

MYRTACEAE

桃金娘科 tao jin niang ke

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Trees or shrubs, evergreen, usually with essential oils-containing cavities in foliage, branchlets, and flowers. Stipules absent or small and caducous. Leaves opposite, occasionally alternate, occasionally ternate or pseudo-whorled; leaf blade with secondary veins pinnate or basal, often with intramarginal veins near margin, margin usually entire. Inflorescences axillary or terminal, cymose but variously arranged, 1- to many-flowered. Flowers bisexual, sometimes polygamous, actinomorphic. Hypanthium usually adnate to ovary and prolonged above it. Calyx lobes (3 or)4 or 5 or more, distinct or connate into a calyptra. Petals 4 or 5, sometimes absent, distinct or connate into a calyptra, sometimes coherent and pseudocalyptrate. Stamens usually numerous, in 1 to several whorls; filaments distinct or connate into 5 bundles opposite petals; anthers 2-celled, dorsifixed or basifixed, dehiscing longitudinally or rarely terminally; connectives usually terminating in 1 or more apical glands. Ovary inferior, semi-inferior, or very rarely superior, carpels 2 to more, locules 1 to many, pseudoseptum sometimes present, placentation usually axile but occasionally parietal; ovules 1 to several per locule. Style single; stigma single. Fruit a capsule, berry, drupaceous berry, or drupe, 1- to many-seeded. Seeds without endosperm or endosperm sparse and thin; testa cartilaginous or thinly membranous, sometimes absent; embryo straight or curved.

About 130 genera and 4500–5000 species: Mediterranean region, sub-Saharan Africa, Madagascar, tropical and temperate Asia, Australia, Pacific islands, tropical and South America; 10 genera (five introduced) and 121 species (50 endemic, 32 introduced treated here) in China.

The classification adopted here is that of Wilson et al. (Pl. Syst. Evol. 251: 3–19. 2005). The conventional classification of Myrtaceae sensu stricto in which the primary division is into two subfamilies based on the fruit being dry or fleshy (e.g., Niedenzu in Engler & Prantl, Nat. Pflanzenfam. 3(7): 57–105. 1893) results in an association of genera that is less natural than that proposed by Wilson et al.

Many Myrtaceae are cultivated garden ornamentals, street trees, or plantation trees. Some members of tribe Syzygieae are grown as fruit crops. In addition to the cultivated members of the family treated here, some others grown in China include *Acca sellowiana* (O. Berg) Burret (*Feijoa sellowiana* (O. Berg) O. Berg), *Myrtus communis* Linnaeus, and *Syncarpia glomulifera* (Smith) Niedenzu.

Myrtus chinensis Loureiro is a synonym of *Symplocos paniculata* (Thunberg) Miquel in the Symplocaceae (see Fl. China 15: 252. 1996).

Chang Hung-ta & Miao Ru-hwai. 1984. Myrtaceae. In: Chen Chieh, ed., Fl. Reipubl. Popularis Sin. 53(1): 28–135.

- 1a. Fruit a capsule.
 - 2a. Flowers usually calyptrate (tribe Eucalypteae) 1. *Eucalyptus*
 - 2b. Flowers never calyptrate.
 - 3a. Embryo with cotyledons much smaller than the hypocotyl; leaves small, often ericoid (tribe Chamelaucieae) 4. *Baeckea*
 - 3b. Embryo with cotyledons ± as long as or longer than hypocotyl; leaves not small and ericoid.
 - 4a. Leaf venation usually longitudinal, sometimes pinnate and inflorescences then brushlike; floral units sessile, variously arranged in spikes or clusters (tribe Melaleuceae) 2. *Melaleuca*
 - 4b. Leaf venation pinnate; floral units pedunculate, in a dichasium (tribe Lophostemoneae) 3. *Lophostemon*
- 1b. Fruit a berry, drupaceous berry, or drupe.
 - 5a. Plants usually glabrous, rarely with multicellular trichomes; vascular supply to ovary axial; seeds usually 1; cotyledons massive relative to hypocotyl (tribe Syzygieae) 10. *Syzygium*
 - 5b. Plants with 1- or few-celled trichomes on at least some organs; vascular supply to ovary trans-septal; seeds usually numerous; cotyledons usually small but sometimes massive relative to hypocotyl (tribe Myrteae).
 - 6a. Leaf blade triveined or tripliveined.
 - 7a. Ovary 1-loculed; seeds not separated by either longitudinal or false transverse septa 5. *Rhodamnia*
 - 7b. Ovary 3(or 4)-loculed; seeds separated by longitudinal septa and a false transverse septum 6. *Rhodomyrtus*
 - 6b. Leaf blade pinnately veined.
 - 8a. Fruit 1-seeded; embryo globose or ovoid; cotyledons massive 7. *Eugenia*
 - 8b. Fruit several- to many-seeded; embryo reniform or horseshoe-shaped; cotyledons small.
 - 9a. Ovules numerous per locule 8. *Psidium*
 - 9b. Ovules 1 or 2(–4) per locule 9. *Decaspermum*

1. EUCALYPTUS L'Héritier, Sert. Angl. 18. 1789.

桉属 an shu

Corymbia K. D. Hill & L. A. S. Johnson.

Trees or shrubs. Bark smooth, fibrous, stringy, or tessellated. Leaves usually polymorphic with different juvenile and mature forms and sometimes with intermediate forms. Juvenile leaves opposite, 3 to several pairs, shortly petiolate or sessile; leaf blade

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often glaucous or with glandular trichomes; juvenile foliage sometimes persisting throughout life of plant. Mature leaves alternate, petiolate; leaf blade usually leathery, secondary veins numerous, with intramarginal veins. Inflorescences axillary or clustered into terminal or axillary panicles, consisting of umbelliform condensed dichasia. Flowers bisexual. Hypanthium campanulate, obconic, or semiglobose, stipitate or not, apex usually truncate. Sepals rarely distinct. Petals connate, either adnate to sepals into a 1-layered calyptra or not adnate and then with connate sepals forming a 2-layered calyptra; calyptra deciduous at anthesis. Stamens numerous, usually distinct, in several whorls with outer whorl usually sterile; anthers 2-celled, parallel or oblique, elliptic, ovate, cordate, or bifurcate, dehiscing longitudinally or occasionally poricidally. Ovary adnate to hypanthium, 2–7-loculed; ovules numerous. Style persistent. Whole or most of capsule included in expanded hypanthium; disk often well developed; valves exerted from hypanthium, equalling hypanthium rim, or included in hypanthium. Seeds numerous, many sterile and undeveloped, developed seeds ovate or angular; testa rigid, sometimes developed into wings.

About 700 species: mainly in Australia, with a minor representation in Indonesia, Papua New Guinea, and the Philippines; about 110 species cultivated in China with only 25 major ones treated here.

The genus is treated here in the broad sense, i.e., the segregate *Corymbia* is not recognized.

In addition to the *Eucalyptus* species treated here, the following additional taxa have been recorded as being cultivated in China (see Wang & Brooker, A key to eucalypts in China, China Science and Technology Press, Beijing, 1991):

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|-----------------------------------------------------------------------------------|--------------------------------------------------|
| <i>E. acaciiformis</i> H. Deane & Maiden | <i>E. horistes</i> L. A. S. Johnson & K. D. Hill |
| <i>E. agglomerata</i> Maiden | <i>E. intermedia</i> R. Baker |
| <i>E. aggregata</i> H. Deane & Maiden | <i>E. ×kirtontiana</i> F. Mueller |
| <i>E. albens</i> Benth | <i>E. kochii</i> Maiden & Blakely |
| <i>E. amygdalina</i> Labillardière (<i>E. salicifolia</i> (Solander) Cavanilles) | <i>E. laevopinea</i> R. Baker |
| <i>E. badjensis</i> Beuzeville & Welch | <i>E. leucoxydon</i> F. Mueller |
| <i>E. bakeri</i> Maiden | <i>E. longifolia</i> Link |
| <i>E. benthamii</i> Maiden & Cabbage | <i>E. macarthurii</i> H. Deane & Maiden |
| <i>E. bosistoana</i> F. Mueller | <i>E. mannifera</i> Mudie |
| <i>E. brassiana</i> S. T. Blake | <i>E. marginata</i> Donn ex Smith |
| <i>E. bridgesiana</i> R. Baker | <i>E. melanoxydon</i> Maiden |
| <i>E. camphora</i> R. Baker | <i>E. microtheca</i> F. Mueller |
| <i>E. cinerea</i> F. Mueller ex Benth | <i>E. miniata</i> Cunningham ex Schauer |
| <i>E. cladocalyx</i> F. Mueller | <i>E. neglecta</i> Maiden |
| <i>E. cloeziana</i> F. Mueller | <i>E. nitens</i> (H. Deane & Maiden) Maiden |
| <i>E. coccifera</i> J. D. Hooker | <i>E. nova-anglica</i> H. Deane & Maiden |
| <i>E. coolabah</i> Blakely & Jacobs | <i>E. occidentalis</i> Endlicher |
| <i>E. cordata</i> Labillardière | <i>E. ovata</i> Labillardière |
| <i>E. cornuta</i> Labillardière | <i>E. paliformis</i> L. A. S. Johnson & Blaxell |
| <i>E. crawfordii</i> Maiden & Blakely | <i>E. papuana</i> F. Mueller |
| <i>E. crenulata</i> Blakely & Beuzeville | <i>E. parramattensis</i> C. Hall |
| <i>E. cypellocarpa</i> L. A. S. Johnson | <i>E. parvifolia</i> Cabbage |
| <i>E. dalrympleana</i> Maiden | <i>E. pauciflora</i> Sieber ex Sprengel |
| <i>E. dealbata</i> A. Cunningham ex Schauer | <i>E. peltata</i> Benth |
| <i>E. deanei</i> Maiden | <i>E. perriniana</i> F. Mueller ex Rodway |
| <i>E. deglupta</i> Blume | <i>E. pilularis</i> Smith |
| <i>E. delegatensis</i> R. Baker | <i>E. polybractea</i> R. Baker |
| <i>E. dendromorpha</i> (Blakely) L. A. S. Johnson & Blaxell | <i>E. propinqua</i> H. Deane & Maiden |
| <i>E. diversicolor</i> F. Mueller | <i>E. pulverulenta</i> Sims |
| <i>E. dives</i> Schauer | <i>E. pyrocarpa</i> L. A. S. Johnson & Blaxell |
| <i>E. drepanophylla</i> F. Mueller ex Benth | <i>E. quadrangulata</i> H. Deane & Maiden |
| <i>E. dundasii</i> Maiden | <i>E. radiata</i> Sieber ex Candolle |
| <i>E. dunnii</i> Maiden | <i>E. regnans</i> F. Mueller |
| <i>E. elata</i> Dehnhardt | <i>E. resinifera</i> Smith |
| <i>E. eugenioides</i> Sieber ex Sprengel | <i>E. rubida</i> H. Deane & Maiden |
| <i>E. fastigiata</i> H. Deane & Maiden | <i>E. scoparia</i> Maiden |
| <i>E. fibrosa</i> F. Mueller | <i>E. seeana</i> Maiden |
| <i>E. ficifolia</i> F. Mueller | <i>E. smithii</i> R. Baker |
| <i>E. fraxinoides</i> H. Deane & Maiden | <i>E. stellulata</i> Sieber ex Candolle |
| <i>E. glaucescens</i> Maiden & Blakely | <i>E. stricta</i> Sieber ex Sprengel |
| <i>E. globoidea</i> Blakely | <i>E. tessellaris</i> F. Mueller |
| <i>E. gomphocephala</i> Candolle | <i>E. triantha</i> Link |
| <i>E. goniocalyx</i> F. Mueller ex Miquel | <i>E. triflora</i> (Maiden) Blakely |
| <i>E. gummifera</i> (Solander ex Gaertner) Hochreutiner | <i>E. urophylla</i> S. T. Blake |
| <i>E. gunnii</i> J. D. Hooker | <i>E. viminalis</i> Labillardière |

- 1a. Bark smooth essentially throughout, exfoliating.
- 2a. Valves of capsule included in hypanthium rim; inflorescences terminal, paniculate.
- 3a. Capsule 4–5 mm in diam. 23. *E. polyanthemus*
- 3b. Capsule 8–13 mm in diam.
- 4a. Mature leaf blade ovate, pubescent; capsule globose 1. *E. torelliana*
- 4b. Mature leaf blade lanceolate to narrowly lanceolate, glabrous; capsule pot-shaped to ovoid.
- 5a. Leaves with strong lemon smell; bark grayish blue 2. *E. citriodora*
- 5b. Leaves only with weak odor; bark with grayish yellow maculae 3. *E. maculata*
- 2b. Valves of capsule exerted or equaling hypanthium rim; inflorescences axillary, simple.
- 6a. Hypanthium in flower and fruit 4-ridged 18. *E. globulus*
- 6b. Hypanthium not ridged or 2-ridged.
- 7a. Leaf blade of mature trees rounded to broadly ovate 14. *E. platyphylla*
- 7b. Leaf blade of mature trees lanceolate or narrowly lanceolate.
- 8a. Calyptra awl-shaped.
- 9a. Peduncle terete 13. *E. blakelyi*
- 9b. Peduncle compressed, flattened, or ridged.
- 10a. Hypanthium campanulate, 5–6 mm 4. *E. punctata*
- 10b. Hypanthium semiglobose, ca. 3 mm 11. *E. amplifolia*
- 8b. Calyptra conic, rostrate, or semiglobose.
- 11a. Peduncle terete.
- 12a. Calyptra acutely conic 10. *E. tereticornis*
- 12b. Calyptra rostrate or obtusely conic 12. *E. camaldulensis*
- 11b. Peduncle compressed.
- 13a. Capsule pyriform to awl-shaped 5. *E. grandis*
- 13b. Capsule semiglobose to bowl-shaped 15. *E. alba*
- 1b. Bark on trunk and branches rough or fibrous, persistent, sometimes only on basal part of trunk and then apically smooth and exfoliating.
- 14a. Inflorescence paniculate, terminal or sometimes axillary and then reduced in complexity.
- 15a. Disk of fruiting hypanthium narrow or obscure.
- 16a. Hypanthium 6–8 mm excluding stipe; leaf blade 2–3 cm wide 24. *E. paniculata*
- 16b. Hypanthium 2–3 mm excluding stipe; leaf blade 1–1.8 cm wide.
- 17a. Capsule truncately capitate-ovoid 21. *E. largiflorens*
- 17b. Capsule campanulate 22. *E. crebra*
- 15b. Disk of fruiting hypanthium broad or moderately broad.
- 18a. Calyptra semiglobose 19. *E. microcorys*
- 18b. Calyptra awl-shaped.
- 19a. Flower buds spindle-shaped 20. *E. leptophleba*
- 19b. Flower buds obovoid 23. *E. polyanthemus*
- 14b. Inflorescence simple, axillary.
- 20a. Valves of capsule included or equaling hypanthium rim.
- 21a. Disk of fruiting hypanthium narrow 25. *E. melliodora*
- 21b. Disk of fruiting hypanthium broad or moderately broad.
- 22a. Capsule pot-shaped, sometimes ± constricted in middle, 1–1.5 cm 8. *E. robusta*
- 22b. Capsule campanulate to obconic, 6–8 mm 9. *E. botryoides*
- 20b. Valves of capsule exerted from hypanthium rim.
- 23a. Capsule 1.2–1.5 cm in diam. 7. *E. pellita*
- 23b. Capsule 0.5–0.9 cm in diam.
- 24a. Peduncle compressed.
- 25a. Calyptra semiglobose or conic 5. *E. grandis*
- 25b. Calyptra shortly pyramidally awl-shaped 6. *E. saligna*
- 24b. Peduncle terete.
- 26a. Leaf blade secondary veins at an angle of 35°–45° from midvein; hypanthium semiglobose 16. *E. exserta*
- 26b. Leaf blade secondary veins at an angle of 55°–60° from midvein; hypanthium obconic 17. *E. rudis*

1. Eucalyptus torelliana F. Mueller, Fragm. 10: 106. 1877.

毛叶桉 mao ye an

Trees, large. Bark at base of trunk gray to black, fibrous

and subtessellated, and persistent, apically grayish green, smooth, and exfoliating. Branchlets terete, with rough pubescence. Young leaves opposite, 4 or 5 pairs, peltate, shortly petiolate; leaf blade ovate, 7–15 × 4–9 cm, abaxially pubescent. Mature leaves with

a 1–2 cm petiole with rough pubescence; leaf blade ovate, 10–14 × 1–7 cm, thinly leathery, abaxially gray and pubescent, secondary veins few and 4–10 mm apart, intramarginal veins 2–3 mm from margin, base rounded, apex acute. Inflorescences terminal or axillary, paniculate, 8–11 cm, umbels 3- or 7-flowered; peduncle pubescent, secondary peduncle 0.8–1.5 cm, terete. Flower buds obovoid, ca. 10 × 6–7 mm. Hypanthium semiglobose, ca. 6 mm; stipe 0–3 mm; calyptra 4–4.5 mm, apex rounded. Stamens 8–10 mm; anthers obovoid-oblong, dorsifixed, dehiscing longitudinally. Style 5–7 mm. Capsule globose, 1–1.3 cm in diam., apical part constricted; aperture 5–6 mm in diam.; disk broad; valves 3, included in hypanthium. Fl. Oct–Nov.

Cultivated in Fujian, Guangdong, Guangxi, Jiangxi, and Taiwan [native to NE Australia].

2. *Eucalyptus citriodora* Hooker in T. L. Mitchell, J. Exped. Trop. Australia 235. 1848.

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Eucalyptus maculata Hooker var. *citriodora* (Hooker) Bailey.

Trees, to 28 m tall. Bark grayish white, smooth, exfoliating. Young leaves peltate, petiolate; leaf blade lanceolate, with glandular trichomes, base rounded. Leaf blade of intermediate leaves broadly lanceolate, 15–18 × 3–4 cm. Mature leaves strongly smelling of lemon; petiole 1.5–2 cm; leaf blade narrowly lanceolate, 10–15 × ca. 1 cm, slightly twisted, both surfaces with black glands. Inflorescences terminal or axillary, paniculate, umbels 3-flowered; peduncle 3–4 mm, 2-ridged. Flower buds long obovate, 6–7 mm. Hypanthium ca. 5 × 4 mm; stipe 1–6 mm; calyptra ca. 1.5 mm, slightly wider than hypanthium, apex rounded, apiculate. Stamens 6–7 mm, in 2 whorls; anthers elliptic, dorsifixed, cells parallel. Capsule pot-shaped to ovoid, 1–1.2 × 0.8–1 cm; disk broad; valves 3 or 4, included in hypanthium. Fl. Apr–Dec.

Cultivated in Fujian, Guangdong, Guangxi, Guizhou, Hunan, Jiangxi, Sichuan, Yunnan, and Zhejiang [native to NE Australia].

3. *Eucalyptus maculata* Hooker, Icon. Pl. 7: t. 619. 1844.

斑皮桉 ban pi an

Trees, 25–30 m tall. Bark whitish, pinkish gray, or bluish gray, usually mottled, smooth, exfoliating irregularly leaving underbark regions initially grayish yellow. Branchlets slightly ridged. Young leaves opposite, peltate, shortly petiolate; leaf blade broadly lanceolate, 4–6 cm wide, bristled. Mature leaves alternate, slightly fragrant; petiole 1.5–2 cm; leaf blade lanceolate, 10–30 × 2–4 cm, leathery, secondary veins at an angle of ca. 50° from midvein, intramarginal veins near margin. Inflorescences terminal or axillary, paniculate, umbels 2–4-flowered; peduncle ca. 1 cm, terete. Flower buds obovoid, ca. 9 mm. Hypanthium ca. 6 mm; stipe 4–5 mm; calyptra semiglobose or slightly acute, shorter than hypanthium. Stamens 8–10 mm; anthers ovoid, dehiscing longitudinally. Capsule pot-shaped to ovoid, 1.2–1.5 × ca. 1 cm; disk broad; valves 3 or 4, included in hypanthium. Fl. spring–summer.

Cultivated in Guangdong, Guangxi, Jiangxi, Sichuan, and Taiwan [native to E Australia].

4. *Eucalyptus punctata* Candolle, Prodr. 3: 217. 1828.

斑叶桉 ban ye an

Trees, to 20 m tall. Bark grayish, smooth, exfoliating. Branchlets terete. Leaf blade of young leaves ovate-lanceolate, ca. 11 × 6 cm, thinly leathery. Mature leaves with a flattened 1.5–2 cm petiole; leaf blade narrowly lanceolate, 10–16 × 2–3 cm, falcate, leathery, both surfaces with black glands, abaxially gray, secondary veins at an angle of ca. 50° from midvein, intramarginal veins ca. 1 mm from margin. Inflorescences axillary, simple, umbels with (4–)7(–10) flowers; peduncle compressed or ridged, 1.5–2 cm. Flower buds long ovate to spindle-shaped, 1–1.3 cm. Hypanthium campanulate, 5–6 × 4–5 mm; stipe 3–5 mm, 2-ridged; calyptra awl-shaped, 6–7 mm, apex acuminate to acute. Stamens 7–9 mm; anthers obovoid, dehiscing longitudinally. Capsule semiglobose to campanulate, 7–10 × 6–8 mm; disk broad; valves (3 or)4(or 5), exerted from hypanthium. Fl. Aug–Oct.

Cultivated in Fujian, Guangdong, Guangxi, Jiangxi, and Sichuan [native to SE Australia].

5. *Eucalyptus grandis* W. Hill ex Maiden, Cat. Timbers Queensland (London Exhib.) 25. 1862.

