathery, glabrous on both surfaces, abaxially glandular-punctate, midrib abaxially elevated, adaxially plane, lateral

veins 7–9 pairs, lateral veins and veinlets adaxially inconspicuously or slightly elevated, interconnected near leaf margin, base cuneate, apex shortly acuminate with an obtuse acumen. Panicles terminal, ca. 2 cm, few ramified, wholly ferruginous pubescent. Flowers small. Perianth segments broadly elliptic, pubescent, arranged in 2 whorls. Fertile stamens 9, in 3 whorls; anther cells of 1st and 2nd whorls introrse, those of 3rd whorl extrorse. Staminodes subtriangular. Ovary ovoid. Fruits ellipsoid, ca. 5 × 2.5 cm, somewhat oblique, subrotund at both ends, apiculate at apex, black-brown when dry; fruiting pedicels ca. 5 mm in diam. Fr. Oct.

• Forests. Guangxi (Shiwan Dashan).

11. *Beilschmiedia punctilimba* H. W. Li, Acta Phytotax. Sin. 17(2): 64. 1979.

点叶琼楠 dian ye qiong nan

Small trees, 5–10 m tall. Young branchlets yellow-brown, ± angled, striate, white verruculose, sparsely yellow-brown pubescent; old branchlets gray-brown, terete. Terminal buds small, densely yellow-brown puberulent. Leaves alternate or subopposite; petiole 5–13 mm, always white verruculose, ± pubescent; leaf blade abaxially red-brown when dry, adaxially green-brown or dark purple, oblong to elliptic, 8–13 × 2.5–5 cm, submembranous, ± sparsely pubescent but glabrate on both surfaces when old, abaxially densely and conspicuously white glandular-punctate, midrib adaxially plane or slightly elevated, lateral veins 8–10 pairs, slender, conspicuous on both surfaces, veins conspicuous on both surfaces, base cuneate or broadly cuneate, apex acuminate, always oblique. Cymose panicles axillary, ca. 1.5 cm; rachises yellow-brown pubescent. Pedicels yellow-brown pubescent. Flowers greenish. Perianth segments subequal, oblong, ca. 3.5 × 1–1.2 mm. Fruits yellow-brown, ovoid, ca. 3.3 × 2.7 cm, glabrous, surface uneven, base abruptly narrowed, apex obtuse; fruiting pedicels ca. 2 mm in diam. Fl. May, fr. Oct.

• Sparse or dense forests; 1000–1500 m. SE Yunnan (Pingbian).

12. *Beilschmiedia roxburghiana* Nees in Wallich, Pl. Asiat. Rar. 2: 69. 1831.

稠琼楠 chou qiong nan

Beilschmiedia fagifolia Nees.

Trees, 10–15(–20) m tall. Branchlets blackish brown, compressed, conspicuously angled, sparsely pubescent or subglabrous. Terminal buds small, densely gray-brown pubescent. Leaves opposite, sometimes alternate; petiole 1.5–2 cm, slender; leaf blade elliptic, narrowly elliptic, or elliptic-lanceolate, 9–14 × 3.5–5 cm, papery or subleathery, minutely glandular-punctate on both surfaces, midrib abaxially elevated, adaxially slightly elevated, lateral veins 10–15 pairs, slender, interconnected on leaf margin, abaxially elevated and reddish, reticulate veins slender, always inconspicuous, base broadly cuneate or subrotund, apex obtuse, obtusely acuminate, acute, or subrotund. Cymose panicles or racemes terminal or axillary, short, 5–15 cm, wholly densely gray-yellow pubescent. Pedicels ca. 1 mm. Flowers small. Perianth segments ovate, ca. 1.5 mm. Fertile stamens 9. Fruits ellipsoid, 4–5 × 2–3 cm, smooth, sub-

rounded at both ends, apex mucronate; fruiting pedicels robust, 5–20 mm, up to 7 mm in diam., always brown maculate. Fl. and fr. Aug.

Evergreen broad-leaved forests on mountain slopes. SE Xizang [Bhutan, India, Myanmar, Nepal, Thailand].

Some specimens cited by Allen (J. Arnold Arbor. 23: 451. 1942) as *Beilschmiedia roxburghiana* (S. K. Lau 3147, A; S. K. Lau 27404, A; and K. Fung 20123, A, US) are, in fact, *B. percoriacea* (species no. 36), which is characterized by the whole plant being glabrous. Records from Hainan (in Fl. Hainan. 1: 278. 1964) are referable to *B. appendiculata* (species no. 15), which was included in the synonymy of *B. roxburghiana* in that work (as *Lauromerrillia appendiculata*).

13. *Beilschmiedia pauciflora* H. W. Li, Acta Phytotax. Sin. 17(2): 64. 1979.

少花琼楠 shao hua qiong nan

Trees, ca. 14 m tall. Bark gray. Branchlets gray-brown, robust, verrucose, glabrous; young branchlets pubescent. Terminal buds small, pubescent. Leaves opposite or alternate; petiole 5–15 mm; leaf blade abaxially opaque, adaxially gray-brown or green-brown, narrowly elliptic to obovate, usually ca. 20 × 6 cm, thinly leathery, abaxially minutely glandular-punctate, glabrous on both surfaces, midrib adaxially plane or slightly impressed on lower 1/2, lateral veins ca. 11 pairs, oblique, ± conspicuous on both surfaces, veins laxly reticulate, ± conspicuous on both surfaces, base cuneate and attenuate, apex obtuse, rounded, or emarginate, rarely acute to shortly acuminate. Cymes axillary or subterminal, short, 1–2 cm, 1–3-flowered; peduncles ca. 1 cm, yellow-brown pubescent. Pedicels 2–7 mm. Flowers white, up to 5 mm in diam. when open. Perianth segments oblong-lanceolate, ca. 3 × 1 mm, pubescent, transparently punctate. Fertile stamens 6, opposite to perianth segments, ca. 3 mm; filaments pubescent, each with stalkless orbicular-reniform glands near base; anthers oblong, ca. 1 mm, anther cells all introrse. Staminodes orbicular-reniform, shortly stipitate. Ovary subglobose, slightly pubescent. Fruits unknown. Fl. Mar–Apr.