大桉 da an

Trees, large. Bark at base of trunk rough and flaky, apically silvery white, smooth, and gradually exfoliating. Branchlets grayish white, ridged. Young leaves shortly petiolate; leaf blade broadly lanceolate to ovate, thinly leathery. Mature leaves with a ca. 2 cm petiole; leaf blade lanceolate, 13–20 × 2–2.5 cm, both surfaces with small glands, adaxially dark green and slightly glossy, secondary veins at an angle of 60°–70° from midvein. Inflorescences axillary, simple, umbels 3–10-flowered; peduncle 1–1.5 cm, compressed. Flower buds narrowly obovate, 8–10 × ca. 5 mm. Hypanthium obconic to campanulate; stipe 0–3 mm; calyptra semiglobose to conic, as long or slightly shorter than hypanthium, apex acute to apiculate. Stamens 8–10 mm; anthers oblong, nearly basifixed, dehiscing longitudinally, glands abaxial. Style shorter than stamens. Capsule gray, pyriform to awl-shaped, 7–8 × 6–8 mm; disk narrow; valves 4 or 5(or 6), exerted from hypanthium. Fl. winter–spring.

Cultivated in Guangdong, Guangxi, and Taiwan [native to E and NE Australia].

6. *Eucalyptus saligna* Smith, Trans. Linn. Soc. London 3: 285. 1797.

柳叶桉 liu ye an

Trees, large. Bark at base of trunk brown-gray, slightly rough, persistent but apically grayish blue, smooth, and exfoliating. Branchlets ± ridged. Young leaves opposite; petiole short; leaf blade lanceolate to ovate, thinly leathery. Mature leaves with a 2–2.5 cm petiole; leaf blade lanceolate, 10–20 × 1.5–3 cm, secondary veins at an angle of 50°–65° from midvein, intramarginal veins very near margin. Inflorescences axillary, simple, umbels 3–9-flowered; peduncle ridged, 0.8–1.2 cm, compressed. Flower buds obovoid, 8–9 × 4–5 mm. Hypanthium hemispheric, cylindrical, or campanulate, 2–3 mm; stipe

0–3 mm; calyptra shortly pyramidal awl-shaped, shorter than or as long as hypanthium, apex acuminate. Stamens slightly longer than flower buds; anthers oblong-elliptic, dehiscing longitudinally, glands abaxial. Capsule cylindrical, campanulate, or subpyriform, 5–6 × 5–6 mm; disk narrow; valves 3 or 4, exserted from hypanthium. Fl. Apr–May.

Cultivated in Fujian, Guangdong, Guangxi, Jiangxi, and Taiwan [native to E Australia].

7. *Eucalyptus pellita* F. Mueller, *Fragm.* 4: 159. 1864.

粗皮桉 cu pi an

Trees, to 15 m tall or more. Bark dark brown, fibrous, persistent. Branchlets ridged. Young leaves opposite; leaf blade broadly lanceolate to ovate, 3–9 × 3–5 cm, leathery. Mature leaves with a 1.5–2.5 cm petiole; leaf blade lanceolate, 10–14 × 2–3 cm, slightly twisted, oblique, glands inconspicuous, secondary veins very dense and at an angle of ca. 70° from midvein, intramarginal veins near margin. Inflorescences axillary, simple, umbels 3–8-flowered; peduncle stout, 1.5–2 cm, compressed. Flower buds obovoid, ca. 2 × 1 cm or sometimes bigger. Hypanthium obconic, ca. 1 cm, ridged; stipe 3–5 mm; calyptra pyramidal awl-shaped, ± as long as hypanthium, apex acute and sometimes beak-shaped. Stamens 1–1.2 cm; anthers ovoid, cells parallel. Capsule semiglobose, 1.2–1.5 cm in diam.; disk prominent; valves 3 or 4, exserted from hypanthium. Fl. Oct–Nov.

Cultivated in Guangdong, Guangxi, and Yunnan [native to E and NE Australia].

8. *Eucalyptus robusta* Smith, *Spec. Bot. New Holland*, 39. 1795.

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Trees, to 20 m tall. Bark dark brown, rough and subfibrous, persistent. Branchlets ridged. Young leaves opposite, petiolate; leaf blade thickly ovate, ca. 11 × 7 cm, leathery. Mature leaves with a 1.5–2.5 cm petiole; leaf blade ovate-lanceolate, 8–17 × 3–7 cm, oblique, thickly leathery, both surfaces glandular, secondary veins numerous, conspicuous, and at an angle of ca. 80° from midvein, intramarginal veins 1–1.5 mm from margin. Inflorescences axillary, simple, umbels 4–8-flowered; peduncle less than 2.5 cm, compressed. Flower buds 1.4–2 × 0.7–1 cm. Hypanthium semiglobose to obconic, 7–9 × 6–8 mm; stipe 0–9 mm, angular; calyptra ± as long as hypanthium, apex constricted into a beak. Stamens 1–1.2 cm; anthers elliptic, dehiscing longitudinally. Capsule pot-shaped, sometimes somewhat constricted in middle, 1–1.5 cm; disk broad; valves 3 or 4, included in hypanthium. Fl. almost year-round.

Cultivated in Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Jiangxi, Sichuan, Taiwan, Yunnan, and Zhejiang [native to E Australia].

9. *Eucalyptus botryoides* Smith, *Trans. Linn. Soc. London* 3: 286. 1797.

葡萄桉 pu tao an

Trees, 16–18 m tall. Bark on trunk and larger branches brown to grayish brown, fibrous or flaky fibrous, persistent; bark on smaller branches white or grayish white, smooth, exfoliating.

Branchlets ridged. Young leaves opposite, petiolate; leaf blade ovate, apex rounded. Mature leaves with a ca. 1.5 cm petiole; leaf blade ovate to long ovate, 8–12 × 4–6 cm, thinly leathery, secondary veins 3–6 mm apart and at an angle of ca. 60° from midvein, intramarginal veins ca. 1 mm from margin, base rounded, apex sharp. Inflorescences axillary, simple, umbels 6–10-flowered; peduncle 6–10 mm, compressed. Flower buds long obovate, ca. 7 mm. Hypanthium narrowly obconic, ca. 5 mm, 2-ridged; stipe usually absent but sometimes to 3 mm; calyptra obtusely pyramidal, 2–2.5 mm, apex obtuse. Stamens 4–5 mm; anthers long elliptic, dehiscing longitudinally. Capsule campanulate to obconic, 6–8 × 5–6 mm; disk moderately broad; valves 4 or 5, equaling hypanthium rim or included. Fl. Aug–Oct.

Cultivated in Guangdong, Guangxi, Jiangxi, Sichuan, and Taiwan [native to SE Australia].

10. *Eucalyptus tereticornis* Smith, *Spec. Bot. New Holland*, 41. 1795.

细叶桉 xi ye an

Eucalyptus umbellata (Gaertner) Domin; *Leptospermum umbellatum* Gaertner.

Trees, to 25 m tall. Bark grayish white, smooth, exfoliating in long strips. Branchlets terete, slender, pendulous. Leaf blade of young leaves ovate to broadly lanceolate, to 10 cm wide. Leaf blade of intermediate leaves broadly lanceolate. Mature leaves with a 1.5–2.5 cm petiole; leaf blade narrowly lanceolate, 10–25 × 1.5–2 cm, slightly twisted, both surfaces with small glands, secondary veins at an angle of ca. 45° from midvein, intramarginal veins ca. 0.7 mm from margin. Inflorescences axillary, simple, umbels 5–8-flowered; peduncle 1–1.5 cm, stout, terete. Flowers buds long ovate, 1–1.3 mm or longer. Hypanthium hemispheric, 2.5–3 × 4–5 mm; stipe 3–6 mm; calyptra conic, 7–10 mm, apex acuminate. Stamens 6–9 mm; anthers long obovate, dehiscing longitudinally. Capsule subglobose to ovoid, 6–8 mm in diam.; disk broad; valves 4 or 5, much exserted from hypanthium. Fl. Feb–Apr, Jun–Aug.

Cultivated in Anhui, Fujian, Guangdong, Guangxi, Guizhou, Jiangxi, Sichuan, Yunnan, and Zhejiang [native to E and SE Australia].

11. *Eucalyptus amplifolia* Naudin, *Descr. Emploi. Eucalypt.* 28. 1891.

广叶桉 guang ye an

Trees. Bark whitish or grayish, smooth, maculate, exfoliating. Branchlets terete. Young leaves opposite; leaf blade ovate to orbicular, 7–14 × 6–12 cm. Leaf blade of intermediate leaves broadly lanceolate, 4–5 cm wide. Mature leaves with a 1.5–2.5 cm petiole; leaf blade lanceolate, 10–25 × 2.5–3.5 cm, slightly twisted, both surfaces with small glands, secondary veins at an angle of ca. 45° from midvein, intramarginal veins ca. 0.7 mm from margin. Inflorescences axillary, simple, umbels 7–20-flowered; peduncle 1–2 cm, flattened or ridged. Flower buds long ovate, 10–15 × 4–5 mm. Hypanthium semiglobose, ca. 3 mm; stipe 3–4 mm; calyptra long awl-shaped, 3 to 4 times as long as hypanthium, apex acuminate. Stamens ca. 1 cm; anthers obo-

void, dehiscing longitudinally, large glands abaxially. Capsule semiglobose to truncate capitate globose, 4–6 × 5–7 mm; disk broad; valves 3–5, strongly exerted from hypanthium. Fl. Aug–Sep.

Cultivated in Fujian, Guangdong, Guangxi, Hubei, Hunan, Jiangxi, and Sichuan [native to SE Australia].

12. *Eucalyptus camaldulensis* Dehnhardt, Cat. Pl. Hort. Camald., ed. 2, 6, 20. 1832.

赤桉 *chi an*

Trees, to 25 m tall. Bark dark gray, white, brown, or red, smooth, exfoliating. Branches sometimes pendulous, terete, youngest parts ridged. Young leaves opposite; leaf blade broadly lanceolate, 6–9 × 2.5–4 cm. Mature leaves with a slender 1.5–2.5 cm petiole; leaf blade narrowly lanceolate to lanceolate, 6–30 × 1–2 cm, slightly twisted, thinly leathery, both surfaces with small black glands, secondary veins at an angle of ca. 45° from midvein, intramarginal veins ca. 0.7 mm from margin. Inflorescences axillary, simple, umbels 5–11-flowered; peduncle 1–1.5 cm, slender, terete. Flower buds ovoid, 5–8 mm. Hypanthium semiglobose, ca. 3 mm; stipe 3–12 mm; calyptra hemispheric, rostrate to obtusely conic, 5–7 mm, apically constricted, apex obtuse, acute, or acuminate and beaked or not. Stamens 5–7 mm; anthers elliptic, dehiscing longitudinally. Capsule subglobose, 5–6 mm in diam.; disk broad; valves (3 or 4) (or 5), exerted from hypanthium. Fl. Dec–Aug.

Cultivated in Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hunan, Jiangxi, Sichuan, Taiwan, Yunnan, and Zhejiang [native to Australia, where widespread].

The varieties *Eucalyptus camaldulensis* var. *camaldulensis*, *E. camaldulensis* var. *acuminata* (Hooker) Blakely, *E. camaldulensis* var. *brevirostris* (F. Mueller ex Miquel) Blakely, *E. camaldulensis* var. *obtusata* Blakely, and *E. camaldulensis* var. *pendula* Blakely & Jacobs are all cultivated in China.

13. *Eucalyptus blakelyi* Maiden, Crit. Revis. *Eucalyptus* 4: 43. 1917.

布氏桉 *bu shi an*

Trees, to 21 m tall. Bark white or gray with grayish blue, pink, or cream colored patches, smooth, exfoliating. Branchlets slender, ridged. Young leaves opposite, shortly petiolate; leaf blade ovate to rounded, 7–10 × 5–7 cm, leathery, glaucescent. Mature leaves with a slender 1.5–2.5 cm petiole; leaf blade lanceolate, 9–18 × 1.5–3 cm, falcate, leathery, secondary veins at an angle of ca. 45° from midvein, intramarginal veins near to margin. Inflorescences axillary, simple, umbels 4–8-flowered; peduncle 1–1.5 cm, slender, terete. Flower buds spindle-shaped, 7–10 × 4–5 mm. Hypanthium semiglobose, 2–3 mm; stipe ca. 3 mm; calyptra long awl-shaped, 5–7 mm. Capsule semiglobose, 5–6 × ca. 5 mm; disk broad; valves 3 or 4, exerted from hypanthium. Fl. Nov–Dec.

Cultivated in Jiangxi and Yunnan [native to SE Australia].

14. *Eucalyptus platyphylla* F. Mueller, J. Proc. Linn. Soc., Bot. 3: 93. 1859.

阔叶桉 *kuo ye an*

Trees, medium sized. Bark whitish to brownish, smooth, exfoliating. Branchlets terete. Young leaves opposite; leaf blade rounded, cordate, or broadly lanceolate, ca. 30 × 28 cm, leathery. Mature leaves with a slightly flattened 2–3 cm petiole; leaf blade rounded to broadly ovate, 7–13 × 6–11 cm, secondary veins few and 10–15 apart, intramarginal veins 1–1.5 mm from margin, base broad but abruptly decurrent, apex obtuse. Inflorescences axillary, simple, umbels 3–7-flowered; peduncle 5–6 mm, terete or compressed. Flower buds obovoid, 6–8 × ca. 5 mm. Hypanthium obconic, 4–5 mm, 2-ridged; stipe 0–3 mm; calyptra semiglobose, shorter than or as long as hypanthium, apex rounded. Capsule semiglobose to awl-shaped, 5–6 × 7–9 mm; disk moderately broad; valves 3 or 4, exerted from hypanthium. Fl. Oct–Nov.

Cultivated in Guangdong (Guangzhou) [native to NE Australia].

15. *Eucalyptus alba* Reinwardt ex Blume, Bijdr. 1101. 1826–1827.

白桉 *bai an*

Trees, medium sized. Bark grayish white, smooth, exfoliating. Young leaves 3 or 4 pairs, opposite, petiolate; leaf blade ovate-lanceolate. Intermediate leaves alternate; leaf blade ovate to triangular, ca. 7.5 cm. Mature leaves; with a slightly weak 2–3 cm petiole; leaf blade broadly lanceolate to lanceolate, 10–13 × 2–4 cm, secondary veins at an angle of ca. 45° from midvein and inconspicuous on both surfaces, apex long and acutely pointed. Inflorescences axillary, simple, umbels 3–7-flowered; peduncle 1.5–2 cm, compressed. Flower buds elliptic, 8–9 mm. Hypanthium 4–5 mm; stipe 0–3 mm; calyptra slightly obtuse conic to slightly acute, shorter than hypanthium. Stamens 5–6 mm; anthers dorsifixed, dehiscing longitudinally. Capsule semiglobose to bowl-shaped, ca. 6 mm; disk broad or narrow; valves 3–5, exerted from hypanthium.

Cultivated in Guangxi [native to N Australia, East Timor, Indonesia, and Papua New Guinea].

16. *Eucalyptus exserta* F. Mueller, J. Proc. Linn. Soc., Bot. 3: 85. 1859.

窿缘桉 *long yuan an*

Trees, 15–18 m tall. Bark on trunk and larger branches grayish brown, rough, persistent but gray; bark smaller branches smooth. Branchlets obtusely ridged, slender, usually pendulous. Young leaves opposite, shortly petiolate; leaf blade narrowly lanceolate, less than 1 cm wide. Mature with a slender ca. 1.5 cm petiole; leaf blade narrowly lanceolate, 8–15 × 1–1.5 cm, slightly twisted, both surfaces with numerous minute black glands, secondary veins at an abrupt angle of 35°–40° from midvein, intramarginal veins very near margin. Inflorescences axillary, simple, umbels 3–8-flowered; peduncle 4–20 mm, terete. Flower buds long ovate, 8–10 mm. Hypanthium semiglobose, 2.5–3 × ca. 4 mm; stipe 0–4 mm; calyptra long conic, 5–7 mm, apex acuminate. Stamens 6–7 mm; anthers parallel, dehiscing longitudinally. Capsule subglobose, 6–7 mm in diam.; disk broad; valves 4, strongly exerted from hypanthium. Fl. May–Sep.

Cultivated in Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Jiangxi, Sichuan, and Zhejiang [native to NE Australia].

17. *Eucalyptus rudis* Endlicher, Enum. Pl. Huegel 49. 1837.

野桉 ye an

Trees, 9–15 m tall. Bark on trunk and larger branches blackish, rough, persistent but gray; bark on smaller branches smooth, exfoliating. Branchlets glossy. Young leaves 4 pairs, opposite; leaf blade broadly lanceolate to ovate. Mature leaves alternate; petiole 1.5–3 cm; leaf blade narrowly lanceolate to broadly lanceolate, 10–15 × 1–2 cm or wider, secondary veins conspicuous and at an angle of 55°–60° from midvein, intramarginal veins 1–1.5 mm from margin. Inflorescences axillary, simple, umbels 4–10-flowered; peduncle 1–2.5 cm, terete. Flower buds ovoid, 9–11 mm. Hypanthium obconic, 3–4 mm; stipe 3–5 mm; calyptra 5–7 mm, slightly longer than hypanthium, apex acute. Stamens 5–8 mm; filaments slender; anthers ovoid, dorsifixed, dehiscent longitudinally, glands small. Capsule bowl-shaped to obconic, 4–6 × 6–9 mm; disk broad; valves 4, exserted from hypanthium. Fl. winter.

Cultivated in Fujian, Guangdong, Guangxi, Jiangxi, and Zhejiang [native to SW Australia].

18. *Eucalyptus globulus* Labillardière, Voy. Rech. Pérouse 1: 153. 1800.

蓝桉 lan an

Trees, large. Bark grayish blue, smooth, exfoliating. Branchlets slightly ridged. Young leaves opposite, sessile; leaf blade ovate, glaucous, base cordate. Mature leaves with a slightly flattened 1.5–3 cm petiole; leaf blade lanceolate, 15–30 × 1–2 cm, falcate, leathery, both surfaces glandular, secondary veins at an angle of 35°–40° from midvein and inconspicuous, intramarginal veins ca. 1 mm from margin. Inflorescences axillary, simple, umbels 1- or 7-flowered; peduncles flattened or terete. Hypanthium obconic, ca. 1 × 1.3 cm, surface with 4 ridges and rugose protuberances, glaucous; stipe 0–5 mm; calyptra slightly flattened, with a conic tubercle in middle, shorter than calyx tube, in 2 layers with outer layer glossy and caducous. Stamens 0.8–1.3 cm, in several whorls; filaments slender; anthers elliptic. Style 7–8 mm, stout. Capsule semiglobose, 0.6–2.4 cm in diam., 4-ridged; disk broad; valves 3–5, equaling hypanthium rim or exserted. Fl. Dec–May, fr. winter.

Cultivated in Fujian, Guangxi, Guizhou, Jiangxi, Sichuan, Taiwan, Yunnan, and Zhejiang [native to SE Australia and Tasmania].

- 1a. Umbels 1-flowered; capsule 1.4–2.4 cm in diam. 18a. subsp. *globulus*
 1b. Umbels 7-flowered; capsule 0.6–1 cm in diam. 18b. subsp. *maidenii*

18a. *Eucalyptus globulus* subsp. *globulus*

蓝桉(原亚种) lan an (yuan ya zhong)

Umbels 1-flowered. Capsule 1.4–2.4 cm in diam.

Cultivated in Fujian, Guangxi, Guizhou, Jiangxi, Sichuan, Taiwan, Yunnan, and Zhejiang [native to extreme SE Australia and Tasmania].

18b. *Eucalyptus globulus* subsp. *maidenii* (F. Mueller) Kirkpatrick, Bot. J. Linn. Soc. 69: 101. 1974.

直杆蓝桉 zhi gan lan an

Eucalyptus maidenii F. Mueller, Proc. Linn. Soc. New South Wales, ser. 2, 4: 1020. 1890.

Umbels 7-flowered. Capsule 0.6–1 cm in diam.

Cultivated in Guangxi, Jiangxi, Sichuan, and Yunnan [native to SE Australia].

19. *Eucalyptus microcorys* F. Mueller, Fragm. 2: 50. 1860.

小帽桉 xiao mao an

Trees, large. Bark dark brown, fibrous, persistent. Branchlets terete or obtusely ridged, slender, pendulous. Young leaves opposite, sessile or shortly petiolate; leaf blade elliptic to broadly lanceolate, ca. 7 × 3 cm, thin. Mature leaves with a 1–1.5 cm petiole; leaf blade ovate-lanceolate, 8–10 × 2.5–4 cm, thinly leathery, both surfaces with numerous black glands, secondary veins few, 5–8 apart, and at an angle of ca. 70° from midvein, base rounded, apex sharp. Inflorescences terminal panicles or 5–8-flowered axillary umbels near branchlet apex; peduncle 1–1.5 cm, ridged. Flower buds obovoid, ca. 5 mm. Hypanthium shortly clavate, 3–4 mm in diam.; stipe 4–5 mm; calyptra semiglobose, ca. 1.5 mm. Stamens ca. 5 mm; anthers cordate. Capsule obovate, ca. 6 × 4 mm, base narrow, margins narrow, aperture of fruiting hypanthium slightly constricted; disk moderately broad; valves 3 or 4, included to slightly exserted from hypanthium. Fl. Dec–Jan.

Cultivated in Guangdong, Guangxi, and Taiwan [native to E Australia].

20. *Eucalyptus leptophleba* F. Mueller, J. Proc. Linn. Soc., Bot. 3: 86. 1859.