• Sparse or dense forests on mountain slopes or in valleys; 500–1000 m. S Yunnan (Jinghong).

14. *Beilschmiedia baotingensis* S. K. Lee & Y. T. Wei, Acta Phytotax. Sin. 17(2): 64. 1979.

保亭琼楠 bao ting qiong nan

Small trees, 4–12 m tall. Bark brown. Branchlets gray-brown pubescent or glabrous, densely and minutely lenticellate. Terminal buds small, densely yellow-brown pubescent. Leaves opposite or subopposite; petiole 0.5–1 cm; leaf blade abaxially purple-black and adaxially gray-brown when dry, elliptic, rarely elliptic-lanceolate, ± oblique, 6–10 × 2–4 cm, leathery, abaxially minutely glandular-punctate when dry, midrib adaxially slightly elevated, lateral veins 7 or 8 or rarely more pairs, elevated on both surfaces, veins laxly reticulate, slightly elevated on both surfaces, base cuneate, always asymmetric, apex shortly acuminate, always slightly curved, rarely rounded, obtuse, or emarginate. Inflorescences unknown. Infructescences axillary, 2–3 cm. Fruits globose, ca. 1.8 cm in diam., densely brown furfuraceous; fruiting pedicels 4–7 × 2–3 mm. Fl. Jul.

• Mixed broad-leaved forests in valleys. Hainan.

15. *Beilschmiedia appendiculata* (C. K. Allen) S. K. Lee & Y. T. Wei, Acta Phytotax. Sin. 17(2): 65. 1979.

山潺 shan chan

Lauromerrillia appendiculata C. K. Allen, J. Arnold Arbor. 23: 460. 1942.

Trees, 6–30 m tall, up to 60 cm d.b.h. Bark gray-yellow. Branchlets glabrous or pubescent, always robust, slightly angled. Terminal buds densely gray-brown tomentulose. Leaves opposite or alternate; petiole 5–18 mm, slender; leaf blade adaxially green-brown to gray-brown, elliptic to narrowly elliptic, rarely obovate, 5–11 × 2–4.5 cm, glabrous on both surfaces, abaxially densely glandular-punctate, adaxially sometimes densely glandular-punctate, midrib adaxially plane or slightly elevated but always slightly impressed on base, lateral veins 7–10 pairs, elevated on both surfaces, veins slender, laxly reticulate, elevated on both surfaces, base cuneate or broadly cuneate, apex obtuse, obtusely acuminate, rounded, or sometimes emarginate. Panicles axillary, 1–2 cm, pubescent. Pedicels ca. 4 mm. Flowers yellow. Perianth segments 6, or sometimes 8, elliptic, ca. 1.8 mm. Fertile stamens 6, or sometimes 8. Staminodes 3(or 4), ca. 1.2 mm. Fruits green, becoming black when mature, ellipsoid or ovoid-ellipsoid, 1–1.8 cm, always verruculose; fruiting pedicels 1.5–2 mm in diam. Fl. Feb–Mar, fr. May–Jul.

• Sparse forests on roadsides in valleys or along streamsides. Hainan.

As in FRPS (31: 135. 1982), the unispecific genus *Lauromerrillia* is treated here as a synonym of *Beilschmiedia*. Its type has a variable number of fertile stamens and perianth segments (6, or sometimes 8).

16. *Beilschmiedia obscurinervia* Hung T. Chang, Acta Sci. Nat. Univ. Sunyatseni 1960(1): 23. 1960.

隐脉琼楠 yin mai qiong nan

Small trees, ca. 5 m tall. Branchlets terete; young branchlets and terminal buds sparsely pubescent. Terminal buds small. Leaves always clustered at apex of branchlet, alternate or sometimes subopposite; petiole 6–12 mm; leaf blade green-brown when dry, narrowly oblong-lanceolate or oblong, rarely narrowly ovate-lanceolate, 5–11 × 2–4 cm, leathery, glabrous on both surfaces, midrib elevated on both surfaces, lateral veins 6–8 pairs, inconspicuous, veins densely foveolate when dry, base broadly cuneate or subrotund, apex acuminate with an obtuse acumen. Inflorescences unknown. Infructescences paniculate, 3–7 cm. Fruits ellipsoid, 2–3.5 × 1–1.7 cm, smooth, densely minutely furfuraceous, dark brown when dry, acute at both ends, apex umbonate; fruiting pedicels 5–7 × ca. 2 mm. Fr. Aug.

• Mixed forests; ca. 900 m. S Guangxi (Shiwan Dashan).

17. *Beilschmiedia tungfangensis* S. K. Lee & L. F. Lau, Acta Phytotax. Sin. 8: 194. 1963.

东方琼楠 dong fang qiong nan

Trees, up to 25 m tall, ca. 60 cm d.b.h. Bark red-brown or

gray-brown. Branchlets gray-brown, slender, lenticellate, lenticels orbicular, fissured. Terminal buds small, gray-yellow pubescent. Leaves clustered at apex of branchlet, alternate or opposite; petiole slender, 6–15 mm; leaf blade brownish when dry, elliptic or narrowly elliptic, 6–9(–12) × 2–3(–5) cm, leathery, midrib elevated on both surfaces, lateral veins 4–7 pairs, slightly elevated on both surfaces, always curved and interconnected near leaf margin, veins slender, dense, adaxially minutely foveolate, abaxially always lax and conspicuous when dry, base cuneate, apex acuminate with an obtuse acumen, rarely acuminate or obtuse. Racemes axillary or terminal, ca. 1.5 cm, sparsely gray-yellow pubescent, 3–5-flowered. Pedicels 1.5–3 mm, 1-bracteate at base and 2-bracteolate below perianth tube; bracts lanceolate, villous; bracteoles linear. Flowers yellow. Perianth segments ovate, villous on both surfaces. Fertile stamens 9; filaments villous, those of 3rd whorl 2-glandular at base. Staminodes sagittate. Ovary ovoid, glabrous. Fruits ellipsoid, 2.5–4 × 2–2.5 cm, smooth, shiny, rounded at both ends, black-brown when mature; fruiting pedicels 5–10 × 3–4 mm. Fl. Jul, fr. Sep–Nov.