纤脉桉 xian mai an

Trees, to 15 m tall. Bark dark gray, rough, fibrous, persistent. Branchlets basally terete, apically ridged. Young leaves shortly petiolate; leaf blade broadly lanceolate, 8–10 × 2.5–3.5 cm. Mature leaves with a 1–2 cm petiole; leaf blade lanceolate, 10–17 × 2–3 cm, slightly twisted, leathery, both surfaces with numerous small glands, secondary veins 1.5–2 mm apart and at an angle of ca. 45° from midvein, intramarginal veins very near margin. Inflorescences terminal or sometimes axillary, paniculate, umbels 3–6-flowered; peduncle 6–9 mm, terete. Flower buds spindle-shaped, ca. 10 × 5 mm. Hypanthium obconic to campanulate, 4–6 mm; stipe 2–8 mm; calyptra awl-shaped, as long as hypanthium, apex slightly acute. Stamens distinct, ca. 5 mm; anthers globose reniform, poricidal near apex. Capsule cup-shaped, 8–10 mm; disk broad; valves 3 or 4, included or slightly exserted from hypanthium. Fl. Dec.

Cultivated in Guangdong, Guangxi, and Jiangxi [native to NE Australia].

21. *Eucalyptus largiflorens* F. Mueller, Trans. & Proc. Victorian Inst. Advancem. Sci. 1: 34. 1855.

二色桉 er se an

Trees, 12–18 m tall. Bark on trunk and larger branches dark brown, rough, fibrous, persistent; bark on smaller branches white, smooth. Branchlets slender, rounded, pendulous. Young

leaves grayish white, shortly petiolate; leaf blade narrowly lanceolate to oblong, 3–4 cm. Mature leaves with a slender ca. 1 cm petiole; leaf blade narrowly lanceolate, 8–13 × ca. 1 cm, slightly twisted, thinly leathery, glands inconspicuous, secondary veins dense and at an angle of ca. 40° from midvein, intramarginal veins very close to margin. Inflorescences usually terminal, paniculate, umbels 3–8-flowered; peduncle 5–8 mm, slender, ridged. Flower buds spindle-shaped, 5–7 mm, acute at both ends. Hypanthium ovoid to obconic, 2–3 mm; stipe 2–3 mm; calyptra shorter than or as long as hypanthium. Stamens ca. 3 mm; anthers small, laterally poricidal or dehiscent by short longitudinal slits. Capsule truncately capitate ovate, 3–4 mm in diam.; disk narrow; valves 3 or 4, equaling hypanthium rim or included. Fl. Sep.

Cultivated in Guangdong and Guangxi [native to SE Australia].

The name *Eucalyptus bicolor* A. Cunningham ex Mitchell (J. Exped. Trop. Australia 390. 1848) has been applied to this species, but that is a nomen dubium; see Chippendale (Fl. Australia 19: 496. 1988).

22. *Eucalyptus crebra* F. Mueller, J. Proc. Linn. Soc., Bot. 3: 87. 1859.

常桉 chang an

Trees, to 25 m tall. Bark dark brown, rough, persistent. Branchlets slender, slightly ridged. Young leaves opposite, shortly petiolate; leaf blade narrowly lanceolate, glaucous. Mature leaves alternate; petiole 1–2 cm, slender; leaf blade narrowly lanceolate, 8–15 × 1–1.8 cm, twisted, glaucous, same color on both surfaces, glands inconspicuous, intramarginal veins very near margin. Inflorescences terminal, paniculate, umbels 2–6-flowered; peduncle 7–10 mm, obtusely ridged or terete. Flower buds narrowly spindle-shaped, ca. 6 × 3 mm. Hypanthium hemispheric to obovoid, 2–3 mm; stipe 2–3 mm; calyptra nearly as long as hypanthium, apex slightly acute. Stamens ca. 3 mm, all developed; anthers globular, dehiscent longitudinally. Capsule campanulate, 4–6 × ca. 3 mm; disk narrow; valves 3 or 4, subequaling hypanthium rim to included. Fl. Aug–Sep.

Cultivated in Guangdong [native to E and NE Australia].

23. *Eucalyptus polyanthemos* Schauer in Walpers, Repert. Bot. Syst. 2: 924. 1843.

多花桉 duo hua an

Trees, to 22 m tall, d.b.h. to 70 cm. Bark grayish or cream colored, ± smooth, exfoliating throughout or on trunk and larger branches blackish brown, fibrous, and persistent. Branchlets terete. Young leaves opposite; leaf blade rounded, 4–8 × 4–11 cm, glaucous. Mature leaves with a slender 2–3 cm petiole; leaf blade grayish, ovate-lanceolate to long ovate, 5–14 × 1.5–4.5 cm, with numerous minute glands, secondary veins at an angle of ca. 55° from midvein, intramarginal veins ca. 0.5 mm from margin. Inflorescences terminal or axillary, paniculate, umbels 3–6-flowered; secondary peduncle ca. 7 mm, terete. Flower

buds obovoid, ca. 5 × 3 mm. Hypanthium campanulate, ca. 3 mm; stipe 1–2 mm; calyptra shortly awl-shaped, ca. 2 mm, apex slightly acute. Stamens 3–4 mm; anthers truncate capitate, poricidal. Capsule hemispheric, ovoid, or pyriform, 5–6 × 4–5 mm; disk broad; valves 3 or 4, included in hypanthium. Fl. Nov–Dec.

Cultivated in Jiangxi and Yunnan [native to SE Australia].

24. *Eucalyptus paniculata* Smith, Trans. Linn. Soc. London 3: 287. 1797.

圆锥花桉 yuan zhui hua an

Trees, large. Bark grayish, rough, persistent. Branchlets terete. Young leaves opposite, shortly petiolate; leaf blade broadly lanceolate to ovate, ca. 6 × 2–4 cm. Leaf blade of intermediate leaves broadly lanceolate, 8–10 × ca. 3.5 cm. Mature leaves with a 1–1.5 cm petiole; leaf blade lanceolate, 9–13 × 2–3 cm, slightly oblique, secondary veins at an angle of 40°–50° from midvein and conspicuous, intramarginal veins ca. 0.5 mm from margin. Inflorescences terminal, paniculate, umbels 3–9-flowered; peduncle ca. 1 cm, slightly ridged. Flower buds 7–9 mm. Hypanthium obovoid to obconic, 6–8 mm; stipe 2–10 mm; calyptra pyramidal awl-shaped, shorter than hypanthium, apex slightly acute. Capsule truncately capitate pyriform, 7–9 × ca. 5 mm; disk obscure; valves usually 4, equaling hypanthium rim or included. Fl. Aug–Oct.

Cultivated in Guangdong, Guangxi, and Jiangxi [native to SE Australia].

25. *Eucalyptus melliodora* A. Cunningham ex Schauer in Walpers, Repert. Bot. Syst. 2: 924. 1843.

蜜味桉 mi wei an

Trees, medium sized. Bark on lower part of trunk or sometimes extending to larger branches, grayish brown, fibrous, persistent; bark on smaller branches whitish yellow, smooth, exfoliating. Branchlets terete. Young leaves slightly grayish, oblong, ca. 5 × 2.5 cm. Mature leaves with a 1–1.5 cm petiole; leaf blade narrowly lanceolate to lanceolate, 7–13 × 1–1.5 cm, slightly twisted, leathery, both surfaces with numerous black glands, secondary veins at an angle of ca. 30° from midvein but ternate at base, intramarginal veins ca. 2 mm from margin. Inflorescences axillary, umbels 3- or 7-flowered; peduncle 4–9 mm. Flower buds ovoid, ca. 5 mm. Hypanthium campanulate, 3–4 mm; stipe 2–9 mm; calyptra coniform-semiglobose, as long or slightly shorter than hypanthium, sometimes apiculate. Stamens 4–6 mm, peripheral stamens sterile; anthers small, truncate-capitate, poricidal. Capsule semiglobose, ca. 5 mm in diam.; disk narrow; valves 5 or 6, equaling hypanthium rim or included. Fl. Aug–Sep.

Cultivated in Guangdong, Guangxi, and Yunnan [native to E and SE Australia].

2. MELALEUCA Linnaeus, Syst. Nat., ed. 12, 2: 507, 509; Mant. Pl. 1: 14, 105. 1767, nom. cons.

白千层属 bai qian ceng shu

Callistemon R. Brown; *Kajuputi* Adanson.

Trees or shrubs. Leaves alternate or opposite-decussate, petiolate or sessile; leaf blade leathery, secondary veins basal and parallel to leaf axis or pinnate. Flowers bisexual or female sterile, arranged in spikes or heads and pseudoterminal or lateral. Hypanthium subglobose or campanulate. Sepals 5, caducous or persistent. Petals 5. Stamens numerous, greenish white; filaments basally connate into 5 bundles opposite petals; anthers dorsifixed, cells parallel, dehiscing longitudinally. Ovary slightly adnate to hypanthium, 3-loculed, apex prominent; ovules numerous. Style linear; stigma \pm enlarged. Capsule semiglobose to globose, apically dehiscing. Seeds obovoid-oblong to obovoid; testa thin; embryo straight.

About 280 species: mainly in Australia, but also in Indonesia, New Caledonia, and Papua New Guinea; several species cultivated in China but only one commonly cultivated.

Callistemon is to be included in *Melaleuca* as the two genera overlap in many morphological aspects. Several species are occasionally cultivated in China under *Callistemon*, including *C. citrinus* (Curtis) Skeels (*C. lanceolatus* Candolle), *C. linearis* (Smith) Candolle (*C. rigidus* R. Brown), *C. rugulosus* (Schlechtendal ex Link) Candolle (*C. coccineus* F. Mueller), *C. salignus* (Smith) Colvill ex Sweet, and *C. viminalis* (Solander ex Gaertner) G. Don ex Loudon. The cultivated species treated under the name *M. parviflora* Lindley in FRPS (53(1): 55. 1984) is not that species; no material has been seen and its true identity is unknown.

1. *Melaleuca cajuputi* Powell subsp. **cumingiana** (Turczaninow) Barlow, *Novon* 7: 113. 1997.

白千层 bai qian ceng

Melaleuca cumingiana Turczaninow, *Bull. Soc. Imp. Naturalistes Moscou* 20: 164. 1847.

Trees, to 18 m tall. Bark white, thick and soft, peeling. Branchlets grayish white. Leaves alternate, fragrant; petiole very short; leaf blade narrowly elliptic to narrowly oblong, 4–10 \times 1–2 cm, leathery, with numerous oil glands, secondary veins 3–5(–7) and parallel to long axis blade, both ends acute. Flowers white, in pseudoterminal spikes to 15 cm; rachis usually with short trichomes. Hypanthium ovate, ca. 3 mm, pubes-

cent or glabrous. Sepals 5, rounded, ca. 1 mm. Petals 5, ovate, 2–3 \times ca. 3 mm. Stamens ca. 1 cm, in 5 bundles. Style linear, slightly longer than stamens. Capsule subglobose, 5–7 mm in diam. Fl. several times per year.

Cultivated in Fujian, Guangdong, Guangxi, Sichuan, Taiwan, and Yunnan [Indonesia, Malaysia, Myanmar, Thailand, Vietnam].

In FRPS (53(1): 54–55. 1984), this widely cultivated species was treated under the name *Melaleuca leucadendra* (Linnaeus) Linnaeus (as "*M. leucadendron*"). *Melaleuca cajuputi* is the source of the essential oil, cajuput or cadjeput. The typical race, subsp. *cajuputi*, is distributed in Indonesia and Australia; a third race, subsp. *platyphylla* Barlow, is distributed in Indonesia (Irian Jaya), Papua New Guinea, and Australia.

3. **LOPHOSTEMON** Schott, *Wiener Z. Kunst* 1830(3): 772. 1830.

红胶木属 hong jiao mu shu

Trees. Leaves alternate or pseudo-whorled, clustered at apex of branches, rarely opposite. Inflorescences axillary, dichasium; bracts caducous or absent. Flowers bisexual. Hypanthium ovate or obconiform, pubescent. Sepals 5, imbricate, persistent. Petals 5, white or yellow, pubescent. Stamens numerous; filaments usually basally connate into 5 bundles opposite petals; anthers dorsifixed, locules parallel, dehiscing longitudinally. Ovary semi-inferior, 3-loculed; ovules numerous. Style shorter than stamens; stigma slightly ampliate. Capsule semiglobose or cup-shaped, apically flattened truncate, splitting into 3 parts but still surrounded by hypanthium. Seeds few, linear, sometimes winged.

Four species: Australia, S New Guinea; one species (cultivated) in China.

1. *Lophostemon confertus* (R. Brown) Peter G. Wilson & J. T. Waterhouse, *Austral. J. Bot.* 30: 424. 1982.

红胶木 hong jiao mu

Tristania conferta R. Brown in W. T. Aiton, *Hort. Kew.*, ed. 2, 4: 417. 1812.

Trees, to 20 m tall, d.b.h. to 50 cm. Bark blackish brown, \pm persistent, rigid. Branchlets at first flat and ridged but becoming terete, puberulous. Leaves clustered at apex of branches, pseudo-whorled; petiole 1–2 cm, flattened; leaf blade oblong to ovate-lanceolate, 7–15 \times 3–7 cm, leathery, abaxially sometimes grayish, adaxially with subdermal pellucid punctate oily glands,

secondary veins 12–18 on each side of midvein, 3–6 mm apart, at an angle of 50°–60° from midvein, and abaxially slightly raised, reticulate veins conspicuous, base cuneate, apex acuminate to sharply pointed. Cymes axillary, 2–3 cm, 3–7-flowered; peduncle 0.6–1.5 cm. Pedicel 3–6 mm. Hypanthium obconic, 4–5 mm, grayish white sericeous. Sepals triangular, 4–5 mm, apex sharply pointed. Petals obovate-rounded, ca. 6 mm, outer surface pubescent. Stamen bundles 1–1.2 cm; filaments partly distinct; anthers ca. 0.5 mm. Capsule semiglobose, 8–10 mm in diam., enclosed in hypanthium, apex truncate. Fl. May–Jul, fr. Aug–Sep.

Cultivated in Guangdong, Guangxi, Hainan, Taiwan, and Yunnan [native to Australia].

4. **BAECKEA** Linnaeus, *Sp. Pl.* 1: 358. 1753.

岗松属 gang song shu

Shrubs or trees. Leaves opposite, sessile. Flowers bisexual, axillary, solitary or several arranged into cymes, white [or red], small, 5-merous, shortly pedicellate or sessile. Bracteoles 2, small, caducous. Calyx tube campanulate or semiglobose, usually adnate

to ovary; lobes 5, membranous, persistent. Petals 5, suborbicular. Stamens 5–10, or 20, shorter than petals; filaments short; anthers dorsifixed. Ovary inferior [semi-inferior or rarely superior], 2- or 3-loculed; ovules several per locule. Style short; stigma slightly expanded. Capsule dehiscent, segments 2 or 3, 1–3-seeded or rarely more. Seeds reniform, angular; embryo straight; endosperm absent; cotyledons small.

About 70 species: S and SE Asia, Australia; one species in China.

1. *Baeckea frutescens* Linnaeus, Sp. Pl. 1: 358. 1753.

岗松 gang song

Baeckea chinensis Gaertner; *B. cochinchinensis* Blume; *B. frutescens* var. *brachyphylla* Merrill & L. M. Perry; *B. sumatrana* Blume; *Cedrela rosmarinus* Loureiro.

Shrubs, sometimes small trees. Petiole 0.5–0.6 mm; leaf blade linear, 5–10 × ca. 1 mm, abaxially with raised oil glands, adaxially grooved, midvein 1, secondary veins absent, apex sharp. Flowers axillary, solitary, small; bracts caducous. Pedicel

1–1.5 mm. Hypanthium campanulate, ca. 1.5 mm. Sepals 5, triangular, small, apex acute. Petals white, distinct, rounded, ca. 1.5 mm, base clawed. Stamens 7–13 or less, 1–3-grouped opposite each sepal. Ovary inferior, 2- or 3-loculed. Style short, persistent. Capsule ca. 2 mm. Seeds flattened, angular. Fl. summer.

Thickets, slopes, low hills, open grasslands. Fujian, Guangdong, Guangxi, Hainan, Jiangxi, Zhejiang [Cambodia, India, Indonesia, Malaysia, Myanmar, New Guinea, Philippines, Thailand, Vietnam; Australia].

5. RHODAMNIA Jack, Malayan Misc. 2(7): 48. 1822.

玫瑰木属 mei gui mu shu

Shrubs or small trees. Leaves opposite, petiolate; leaf blade tri- or tripliveined, abaxially usually white glaucous or tomentose. Flowers small, clustered in leaf axils or arranged in cymes or racemes. Bracteoles small, caducous. Hypanthium subglobose, adnate to ovary. Calyx lobes 4, persistent. Petals 4, larger than calyx lobes. Stamens numerous, arranged in many whorls, curved in bud; anthers dorsifixed, versatile, longitudinally dehiscent. Ovary inferior, 1-loculed, with 2 parietal placentation; ovules many. Style linear; stigma peltate. Berry globose, apex with persistent calyx lobes. Seeds globose or depressed globose; seed coat hard; embryo horseshoe-shaped; hypocotyl long; cotyledon short.

About 20 species: tropical Asia, Australia, New Caledonia; one species in China.

1. *Rhodamnia dumetorum* (Candolle) Merrill & L. M. Perry, J. Arnold Arbor. 19: 195. 1938.

玫瑰木 mei gui mu

Trees, to 15 m tall. Branchlets terete, with grayish short trichomes; old branches brown, glabrescent. Petiole 5–10 mm, pubescent; leaf blade lanceolate, narrowly elliptic, or ovate, 4–10 × 2.5–3.5, leathery, abaxially grayish white or white tomentose and glabrescent or not, adaxially tomentose but glabrescent, secondary veins 1 on each side of midvein, originating 3–4 mm from leaf blade base, and meeting at apex, intramarginal veins near margin, tertiary veins thin, ± parallel, and obvious from both surfaces, base obtuse to nearly rounded, apex acuminate to acute. Inflorescences axillary or subapical, 1–3-flowered or sometimes several-flowered; peduncle ca. 1 cm. Flower buds pyriform ca. 7 × 3.5 mm. Hypanthium ovoid, ca. 4 mm, white tomentose. Calyx lobes ovate, 1.5–2 mm, pubescent. Petals white, obovate, ca. 6 mm, outside with white trichomes. Stamens yellow, many, 4–5 mm. Berry ca. 8 × 6 mm, pubescent. Fl. Jun–Jul.

Broad-leaved evergreen forests; low elevations to 600 m. Hainan [Cambodia, Laos, Malaysia, Thailand, Vietnam].

- 1a. Leaf blade narrowly elliptic to lanceolate, 6–10 × 2.5–3.5 cm, abaxially glabrescent, apex acuminate 1a. var. *dumetorum*

- 1b. Leaf blade ovate to lanceolate, 4–6.5 × 2.5–3.5 cm, abaxially not glabrescent, apex acute 1b. var. *hainanensis*

1a. *Rhodamnia dumetorum* var. *dumetorum*

玫瑰木(原变种) mei gui mu (yuan bian zhong)

Eugenia dumetorum Candolle, Prodr. 3: 284. 1828, based on *Myrtus trinervia* Loureiro, Fl. Cochinch. 1: 312. 1790 [“*trinervia*”]; *M. dumetorum* Poirlet, nom. illeg. superfl.; *Nelitis trinervia* (Loureiro) Sprengel; *Rhodamnia siamensis* Craib.

Trees, to 6 m tall. Leaf blade narrowly elliptic to lanceolate, 6–10 × 2.5–3.5 cm, abaxially glabrescent, apex acuminate.

Broad-leaved evergreen forests; low elevations. Hainan [Cambodia, Laos, Malaysia, Thailand, Vietnam].

1b. *Rhodamnia dumetorum* var. *hainanensis* Merrill & L. M. Perry, J. Arnold Arbor. 19: 196. 1938.

海南玫瑰木 hai nan mei gui mu

Trees, to 15 m tall. Leaf blade ovate to lanceolate, 4–6.5 × 2.5–3.5 cm, abaxially with persistent trichomes, apex acute.

- Broad-leaved evergreen forests; ca. 600 m. S Hainan.

6. RHODOMYRTUS (Candolle) Reichenbach, Deut. Bot. Herb.-Buch 177. 1841.

桃金娘属 tao jin niang shu

Myrtus sect. *Rhodomyrtus* Candolle, Prodr. 3: 240. 1828.

Shrubs or trees. Leaves opposite, tripliveined, petiolate. Inflorescences axillary, 1[–3]-flowered. Hypanthium ovoid to subglobose. Calyx lobes 4 to 5, leathery, persistent. Petals 4 or 5, larger than calyx lobes. Stamens many, separate, in many whorls, usually shorter than petals; anthers dorsifixed to nearly basifixed, versatile, longitudinally dehiscent. Ovary inferior, adnate to hypanthium, 3(or 4)-loculed; ovules arranged in 2 lines in each locule. Style linear; stigma capitate or peltate. Berry ovoid, urceolate, or globose. Seeds many, flat, reniform, separated by longitudinal septa and a false transverse septum; seed coat hard; embryo curved or spiral; hypocotyl long; cotyledons small.

About 18 species: tropical Asia, Australia, SW Pacific islands; one species in China.

1. *Rhodomyrtus tomentosa* (Aiton) Hasskarl, *Flora* 25(Beibl.): 35. 1842.

桃金娘 tao jin niang

Myrtus tomentosa Aiton, Hort. Kew. 2: 159. 1789; *M. canescens* Loureiro.