• Dense forests along streamsides in valleys. SW Hainan (Jianfeng Ling).

18. *Beilschmiedia yunnanensis* Hu, Bull. Fan Mem. Inst. Biol. 5: 306. 1934.

滇琼楠 dian qiong nan

Trees, up to 18 m tall, to 1 m d.b.h. Branchlets blackish brown when dry, robust, always angled, striate and conspicuously lenticellate. Terminal buds always small, densely ferruginous-brown tomentose. Leaves alternate, rarely subopposite or opposite; petiole 1–2.5 cm, robust; leaf blade broadly elliptic, rarely elliptic-lanceolate, always oblique, 8–16(–18) × 4–6(–7.5) cm, glabrous on both surfaces, midrib adaxially plane or elevated, lateral veins 5–9 pairs, conspicuously elevated on both surfaces, veins slender, densely reticulate, gray-brown or dark brown and conspicuously foveolate on both surfaces when dry, base broadly cuneate and decurrent, apex acuminate, slightly oblique. Panicles terminal or axillary, 2–6 cm or rarely longer, few flowered; rachises robust, densely ferruginous tomentose; bracts broadly ovate, up to 5 mm. Pedicels 2–4 mm, densely ferruginous-brown tomentose. Perianth segments ovate or broadly ovate, densely pubescent. Filaments densely pubescent. Fruits broadly ovoid or subglobose, 2–4 × 1.5–2.7 cm, black when mature; fruiting pedicels 3–4 × 2–4 mm. Fl. Jan–Feb, fr. May–Dec.

• Dense forests on hills or along streams; 800–1900 m. Guangdong, S Guangxi, ?Hainan (Danxian), S Yunnan.

19. *Beilschmiedia delicata* S. K. Lee & Y. T. Wei, Acta Phytotax. Sin. 17(2): 65. 1979.

美脉琼楠 mei mai qiong nan

Beilschmiedia tsangii Merrill var. *delicata* (S. K. Lee & Y. T. Wei) J. Li & H. W. Li.

Shrubs or trees, 4–20 m tall. Bark gray or gray-brown. Branchlets subterete, glabrous or thinly pubescent, always lenticellate. Terminal buds small, densely gray-yellow pubescent or

gray-yellow tomentose. Leaves alternate or subopposite; petiole 8–13 mm, glabrous or pubescent; leaf blade 7–12 × 2–4 cm, rarely longer or broader, oblique, leathery, glabrous or adaxially villosulous, midrib conspicuously elevated on both surfaces, lateral veins 8–12 pairs, veins densely reticulate, slender, conspicuously elevated on both surfaces, base cuneate or broadly cuneate, apex acuminate, rarely acute or sometimes obtuse. Cymose panicles axillary or terminal, 3–6 cm; rachises and other parts pubescent; bracts and bracteoles caducous. Pedicels 2–8 mm. Flowers yellowish. Perianth segments ovate to oblong, 1.5–2.5 mm, pubescent. Fertile stamens 9; filaments pubescent. Staminodes 3, reniform. Fruits green, becoming black when mature, ellipsoid or obovoid-ellipsoid, 2–3 × 1–2 cm, densely and conspicuously verruculose; fruiting pedicels 5–10 × 2–3 mm. Fl. and fr. Jun–Dec.

• Valley roadsides and streamsides, dense and sparse forests. Guangdong, Guangxi, SW Guizhou, NE and SE Yunnan.

Beilschmiedia delicata apparently is related closely to *B. tsangii* and has been misidentified as that species in the past.

20. *Beilschmiedia brachythyrsa* H. W. Li, Acta Phytotax. Sin. 17(2): 65. 1979.

勐仑琼楠 meng lun qiong nan

Trees, up to 30 m tall, ca. 45 cm d.b.h. Branchlets gray-brown, glabrous, lenticellate, lenticels black-brown; young branchlets yellow-brown pubescent. Terminal buds small, ovoid, ca. 2 mm, densely yellow-brown pubescent outside. Leaves alternate or subopposite at upper part of young branchlets; petiole 1–2 cm, yellow-brown pubescent when young but glabrous when old; leaf blade abaxially greenish, adaxially green and shiny, elliptic or narrowly elliptic, 7–13 × 3–5 cm, subleathery, abaxially somewhat pubescent or subglabrous, adaxially glabrous, midrib adaxially slightly elevated or plane, lateral veins 7–10 pairs, elevated on both surfaces, reticulate veinlets conspicuous on both surfaces, base cuneate, margin slightly revolute, apex shortly acuminate with an obtuse acumen, rarely obtuse. Cymes short, 1.2–1.5 cm, 1–4-flowered; peduncles 2–5 mm, together with rachises yellow-brown pubescent. Pedicels yellow-brown pubescent. Perianth segments subequal, oblong, ca. 3.5 × 1.5 mm, yellow-brown pubescent. Fertile stamens 9; filaments hairy, those of 3rd whorl each with 2 stalkless orbicular-reniform glands at base. Staminodes sagittate-triangular. Ovary subglobose, ca. 1 mm, glabrous; style ca. 1.5 mm. Fruits green, becoming black when mature, ellipsoid, ca. 3 × 1.3 cm, glabrous, densely and conspicuously verruculose, base attenuate, apex obtuse; fruiting pedicels ca. 5 × 2–4 mm, slightly yellow-brown pubescent. Fl. Mar–Apr, fr. Apr–Jul.

• Humid places in thickets or sparse forests; 600–2100 m. S Yunnan (Menglun).

21. *Beilschmiedia ningmingensis* S. K. Lee & Y. T. Wei, Acta Phytotax. Sin. 17(2): 66. 1979.

宁明琼楠 ning ming qiong nan

Trees, ca. 12 m tall. Bark gray-black or gray-yellow. Branchlets gray-brown, striate, slender, subterete, slightly angled. Terminal buds small, densely ferruginous-brown tomentulose. Leaves opposite or subopposite, always clustered at apex of branchlet; petiole 5–10 mm, densely furfuraceous-pu-

bescent; leaf blade black-brown when dry, oblong to oblong-lanceolate, 7–10 × 2–4 cm, papery or submembranous, furfureous-pubescent on both surfaces, especially abaxially, midrib elevated on both surfaces, lateral veins 8–12 pairs, slender, abaxially slightly elevated, adaxially inconspicuous, veins laxly reticulate, very slender, inconspicuous or slightly conspicuous on both surfaces, base broadly cuneate or subrotund, apex obtuse, rounded, or shortly acuminate. Panicles or racemes terminal, 2–4 cm, wholly densely furfureous-pubescent. Pedicels 3–6 mm. Perianth segments ovate, ca. 1.4 mm. Filaments of 3rd whorl each with 2 glands at base. Staminodes sagittate. Ovary ellipsoid, ca. 1.2 mm. Fruits yellow when mature (according to field note) but black when dry, ellipsoid, 2.5–4 × 1.8–2.5 cm, smooth, but slightly furfureous when dry; fruiting pedicels 5–10 × ca. 3 mm. Fl. and fr. Nov–Dec.

• Mixed forests on mountain slopes or along streamsides; ca. 1200 m. Guangxi (Ningming).

22. *Beilschmiedia glandulosa* N. H. Xia et al., J. Trop. Subtrop. Bot. 14: 78. 2006.

香港琼楠 xiang gang qiong nan

Trees. Branchlets grayish brown pubescent, soon glabrescent. Terminal buds grayish brown pubescent. Leaves subopposite; petiole 5–8 mm, glabrous; leaf blade brownish abaxially when dry, elliptic or narrowly elliptic to oblanceolate, 4.5–8.5 × 1.5–3.5 cm, leathery, glabrous, densely glandular-spotted adaxially, midrib elevated on both surfaces, lateral veins 5–7 pairs, together with veinlets prominent on both surfaces, base attenuate, margin entire, apex obtuse. Inflorescences axillary, shortly pedunculate, racemose or thyrsoid, 1–3-clustered, 1.5–3 cm; bracteoles ovate, ca. 1 × 0.6 mm, pilose. Flowers ca. 4 × 4 mm. Perianth tube short; perianth segments 6(–8), ovate, ca. 2.5 mm, sparsely villous outside, pilose inside. Fertile stamens 9, those of outer 2 whorls opposite to perianth lobes; filaments 0.5–1 mm, densely pilose, those of 3rd whorl each with a pair of shortly stalked orbicular-reniform glands near base; anthers 2-celled, 0.5–0.8 mm, cells introrse. Staminodes ovoid, ca. 0.8 mm. Ovary cylindrical, ca. 2.5 mm, sparsely villous; style ca. 1 mm; stigma capitate. Fruits bluish brown when mature, ellipsoid, 1.5–2.2 × 1–1.5 cm, smooth, but wrinkled when dry, apex apiculate. Seeds ellipsoid, 1.3–2 × 0.8–1.2 cm. Fl. Aug, fr. Jan–Feb.

• Evergreen broad-leaved forests on mountain slopes; below 100 m. Hong Kong.

23. *Beilschmiedia fasciata* H. W. Li, Acta Phytotax. Sin. 17(2): 66. 1979.

白柴果 bai chai guo

Trees, 6–25 m tall, ca. 50 cm d.b.h. Branches terete; branchlets red-brown, conspicuously compressed, longitudinally striate, glabrous. Terminal buds narrowly ovoid, large, up to 1.5 cm, glabrous. Leaves large, opposite or subopposite; petiole 1–2 cm; leaf blade black-brown or red-brown on both surfaces when dry, ovate to ovate-oblong, 12.5–40 × 7–21 cm, thickly papery, glabrous, abaxially densely glandular-punctate, midrib abaxially elevated, adaxially plane or slightly impressed, lateral veins 10–12 pairs, abaxially conspicuous, adaxially in-

conspicuous, reticulate veinlets conspicuous on both surfaces, base broadly cuneate to subrotund, unequal on sides, apex shortly acuminate, always oblique. Cymose panicles axillary, (2.5–)5–10.5 cm, lax, few flowered; rachises compressed, robust, yellow-brown pubescent; bracts caducous. Pedicels slender, 3–4 mm, yellow-brown pubescent. Flowers yellow-green, ca. 3.5 mm. Perianth segments ovate, ca. 3 mm, subglabrous outside, yellow-brown pubescent inside. Fertile stamens 9, ca. 1.5 mm; filaments pubescent, those of 3rd whorl each with 2 subsessile glands. Staminodes sagittate-triangular. Ovary pyriform, including style ca. 1 mm. Fruits green when immature, subglobose, up to 4 cm in diam., outside ferruginous-brown when dry, glabrous; fruiting pedicels robust, up to 6 mm in diam. at apex. Fl. Mar–Apr, fr. May–Nov.

• Sparse or dense forests along streamsides; 1100–1600 m. SE Yunnan.

24. *Beilschmiedia pergamentacea* C. K. Allen, J. Arnold Arbor. 23: 449. 1942.