Shrubs, 1–2 m tall. Branchlets grayish tomentose. Leaves opposite; petiole 4–7 mm; leaf blade elliptic to obovate, 3–8 × 1–4 cm, leathery, pubescent when young but glabrescent and shiny with age, abaxially gray tomentose, secondary veins 1 on each side of midvein, originating near leaf blade base, and meeting at apex, tertiary veins 4–6 on each side of midvein and

connecting midvein to secondary veins, reticulate veins obvious, intramarginal veins 3–4 mm from margin, base broadly cuneate, apex rounded to obtuse and often slightly emarginate or sometimes slightly apiculate. Flowers 1[–3], stipitate, 2–4 cm in diam. Hypanthium obovoid, ca. 6 mm, gray tomentose. Calyx lobes 5, subrounded, 4–5 mm, persistent. Petals 5, violet, obovate, 1.3–2 cm. Stamens red, 7–8 mm. Ovary 3(or 4)-loculed. Style ca. 1 cm. Berry purplish black when mature, urceolate, 1.5–2 × 1–1.5 cm. Fl. Apr–May.

Coppices, mountain slopes, low hills, grasslands. Fujian, Guangdong, Guangxi, Guizhou, S Hunan, Jiangxi, Taiwan, S Yunnan, Zhejiang [Cambodia, India, Indonesia, Japan (Ryukyu Islands), Laos, Malaysia, Myanmar, Philippines, Sri Lanka, Vietnam].

7. *EUGENIA* Linnaeus, Sp. Pl. 1: 470. 1753.

番櫻桃屬 fan ying tao shu

Stenocalyx O. Berg.

Trees or shrubs. Leaves opposite, petiolate; leaf blade pinnately veined. Inflorescences axillary or often lateral below leaves. Flowers bisexual, solitary or clustered. Hypanthium short. Calyx lobes 4. Petals 4. Stamens numerous; anthers parallel, longitudinally dehiscent. Ovary 2- or 3-loculed; ovules many per locule, amphitropous. Fruit a berry, with persistent sepals at apex. Seed usually 1, embryo straight, with 2 fully or partly fused massive cotyledons.

About 1000 species: mostly in tropical America but also in Africa, S and SE Asia, Australia, Madagascar, Mascarenes, New Caledonia, and the Pacific islands; one species commonly cultivated in S China.

In addition to *Eugenia uniflora* treated below, the following species are recorded as occasionally being cultivated in China: *E. ahermiana* C. B. Robinson, *E. brasiliensis* Lamarck, *E. buxifolia* Willdenow, *E. dombeyi* (Sprengel) Skeels, and *E. pitanga* Kiaerskov.

1. *Eugenia uniflora* Linnaeus, Sp. Pl. 1: 470. 1753.

紅果仔 hong guo zi

Eugenia brasiliiana (Linnaeus) Aublet; *E. michelii* Lamarck, nom. illeg. superfl.; *Myrtus brasiliiana* Linnaeus; *Stenocalyx michelii* O. Berg, nom. illeg. superfl.; *S. uniflorus* (Linnaeus) Kausel.

Shrubs or trees, to 5 m tall, generally glabrous. Petiole ca. 1.5 mm; leaf blade ovate to elliptic, 3.2–4.2 × 2.3–3 cm, papery,

both surfaces dark green, glabrous, and with numerous pellucid glands, secondary veins ca. 5 on each side of midvein, slightly conspicuous, and at an angle of ca. 45° from midvein, intramarginal veins ca. 2 mm from margin, base rounded, slightly cordate, or cuneate, apex acuminate, mucronate, or obtuse. Flowers white, slightly fragrant. Calyx lobes 4, long elliptic, reflexed. Petals white. Berries dark red when ripe, globose, 1–2 cm in diam., 8-ridged, 1- or 2-seeded. Fl. spring.

Cultivated in Fujian, Sichuan, Taiwan, and Yunnan [native to South America (Brazil)].

8. *PSIDIUM* Linnaeus, Sp. Pl. 1: 470. 1753.

番石榴屬 fan shi liu shu

Guajava Miller.

Shrubs or small trees. Bark gray, smooth. Branchlets pubescent. Leaves opposite, petiolate; leaf blade pinnately veined. Flowers axillary, large, usually 1 or 2 per axil. Bracts 2. Hypanthium campanulate or urceolate. Calyx lobes 4 or 5, unequal. Petals 4 or 5, white. Stamens many, separate, in many whorls; anthers ellipsoid, basifixed, locules parallel, longitudinally dehiscent. Ovary inferior, adnate to hypanthium, 4- or 5-loculed or more; ovules numerous. Style linear; stigma expanded. Berry globose to pyriform, fleshy, many-seeded, apex with persistent calyx lobes; placenta well developed, fleshy. Seed coat hard; embryo curved; hypocotyl long; cotyledons short.

About 150 species: tropical America; two species commonly cultivated in China with one naturalized.

Psidium guineense Swartz (*P. laurifolium* O. Berg) has also been recorded as occasionally being cultivated in China.

- 1a. Branchlets terete; leaf blade elliptic to obovate, abaxially glabrous, secondary veins obscure 1. *P. cattleyanum*
 1b. Branchlets angled; leaf blade oblong to elliptic, abaxially pubescent, secondary veins obvious 2. *P. guajava*

1. *Psidium cattleyanum* Sabine, Trans. Hort. Soc. London 4: 317. 1821 [*"cattleianum"*].

草莓番石榴 cao mei fan shi liu

Guajava cattleyana (Sabine) Kuntze; *Psidium littorale* Raddi; *P. variabile* O. Berg.

Shrubs or trees, to 7 m tall. Bark grayish brown, smooth. Branchlets terete. Leaf blade elliptic to obovate, 5–10 × 2–4 cm, thickly leathery, both surfaces glabrous, secondary veins obscure, base cuneate, apex acute. Flowers axillary, solitary. Hypanthium obconiform. Calyx lobes 4 or 5, long ovate. Petals white, obovate, ca. 1 cm. Stamens shorter than petals. Ovary adnate to hypanthium, 4-loculed. Style slender; stigma peltate. Berry violet when mature, pyriform to globose, 2.5–4 cm; flesh white, yellow, or reddish. Fl. summer.

Cultivated in Guangdong, Hainan, Taiwan, and Yunnan [native to South America (Brazil)].

Schroeder (J. Arnold Arbor. 27: 314–315. 1946) discussed the likely publication dates of the names *Psidium cattleyanum* and *P. littorale*, both of which were published in 1821. Schroeder gave convincing reasons for *P. cattleyanum* having been published prior to *P. littorale*.

2. *Psidium guajava* Linnaeus, Sp. Pl. 1: 470. 1753.

番石榴 fan shi liu

Guajava pyrifera (Linnaeus) Kuntze; *Myrtus guajava* (Linnaeus) Kuntze; *Psidium pomiferum* Linnaeus; *P. pyrifera* Linnaeus.

Trees, to 13 m tall. Bark gray, smooth, peeling in strips. Branchlets angular, pubescent. Petiole ca. 5 mm; leaf blade oblong to elliptic, 6–12 × 3.5–6 cm, leathery, abaxially pubescent, adaxially slightly rough, secondary veins 12–15 on each side of midvein and usually impressed, reticulate veins obvious, base rounded, apex acute to obtuse. Flowers solitary or 2 or 3 in cymes. Hypanthium campanulate, ca. 5 mm, pubescent. Calyx cap nearly rounded, 7–8 mm, irregularly opening. Petals white, 1–1.4 cm. Stamens 6–9 mm. Ovary adnate to hypanthium. Style as long as stamens. Berry globose, ovoid, or pyriform, 3–8 cm, with persistent calyx lobes at apex; flesh white or yellow; placenta reddish, well developed, fleshy. Seeds many. Fl. summer.

Cultivated and sometimes naturalized in Guangdong, Guangxi, Guizhou, Hainan, Sichuan, Taiwan, and Yunnan [native to tropical America].

Psidium guajava has become naturalized in disturbed habitats in many tropical parts of the world.

9. DECASPERMUM J. R. Forster & G. Forster, Char. Gen. Pl. 37. 1775.

子楝树属 zi lian shu shu

Nelitris Gaertner.

Shrubs or trees. Branchlets terete or 4-angled, glabrous or pubescent. Stipules small, filiform, caducous. Leaves opposite, petiolate; leaf blade punctate, pinnately veined, with intramarginal veins. Inflorescences axillary and 1–3-flowered dichasia, racemes, or thyrses, sometimes terminal and paniculate. Flowers bisexual or sometimes staminate, 3–5-merous, often fragrant; bracteoles often small, sometimes caducous. Hypanthium globose, urceolate, or obconiform. Calyx lobes sometimes subequal, persistent. Petals pink or white, punctate. Stamens numerous, in several series; filaments filiform; anthers globular, dorsifixed, dehiscing by longitudinal slits; connectives usually terminating in an apical gland. Ovary 3–13-loculed, placentation axile; ovules 1–2[–4] per locule, collateral. Style filiform; stigma capitate or peltate. Fruit a berry, globular, vertically ribbed, usually 1- or 2-seeded per locule. Seeds separated by a vertical false septum; seed coat and pericarp separate; testa bony; embryo horseshoe-shaped; radicle long; cotyledons short.

About 30 species: SE Asia, Australia, Pacific islands; eight species (five endemic) in China.

Specimens of *Decaspermum* have flowers that are either perfect or staminate, but it is unclear whether plants with staminate flowers are andromonoecious or androdioecious.

The treatment and descriptions for *Decaspermum* are largely adapted from Scott (Kew Bull. 34: 59–67. 1979; 35: 403–411. 1980) except for more recently described species. The genus name "*Pyrenocarpa*" (Hung T. Chang & R. H. Miao, Acta Sci. Nat. Univ. Sunyatseni 1975: 62. 1975), which was not validly published because no type was indicated, was established on the basis of its possessing an 11–13-loculed ovary and fruit with a solitary ovule in each locule; however 9-loculed material of *D. hainanense* also has been observed. Given the variation in these characters elsewhere in *Decaspermum* (ovary 3–10-loculed, ovules 2–4 per locule), it is considered that the two Chinese species assigned to "*Pyrenocarpa*" are better included within the former genus.

- 1a. Inflorescences with flowers solitary or occasionally 2-flowered 1. *D. albociliatum*
 1b. Inflorescences dichasia, racemes, thyrses, or panicles.
 2a. Flowers 3-merous; ovary 3-loculed 2. *D. gracilentum*
 2b. Flowers (3 or)4- or 5-merous; ovary 4–13-loculed.

- 3a. Branchlets glabrous 6. *D. glabrum*
 3b. Branchlets sericeous, pubescent, or tomentose.
 4a. Ovary 11–13-loculed.
 5a. Branchlet angled; leaf blade oblong, secondary veins 20 on each side of midvein; peduncle angled 7. *D. hainanense*
 5b. Branchlets terete; leaf blade elliptic to obovate, secondary veins 12–15 on each side of midvein; peduncle terete 8. *D. teretis*
 4b. Ovary 4–6-loculed.
 6a. Leaf blade secondary veins 10–20 on each side of midvein, apex acute to acuminate and with an acumen to 2 cm 5. *D. parviflorum*
 6b. Leaf blade secondary veins 5–10 on each side of midvein, apex obtuse, acute, or shortly acuminate.
 7a. Flowers (3 or)4-merous; calyx glabrous 3. *D. montanum*
 7b. Flowers 4- or 5-merous; calyx sparsely pubescent 4. *D. austrohainanicum*

1. *Decaspermum albociliatum* Merrill & L. M. Perry, J. Arnold Arbor. 19: 202. 1938.

白毛子楝树 bai mao zi lian shu

Shrubs, to 4 m tall. Branchlets terete, slender, wooly with long trichomes. Petiole 1–2 mm, tomentose; leaf blade narrowly ovate to oblong-lanceolate, 2.5–6 × 1–2.5 cm, subleathery to stiffly papery, sericeous with long trichomes when young but becoming sparsely pubescent, midvein abaxially raised and adaxially impressed, secondary veins 8–10 on each side of midvein and inconspicuous, base obtuse, apex long acuminate with a 0.5–1.5 cm acumen. Flowers bisexual, axillary, solitary or occasionally 2, 5-merous, white villous; bracteoles linear, 5–7 mm, persistent, villous. Open flowers unknown. Fruit subglobose, 4–5 mm in diam., 6-loculed, 6-ribbed, pubescent; persistent calyx lobes narrowly triangular, 3–5 × ca. 1 mm, pubescent. Seeds 2 per locule, ca. 2 mm. Fr. Mar–May.

- Forests; 200–400 m. Hainan (Baoting).

2. *Decaspermum gracilentum* (Hance) Merrill & L. M. Perry, J. Arnold Arbor. 19: 202. 1938.

子楝树 zi lian shu

Eugenia gracilentum Hance, J. Bot. 23: 7. 1885; *Decaspermum esquirolii* (H. Léveillé) Hung T. Chang & R. H. Miao; *E. esquirolii* H. Léveillé; *Syzygium gracilentum* (Hance) Hu.

Shrubs or trees, to 4 m tall. Branchlets often 4-angled or narrowly 4-winged, sparsely sericeous. Petiole 2–5 mm, glabrous; leaf blade elliptic to ovate, rarely lanceolate or obovate, abaxially subglabrous, adaxially glossy green turning blackish when dry, secondary veins 5–9 on each side of midvein, ascending, abaxially faint, and adaxially raised, intramarginal veins 1–2 mm from margin, base cuneate to obtuse, apex acuminate with a 0.5–1 cm acumen. Inflorescences axillary or lateral below leaves, racemes or thyrses, to 6 cm; axes sparsely sericeous; bracts ovate, ca. 1 mm, caducous, each commonly with a pair of flowers or dichasia in axil. Flowers bisexual or staminate, 3-merous; bracteoles ovate, ca. 0.5 mm, caducous. Hypanthium campanulate to funnel-shaped, ca. 1 mm, sericeous. Calyx lobes 1–1.5 × 1–1.5 mm, unequal, sparsely pubescent, apex obtuse to truncate. Petals white, orbicular, ca. 3 mm, margin ciliate. Stamens ca. 4 mm. Ovary 3-loculed. Style ca. 4 mm; stigma peltate. Fruit black, globular, 3–5 mm in diam., 3–5-

ribbed, sparsely pubescent. Seeds 3–5 per fruit, ca. 1.5 mm. Fl. Mar–May.

Forests; low to middle elevations. Guangdong, Guangxi, S Guizhou, Hunan, Taiwan (Hengchun Peninsula, Lan Yu) [Vietnam].

3. *Decaspermum montanum* Ridley, J. Straits Branch Roy. Asiat. Soc. 61: 6. 1912.

柬埔寨子楝树 jian pu zhai zi lian shu

Decaspermum cambodianum Gagnepain; *Eugenia ciliaris* Ridley; *E. multipunctata* Merrill.

Trees, to 10 m tall. Branchlets sparsely sericeous. Petiole 3–10 mm; leaf blade obovate to oblanceolate, 2.7–9 × 1.8–4.2 cm, stiffly papery to leathery, abaxially glabrous, adaxially glossy and turning blackish when dry, secondary veins 5–7 on each side of midvein and ascending, intramarginal veins 1–2 mm from margin, base cuneate to attenuate, margin revolute, apex acute, shortly acuminate, or sometimes obtuse. Inflorescences axillary or lateral below leaves, dichasia, racemes, or thyrses, to 4 cm, 3-flowered, branches terete and glabrous; bracts small, caducous. Flowers (3 or)4-merous, bisexual or staminate; bracteoles ovate, ca. 1 mm, caducous. Hypanthium campanulate to funnel-shaped, 1–1.5 mm, glabrous. Calyx lobes obtuse to truncate, 1–1.5 × 1–2 mm, unequal, glabrous or ciliate. Petals white, orbicular, ca. 3 mm, ciliate. Stamens white, ca. 3 mm. Ovary 4-loculed. Style ca. 3 mm; stigma capitate. Fruit dark purple, globular, 3–5 mm in diam., 5- or 6-ribbed, glabrous. Seeds 3–5 per fruit, ca. 1.5 mm. Fl. Apr–May.

Forests; middle to high elevations. Hainan [Cambodia, Malaysia, Thailand, Vietnam].

4. *Decaspermum austrohainanicum* Hung T. Chang & R. H. Miao, Acta Bot. Yunnan. 4: 24. 1982.

琼南子楝树 qiong nan zi lian shu

Shrubs. Branchlets grayish brown pubescent. Petiole 4–7 mm; leaf blade obovate, 3–5 × 1.7–2.6 cm, stiffly papery to leathery, abaxially brown when dry, adaxially reddish brown and glossy when dry, abaxially glabrous, adaxially densely impressed punctate, secondary veins 5–7 on each side of midvein, base cuneate, margin revolute, apex abruptly acute with an obtuse acumen. Inflorescences axillary, dichasia, racemes, or thyrses but sometimes solitary; bracts oblong to lanceolate, 2–4

mm, pubescent. Flowers 5-merous, only staminate seen; bracteoles scalelike. Hypanthium sparsely pubescent. Calyx lobes 5, broadly ovate, less than 1 mm, grayish pubescent. Petals 5, ovate, ca. 2 mm, outside sparsely pubescent. Stamens as long as petals, glabrous. Ovary rudimentary. Fruit not seen.

- S Hainan (Yaxian: Yanglin Shan).

This species is known only from type gathering.

5. *Decaspermum parviflorum* (Lamarck) A. J. Scott, Kew Bull. 34: 66. 1979.

五瓣子楝树 wu ban zi lian shu

Eugenia parviflora Lamarck, Encycl. 3: 200. 1789; *Decaspermum paniculatum* (Lindley) Kurz; *Myrtus parviflora* (Lamarck) Sprengel; *Nelitris paniculata* Lindley; *N. parviflora* (Lamarck) Blume; *Pyrus bodinieri* H. Léveillé.

Shrubs or trees, to 20 m tall. Branchlets terete, grayish tomentose or sericeous. Petiole 3–7 mm, pubescent or glabrous; leaf blade elliptic, ovate, oblong, or lanceolate, 4–13 × 1.2–6 cm, glabrous or sparsely pubescent, midvein abaxially slightly raised, secondary veins inconspicuous, intramarginal veins 1–2 mm from margin, base cuneate to obtuse, apex usually acuminate with a 0.5–2 cm acumen. Inflorescences axillary or terminal, when axillary then thyrses or rarely some flowers in racemes in more basal axils, when terminal then paniculately arranged and to 9 cm; bracts ovate-lanceolate, 0.5–2 cm, usually caducous. Flowers bisexual or staminate, (4 or) 5-merous; bracteoles lanceolate, 1–1.5 mm, caducous. Hypanthium sericeous, 1–1.5 mm. Calyx lobes to 1–2 × 1–2 mm, unequal, ± glabrous, margin ciliate, apex obtuse to sometimes truncate or acute. Petals white or pink, orbicular, 3–4 mm, margin ciliate. Stamens 3–4 mm; filaments pink or white. Ovary 4–6-loculed. Style 3–6 mm; stigma peltate. Fruit 3–5 mm in diam., sparsely pubescent. Seeds 3–12 per fruit. Fl. spring–summer.

Scrub, forests; below 2000 m. Guangdong, Guangxi, Guizhou, Hainan, Xizang (Cona), Yunnan [Cambodia, NE India, Indonesia, Malaysia, Myanmar, Philippines, Thailand, Vietnam; Pacific islands].

Plants treated in FRPS (53(1): 126. 1984) as *Decaspermum fruticosum* J. R. Forster & G. Forster belong here.

6. *Decaspermum glabrum* Hung T. Chang & R. H. Miao, Acta Bot. Yunnan. 4: 25. 1982.

秃子楝树 tu zi lian shu

Shrubs. Branchlets reddish brown when dry, slender, terete, glabrous. Petiole 3–5 mm, slender, glabrous; leaf blade ovate-lanceolate to lanceolate, 2.5–5 × 1–1.7 cm, stiffly papery, abaxially brown when dry, adaxially shiny black when dry, abaxially densely punctate and glabrous, secondary veins inconspicuous, base cuneate to obtuse, apex acuminate. Inflorescences axillary, dichasia, racemes, or thyrses, 4–9-flowered; peduncle slender, glabrous; bracts leaflike, 6–8 mm. Flowers 4-merous, only staminate known; bracteoles subulate, ca. 2 mm, glabrous. Hypanthium glabrous. Calyx lobes triangular ovate, ca. 1.5 mm, glabrous, apex acute. Petals obovate, 2–2.5 mm, margin sparsely ciliate. Stamens as long as petals. Ovary rudimentary.

- Mountain slopes. SW Guangdong (Zhanjiang Diqu).

This species is known only from type gathering.

7. *Decaspermum hainanense* (Merrill) Merrill, Lingnan Sci. J. 14: 42. 1935.

海南子楝树 hai nan zi lian shu

Eugenia hainanensis Merrill, Philipp. J. Sci. 23: 255. 1923.

Trees, to 10 m tall. Branchlets 4-angled, grayish brown tomentose. Petiole 5–10 mm; leaf blade oblong, 5–9 × 2–2.5 cm, both surfaces at first pubescent, glabrescent, abaxially yellowish green when dry, adaxially dark green and shiny when dry, secondary veins ca. 20 on each side of midvein, at an angle of ca. 65° from midvein, and obscure, intramarginal veins ca. 1 mm from margin, base cuneate, apex slightly apiculate with an obtuse tip. Inflorescences in axil of apical leaves, cymose paniculate, 4–8 cm, many-flowered; bracts obovate. Flowers 1.7–2 cm in diam.; bracteoles elliptic, ca. 3 mm, pubescent. Hypanthium 2–2.5 mm. Calyx lobes 5, broadly ovate, ca. 2 mm, pubescent. Petals 5, white, ovate, 7–8 × 4–5 mm, glandular, apex pointed. Stamens pink to red, 7–8 mm; filaments with some trichomes. Ovary 9–13-loculed. Style 7–8 mm; stigma expanded. Fruit depressed globose, 7–8 mm in diam., 9–13-loculed. Fl. Feb–Jul.

- Forests, thickets on clay, humus-rich soils; 400–2500 m. Hainan.