纸叶琼楠 zhi ye qiong nan

Beilschmiedia atrata C. K. Allen.

Trees, 8–20 m tall. Bark gray. Branchlets striate, minutely glandular-punctate. Terminal buds small, glabrous. Leaves opposite or subopposite; petiole 1–2 cm, always glandular-punctate; leaf blade abaxially purple-black, adaxially gray-brown, narrowly elliptic, 10–16 × 3–5.5 cm, papery, glabrous, abaxially densely glandular-punctate when dry, midrib adaxially slightly elevated, lateral veins 7–12 pairs, reticulate veinlets slightly conspicuous, base cuneate or broadly cuneate, apex acuminate or long acuminate with an obtuse acumen, always falcately curved. Racemes or panicles axillary, 3–4 cm, subglabrous; peduncles ca. 1 cm. Pedicels ca. 5 mm. Perianth segments suborbicular, ca. 1.5 mm, gray hairy. Filaments usually pubescent. Staminodes usually pubescent. Infructescences robust. Fruits black or black-purple and always minutely punctate when dry, oblong-ellipsoid, 3–4.3 × 2–2.5 cm, rounded at both ends, apex apiculate; fruiting pedicels gray-brown, 1–2.5 cm × 4–6 mm, rugose. Fl. Aug, fr. Oct–Nov.

• Sparse or dense forests in valleys. Guangxi, Hainan, SE Yunnan.

25. *Beilschmiedia robusta* C. K. Allen, J. Arnold Arbor. 23: 447. 1942.

粗壮琼楠 cu zhuang qiong nan

Beilschmiedia xizangensis H. P. Tsui.

Trees, up to 25 m tall, whole plant glabrous. Bark gray, smooth. Branchlets red-brown, robust. Terminal buds large, ovoid. Leaves opposite or alternate; petiole 1–2.5 cm; leaf blade abaxially dark brown or purple-black, adaxially green-brown or gray-brown, lanceolate, elliptic, or narrowly elliptic, slightly oblique, (4.5–)7–13 × 2.5–5 cm, leathery, abaxially always densely glandular-punctate when dry, midrib abaxially elevated, adaxially impressed or at least impressed below lower 1/2, lateral veins 9–13 pairs, slender, veins elevated on both surfaces, generally denser abaxially than adaxially, base cuneate, apex obtuse or shortly acuminate with an obtuse acumen. Panicles axillary or subterminal, up to 6 cm, few flowered. Perianth seg-

ments ovate, glandular-punctate. Fruits obovoid or subturbinate, ca. 3 cm, purple-black when mature; fruiting pedicels robust, 4–6 mm in diam. Fl. Apr–May, fr. Jun–Nov.

• Humid montane valleys, sparse forests or dense forests; 1000–2400 m. Guangxi, SW Guizhou (Ceheng), Xizang, Yunnan.

26. *Beilschmiedia longepetiolata* C. K. Allen, J. Arnold Arbor. 23: 450. 1942.

长柄琼楠 chang bing qiong nan

Trees, 10–20 m tall, whole plant glabrous. Bark green-brown. Terminal buds ovoid or subglobose. Leaves always clustered at apex of branchlet, opposite or subopposite; petiole 1–2.5 cm; leaf blade dark brown when dry, shiny adaxially, elliptic to narrowly elliptic, rarely obovate, (5–)8(–14) × 2.5–4.5 cm, leathery or subleathery, midrib adaxially plane or slightly elevated, lateral veins ca. 6 pairs, lateral veins and veinlets elevated on both surfaces, base cuneate to broadly cuneate and decurrent, margin slightly revolute, apex rounded. Panicles terminal, up to 3 cm. Pedicels ca. 3 mm. Flowers white tinged with yellow (according to field note). Perianth segments elliptic, ca. 2 mm, conspicuously glandular-punctate. Fruits ellipsoid or subglobose, 2–4 × 1.5–3 cm, black-brown and always brown-maculate when dry; fruiting pedicels ca. 8 × 3–5 mm. Fl. and fr. Jul–Nov.

• Mixed forests on hill or mountain slopes. Hainan.

27. *Beilschmiedia glauca* S. K. Lee & L. F. Lau, Acta Phytotax. Sin. 8: 193. 1963.

粉背琼楠 fen bei qiong nan

Trees, up to 23 m tall, whole plant glabrous. Bark gray-brown, irregularly fissured. Branchlets black-brown or brown, shallowly striate. Terminal buds nearly 1 cm, slender, aristate, slightly curved. Leaves alternate; petiole 1.2–2.7 cm; leaf blade abaxially powdery green or powdery brown, adaxially green and shiny, ovate or ovate-lanceolate or broadly elliptic, 7–15 × 3.5–6.5 cm, papery or subleathery, midrib adaxially plane, lateral veins 6–8 pairs, slender, all elevated and reddish brown on both surfaces, veins densely reticulate, foveolate when dry, base subrotund, symmetric or asymmetric on sides, apex shortly acuminate, acuminate, or obtuse, always oblique. Panicles axillary or terminal, 2–10 cm, narrow or congested or ample and lax, few or several branched, few or many flowered, glabrous or sparsely pubescent on rachises. Flowers white. Perianth segments broadly ovate, glabrous outside, pubescent inside. Filaments of 3rd whorl each with 2 glands at base, hairy. Staminodes sagittate, hairy at base. Fruits ellipsoid, 2.5–3.5 × 1.5–2.3 cm, black and smooth when dry, obtuse at both ends; fruiting pedicels ca. 2 mm in diam. Fl. Feb, fr. Aug–Dec.

• Mixed forests on mountain slopes, forests on limestone mountains; ca. 1300 m. Hainan, SE Yunnan.

- 1a. Panicles axillary, 2–6 cm, narrow and congested, few branched, few flowered, wholly glabrous 27a. var. *glauca*
- 1b. Panicles terminal, up to 10 cm, ample and lax, several branched, many flowered,

sparsely pubescent on rachises 27b. var. *glaucooides*

27a. *Beilschmiedia glauca* var. *glauca*

粉背琼楠(原变种) fen bei qiong nan (yuan bian zhong)

Panicles axillary, 2–6 cm, narrow and congested, few branched, few flowered, wholly glabrous.

• Mixed forests on mountain slopes. Hainan.

27b. *Beilschmiedia glauca* var. *glaucooides* H. W. Li, Acta Phytotax. Sin. 17(2): 66. 1979.

顶序琼楠 ding xu qiong nan

Beilschmiedia glaucooides (H. W. Li) H. W. Li.

Panicles on young branchlets all terminal, up to 10 cm, ample and lax, several branched, many flowered, sparsely pubescent on rachises.

• Forests on limestone mountains; ca. 1300 m. SE Yunnan (Xichou).

28. *Beilschmiedia erythrophloia* Hayata, Icon. Pl. Formosan. 4: 20. 1914.

台琼楠 tai qiong nan

Beilschmiedia erythrophloia var. *tanakae* (Hayata) Kanehira; *B. tanakae* Hayata.

Trees, trunk upright, up to 1 m d.b.h. Bark shiny, gray-brown, always irregularly lamellate-fissured. Terminal buds ovoid, glabrous. Leaves opposite or alternate; petiole 1–2 cm; leaf blade dark brown and shiny on both surfaces when dry, narrowly elliptic or ovate-lanceolate, 7–11 × 2.5–4.5 cm, leathery, glabrous on both surfaces, midrib and lateral veins elevated on both surfaces, veins conspicuous, base cuneate, apex caudate or acuminate, sometimes obtuse. Panicles axillary or subterminal, glabrous. Pedicels 2–5 mm. Perianth segments elliptic, ca. 2 × 1.5 mm. Fruits ellipsoid, 1.5–2 × 1–1.2 cm, dark brown when mature, outer layer hard; fruiting pedicels slightly thickened. Fl. summer.

Broad-leaved forests; low elevations. Taiwan [Japan (Ryukyu Islands)].

29. *Beilschmiedia fordii* Dunn, J. Bot. 45: 404. 1907.

广东琼楠 guang dong qiong nan

Trees, 6–18 m tall, 15–50 cm d.b.h. Bark green. Terminal buds ovoid or lanceolate, glabrous. Leaves generally opposite; petiole 1–2 cm; leaf blade abaxially greenish, adaxially dark green, lanceolate or narrowly elliptic to broadly elliptic, (6–)8–12 × (2.5–)3–4.5 cm, leathery, glabrous and brown on both surfaces but adaxially generally smooth when dry, midrib abaxially elevated, adaxially impressed, lateral veins slender, 6–10 pairs, lateral veins and reticulate veins inconspicuous or slightly conspicuous, base cuneate or broadly cuneate, apex shortly acuminate or obtuse. Cymose panicles generally axillary, 1–3 cm, many flowered; bracts caducous, ferruginous pubescent inside. Pedicels 3–6 mm. Flowers yellow-green. Perianth segments ovate to oblong, 1.5–2 mm, glabrous. Fruits ellipsoid, 1.4–1.8 cm, generally verruculose, rotund at both ends; fruiting pedicels

1.5–2 mm in diam. Fl. and fr. Jun–Dec.

Sparse or dense forests on humid hills or in valleys. Guangdong, Guangxi, Hunan, Jiangxi, Sichuan [Vietnam].

30. *Beilschmiedia brevipaniculata* C. K. Allen, J. Arnold Arbor. 23: 446. 1942.

短序琼楠 duan xu qiong nan

Small trees, 3–7 m tall, whole plant glabrous. Young branchlets red-brown, slender, slightly compressed. Terminal buds lanceolate or ovoid, 5–10 × ca. 2 mm, glabrous. Leaves opposite or subopposite, always clustered at apex of branchlet; petiole 1–1.5 cm, glabrous; leaf blade dark green, adaxially dark brown, smooth, and shiny when dry, lanceolate, elliptic, or broadly elliptic, rarely ovate-elliptic, 4–8 × 1–2.8 cm, rarely longer or broader, oblique, leathery, midrib adaxially impressed, lateral veins 6–8 pairs, lateral veins and veinlets slender and inconspicuous but abaxially somewhat conspicuous, base cuneate or broadly cuneate, apex broadly acuminate with a short and obtuse acumen. Cymose panicles terminal, rarely axillary. Flowers small. Pedicels 1–2 mm. Perianth segments ovate, ca. 1.5 mm, densely glandular-punctate. Fruits ellipsoid, ca. 1.7 × 1.1 cm. Fl. Jun, fr. Nov–Feb of next year.

• Dense or sparse forests on mountain slopes. Guangdong, Guangxi, Hainan.

31. *Beilschmiedia brevifolia* Y. T. Wei, Guihaia 4: 196. 1984.

短叶琼楠 duan ye qiong nan

Trees, ca. 8 m tall. Bark smooth or slightly fissured. Branchlets somewhat robust, glabrous. Terminal buds ovoid, ca. 5 mm in diam., glabrous, apex acute. Leaves opposite, always clustered at apex of branchlet; petiole short, 2–5 mm, glabrous; leaf blade abaxially dark brown and adaxially dark gray when dry, elliptic to narrowly elliptic-lanceolate, 2.5–4(–6) × 1.5–2.5(–3) cm, thinly leathery, glabrous, midrib abaxially elevated, adaxially somewhat impressed, lateral veins ca. 7 pairs, lateral veins and reticulate veins elevated on both surfaces, base subrotund but rarely subcuneate, apex obtuse. Flowers unknown. Infructescences terminal or axillary. Fruits subglobose, ca. 1.5 cm in diam., black when dry; fruiting pedicels 3–4 mm in diam. Fr. Sep–Nov.