“Pyrenocarpa hainanensis” (Hung T. Chang & R. H. Miao, Acta Sci. Nat. Univ. Sunyatseni 1975: 63. 1975) belongs here but was not validly published because the genus name *“Pyrenocarpa”* was not validly published (see comment following genus description above).

8. *Decaspermum teretis* Craven, Harvard Pap. Bot. 11: 27. 2006.

圆枝子楝树 yuan zhi zi lian shu

Trees, to 30 m tall. Branchlets terete, grayish brown tomentose. Petiole 6–10 mm, tomentose; leaf blade elliptic to obovate, 7–8 × 2.5–3.7 cm, leathery, abaxially yellowish green when dry, adaxially dark green and slightly shiny when dry, both surfaces at first pubescent but glabrescent, secondary veins 12–15 on each side of midvein, at an angle of ca. 75° from midvein, and obscure, intramarginal veins ca. 1 mm from margin, base cuneate, apex acute. Inflorescences in axil of terminal leaves, cymose, 2.5–4 cm, 3–8-flowered; bracts leaflike, oblong, 10–15 × 5–8 mm. Flowers ca. 1.5 cm in diam.; bracteoles lanceolate, ca. 3 mm, pubescent. Hypanthium obovoid, ca. 2.5 mm in diam., tomentose. Calyx lobes 5, suborbicular, ca. 2.5 mm, apex rounded. Petals 5, white, obovate, ca. 6 mm, glandular, apex rounded. Stamens red, longer than petals; filaments pubescent. Ovary 11- or 12-loculed. Style as long as stamens; stigma expanded. Fruit subglobose, ca. 1 cm in diam., 11- or 12-furrowed, pubescent, 11- or 12-loculed. Fl. Jul.

- S Hainan.

“Pyrenocarpa teretis” (Hung T. Chang & R. H. Miao, Acta Sci. Nat. Univ. Sunyatseni 1975: 64. 1975) belongs here but was not validly published because the genus name *“Pyrenocarpa”* was not validly published (see comment following genus description above).

10. SYZYGium P. Browne ex Gaertner, *Fruct. Sem. Pl.* 1: 166. 1788, nom. cons.,
not *Suzygium* P. Browne (1756).

蒲桃属 pu tao shu

Acmena Candolle; *Caryophyllus* Linnaeus (1753), not Miller (1754); *Cleistocalyx* Blume; *Jambosa* Adanson, nom. cons.

Trees or shrubs. Branchlets sometimes 2–4-ridged, usually glabrous. Leaves opposite or sometimes whorled, petiolate to sessile; leaf blade densely to sometimes sparsely pinnately veined. Inflorescences terminal or axillary, usually panicles of cymes, 3- to many-flowered; bracts small, caducous after flowering. Flowers stipitate or not. Hypanthium obconic or sometimes clavate. Calyx lobes 4 or 5 or rarely more, usually short, caducous or persistent, apex usually obtuse, rarely connate and then calyptrate. Petals 4 or 5 or rarely more, distinct and then expanding separately or coherent and then caducous as a unit. Stamens numerous, distinct but occasionally slightly adhering at base; anthers minute, versatile, 2-celled, cells parallel or divergent, dehiscing longitudinally or by a short terminal slit; connectives usually terminating in an apical gland. Ovary inferior, 2 or 3-loculed; ovules many per locule. Style linear. Fruit drupaceous, 1 (or 2)-seeded. Seeds sometimes with or without a testa, often with a pseudotesta ± adhering to pericarp, rarely with intrusive branching tissue extending into and interlocking cotyledons; embryo usually uniembryonic, sometimes polyembryonic.

About 1200 species: tropical Africa, subtropical to tropical Asia, Australia, New Caledonia, New Zealand, Pacific islands; 80 species (45 endemic, two introduced) in China.

Syzygium is treated here in a broad sense with *Acmena* and *Cleistocalyx* included within it. Morphological and anatomical investigations, and molecular sequence studies of chloroplast and nuclear regions, provide support for such an expanded concept (*Amer. J. Bot.* 59: 423–436. 1972; *Bot. Jahrb. Syst.* 92: 433–489. 1972; *Proc. Fourth Fl. Mal. Symp.* 75–85. 2001; *Austral. Syst. Bot.* 17: 63–72. 2004; *Taxon* 55: 79–94. 2006).

In addition to the cultivated species treated here, both *Syzygium aqueum* (N. L. Burman) Alston (*Eugenia aquea* N. L. Burman) and *S. grande* (Wight) Walpers (*E. grandis* Wight) have been recorded as being cultivated in China.

Key based on flowering material

Flowers are not known in *Syzygium album*, *S. buxifolioides*, *S. guangxiense*, *S. hainanense*, *S. jienfunicum*, *S. lasianthifolium*, *S. melanophyllum*, and *S. wenshanense*.

- 1a. Calyx calyptrate.
 2a. Leaf blade oblong to elliptic, secondary veins 8 or 9 on each side of midvein; inflorescences axillary 2. *S. nervosum*
 2b. Leaf blade ovate to obovate, secondary veins 2–5 on each side of midvein; inflorescences terminal 3. *S. conspersipunctatum*
 1b. Calyx lobes distinct.
 3a. Petals coherent, falling as a cap at anthesis.
 4a. Inflorescences axillary or lateral below leaves.
 5a. Branchlets quadrate or quadrangular.
 6a. Hypanthium clavate.
 7a. Hypanthium ca. 2 cm 15. *S. taiwanicum*
 7b. Hypanthium to 1.2 cm.
 8a. Branchlets grayish white when dry; petiole 2–3 mm 16. *S. championii*
 8b. Branchlets blackish brown when dry; petiole 9–14 mm 42. *S. rockii*
 6b. Hypanthium obconic or pyriform, not clavate.
 9a. Branchlets gray or grayish white when dry.
 10a. Leaf blade narrowly elliptic 29. *S. salwinense*
 10b. Leaf blade elliptic, obovate, obovate-elliptic, or oblong.
 11a. Leaf blade 12–18 cm 25. *S. tetragonum*
 11b. Leaf blade 4.5–6 cm 72. *S. formosanum*
 9b. Branchlets blackish brown or dark brown when dry.
 12a. Petiole 3–6 mm 30. *S. sterrophyllum*
 12b. Petiole 10–18 mm.
 13a. Flower buds ca. 5 mm; calyx lobes inconspicuous 31. *S. forrestii*
 13b. Flower buds 8–9 mm; calyx lobes 1–1.5 mm 42. *S. rockii*
 5b. Branchlets terete or compressed.
 14a. Hypanthium clavate or shortly clavate.
 15a. Style 15–20 mm 21. *S. claviflorum*
 15b. Style 3–5 mm.
 16a. Leaf blade intramarginal veins 3–4 mm from margin; hypanthium 6–8 mm 20. *S. baviense*
 16b. Leaf blade intramarginal veins near margin; hypanthium 10–12 mm.
 17a. Leaf blade secondary veins at an angle of ca. 75° from midvein, apex acute 18. *S. rypopodum*
 17b. Leaf blade secondary veins at an angle of ca. 40° from midvein, apex acuminate 19. *S. stenocladum*

- 14b. Hypanthium obconic, long pyriform, or campanulate, not clavate.
- 18a. Leaf blade intramarginal veins 2–3 mm from margin.
- 19a. Branchlets grayish white when dry; secondary veins 11–13 on each side of midvein 27. *S. balsameum*
- 19b. Branchlets light brown when dry; secondary veins 8 or 9 on each side of midvein 46. *S. simile*
- 18b. Leaf blade intramarginal veins usually 1(–1.5) mm or less from margin.
- 20a. Petiole 3–5 mm; stamens 7–8 mm 50. *S. kwangtungense*
- 20b. Petiole 7–20 mm; stamens 3–6 mm.
- 21a. Branchlets grayish white or gray when dry.
- 22a. Leaf blade 6–12 cm 57. *S. cumini*
- 22b. Leaf blade 4.5–6 cm 72. *S. formosanum*
- 21b. Branchlets dark brown, blackish brown, red, or brown when dry.
- 23a. Leaf oil glands sparse 31. *S. forrestii*
- 23b. Leaf oil glands numerous.
- 24a. Leaf blade 4–7 × 2.4–3.5 cm 56. *S. rehderianum*
- 24b. Leaf blade 9–12 × 4–6 cm 76. *S. oblatum*
- 4b. Inflorescences terminal.
- 25a. Hypanthium clavate.
- 26a. Leaf blade secondary veins 6–10 mm apart 11. *S. austroyunnanense*
- 26b. Leaf blade secondary veins to 3 mm apart.
- 27a. Branchlets terete or compressed.
- 28a. Leaf blade secondary veins at an angle of ca. 75° from midvein; branchlets brown when dry 18. *S. rysopodum*
- 28b. Leaf blade secondary veins at an angle of ca. 40° from midvein; branchlets grayish white when dry 19. *S. stenocladum*
- 27b. Branchlets quadrate or quadrangular.
- 29a. Petiole 2–3 mm; branchlets grayish white when dry; leaf blade adaxially dull when dry 16. *S. championii*
- 29b. Petiole ca. 10 mm; branchlets blackish brown when dry; leaf blade adaxially glossy when dry 42. *S. rockii*
- 25b. Hypanthium obconic, funnel-shaped, or campanulate.
- 30a. Branchlets quadrate or 4-angled or quadrangular.
- 31a. Leaf blade secondary veins 6–10 mm apart 11. *S. austroyunnanense*
- 31b. Leaf blade secondary veins to 3 mm apart.
- 32a. Petiole ca. 10 mm; leaf blade elliptic to obovate.
- 33a. Branchlets blackish brown when dry; leaf blade 8–10 cm 42. *S. rockii*
- 33b. Branchlets grayish white when dry; leaf blade 5–6 cm 68. *S. euphlebiium*
- 32b. Petiole to 5 mm; leaf blade ovate-lanceolate, linear, or narrowly oblong.
- 34a. Leaf blade ovate-lanceolate, base slightly cordate 32. *S. tephrodes*
- 34b. Leaf blade linear to narrowly oblong, base rounded to slightly obtuse 36. *S. tsoongii*
- 30b. Branchlets terete or compressed.
- 35a. Leaf blade base rounded to slightly cordate 51. *S. bullockii*
- 35b. Leaf blade base cuneate, obtuse, or attenuate.
- 36a. Petiole to 5 mm.
- 37a. Leaf blade apex obtuse to rounded.
- 38a. Stamens 4–8 mm.
- 39a. Leaf blade elliptic to narrowly elliptic, 5–8 cm, base broadly cuneate to obtuse 50. *S. kwangtungense*
- 39b. Leaf blade elliptic to obovate-oblong, 3–5 cm, base cuneate 52. *S. paucivenium*
- 38b. Stamens to 3 mm.
- 40a. Leaf blade secondary veins 6–9 mm apart 23. *S. cinereum*
- 40b. Leaf blade secondary veins to 3 mm apart 70. *S. howii*
- 37b. Leaf blade apex acute, acuminate, or caudate-acuminate.
- 41a. Leaf blade secondary veins at an angle of 40°–45° from midvein.
- 42a. Leaf blade 3–7 cm, abaxially olive green when dry 47. *S. odoratum*
- 42b. Leaf blade 8–12 cm, abaxially pale brown when dry 55. *S. myrsinifolium*
- 41b. Leaf blade secondary veins at an angle of more than 50° from midvein.
- 43a. Hypanthium ca. 3 mm; petals 2–3 mm 50. *S. kwangtungense*
- 43b. Hypanthium 4–5 mm; petals ca. 5 mm 76. *S. oblatum*
- 36b. Petiole more than 5 mm.
- 44a. Leaf blade secondary veins at an angle of 40°–45° from midvein.
- 45a. Leaf blade secondary veins 6–9 mm apart; hypanthium ca. 3.5 mm 23. *S. cinereum*
- 45b. Leaf blade secondary veins ca. 1.5 mm apart; hypanthium 4–7 mm 55. *S. myrsinifolium*
- 44b. Leaf blade secondary veins at ca. 60° or more from midvein.

- 46a. Leaf blade apex usually obtuse to slightly acuminate.
 47a. Petiole 1.5–2 cm; leaf blade 6–8 cm 54. *S. densinervium*
 47b. Petiole 0.8–1.2 cm; leaf blade 4.5–6 cm 72. *S. formosanum*
- 46b. Leaf blade apex acuminate.
 48a. Hypanthium ca. 2 mm; secondary veins less than 1 mm apart 49. *S. chunianum*
 48b. Hypanthium 3–5 mm; secondary veins more than 2 mm apart.
 49a. Leaf blade 5–6 cm 68. *S. euphlebiunum*
 49b. Leaf blade 9–14 cm.
 50a. Leaf blade base rounded to broadly cuneate 76. *S. oblatum*
 50b. Leaf blade base cuneate.
 51a. Leaf blade oblong to ovate-lanceolate, abaxially dark brown when dry 45. *S. kusukusense*
 51b. Leaf blade elliptic, abaxially green when dry 53. *S. toddalioides*
- 3b. Petals distinct.
- 52a. Inflorescences axillary or lateral below leaves.
- 53a. Branchlets quadrate or quadrangular.
 54a. Hypanthium clavate, 1.3–2 cm.
 55a. Petiole 4–5 mm; leaf blade base broadly cuneate; hypanthium ca. 2 cm 15. *S. taiwanicum*
 55b. Petiole very short (leaves sometimes nearly sessile); leaf blade base usually slightly cordate;
 hypanthium ca. 1.3 cm 17. *S. boisianum*
- 54b. Hypanthium not clavate, less than 0.8 cm.
 56a. Petiole to 5 mm.
 57a. Leaf blade apex acuminate 34. *S. tenuirhachis*
 57b. Leaf blade apex obtuse to slightly acute 38. *S. grijsii*
- 56b. Petiole more than 7 mm.
 58a. Leaf blade secondary veins 8–10 mm apart, apex slightly acute 13. *S. cathayense*
 58b. Leaf blade secondary veins 2–3 mm apart or dense, apex acuminate.
 59a. Flower buds ca. 5 mm 31. *S. forrestii*
 59b. Flower buds 8–9 mm 42. *S. rockii*
- 53b. Branchlets terete or compressed.
- 60a. Leaf blade apex obtuse, rounded, or acute.
 61a. Leaf blade secondary veins more than 6 mm apart.
 62a. Style 4–5 mm 28. *S. xizangense*
 62b. Style 15–30 mm.
 63a. Leaf blade secondary veins 8–12 on each side of midvein 5. *S. polypetaloidium*
 63b. Leaf blade secondary veins 14–25 on each side of midvein.
 64a. Petals 10–13 mm 6. *S. samarangense*
 64b. Petals ca. 3 mm 21. *S. claviflorum*
- 61b. Leaf blade secondary veins to 5 mm apart.
 65a. Petiole 9–14 mm.
 66a. Hypanthium broadly obconic, ca. 1 cm; stamens 10–13 mm 12. *S. malaccense*
 66b. Hypanthium clavate, 1–1.2 cm; stamens 1–4 mm 18. *S. rysopodum*
- 65b. Petiole to 7 mm.
 67a. Petals ca. 1 mm; hypanthium ca. 1.5 mm 61. *S. hancei*
 67b. Petals 2.5–4 mm; hypanthium 3–3.5 mm.
 68a. Petiole ca. 2 mm; leaf blade linear-lanceolate 59. *S. fluviale*
 68b. Petiole 5–7 mm; leaf blade elliptic to ovate-elliptic 74. *S. levinei*
- 60b. Leaf blade apex acuminate.
 69a. Petals 8–15 mm.
 70a. Hypanthium clavate 19. *S. stenocladum*
 70b. Hypanthium obconic.
 71a. Stamens ca. 0.6 cm 31. *S. forrestii*
 71b. Stamens 1.5–2.8 cm.
 72a. Calyx lobes 5–8 mm; secondary veins 8–25 on each side of midvein 4. *S. jambos*
 72b. Calyx lobes ca. 3 mm; secondary veins 8–12 on each side of midvein 5. *S. polypetaloidium*
- 69b. Petals 1–6 mm.
 73a. Hypanthium clavate or shortly clavate.
 74a. Leaf blade 1–1.5 cm wide; hypanthium ca. 7 mm 64. *S. araiocladum*
 74b. Leaf blade 2–8 cm wide; hypanthium 8–15 mm.
 75a. Leaf blade base usually slightly cordate; style ca. 5 mm 17. *S. boisianum*

- 75b. Leaf blade base broadly cuneate; style 15–20 mm 21. *S. claviflorum*
- 73b. Hypanthium obconic, turbinate, semiglobose, or broadly funnel-shaped.
- 76a. Petals 4–6 mm.
- 77a. Leaf blade secondary veins 12–16 on each side of midvein and 5–7 mm apart 14. *S. gongshanense*
- 77b. Leaf blade secondary veins 9–12 on each side of midvein and 8–16 mm apart.
- 78a. Calyx lobes ca. 3 mm; leaf blade abaxially brownish when dry, secondary veins at an angle of ca. 55° from midvein 8. *S. laosense*
- 78b. Calyx lobes 1.5–2 mm; leaf blade abaxially pale green when dry, secondary veins at an angle of ca. 75° from midvein 28. *S. xizangense*
- 76b. Petals 1–3 mm.
- 79a. Branchlets gray or grayish white when dry.
- 80a. Leaf blade secondary veins at an angle of 45° from midvein and 8–13 mm apart 24. *S. yunnanense*
- 80b. Leaf blade secondary veins at an angle ca. 60° from midvein and 2–3 mm apart 60. *S. euonymifolium*
- 79b. Branchlets rufescent brown to dark brown when dry.
- 81a. Stamens 1.5–2.5 mm; style to 2.5 mm 58. *S. fruticosum*
- 81b. Stamens 4–8 mm; style 6–8 mm.
- 82a. Petiole 10–15 mm; leaf blade base narrowly cuneate 77. *S. nanpingense*
- 82b. Petiole 5–8 mm; leaf blade base broadly cuneate 78. *S. bubengense*
- 52b. Inflorescences terminal or subterminal.
- 83a. Branchlets quadrate or quadrangular.
- 84a. Petiole 10–15 mm.
- 85a. Calyx lobes 3–4 mm 11. *S. austroyunnanense*
- 85b. Calyx lobes 0.5–1.5 mm.
- 86a. Leaf blade elliptic, 8–10 cm, adaxially olive green and glossy when dry 42. *S. rockii*
- 86b. Leaf blade obovate to elliptic, 5–6 cm, adaxially dark olive green and dull when dry 68. *S. euphlebiun*
- 84b. Petiole 1–5 mm.
- 87a. Hypanthium ca. 13 mm 17. *S. boisianum*
- 87b. Hypanthium 2–3.5 mm.
- 88a. Leaf blade 1.5–3 cm.
- 89a. Stamens and style ca. 2.5 mm 37. *S. buxifolium*
- 89b. Stamens and style ca. 5 mm 38. *S. grijsii*
- 88b. Leaf blade (2.5–)3–10 cm.
- 90a. Leaf blade elliptic to narrowly elliptic.
- 91a. Leaf blade adaxially blackish brown when dry, base cuneate, apex acuminate 43. *S. szemaense*
- 91b. Leaf blade adaxially greenish brown when dry, base broadly cuneate, apex acute to slightly obtuse 44. *S. austrosinense*
- 90b. Leaf blade ovate-lanceolate, lanceolate, narrowly oblong, oblong, or ovate-oblong.
- 92a. Leaf blade secondary veins at an angle of ca. 45° from midvein 41. *S. handelii*
- 92b. Leaf blade secondary veins at an angle of 60°–70° from midvein.
- 93a. Leaf blade base broadly cuneate, apex acuminate 34. *S. tenuirhachis*
- 93b. Leaf blade base cuneate, apex caudate-acuminate 40. *S. sichuanense*
- 83b. Branchlets terete or compressed.
- 94a. Branchlets pubescent; hypanthium villosulous 22. *S. vestitum*
- 94b. Branchlets glabrous; hypanthium glabrous.
- 95a. Hypanthium clavate or shortly clavate.
- 96a. Leaf blade secondary veins at an angle of ca. 40° from midvein 19. *S. stenocladum*
- 96b. Leaf blade secondary veins at an angle of 70°–85° from midvein.
- 97a. Leaf blade base suborbicular to obtuse, secondary veins at an angle of 80°–85° from midvein 65. *S. zeylanicum*
- 97b. Leaf blade base cuneate to broadly cuneate, secondary veins at an angle of 70°–75° from midvein.
- 98a. Petiole 9–14 mm 18. *S. rysopodum*
- 98b. Petiole 2–3 mm 64. *S. araiocladum*
- 95b. Hypanthium obconic, campanulate, ellipsoid, or semiglobose.
- 99a. Hypanthium 6–20 mm.
- 100a. Calyx lobes 5–8 mm.
- 101a. Petals ca. 2 cm 7. *S. megacarpum*
- 101b. Petals 0.7–1.5 cm.
- 102a. Leaf blade apex acuminate to long acuminate 4. *S. jambos*

- 102b. Leaf blade apex acute 9. *S. globiflorum*
- 100b. Calyx lobes 1–4 mm.
- 103a. Stamens 1.5–2 cm; calyx lobes 3–4 mm.
- 104a. Shrubs 2–3 m tall; petiole 4–6 mm; leaf blade narrowly lanceolate, 1.5–2.5 cm wide 5. *S. polypetaloides*
- 104b. Trees to 12 m tall; petiole less than 4 mm; leaf blade elliptic to oblong, 5–8 cm wide 6. *S. samarangense*
- 103b. Stamens 0.4–0.8 cm; calyx lobes 1–3 mm.
- 105a. Leaf blade adaxially grayish brown when dry, base broadly cuneate and slightly oblique 8. *S. laosense*
- 105b. Leaf blade adaxially olive green when dry, base cuneate 10. *S. imitans*
- 99b. Hypanthium 2–5 mm.
- 106a. Petiole 10–15 mm.
- 107a. Leaf blade secondary veins 8–13 mm apart 24. *S. yunnanense*
- 107b. Leaf blade secondary veins 1–2 mm apart.
- 108a. Leaf blade base obtuse to broadly cuneate and usually oblique, or wide and obtuse.
- 109a. Stamens ca. 3 mm; leaf blade adaxially blackish brown and dull when dry 79. *S. infrarubiginosum*
- 109b. Stamens 5–7 mm; leaf blade adaxially dark brown and glossy when dry 80. *S. lineatum*
- 108b. Leaf blade base cuneate.
- 110a. Leaf blade elliptic to ovate-elliptic, 8–12 cm 67. *S. brachythyrsum*
- 110b. Leaf blade obovate to elliptic, 5–6 cm 68. *S. euphlebium*
- 106b. Petiole 2–8 mm.
- 111a. Leaf blade apex caudate-acuminate or acuminate.
- 112a. Leaf blade elliptic to narrowly elliptic 43. *S. szemaoense*
- 112b. Leaf blade ovate-lanceolate to narrowly lanceolate.
- 113a. Petals ca. 1 mm; stamens ca. 1 mm 1. *S. acuminatissimum*
- 113b. Petals ca. 2 mm; stamens 4–5 mm 40. *S. sichuanense*
- 111b. Leaf blade apex obtuse, rounded, acute, or abruptly mucronate.
- 114a. Stamens 5–8 mm.
- 115a. Leaf blade secondary veins at an angle of ca. 45° from midvein 74. *S. levinei*
- 115b. Leaf blade secondary veins at an angle of ca. 80° from midvein 75. *S. thumra*
- 114b. Stamens 1.5–4 mm.
- 116a. Leaf blade intramarginal veins essentially at margin 70. *S. howii*
- 116b. Leaf blade intramarginal veins ca. 1 mm from margin.
- 117a. Hypanthium ca. 2 mm; stamens 1.5–2 mm 71. *S. congestiflorum*
- 117b. Hypanthium 4–5 mm; stamens 3–4 mm 73. *S. saxatile*

Key based on fruiting material

Fruit are not known in *Syzygium bubengense*, *S. cathayense*, *S. gongshanense*, *S. infrarubiginosum*, *S. laosense* var. *quocense*, *S. paucivenium*, *S. rockii*, *S. saxatile*, *S. sichuanense*, and *S. xizangense*.

- 1a. Infructescence axillary or lateral below leaves.
- 2a. Fruit 0.5–0.9 cm.
- 3a. Petiole 8–18 mm.
- 4a. Leaf blade secondary veins 2–3 mm apart or dense.
- 5a. Fruit ellipsoid-ovoid, ca. 8 × 6 mm 31. *S. Forrestii*
- 5b. Fruit globose, 6–7 mm.
- 6a. Leaf blade adaxially brown and glossy when dry 58. *S. fruticosum*
- 6b. Leaf blade adaxially grayish green and dull when dry 60. *S. euonymifolium*
- 4b. Leaf blade secondary veins 8–13 mm apart.
- 7a. Branchlets light brown when dry; leaf blade secondary veins 8–9 on each side of midvein 46. *S. simile*
- 7b. Branchlets grayish white when dry; leaf blade secondary veins 10–13 on each side of midvein.
- 8a. Leaf blade apex acuminate 24. *S. yunnanense*
- 8b. Leaf blade apex acute to sometimes slightly obtuse 27. *S. balsameum*
- 3b. Petiole 1–7 mm.
- 9a. Fruit ellipsoid 30. *S. sterrophyllum*
- 9b. Fruit globose or subglobose.
- 10a. Branchlets grayish brown when dry 74. *S. levinei*
- 10b. Branchlets blackish brown, dark brown or brown when dry.
- 11a. Branchlets quadrangular 38. *S. grijsii*
- 11b. Branchlets terete or compressed.

- 12a. Leaf blade secondary veins at an angle of ca. 40° from midvein 59. *S. fluviatile*
 12b. Leaf blade secondary veins at an angle of 60°–70° from midvein.
 13a. Leaf blade elliptic to narrowly elliptic, 5–8 cm 50. *S. kwangtungense*
 13b. Leaf blade ovate-long lanceolate, 3–5.5 cm 64. *S. araiocladum*
- 2b. Fruit 1–5 cm.
 14a. Branchlets quadrate or quadrangular.
 15a. Fruit clavate to ellipsoid.
 16a. Leaf blade secondary veins 7–10 mm apart 26. *S. lasianthifolium*
 16b. Leaf blade secondary veins 1–3 mm apart.
 17a. Leaf blade narrowly ovate to oblong, base usually slightly cordate 17. *S. boisianum*
 17b. Leaf blade narrowly oblong, elliptic, or long elliptic, base broadly cuneate.
 18a. Branchlets grayish brown when dry 15. *S. taiwanicum*
 18b. Branchlets grayish white when dry 16. *S. championii*
- 15b. Fruit globose or subglobose.
 19a. Fruit 2.5–3 cm 33. *S. guangxiense*
 19b. Fruit 1–1.5 cm.
 20a. Leaf blade 12–18 cm 25. *S. tetragonum*
 20b. Leaf blade 4–9 cm.
 21a. Branchlets blackish brown when dry 34. *S. tenuirhachis*
 21b. Branchlets gray or grayish white when dry.
 22a. Leaf blade narrowly elliptic, secondary veins ca. 25 on each side of midvein 29. *S. salwinense*
 22b. Leaf blade elliptic, obovate-elliptic, or oblong, secondary veins ca. 22 on each side of midvein 72. *S. formosanum*
- 14b. Branchlets terete or compressed.
 23a. Calyx lobes or their vestiges absent.
 24a. Leaf blade secondary veins 8–9 mm apart, at an angle of 45°–60° from midvein 2. *S. nervosum*
 24b. Leaf blade secondary veins 2–5 mm apart, at an angle of 65°–70° from midvein 3. *S. conspersipunctatum*
- 23b. Calyx lobes or their vestiges present.
 25a. Leaf blade secondary veins 6–15 mm apart.
 26a. Calyx lobes ca. 1 mm.
 27a. Leaf blade 4.5–6 cm 72. *S. formosanum*
 27b. Leaf blade 8–21 cm.
 28a. Leaf blade secondary veins 14–19 on each side of midvein, intramarginal veins 3–4 mm from margin 20. *S. baviense*
 28b. Leaf blade secondary veins 18–25 on each side of midvein, intramarginal veins ca. 1 mm from margin 21. *S. claviflorum*
- 26b. Calyx lobes more than 3 mm.
 29a. Leaf blade intramarginal veins ca. 1.5 mm from margin 5. *S. polypetaloidium*
 29b. Leaf blade intramarginal veins (or at least major one) 2–5 mm from margin.
 30a. Leaf blade apex acuminate to long acuminate 4. *S. jambos*
 30b. Leaf blade apex obtuse to acute.
 31a. Petiole to 4 mm; leaf blade base narrow, rounded, or slightly cordate 6. *S. samarangense*
 31b. Petiole ca. 10 mm; leaf blade base cuneate 12. *S. malaccense*
- 25b. Leaf blade secondary veins 1–5 mm apart.
 32a. Petiole more than 1 cm.
 33a. Branchlets blackish brown or dark brown when dry.
 34a. Leaf blade adaxially yellowish green 18. *S. rypodum*
 34b. Leaf blade adaxially light green 77. *S. nanpingense*
- 33b. Branchlets gray or grayish white when dry.
 35a. Leaf blade 4.5–6 cm 72. *S. formosanum*
 35b. Leaf blade 6–12 cm.
 36a. Leaf blade apex rounded to obtuse and with a short cusp 57. *S. cumini*
 36b. Leaf blade apex acute and with a 1.5–2 cm cusp 63. *S. hainanense*
- 32b. Petiole less than 1 cm.
 37a. Leaf blade secondary veins at an angle to 50° from midvein.
 38a. Leaf blade 3–4 cm; petiole 3–4 mm 62. *S. buxifolioideum*
 38b. Leaf blade 4–7 cm; petiole 4–9 mm.
 39a. Fruit clavoid to obovoid 19. *S. stenocladum*
 39b. Fruit ellipsoid-ovoid 56. *S. rehderianum*

- 37b. Leaf blade secondary veins at an angle of ca. 60° or more from midvein.
- 40a. Fruit pyriform, ellipsoid, or long pot-shaped.
- 41a. Calyx lobes 5 18. *S. rysopodum*
- 41b. Calyx lobes 4 21. *S. claviflorum*
- 40b. Fruit globose.
- 42a. Leaf blade 9–12 cm 76. *S. oblatum*
- 42b. Leaf blade 3–7 cm.
- 43a. Petiole 3–6 mm 61. *S. hancei*
- 43b. Petiole 8–12 mm 72. *S. formosanum*
- 1b. Inflorescence terminal or subterminal.
- 44a. Fruit 0.5–0.9 cm.
- 45a. Branchlets terete or compressed.
- 46a. Petiole more than 10 mm.
- 47a. Leaf blade secondary veins 8–13 mm apart 24. *S. yunnanense*
- 47b. Leaf blade secondary veins less than 5 mm apart.
- 48a. Fruit ellipsoid-ovoid 31. *S. forrestii*
- 48b. Fruit globose 49. *S. chunianum*
- 46b. Petiole to 9 mm.
- 49a. Branchlets brown, dark brown, reddish brown, or yellowish brown when dry.
- 50a. Leaf blade base rounded to obtuse 65. *S. zeylanicum*
- 50b. Leaf blade base broadly cuneate to obtuse.
- 51a. Leaf blade apex obtuse to slightly acute 50. *S. kwangtungense*
- 51b. Leaf blade apex caudate-acuminate.
- 52a. Leaf blade adaxially reddish brown when dry 48. *S. album*
- 52b. Leaf blade adaxially olive green when dry 64. *S. araiocladum*
- 49b. Branchlets gray, grayish white, or grayish brown when dry
- 53a. Leaf blade ovate-lanceolate to ovate-oblong 47. *S. odoratum*
- 53b. Leaf blade obovate, oblanceolate, obovate-elliptic, elliptic, or ovate-elliptic.
- 54a. Leaf blade secondary veins 6–9 mm apart 23. *S. cinereum*
- 54b. Leaf blade secondary veins to 3 mm apart.
- 55a. Petiole ca. 1 mm 39. *S. oblancilimum*
- 55b. Petiole 5–12 mm.
- 56a. Leaf blade secondary veins at an angle of ca. 60° or more from midvein 49. *S. chunianum*
- 56b. Leaf blade secondary veins at an angle of ca. 45° from midvein 74. *S. levinei*
- 45b. Branchlets quadrate or quadrangular.
- 57a. Petiole 1–1.8 cm.
- 58a. Leaf blade ovate, 4–5.5 cm 35. *S. wenshanense*
- 58b. Leaf blade elliptic to oblong, 6–18 cm.
- 59a. Calyx lobes 3–4 mm 11. *S. austroyunnanense*
- 59b. Calyx lobes inconspicuous 31. *S. forrestii*
- 57b. Petiole to 0.6 cm.
- 60a. Leaf blade 6–13 cm.
- 61a. Leaf blade elliptic 44. *S. austrosinense*
- 61b. Leaf blade ovate-lanceolate, lanceolate, or narrowly oblong.
- 62a. Leaf blade base slightly cordate 32. *S. tephrodes*
- 62b. Leaf blade base narrowly cuneate to cuneate.
- 63a. Leaf blade abaxially brownish green when dry, secondary veins abruptly ascending from midvein 30. *S. sterrophyllum*
- 63b. Leaf blade abaxially yellowish brown when dry, secondary veins at an angle of ca. 45° from midvein 41. *S. handelii*
- 60b. Leaf blade to 5 cm.
- 64a. Leaves sessile, blade base slightly cordate 32. *S. tephrodes*
- 64b. Leaves petiolate, blade base broadly cuneate, cuneate, or obtuse.
- 65a. Leaf blade elliptic, broadly elliptic, orbicular, obovate, or broadly obovate.
- 66a. Leaf blade adaxially dark brown when dry 37. *S. buxifolium*
- 66b. Leaf blade adaxially greenish brown when dry 44. *S. austrosinense*
- 65b. Leaf blade linear, narrowly oblong, lanceolate, narrowly lanceolate, or oblanceolate.
- 67a. Leaf blade secondary veins at an angle of 55°–65° from midvein 36. *S. tsoongii*
- 67b. Leaf blade secondary veins at an angle of 45°–50° from midvein.

- 68a. Branchlets blackish brown when dry 38. *S. grijsii*
 68b. Branchlets yellowish brown or grayish brown when dry.
 69a. Petiole ca. 1 mm; leaf blade oblanceolate 39. *S. oblancilimbum*
 69b. Petiole 3–4 mm; leaf blade lanceolate to narrowly oblong 41. *S. handelii*
- 44b. Fruit 1–5 cm.
 70a. Calyx lobes 3–8 mm.
 71a. Leaf blade secondary veins 2–3 mm apart 69. *S. jienfunicum*
 71b. Leaf blade secondary veins more than 5 mm apart.
 72a. Petiole almost absent to 4 mm 6. *S. samarangense*
 72b. Petiole (4–)5–20 mm.
 73a. Leaf blade base rounded to sometimes cordate 7. *S. megacarpum*
 73b. Leaf blade base narrowly to broadly cuneate.
 74a. Leaf blade adaxially black when dry, secondary veins 23–32 on each side of midvein 66. *S. melanophyllum*
 74b. Leaf blade adaxially usually green but never black when dry, secondary veins 8–20(–25) on each side of midvein.
 75a. Branchlets quadrangular 11. *S. austroyunnanense*
 75b. Branchlets terete or compressed.
 76a. Calyx lobes ca. 3 mm; petiole 4–6 mm 5. *S. polypetaloidium*
 76b. Calyx lobes 5–8 mm; petiole 5–13 mm.
 77a. Leaf blade lanceolate, ovate-lanceolate, oblong, or linear, apex acuminate to long acuminate 4. *S. jambos*
 77b. Leaf blade elliptic to narrowly elliptic, apex acute 9. *S. globiflorum*
- 70b. Calyx lobes inconspicuous (to 2 mm) or absent.
 78a. Branchlets pubescent 22. *S. vestitum*
 78b. Branchlets glabrous.
 79a. Petiole (0.9–)1–2 cm.
 80a. Branchlets quadrate or quadrangular.
 81a. Leaf blade adaxially brown to dark brown when dry 72. *S. formosanum*
 81b. Leaf blade adaxially dark olive green or olive greenish yellow when dry.
 82a. Leaf blade narrowly elliptic, secondary veins impressed when dry 29. *S. salwinense*
 82b. Leaf blade obovate to elliptic, secondary veins slightly raised when dry 68. *S. euphlebium*
- 80b. Branchlets terete or compressed.
 83a. Leaf blade secondary veins 5–12 mm apart.
 84a. Leaf blade secondary veins 10–14 on each side of midvein 10. *S. imitans*
 84b. Leaf blade secondary veins 23–32 on each side of midvein 66. *S. melanophyllum*
 83b. Leaf blade secondary veins to 5(–7) mm apart.
 85a. Fruit globose.
 86a. Leaf blade intramarginal veins (major one) 3–4 mm from margin 3. *S. conspersipunctatum*
 86b. Leaf blade intramarginal veins ca. 1 mm from margin or closer.
 87a. Leaf blade apex obtuse or abruptly mucronate to slightly acute with an obtuse cusp 72. *S. formosanum*
 87b. Leaf blade apex acuminate or caudate-acuminate.
 88a. Leaf blade apex caudate-acuminate 67. *S. brachythyrsum*
 88b. Leaf blade apex acuminate.
 89a. Leaf blade oblong to ovate-lanceolate, base cuneate 45. *S. kusukusense*
 89b. Leaf blade elliptic to long elliptic, base rounded to broadly cuneate 76. *S. oblatum*
- 85b. Fruit ellipsoid, ellipsoid-ovoid, or pyriform.
 90a. Branchlets blackish brown when dry.
 91a. Leaf blade adaxially yellowish green when dry, apex acute 18. *S. rysopodum*
 91b. Leaf blade adaxially dark brown when dry, apex acuminate 80. *S. lineatum*
- 90b. Branchlets gray, grayish white, pale brown, or reddish brown when dry.
 92a. Leaf blade obovate-oblong, or obovate to elliptic.
 93a. Leaf blade secondary veins 3–6 mm apart 54. *S. densinervium*
 93b. Leaf blade secondary veins ca. 2 mm apart 68. *S. euphlebium*
 92b. Leaf blade elliptic to narrowly elliptic.
 94a. Leaf blade 4–7 cm, adaxially grayish brown to blackish brown when dry, apex abruptly acuminate 56. *S. rehderianum*
 94b. Leaf blade 6–12 cm, adaxially green or brownish green to blackish brown when dry, apex slightly acute to acuminate or rounded to obtuse and with a short cusp.
 95a. Leaf blade adaxially green when dry, apex slightly acute to acuminate 53. *S. toddalioides*

- 95b. Leaf blade adaxially brownish green to blackish brown when dry, apex rounded to obtuse and with a short cusp 57. *S. cumini*
- 79b. Petiole to 0.8 cm.
- 96a. Branchlets quadrate to quadrangular.
- 97a. Fruit ellipsoid or ellipsoid-ovoid.
- 98a. Leaf blade ovate to oblong, base usually slightly cordate 17. *S. boisianum*
- 98b. Leaf blade narrowly oblong to elliptic or elliptic to narrowly elliptic, base cuneate to broadly cuneate.
- 99a. Fruit purple; leaf blade adaxially grayish green when dry 16. *S. championii*
- 99b. Fruit red; leaf blade adaxially blackish brown when dry 43. *S. szemaense*
- 97b. Fruit globose or globose pot-shaped.
- 100a. Leaf blade ovate-lanceolate to narrowly lanceolate 1. *S. acuminatissimum*
- 100b. Leaf blade elliptic, narrowly elliptic, obovate-elliptic, or oblong.
- 101a. Leaf blade oblong, 4–8 cm 69. *S. jienfunicum*
- 101b. Leaf blade elliptic, obovate-elliptic, or oblong, 4.5–7.5 cm.
- 102a. Leaf blade narrowly elliptic, secondary veins ca. 25 on each side of midvein 29. *S. salwinense*
- 102b. Leaf blade elliptic, obovate-elliptic, or oblong, secondary veins ca. 22 on each side of midvein 72. *S. formosanum*
- 96b. Branchlets terete or compressed.
- 103a. Fruit ellipsoid, ellipsoid-ovoid, or obovoid.
- 104a. Leaf blade base rounded to slightly cordate 51. *S. bullockii*
- 104b. Leaf blade base cuneate to broadly cuneate.
- 105a. Leaf blade secondary veins at an angle of more than 60° from midvein 53. *S. toddaloides*
- 105b. Leaf blade secondary veins at an angle of 40°–45° from midvein.
- 106a. Leaf blade linear-lanceolate to narrowly lanceolate 55. *S. myrsinifolium*
- 106b. Leaf blade elliptic, narrowly elliptic, or narrowly oblong.
- 107a. Fruit when mature purplish red and obovoid 19. *S. stenocladum*
- 107b. Fruit when mature black and ellipsoid-ovoid 56. *S. rehderianum*
- 103b. Fruit globose.
- 108a. Leaf blade base rounded, broadly cuneate, or wide and obtuse.
- 109a. Leaf blade apex caudate-acuminate.
- 110a. Fruit blackish purple; petiole 5–8 mm 1. *S. acuminatissimum*
- 110b. Fruit white; petiole 2–4 mm 48. *S. album*
- 109b. Leaf blade apex acuminate, or obtuse to slightly acute.
- 111a. Leaf blade ovate-elliptic, adaxially black when dry 75. *S. thumra*
- 111b. Leaf blade elliptic to long elliptic, adaxially grayish brown when dry 76. *S. oblatum*
- 108b. Leaf blade base cuneate.
- 112a. Leaf blade oblong 69. *S. jienfunicum*
- 112b. Leaf blade broadly elliptic, obovate, oblong-oblongate, elliptic, obovate-elliptic, or oblong.
- 113a. Branchlets brown when dry 71. *S. congestiflorum*
- 113b. Branchlets gray or grayish white when dry.
- 114a. Leaf blade secondary veins 9–13 on each side of midvein 70. *S. howii*
- 114b. Leaf blade secondary veins ca. 22 on each side of midvein 72. *S. formosanum*

1. *Syzygium acuminatissimum* (Blume) Candolle, Prodr. 3: 261. 1828.

肖蒲桃 xiao pu tao

Myrtus acuminatissima Blume, Bijdr. 1088. 1826–1827; *Acmena acuminatissima* (Blume) Merrill & L. M. Perry; *Eugenia acuminatissima* (Blume) Kurz (1875), not Miquel (1846); *E. cuspidato-ovata* Hayata; *E. subdecurrens* (Miquel) Merrill & Chun; *Jambosa acuminatissima* (Blume) Hasskarl; *Syzygium cuspidato-ovatum* (Hayata) Mori; *S. subdecurrens* Miquel.