• Sparse or dense forests. Hainan.

32. *Beilschmiedia furfuracea* Chun ex Hung T. Chang, Acta Sci. Nat. Univ. Sunyatseni 1960(1): 23. 1960.

糠秕琼楠 kang bi qiong nan

Trees, 8–15 m tall. Bark gray. Young branchlets gray-brown, glabrous. Terminal buds ovoid, glabrous. Leaves opposite or subopposite; petiole 8–15 mm; leaf blade abaxially greenish or brown, adaxially green and opaque, then gray-brown when dry, oblong or oblong-elliptic, 7–14 × 3–6 cm, thinly leathery, abaxially furfuraceous, midrib abaxially elevated, adaxially impressed, lateral veins 7–9 pairs, lateral veins and reticulate veins slightly elevated on both surfaces, base cuneate or subrotund, apex acute or somewhat obtuse. Panicles ca. 2 cm, glabrous, a few clustered at apex of branchlet. Pedicels slender, 3–5 mm. Flowers white but tinged with purple. Peri-

anth segments ovate, ca. 2 mm. Fruits dark brown, nearly obovoid-ellipsoid or subglobose when young, ca. 3.2 × 2 cm, densely furfuraceous; fruiting pedicels ca. 4 mm in diam. Fl. Mar, fr. Jul–Aug.

• Mixed forests in valleys. Guangdong, SW Guangxi (Shiwan Dashan).

33. *Beilschmiedia kweichowensis* W. C. Cheng, Res. Notes Forest. Inst. Natl. Centr. Univ. Nanking, Dendrol. Ser. 1: 3. 1947.

贵州琼楠 gui zhou qiong nan

Small trees. Branchlets yellow-brown, slender, ca. 2 mm in diam., glabrous. Terminal buds ellipsoid-lanceolate, glabrous. Leaves opposite; petiole slender, 7–10 mm; leaf blade abaxially greenish, adaxially dark green and shiny, brown on both surfaces when dry, narrowly elliptic or ovate-elliptic, 5–8(–10) × 2–3.5 cm, leathery, midrib abaxially elevated, adaxially impressed, lateral veins slender, 8 or 9 pairs, slightly elevated on both surfaces, reticulate veinlets dense and conspicuous, base cuneate or broadly cuneate but rarely subrotund, apex abruptly caudate, slightly oblique, rarely acuminate or obtuse. Inflorescences unknown. Infructescences 1–8.5 cm, glabrous. Fruits brown, ovoid or globose, 2.5–3 × 2.3–2.5 cm, smooth; fruiting pedicels slender, ca. 1.5 mm in diam.

• Dense forests on hills. Guangxi, Guizhou, Sichuan.

34. *Beilschmiedia intermedia* C. K. Allen, J. Arnold Arbor. 23: 448. 1942.

琼楠 qiong nan

Beilschmiedia discolor C. K. Allen; *B. grandiosa* C. K. Allen.

Trees, 9–20 m tall, 60–100 cm d.b.h., whole plant glabrous. Bark gray to gray-brown. Terminal buds mostly ovoid, glabrous. Leaves opposite or subopposite; petiole slender, 1–2 cm; leaf blade abaxially greenish, adaxially shiny green, abaxially purple-brown and adaxially gray-green when dry, elliptic or lanceolate-elliptic, 6.5–8.5(–11) × 2.5–4.5 cm, leathery, midrib adaxially impressed or at least impressed on lower 1/2, lateral veins 6(–8) pairs, lateral veins and veinlets elevated on both surfaces, veinlets reticulate, base cuneate or subrotund and somewhat decurrent, apex obtuse or shortly acuminate with an obtuse acumen. Panicles axillary or terminal, 1.5–2 cm, few flowered. Pedicels 2–3 mm. Flowers green-white. Perianth segments elliptic, ca. 2 mm, conspicuously and densely glandular-striate. Fruits oblong or nearly olive-shaped, 3–4.5(–6) × 1.5–2.5(–3) cm, black or dark brown when mature, minutely verruculose; fruiting pedicels ca. 1 cm × 3–7 mm, not thickened at both ends. Fl. Aug–Nov, fr. Oct–May of next year.

• Dispersed along watersides or streamsides on mountain slopes or in valleys; 400–1300 m. Guangxi, Hainan.

The wood is used for furniture, farm tools, and house construction.

35. *Beilschmiedia sichourensis* H. W. Li, Acta Phytotax. Sin.

17(2): 67. 1979.

西畴琼楠 xi chou qiong nan

Trees, ca. 7 m tall. Current year branchlets reddish brown on lower part, brownish on upper part, compressed, angled, glabrous. Terminal buds large, ovoid, glabrous. Leaves opposite; petiole 1–1.5 cm; leaf blade abaxially brownish or purple-brown and adaxially yellow-brown when dry, ovate to oblong, 10.5–18 × 4.5–7.2 cm, thickly leathery, glabrous, midrib abaxially conspicuously elevated, adaxially impressed, lateral veins ca. 8 pairs, oblique, lateral veins and reticulate veins abaxially slightly conspicuous, adaxially obscure, base cuneate, apex acute to shortly acuminate. Flowers unknown. Infructescences axillary, ca. 4 cm; rachises red-brown, robust, up to 4 mm in diam., glabrous. Fruits ellipsoid, ca. 3.5 × 1.8 cm, always verruculose; fruiting pedicels red-brown. Fr. Oct.

- Mixed forests; 300–1500 m. SE Yunnan (Xichou).

36. *Beilschmiedia percoriacea* C. K. Allen, J. Arnold Arbor. 23: 450. 1942.