Trees, to 20 m tall. Branchlets terete or obtusely ridged. Petiole 5–8 mm; leaf blade ovate-lanceolate to narrowly lanceolate, 5–12 × 1–3.5 cm, leathery, adaxially dark with nu-

merous oil glands, secondary veins numerous, ca. 3 mm apart, at an angle of 65°–70° from midvein, abaxially visible, and adaxially inconspicuous, intramarginal veins ca. 1.5 mm from margin, base broadly cuneate, apex caudate-acuminate and with a ca. 2 cm acumen. Inflorescences terminal, 3-flowered cymes arranged into panicles, 3–6 cm; peduncle ridged. Flower buds obovoid, 3–4 mm, basally cuneate, apically rounded. Hypanthium obconic, shortly stipitate. Calyx lobes inconspicuous, apical margins of hypanthium incurved. Petals white, distinct, ca. 1 mm. Stamens ca. 1 mm. Fruit blackish purple when ripe, globose, ca. 1.5 cm in diam., 1-seeded. Embryo with intrusive branching tissue extending into and interlocking cotyledons. Fl. Jul–Oct.

Low to middle elevation forests. Guangdong, Guangxi, Hainan,

Taiwan (Lan Yu) [India, Indonesia, Malaysia, Myanmar, Papua New Guinea, Philippines, Thailand; Pacific islands].

2. *Syzygium nervosum* Candolle, Prodr. 3: 260. 1828.

水翁蒲桃 shui weng pu tao

Calyptanthus mangiferifolia Hance ex Walpers; *Cleistocalyx cerasoides* (Roxburgh) I. M. Turner; *C. operculatus* (Roxburgh) Merrill & L. M. Perry; *Eugenia cerasoides* Roxburgh; *E. clausa* C. B. Robinson; *E. divaricatocymosa* Hayata; *E. holtzei* Mueller; *E. operculata* Roxburgh; *Syzygium angkolanum* Miquel; *S. cerasoides* (Roxburgh) Raizada; *S. nodosum* Miquel; *S. operculatum* (Roxburgh) Niedenzu.

Trees, to 15 m tall, many-branched. Bark grayish brown, thick. Branchlets flattened, furrowed. Petiole 1–2 cm; leaf blade oblong to elliptic, 11–17 × 4.5–7 cm, thinly leathery, both surfaces glandular punctate, secondary veins 9–13 on each side of midvein, 8–9 mm apart, and at an angle of 45°–60° from midvein, reticulate veins obvious, intramarginal veins ca. 2 mm from margin, base broadly cuneate to slightly rounded, apex acute to acuminate. Inflorescences lateral on leafless branches, paniculate, 6–12 cm. Buds oval, ca. 5 × 3.5 mm. Hypanthium hemispheric, ca. 3 mm, not stipitate. Calyptra 2–3 mm, apex beaked. Petals obsolete. Stamens 5–8 mm. Style 3–5 mm. Fruit violet to black when mature, broadly ovoid, 1–1.2 × 1–1.4 cm. Fl. May–Jun.

Forests, streams, also cultivated; 200–600 m. Guangdong, Guangxi, Hainan, Xizang (Cona), Yunnan [India, Indonesia, Malaysia, Myanmar, Sri Lanka, Thailand, Vietnam; N Australia].

3. *Syzygium conspersipunctatum* (Merrill & L. M. Perry) Craven & Biffin, Blumea 51: 136. 2006.

散点蒲桃 san dian pu tao

Cleistocalyx conspersipunctatus Merrill & L. M. Perry, J. Arnold Arbor. 18: 335. 1937.

Trees, to 30 m tall. Bark brownish gray. Branchlets blackish brown when dry, flat, furrowed. Petiole 1.5–2 cm; leaf blade ovate to obovate, 5–8.5 × 3–5.5 cm, both surfaces dark brown when dry and with dispersed black glandular dots, secondary veins numerous, 2–5 mm apart, and at an angle of 65°–70° from midvein, intramarginal veins 3–4 mm from margin and with another smaller intramarginal vein outside of it, base broadly cuneate, apex mucronate to sometimes obtuse or rounded. Inflorescences axillary or terminal, panicle of cymes, 5–7 cm. Flower bud obovoid, ca. 6 mm, apex rounded. Flowers usually clusters of 3, sessile. Hypanthium obconic, ca. 4 × 5 mm, not stipitate. Calyptra hemispheric, 2.5–3 mm. Petals obsolete. Stamens 3–5 mm. Style 7–9 mm. Fruit globose, 1.5–2 cm in diam. Fl. Jul–Aug.

- Forests, valleys; middle elevations. Hainan.

4. *Syzygium jambos* (Linnaeus) Alston, Handb. Fl. Ceylon 6: 115. 1931.

蒲桃 pu tao

Trees, to 10 m tall. Stems very short, broadly branched. Branchlets terete or subterete, sometimes apically much compressed, sometimes shallowly grooved. Petiole 5–10 mm; leaf

blade lanceolate, ovate-lanceolate, oblong, or linear, 8–26 × 2–4.5 cm, leathery or stiffly papery, both surfaces with numerous small pellucid glands, secondary veins 8–25 on each side of midvein, 0.7–1.5 cm apart, and abaxially obviously raised, reticulate veins conspicuous, intramarginal veins 2–3(–4) mm from margin, base narrow to broadly cuneate, apex acuminate to long acuminate. Inflorescences usually terminal cymes with several flowers, sometimes axillary and solitary; peduncle 1–3.5 cm. Flowers white or pink, 3–4 cm in diam. Hypanthium obconic, 0.8–1.5 cm. Calyx lobes 4, semiorbicular or triangular-ovate, 5–8 × 6–9 mm. Petals distinct, broadly ovate, 1.4–1.5 cm. Stamens 1.5–2.8 cm; anthers ca. 1.5 mm. Style 2–3.5 cm. Fruit pale yellow or red when ripe, globose or ellipsoid, 2.5–5 cm in diam., with oil glands, 1- or 2-seeded, pericarp fleshy. Embryos numerous. Fl. Mar–Apr, fr. May–Jun or Nov–Dec.

Mixed forests, mountain slopes, riversides, river valleys; below 100 to 1500 m. Cultivated and sometimes escaped in Fujian, Guangdong, Guangxi, Guizhou, Hainan, Sichuan, Taiwan (var. *tripinnatum* believed to be native), and Yunnan (var. *linearilimum* believed to be native) [Philippines; origin of var. *jambos* uncertain but possibly W Malesia and SE Asia].

- 1a. Leaf blade linear, 18–26 cm; flowers axillary, solitary 4c. var. *linearilimum*
- 1b. Leaf blade lanceolate, ovate-lanceolate, or oblong, 8–25 cm; flowers in terminal cymes.
 - 2a. Leaf blade lanceolate to oblong, 12–25 cm, leathery; style 2–2.8 cm; fruit yellow 4a. var. *jambos*
 - 2b. Leaf blade ovate-lanceolate to oblong, 8–12 cm, stiffly papery; style 3–3.5 cm; fruit red 4b. var. *tripinnatum*

4a. *Syzygium jambos* var. *jambos*

蒲桃(原变种) pu tao (yuan bian zhong)

Eugenia jambos Linnaeus, Sp. Pl. 1: 470. 1753; *E. jambos* var. *sylvatica* Gagnepain; *Jambosa jambos* (Linnaeus) Millspaugh; *J. vulgaris* Candolle, nom. illeg. superfl.; *Myrtus jambos* (Linnaeus) Kunth; *Syzygium jambos* var. *sylvaticum* (Gagnepain) Merrill & L. M. Perry.

Branchlets terete. Petiole 6–8 mm; leaf blade lanceolate to oblong, 12–25 × 3–4.5 cm, leathery, secondary veins 12–16 on each side of midvein, 7–10 mm apart, and at an angle of ca. 45° from midvein, intramarginal veins ca. 2 mm from margin, base broadly cuneate, apex long acuminate. Inflorescences terminal, cymes, with several flowers; peduncle 1–1.5 cm. Flowers white, 3–4 cm in diam. Hypanthium obconic, 8–10 mm. Calyx lobes 4, semiorbicular, ca. 6 × 8–9 mm. Petals distinct, broadly ovate, ca. 1.4 cm. Stamens 2–2.8 cm; anthers ca. 1.5 mm. Style 2–2.8 cm. Fruit pale yellow when ripe, globose, 3–5 cm in diam. Fl. Mar–Apr, fr. May–Jun.

Open mixed forests, riversides, river valleys; below 100 to 1500 m. Cultivated and sometimes escaped in Fujian, Guangdong, Guangxi, Guizhou, Hainan, Sichuan, and Yunnan [origin uncertain but possibly W Malesia and SE Asia].

This variety is often cultivated for its fruit throughout the tropics, so some gatherings may in fact not be from wild plants.

4b. *Syzygium jambos* var. *tripinnatum* (Blanco) C. Chen, Harvard Pap. Bot. 11: 27. 2006.

大花赤楠 da hua chi nan

Myrtus tripinnata Blanco, Fl. Filip. 421. 1837; *Syzygium okudae* Mori; *S. tripinnatum* (Blanco) Merrill.

Branchlets brown, subterete but apically much compressed. Petiole 5–7 mm; leaf blade ovate-lanceolate to oblong, 8–12 × 2–4.5 cm, stiffly papery, secondary veins 8–11 on each side of midvein and 1–1.5 cm apart, intramarginal veins 2–3(–4) mm from margin. Inflorescences terminal, cymes, 5–7(–9) cm, remote; peduncle (2–)3–3.5 cm; bracts 2, triangular. Flower pink. Hypanthium funnel-shaped, ca. 1.5 cm. Calyx lobes 4, suborbicular, 5–6 × 6–7 mm, subequally broad, punctate. Petals 4, elliptic, ca. 1.5 cm, punctate, apex rounded. Stamens numerous, 1.5–2.3 cm, unequal. Ovary 2-celled. Style filiform, 3–3.5 cm. Fruit red, ellipsoid, ca. 2.5 cm in diam., crowned by thick calyx rim. Fl. Apr, fr. Nov–Dec.

Evergreen mixed forests, mountain slopes; below 100 to 300 m. Taiwan (Lan Yu) [Philippines].

4c. *Syzygium jambos* var. *linearilimum* Hung T. Chang & R. H. Miao, Acta Bot. Yunnan. 4: 17. 1982.

线叶蒲桃 xian ye pu tao

Branchlets terete, shallowly grooved. Petiole 7–10 mm; leaf blade linear, 18–26 × 2–2.25 cm, leathery, both surfaces glandular, abaxially yellowish brown, adaxially slightly shiny, secondary veins 19–25 on each side of midvein, intramarginal veins ca. 2 mm from margin, base narrow and decurrent, apex acuminate. Flowers axillary, solitary. Hypanthium obconic, ca. 1 cm. Calyx lobes triangular-ovate, 7–8 mm. Style ca. 3 cm.

• Mixed forests, mountain slopes; 400–500 m. Yunnan (Hekou).

5. *Syzygium polypetaloides* Merrill & L. M. Perry, J. Arnold Arbor. 19: 217. 1938.

假多瓣蒲桃 jia duo ban pu tao

Shrubs, 2–3 m tall. Branchlets grayish brown when dry, terete. Petiole 4–6 mm; leaf blade leathery, narrowly lanceolate, 9–12 × 1.5–2.5 cm, both surfaces with obvious glands, abaxially brownish green when dry, adaxially green and slightly glossy when dry, secondary veins 8–12 on each side of midvein, 7–10 mm apart, abaxially slightly raised, and adaxially inconspicuous, reticulate veins conspicuous, intramarginal veins ca. 1.5 mm from margin, base narrowly cuneate, apex acuminate to slightly acute. Inflorescences terminal or sometimes axillary, cymes; peduncle ca. 1 cm. Flowers white, ca. 3 cm in diam. Hypanthium broadly obconic, ca. 8 × 10 mm. Calyx lobes 4, semiorbicular, ca. 3 × 7–8 mm. Petals distinct, orbicular, ca. 8 mm in diam. Stamens ca. 2 cm. Style slightly exceeding stamens. Fruit globose, ca. 2 cm in diam. Fl. Apr–Jul, fr. Apr–Jun or Jul–Sep.

• Open or dense forests or scrub, riversides, sandy beaches; 200–1000 m. W Guangxi, S Yunnan.

6. *Syzygium samarangense* (Blume) Merrill & L. M. Perry, J. Arnold Arbor. 19: 115. 1938.

洋蒲桃 yang pu tao

Myrtus samarangensis Blume, Bijdr. 1084. 1826–1827; *Eugenia javanica* Lamarck; *Jambosa samarangensis* (Blume) Candolle.

Trees, to 12 m tall. Branchlets compressed. Petiole less than 4 mm to sometimes nearly absent; leaf blade elliptic to oblong, 10–22 × 5–8 cm, thinly leathery, abaxially with numerous small glands, adaxially turning yellowish brown when dry, secondary veins 14–19 on each side of midvein, 6–10 mm apart, and at an angle of ca. 45° from midvein, reticulate veins conspicuous, intramarginal veins ca. 5 mm from margin and an additional intramarginal vein ca. 1.5 mm from margin, base narrow, rounded, or slightly cordate, apex obtuse to slightly acute. Inflorescences terminal or axillary, cymes, 5–6 cm, several-flowered. Flowers white. Hypanthium obconic, 7–8 × 6–7 mm. Calyx lobes 4, semiorbicular, ca. 4 × 4 mm or larger. Petals 4, distinct, 1–1.3 cm. Stamens numerous, ca. 1.5 cm. Style 2.5–3 cm. Fruit dark red, pyriform to conic, 4–5 cm, fleshy, glossy, apex impressed; persistent sepals fleshy. Seed 1. Fl. Mar–Apr, fr. May–Jun.

Cultivated in Fujian, Guangdong, Guangxi, Sichuan, Taiwan, and Yunnan [native to Indonesia, Malaysia, Papua New Guinea, and Thailand].

7. *Syzygium megacarpum* (Craib) Rathakrishnan & N. C. Nair, Econ. Taxon. Bot. 4: 287. 1983.

阔叶蒲桃 kuo ye pu tao

Eugenia megacarpa Craib, Fl. Siam. 1: 652. 1931; *E. latilimba* Merrill; *Syzygium latilimum* (Merrill) Merrill & L. M. Perry.

Trees, to 20 m tall. Branchlets green when dried, slightly compressed. Petiole 5–10 mm; leaf blade narrowly long elliptic to elliptic, 14–30 × 6–13 cm, leathery, abaxially pale green when dry, adaxially green when dry, both surfaces without conspicuous glands, secondary veins 15–22 on each side of midvein and 1–1.3 cm apart, reticulate veins conspicuous, intramarginal veins 4–5 mm from margin and an additional inconspicuous intramarginal vein ca. 1.5 mm from margin, base rounded to sometimes cordate, apex acuminate. Inflorescences terminal, cymes, 2–6-flowered; peduncle very short. Flowers white, large. Hypanthium long obconic, 1.5–2 × ca. 1.5 cm. Calyx lobes 4, rounded, 6–7 × 8–9 mm. Petals distinct, rounded, ca. 2 cm. Stamens numerous, 2.5–3 cm. Style ca. 4 cm. Fruit ovoid-globose, ca. 5 cm. Fl. Apr–Oct, fr. Jul–Oct.

Moist low forests, riversides; 300–1200 m. Hainan, Guangxi, S and SW Yunnan [Bangladesh, Myanmar, Thailand, Vietnam].

8. *Syzygium laosense* (Gagnepain) Merrill & L. M. Perry var. **quocense** (Gagnepain) Hung T. Chang & R. H. Miao, Fl. Reipubl. Popularis Sin. 53(1): 70. 1984.

少花老挝蒲桃 shao hua lao wo pu tao

Eugenia laosensis Gagnepain var. *quocensis* Gagnepain, Notul. Syst. (Paris) 3: 327. 1918.

Trees, 3–10 m tall. Branchlets grayish brown when dry, terete. Petiole 5–7 mm; leaf blade ovate-oblong to oblong, 11–17 × 4–6 cm, thinly leathery, abaxially brownish when dry,

adaxially grayish brown when dry, secondary veins 8–12 on each side of midvein, 0.8–1.2 cm apart, and at an angle of ca. 55° from midvein, reticulate veins abaxially conspicuous, intramarginal veins 3–4 mm from margin, abaxially slightly raised, and adaxially slightly visible, base broadly cuneate and slightly oblique, apex acuminate and with an obtuse cusp. Inflorescences terminal or axillary, paniculate cymes, 6–7 cm, branches lax and long. Flower buds ovoid, ca. 1 cm. Hypanthium semi-globose, ca. 7 mm, shortly stipitate. Calyx lobes 4, semiorbicular, ca. 3 × 5 mm, apex rounded. Petals 4, distinct, suborbicular, 4–5 mm. Stamens as long as petals. Style 7–8 mm. Fl. Apr–Nov.

Evergreen forests; low elevations. S Yunnan [Cambodia, Vietnam].

Syzygium laosense var. *laosense* is endemic to Laos and differs from var. *quocense* in having longer inflorescences with more flowers.

9. *Syzygium globiflorum* (Craib) P. Chantananarothai & J. Parnell, *Kew Bull.* 48: 598. 1993.

短药蒲桃 *duan yao pu tao*

Eugenia globiflora Craib, *Bull. Misc. Inform. Kew* 1930: 167. 1930; *Syzygium brachyantherum* Merrill & L. M. Perry.

Shrubs or trees, 3–15 m tall. Branchlets terete, slightly compressed. Petiole 1–1.3 cm; leaf blade elliptic to narrowly elliptic, 9–16 × 2.5–5 cm, thinly leathery, both surfaces dark green when dry, abaxially glandular, secondary veins 12–17 on each side of midvein, 7–9 mm apart, and at an angle of ca. 55° from midvein, reticulate veins conspicuous, intramarginal veins ca. 1.5 mm from margin, base broadly cuneate, apex acute. Inflorescences terminal, cymes or paniculate cymes, 3–11-flowered; peduncle 1–1.5 cm. Flower buds ovoid, 1–1.2 cm. Hypanthium 8–9 mm. Calyx lobes 4, triangular-ovate, ca. 5 mm. Petals distinct, broadly ovate, 7–8 mm. Stamens size variable, 1–1.5 cm; anthers ca. 0.6 mm. Style ca. 1.3 cm. Fruit subglobose, ca. 2.5 cm in diam. Fl. Apr–Aug.

Mountain valleys, dense forests; 200–1000(–2400 in Yunnan) m. Guangxi, Hainan, Yunnan [Thailand].

10. *Syzygium imitans* Merrill & L. M. Perry, *J. Arnold Arbor.* 19: 113. 1938.

桂南蒲桃 *gui nan pu tao*

Trees, to 8 m tall. Branchlets brown when dry, terete. Petiole ca. 1 cm; leaf blade oblong, 12–17 × 4–7(–8.5) cm, leathery, both surfaces glandular, abaxially yellowish brown when dry, adaxially olive green and slightly glossy when dry, secondary veins 10–14 on each side of midvein, 0.8–1.2 cm apart, and at an angle of ca. 50° from midvein, intramarginal veins 2–4 mm from margins with an additional smaller intramarginal vein ca. 0.7 mm from margin, base cuneate, apex acute and with a 7–8 mm obtuse cusp. Inflorescences terminal, paniculate cymes, 3–5 cm, many-flowered in 3-flowered clusters, branched at base. Flower buds obovoid, 8–11 × ca. 6 mm. Hypanthium ca. 6 mm, obconic. Calyx lobes 4, semiorbicular, 1–2 × ca. 2.5 mm, apex rounded. Petals white, distinct, suborbicular, (4–)5(–7) mm. Stamens 4–8 mm. Style 4–7 mm. Fruit globose, ca. 1.6 cm in diam. Fl. Sep.

Mountain valleys at low altitude, moist sandy or dry clay soils, thickets; ca. 1500 m. Guangxi (Shiwan Dashan) [Vietnam].

11. *Syzygium austroyunnanense* Hung T. Chang & R. H. Miao, *Acta Bot. Yunnan.* 4: 17. 1982.

滇南蒲桃 *dian nan pu tao*

Trees, to 13 m tall. Branchlets grayish brown when dry, 4-angled. Petiole 1–1.5 cm; leaf blade elliptic to oblong, 10–18 × 4–7 cm, leathery, abaxially brownish green, adaxially olive green and slightly glossy, secondary veins 13–20 on each side of midvein, 6–10 mm apart, and at an angle of ca. 60° from midvein, reticulate veins conspicuous, intramarginal veins ca. 2 mm from margin, abaxially raised, and adaxially conspicuous, base broadly cuneate, apex acute and with an obtuse cusp. Inflorescences terminal, paniculate 3-flowered cymes, 6–8 cm; bractlets lanceolate, ca. 2.5 mm. Calyx lobes 4, ovate to semi-ovate, 3–4 × ca. 5 mm. Fruit 1- or 2-seeded. Fr. Nov.

• Mountain valleys, shady and moist regions in sparse forests; 1400–1700 m. Guangxi (Hengxian), S Yunnan (Xishuangbanna).

12. *Syzygium malaccense* (Linnaeus) Merrill & L. M. Perry, *J. Arnold Arbor.* 19: 215. 1938.

马六甲蒲桃 *ma liu jia pu tao*

Eugenia malaccensis Linnaeus, *Sp. Pl.* 1: 470. 1753; *E. macrophylla* Lamarck; *Jambosa domestica* Blume; *J. malaccensis* (Linnaeus) Candolle.

Trees, to 15 m tall. Branchlets grayish brown when dry, stout, terete. Petiole ca. 1 cm; leaf blade narrowly elliptic to elliptic, 16–24 × 6–8 cm, leathery, abaxially yellowish brown when dry, adaxially dark green and not glossy when dry, secondary veins 11–14 on each side of midvein, 1–1.5 cm apart, and at an angle of ca. 45° from midvein, reticulate veins conspicuous, intramarginal veins 3–5 mm from margin and another inconspicuous intramarginal vein ca. 1 mm from margin, base cuneate, apex acute. Inflorescences lateral on older leafless branches, cymes, in 4–9-flowered clusters; peduncle very short. Flowers red, ca. 2.5 cm, stout, ridged. Hypanthium broadly obconic, ca. 1 × 1 cm. Calyx lobes 4, suborbicular, 5–6 × 7–8 mm, apex rounded. Petals rounded, ca. 1 × 1 cm, distinct. Stamens completely distinct, 1–1.3 cm. Style as long as stamens. Fruit ovoid to pot-shaped, ca. 4 cm, 1-seeded. Fl. May or Jan–Feb, fr. Apr–May.