厚叶琼楠 hou ye qiong nan

Trees, 15–18 m tall, up to 1.5 m d.b.h., whole plant glabrous. Bark gray-brown. Branchlets robust, slightly compressed, striate. Terminal buds ovoid, leathery. Leaves opposite or subopposite; petiole robust, 1.2–2 cm; leaf blade adaxially shiny, dark brown or black-brown when dry, narrowly elliptic or elliptic, 9–15(–19) × 4.5–6(–8) cm, slightly oblique, thickly leathery or leathery, midrib adaxially impressed, lateral veins 6–9 pairs, conspicuously elevated on both surfaces, reticulate veinlets conspicuously elevated, base cuneate, margin undulate and slightly revolute, apex usually shortly acuminate with an obtuse acumen. Panicles or racemes 1.5–5 cm, robust, a few clustered at apex of branchlet. Pedicels 5–10 mm. Perianth segments ovate or ovate-orbicular, 1.5–2 mm, glabrous or somewhat pubescent inside and margin white ciliolate. Fruits green when young, dark red or blackish brown when mature, narrowly ellipsoid, 4–4.5 × 1.5–2.5 cm, sometimes slightly oblique, smooth; fruiting pedicels 5–8 × 3–5 mm, not thickened at both ends. Fl. May, fr. Jun–Dec.

- Dense forests on mountain slopes, humid places in sparse mountain forests; ca. 1000 m. Guangxi, Hainan, Yunnan.

- 1a. Perianth segments glabrous, margin glabrous 36a. var. *percoriacea*
- 1b. Perianth segments somewhat pubescent inside, margin white ciliolate 36b. var. *ciliata*

36a. *Beilschmiedia percoriacea* var. *percoriacea*

厚叶琼楠(原变种) hou ye qiong nan (yuan bian zhong)

Perianth segments glabrous, margin glabrous.

- Dense forests on mountain slopes. Guangxi, Hainan, Yunnan.

36b. *Beilschmiedia percoriacea* var. *ciliata* H. W. Li, Acta Phytotax. Sin. 17(2): 67. 1979.

缘毛琼楠 yuan mao qiong nan

Perianth segments somewhat pubescent inside, margin white ciliolate.

- Humid places in sparse mountain forests; ca. 1000 m. SE Yunnan (Jinping).

37. *Beilschmiedia ovoidea* F. N. Wei, Guihaia 15: 209. 1995.

卵果琼楠 luan guo qiong nan

Trees, up to 10 m tall. Branchlets chestnut-brown when dry, somewhat angular. Terminal buds glabrous. Leaves subopposite; petiole 1–1.5 cm, glabrous; leaf blade shiny on both surfaces, elliptic, somewhat oblique, 9–13.5 × 2–3.5 cm, leathery, midrib abaxially slightly elevated, adaxially flat, lateral veins 7–9 pairs, conspicuous on both surfaces and anastomosing at margin, reticulate veins visible on both surfaces, base narrowly cuneate, apex acuminate, acumen slightly oblique. Flowers unknown. Infructescences ca. 4 cm. Fruits ovoid-oblong, ca. 1.8 × 1.4 cm, smooth; fruiting pedicels 1–1.5 cm, glabrous. Fr. Sep.

- Limestone forests; ca. 700 m. N Guangxi (Huanjiang).

38. *Beilschmiedia linocieroides* H. W. Li, Acta Phytotax. Sin. 17(2): 67. 1979.

李榄琼楠 li lan qiong nan

Trees, 10–24 m tall, up to 45 cm d.b.h. Branchlets yellow-brown, terete, compressed when young, striate, glabrous. Terminal buds ovoid, glabrous. Leaves subopposite or alternate, always clustered at apex of branchlet; petiole 1–2 cm; leaf blade abaxially greenish, adaxially dark green and shiny then green-

brown or yellow-brown when dry, elliptic to oblong, $9\text{--}21 \times 3.5\text{--}6$ cm, leathery, glabrous on both surfaces, midrib abaxially elevated, adaxially impressed, lateral veins 9–13 pairs, obliquely patent, arcuately interconnected at ends, lateral veins and reticulate veins abaxially slightly elevated, adaxially conspicuously elevated, base cuneate or broadly cuneate, margin revolute, apex acute or shortly acuminate, rarely obtuse. Inflorescences (3–)5.5–7.5 cm; rachises robust, up to 4 mm in diam., rugose, glabrous. Fruits green when young, becoming dark brown when mature, ellipsoid or olive-shaped, $3.3\text{--}3.7 \times 1.5\text{--}2.3$ cm, attenuate or subrotund at both ends, smooth, glabrous; fruiting pedicels robust, ca. $1 \text{ cm} \times 3\text{--}5$ mm. Fr. Mar–Apr.

- Mixed forests; 600–1400 m. S Yunnan.

39. *Beilschmiedia henghsienensis* S. K. Lee & Y. T. Wei, *Acta Phytotax. Sin.* 17(2): 68. 1979.

横县琼楠 heng xian qiong nan

Trees. Branchlets subterete, striate, glabrous. Terminal buds ovoid, glabrous. Petiole 7–12 mm, glabrous; leaf blade abaxially greenish, adaxially shiny and dark green, elliptic or lanceolate-elliptic, $7\text{--}14 \times 2\text{--}5$ cm, thickly leathery, adaxially glabrous, midrib abaxially conspicuously elevated, adaxially impressed, lateral veins usually 10 pairs, obliquely ascendant, conspicuously elevated on both surfaces, reticulate veinlets conspicuous and tea-brown on both surfaces when dry, adaxially shiny, base attenuate-cuneate, always unequal on sides, apex shortly acuminate, oblique, acumen obtuse. Infructescences ca. 7 cm; peduncles not swollen at both ends. Fruits ellipsoid, ca. 2.8×1.6 cm, black when mature, glabrous, apiculate; fruiting pedicels ca. $1 \text{ cm} \times 3\text{--}4$ mm, not swollen at both ends, glabrous. Fl. and fr. Jun.

- Forests. Guangxi (Hengxian).