Cultivated but sometimes naturalized in mixed forests in Taiwan and Yunnan [probably native to Malaysia].

This species is commonly cultivated for its fruit in wet-tropical areas around the world and is sometimes naturalized.

13. *Syzygium cathayense* Merrill & L. M. Perry, *J. Arnold Arbor.* 19: 232. 1938.

华夏蒲桃 *hua xia pu tao*

Trees, to 6 m tall. Branchlets grayish brown when dry, 4-angled. Petiole 7–11 mm; leaf blade narrowly oblong, 11–15 × 3–4.5 cm, leathery, abaxially brownish when dry, adaxially black and slightly glossy when dry, secondary veins 8–11 on each side of midvein, 8–10 mm apart, and with additional paral-

lel veins between them, reticulate veins abaxially conspicuous, intramarginal veins 2–3 mm from margin, base cuneate, apex slightly acute. Inflorescences axillary, paniculate cymes, 3–5 cm, many-flowered; peduncle terete, ca. 1 cm. Hypanthium ca. 5 mm. Calyx lobes 4, shortly triangular, 1.5–2 mm. Petals white, distinct, ovate to orbicular, 5–7 mm. Stamens 1–1.5 cm; anthers small, apex with a gland. Style ca. 1.5 cm. Fl. Jan–Feb.

- Moist secondary forests, riversides. W Guangxi, S Yunnan.

14. *Syzygium gongshanense* P. Y. Bai, Acta Bot. Yunnan., Suppl. 5: 26. 1992 [*“gongshanense”* except in f. 1].

贡山蒲桃 gong shan pu tao

Trees, 5–6 m tall. Branchlets brown, terete. Petiole ca. 1 cm; leaf blade oblong to oblong-elliptic, 8.5–15 × 3.5–5 cm, thinly leathery, abaxially greenish yellow, adaxially green and densely glandular punctate, secondary veins 12–16 on each side of midvein and 5–7 mm apart, intramarginal veins ca. 2 mm from margin, base cuneate, apex acute and with a 5–7 mm tip. Inflorescences axillary or lateral on old leafless branches, cymes, 2–3 cm. Flowers white, 8–10 mm. Hypanthium turbinate, ca. 5 mm; limb 4–5 mm broad. Calyx lobes 4, semiorbicular, apex obtuse. Petals distinct, ovate, ca. 4 × 3.5 mm. Stamens ca. 8 mm, equal in length. Fl. Aug–Sep.

- Broad-leaved evergreen forests, mountain slopes beside streams; ca. 1600 m. Yunnan (Gongshan).

15. *Syzygium taiwanicum* Hung T. Chang & R. H. Miao, Acta Bot. Yunnan. 4: 18. 1982.

台湾棒花蒲桃 tai wan bang hua pu tao

Eugenia claviflora Roxburgh var. *oblongifolia* Hayata, Icon. Pl. Formosan. 3: 116. 1913; *Syzygium claviflorum* (Roxburgh) A. M. Cowan & Cowan var. *oblongifolium* (Hayata) Mori.

Trees, small. Branchlets grayish brown when dry, slender, 4-angled. Petiole 4–5 mm; leaf blade long elliptic, 5–7 × 2–3 cm, leathery, abaxially slightly yellowish brown when dry, adaxially grayish green and not glossy when dry, secondary veins ca. 1.5 mm apart, at an angle of ca. 70° from midvein, abaxially inconspicuous, and adaxially slightly impressed, intramarginal veins ca. 1 mm from margin, base broadly cuneate, apex slightly acute and with an obtuse cusp. Inflorescences axillary, cymes, flowers (1 or) 2 or 3. Hypanthium clavate, ca. 2 cm. Calyx lobes semiorbicular. Fruit long clavoid. Fl. Mar–Apr, fr. Nov–Dec.

- Broad-leaved evergreen forests; 100–400 m. Taiwan (Lan Yu, Pengjia Yu).

16. *Syzygium championii* (Benth) Merrill & L. M. Perry, J. Arnold Arbor. 19: 219. 1938.

子凌蒲桃 zi ling pu tao

Acmena championii Benth, Hooker's J. Bot. Kew Gard. Misc. 4: 118. 1852; *Eugenia championii* (Benth) Hemsley; *E. henryi* Hance; *E. maclurei* Merrill.

Shrubs to trees. Branchlets grayish white when dry, 4-

angled. Petiole 2–3 mm; leaf blade narrowly oblong to elliptic, 3–6(–9) × 1–2(–3) cm, leathery, both surfaces grayish green when dry, adaxially not glossy, secondary veins numerous, ca. 1 mm apart, and nearly level with surface, intramarginal veins nearly at margin, base broadly cuneate, apex acute and usually with a cusp less than 1 cm. Inflorescences terminal or sometimes axillary, cymes, ca. 2 cm, 6–10-flowered. Flower buds clavate, ca. 1 cm, basal part narrow. Hypanthium clavate, 8–10 mm. Calyx lobes 4, shallowly wavy. Petals white or pink, connate into a calyptra. Stamens 3–4 mm. Style as long as stamens. Fruit red, long ellipsoid, ca. 12 × 6–8 mm, shallowly grooved when dry, 1- or 2-seeded. Fl. Aug–Nov, fr. Oct–Dec.

Broad-leaved evergreen forests; 100–700 m. Guangdong, Guangxi, Hainan [Vietnam].

17. *Syzygium boisianum* (Gagnepain) Merrill & L. M. Perry, J. Arnold Arbor. 19: 115. 1938.

无柄蒲桃 wu bing pu tao

Eugenia boisiana Gagnepain, Notul. Syst. (Paris) 3: 318. 1918.

Shrubs, to 2 m tall. Branchlets grayish white when dry, slender, 4 angled; old branches terete. Leaves very shortly petiole to nearly sessile; leaf blade narrowly ovate to oblong, 4–12 × 2–5 cm, leathery, abaxially pale colored when dry, adaxially green with yellow when dry, secondary veins numerous, dense, 2–3 mm apart, level with surface, and conspicuous on both surfaces, intramarginal veins ca. 1 mm from margin, base usually slightly cordate, apex acuminate. Inflorescences terminal or axillary, cymes, ca. 2 cm, (1 or) 3–6-flowered. Hypanthium clavate, ca. 13 × 4 mm, basally gradually narrow. Calyx lobes shallow wavy. Petals distinct, orbicular, 2–3 mm in diam., outer ones bigger. Stamens numerous; anthers ca. 0.7 mm. Disk discoid. Style ca. 5 mm. Fruit clavoid to long tubular. Fl. (Jun–)Aug–Oct.

Dense forests; 100–200 m. Hainan [Thailand, Vietnam].

18. *Syzygium rysopodum* Merrill & L. M. Perry, J. Arnold Arbor. 19: 221. 1938.

皱萼蒲桃 zhou e pu tao

Trees, to 20 m tall, d.b.h. to 75 cm. Branchlets blackish brown when dry, strongly compressed. Petiole 0.9–1.4 cm, corrugate when dry; leaf blade elliptic, 4.5–9 × 1.7–3.6 cm, leathery, both surfaces with conspicuous small glands, abaxially greenish, adaxially yellowish green and glossy, secondary veins 1.5–2.5 mm apart, at an angle of ca. 75° from midvein, and inconspicuous on both surfaces, intramarginal veins near margin, base cuneate, apex acute and with a slightly obtuse cusp. Inflorescences usually terminal or sometimes axillary, cymes, to 6 cm. Hypanthium clavate, 10–12 × ca. 4 mm, corrugate when dry. Calyx lobes 5, very short. Stamens 1–4 mm. Style 4–5 mm. Fruit dark red when ripe, pyriform to ellipsoid, ca. 1 cm, 1- or 2-seeded. Fl. Feb–Mar and Jun–Jul.

- Forests in mountains; 1500–1800 m. Hainan.

19. *Syzygium stenocladum* Merrill & L. M. Perry, J. Arnold Arbor. 19: 220. 1938.

纤枝蒲桃 xian zhi pu tao

Trees, to 16 m tall. Branchlets grayish white when dry, slender, terete. Petiole 4–8 mm; leaf blade narrowly elliptic to narrowly oblong, 4–7 × 1.5–3 cm, leathery, both surfaces olive green when dry and with minute glands, secondary veins 1–2 mm apart, at an angle of ca. 40° from midvein, abaxially slightly raised, and adaxially inconspicuous, intramarginal veins ca. 0.5 mm from margin, base turning narrow and decurrent, apex acuminate and with a slightly obtuse cusp. Inflorescences terminal or axillary, cymes, several-flowered. Hypanthium clavate, 1–1.2 cm, straight sulcate when dry. Calyx lobes shallowly wavy. Stamens 1–4 mm. Style ca. 4 mm. Fruit purplish red, long clavoid before when young but becoming obovoid. Fl. Apr–May, fr. May.

- Broad-leaved evergreen forests in mountains; ca. 600 m. Hainan.

20. *Syzygium baviense* (Gagnepain) Merrill & L. M. Perry, J. Arnold Arbor. 19: 102. 1938.

短棒蒲桃 duan bang pu tao

Eugenia baviensis Gagnepain, Notul. Syst. (Paris) 3: 317. 1918.

Shrubs or small trees. Branchlets grayish white when dry, terete. Petiole 5–6 mm; leaf blade oblong to elliptic, 9–15 × 3.5–5 cm, subpapery, abaxially glabrous, adaxially dark when dry, secondary veins 14–19 on each side of midvein, 6–8 mm apart, and at an angle of ca. 75° from midvein, tertiary veins usually parallel to secondary veins, intramarginal veins 3–4 mm from margin, base broadly cuneate, apex acute. Inflorescences axillary, corymbs, 1.5–2 cm, 4–9-flowered; peduncle ca. 5 mm. Flower buds 1–1.2 cm. Hypanthium shortly clavate, 6–8 mm, base narrow. Calyx lobes 4, shortly triangular, ca. 1 mm. Petals coherent. Stamens 3–4 mm. Style ca. 3 mm. Fruit clavoid to long ovoid, ca. 10 × 5 mm. Fl. Apr–May, fr. Jun–Jul.

- Rain forests; 200–600 m. Yunnan (Hekou) [Vietnam].

21. *Syzygium claviflorum* (Roxburgh) Wallich ex Steudel, Nomencl. Bot., ed. 2, 2: 657. 1841.

棒花蒲桃 bang hua pu tao

Eugenia claviflora Roxburgh, Fl. Ind., ed. 1832, 2: 488. 1832; *Acmenosperma claviflorum* (Roxburgh) Kausel; *E. leptantha* Wight; *Syzygium leptanthum* (Wight) Niedenzu.

Shrubs or trees, 3–15 m tall. Branchlets grayish white to grayish brown when dry, terete, slightly compressed. Petiole 5–8 mm; leaf blade narrowly oblong, oblong, or elliptic, 8–21 × 3–8 cm, thinly leathery, abaxially pale when dry, adaxially slightly glossy green to yellowish green when dry, adaxially with numerous impressed small glands, secondary veins 18–25 on each side of midvein, 1–7 mm apart, and slowly ascending into margin, intramarginal veins ca. 1 mm from margin, base broadly cuneate, apex slightly acute, obtuse, or acuminate and with an obtuse tip. Inflorescences axillary or sometimes lateral below leaves, cymes or umbels, ca. 2.5 cm, 3–9-flowered. Flowers pink or red. Hypanthium clavate, 0.8–1.5 cm, basally narrow and long, ribbed. Calyx lobes 4, shortly semiorbicular, shallowly wavy. Petals 4, distinct or coherent, ovate to rounded, ca. 3 mm. Stamens 4–7 mm. Style 1.5–2 cm, apex sharp. Fruit

purplish red to black, long ellipsoid to long pot-shaped, 1.5–2 × 0.6–0.8 cm. Fl. Mar–Apr, fr. May–Jun.

Dense or open broad-leaved evergreen forests, valleys, hills; below 100–1300 m. Hainan, Yunnan [Bhutan, India, Indonesia, Malaysia, Myanmar, Papua New Guinea, Thailand, Vietnam; Australia].

22. *Syzygium vestitum* Merrill & L. M. Perry, J. Arnold Arbor. 19: 110. 1938.

毛脉蒲桃 mao mai pu tao

Trees, 4–7 m tall. Branchlets terete, pubescent. Petiole 7–9 mm; leaf blade elliptic, 12–22 × 4–7 cm, leathery, abaxially brown when dry, adaxially black when dry, abaxially with small glands, midvein and secondary veins papillate, secondary veins ca. 10 on each side of midvein and 1–1.5 cm apart, a small parallel tertiary vein between each secondary vein, intramarginal veins 5–6 mm from margin, base broadly cuneate, apex acute. Inflorescences terminal, paniculate cymes, 10–14 cm, branched; peduncle compressed, with brown glandular wool. Flower buds sessile, long oval-shaped, 4–5 × 2–3 mm. Hypanthium villous. Calyx lobes ca. 1 mm, rounded. Petals distinct. Fruit globose, 1–1.2 cm in diam. Fl. May–Jul.

- Broad-leaved evergreen forests; 800–1500 m. SE Yunnan [Vietnam].

23. *Syzygium cinereum* (Kurz) Merrill & L. M. Perry, J. Arnold Arbor. 19: 106. 1938.

钝叶蒲桃 dun ye pu tao

Eugenia cinerea Kurz, Prelim. Rep. Forest Veg. Pegu, App. A, 64, App. B, 50. 1875.

Trees, to 8 m tall. Branchlets gray when dry, terete. Petiole 5–8 mm; leaf blade obovate, 7–10 × 3–4.5 cm, leathery, abaxially brownish when dry, adaxially grayish brown and not glossy when dry, secondary veins 7–9 on each side of midvein, 6–9 mm apart, at an angle of ca. 45° from midvein, abaxially raised, and adaxially slightly impressed, reticulate veins inconspicuous, intramarginal veins ca. 2.5 mm from margin, base turning narrow, apex rounded to obtuse. Inflorescences terminal, paniculate cymes, 3–7 cm. Flower buds obconic. Hypanthium ca. 3.5 mm. Calyx lobes 4, shallow wavy. Petals 4, coherent, ovate and slightly rounded, ca. 2 mm. Stamens 1.5–2 mm; anthers small. Style ca. 1 mm. Fruit red when ripe, globose, 6–8 mm in diam. Fl. Apr–May.

- Thickets, hilly areas. S Guangxi [Malaysia, Thailand, Vietnam].

24. *Syzygium yunnanense* Merrill & L. M. Perry, J. Arnold Arbor. 19: 227. 1938.

云南蒲桃 yun nan pu tao

Trees, to 15 m tall. Branchlets grayish white when dry, compressed, shallowly grooved. Petiole 1–1.5 cm; leaf blade broadly lanceolate to elliptic, 10–21 × 3–7 cm, leathery, both surfaces brownish green when dry, abaxially with numerous small glands, secondary veins 10–13 on each side of midvein, 0.8–1.3 cm apart, and at an angle of ca. 45° from midvein, reticulate veins conspicuous, intramarginal veins ca. 3 mm from margin, base broadly cuneate, apex acuminate. Inflorescences,

terminal or sometimes lateral on leafless branches, paniculate cymes, 3–6 cm, usually 2–4-clustered; peduncle brown, 2–4 cm, terete. Flowers sessile, 1–3-clustered. Hypanthium obconic, ca. 2.5 mm, apical part ampliate. Calyx lobes inconspicuous. Petals distinct, suborbicular, ca. 3 mm. Stamens 1–1.5 mm; anthers grayish white when dry. Style ca. 2 mm. Young fruit globose. Fl. Apr–May.

- Forests; 600–1300 m. Yunnan.

25. *Syzygium tetragonum* (Wight) Walpers, Repert. Bot. Syst. 2: 179. 1843.

四角蒲桃 si jiao pu tao

Eugenia tetragona Wight, Ill. Ind. Bot. 2: 16. 1841; *Syzygium nienkui* Merrill & L. M. Perry.

Trees, to 20 m tall, d.b.h. to 15 cm. Branchlets stout, 4-angled, ridges conspicuous. Petiole 1–1.6 cm, stout; leaf blade leathery, elliptic to obovate, 12–18 × 6–8 cm, abaxially slightly pale when dry, adaxially dark brown and not glossy when dry, secondary veins 9–13 on each side of midvein and 7–10 mm apart, reticulate veins conspicuous, intramarginal veins 2–3 mm from margin, base broadly cuneate to rounded, apex rounded to obtuse and with a ca. 1 cm cusp. Inflorescences lateral on leafless branches, paniculate cymes, 3–5 cm. Flower buds 6–7 mm. Hypanthium short, obconic. Calyx lobes obtuse and short. Petals coherent, white. Stamens ca. 3 mm. Fruit tinged yellow, globose, ca. 1 cm in diam. Fl. (Feb–)Jul–Aug(–Nov), fr. Nov–Jan.

Open or dense broad-leaved evergreen forests, mountain valleys, steamsides; 800–2000 m. Guangxi, Hainan, Xizang (Cona, Mêdog), Yunnan [Bhutan, India, Myanmar, Nepal, Thailand].

26. *Syzygium lasianthifolium* Hung T. Chang & R. H. Miao, Acta Bot. Yunnan. 4: 18. 1982.

粗叶木蒲桃 cu ye mu pu tao

Shrubs, to 2 m tall. Branchlets dark brown when dry, 4-angled; old branches grayish white. Petiole 5–7 mm; leaf blade oblong, 6–10 × 2–3.5 cm, leathery, abaxially reddish brown when dry, adaxially blackish brown and glossy when dry, secondary veins 7–9 on each side of midvein and 6–10 mm apart, intramarginal veins 2–3 from margin and with an additional small intramarginal vein on outer side, base broadly cuneate to obtuse, apex acute to acuminate. Flowers not seen. Infructescences axillary, cymes, 1–2 cm. Fruit purple when ripe, ellipsoid, ca. 10 × 6–7 mm; persistent calyx lobes 4, semi-orbicular, ca. 1.5 mm; persistent style ca. 3 mm. Fr. May–Jun.

• Woodlands on mountain slopes, scrub on hills. Guangdong (Lianjiang).

27. *Syzygium balsameum* (Wight) Walpers, Repert. Bot. Syst. 2: 179. 1843.

香胶蒲桃 xiang jiao pu tao

Eugenia balsamea Wight, Ill. Ind. Bot. 2: 16. 1841.

Shrubs or trees, to 12 m tall. Branchlets grayish white

when dry, slightly compressed. Petiole 1–1.3 cm; leaf blade elliptic to narrowly oblong, 10–20 × 4–8.5 cm, leathery, base cuneate to broadly cuneate, apex acute to sometimes slightly obtuse, both surfaces with numerous small glands, abaxially grayish brown when dry, adaxially pale brown and not glossy when dry, secondary veins 11–13 on each side of midvein, 0.8–1.3 cm apart, and abaxially raised, reticulate veins conspicuous, intramarginal veins ca. 2.5 mm from margin. Inflorescences lateral on leafless branches, paniculate, 2–7 cm; peduncle grayish white. Hypanthium obconic, ca. 2.5 mm, apex nearly abrupt. Calyx lobes inconspicuous. Petals coherent. Stamens 2–3 mm. Style as long as stamens. Fruit red, globose, 5–6 mm in diam., 1-seeded. Fl. Nov–Dec, fr. Jan–Feb.

Moist open or dense forests, riversides; 500–1300 m. Xizang (Mêdog), S Yunnan [India, Myanmar, Thailand, Vietnam].

28. *Syzygium xizangense* Hung T. Chang & R. H. Miao in Hung T. Chang, Fl. Xizang. 3: 343. 1986.

西藏蒲桃 xi zang pu tao

Trees, to 25 m tall. Branchlets grayish brown when dry, terete, glabrous. Petiole 0.7–1.3 cm; leaf blade oblong to elliptic, 8–23 × 3.5–6.2 cm, thinly papery, abaxially pale green when dry, adaxially dark green and slightly glossy when dry, both surfaces with conspicuous small glands, abaxially glabrous, secondary veins 9–10 on each side of midvein, 0.8–1.6 cm apart, ascending at an angle of ca. 75° from midvein, and with another small parallel vein between them, intramarginal veins 2–5 mm from margin, base broadly cuneate, apex acuminate to sometimes acute. Inflorescences lateral on leafless branches, cymes, 2–6 cm, 4–7-flowered; peduncle ca. 1 cm. Flower buds obovoid, 6–7 mm. Pedicel 4–8 mm, with sparse trichomes. Hypanthium 4–5 mm, villosulous. Calyx lobes 4, semi-orbicular, 1.5–2 mm. Petals 4, white, distinct, obovate, 5–6 mm. Stamens 6–10 mm. Style 4–5 mm. Fl. Jun–Jul.

- Broad-leaved evergreen forests; 800–1000 m. Xizang (Mêdog).

29. *Syzygium salwinense* Merrill & L. M. Perry, J. Arnold Arbor. 19: 237. 1938.

怒江蒲桃 nu jiang pu tao

Trees, 3–15 m tall. Branchlets gray when dry, 4-angular, sometimes grooved. Petiole 3–10 mm; leaf blade narrowly elliptic, 4–8 × 1.2–3.5 cm, leathery, abaxially pale when dry, adaxially olive greenish yellow when dry, both surfaces with small glands, midvein impressed, secondary veins ca. 25 on each side of midvein and impressed when dry, intramarginal veins ca. 2 mm from margin, base cuneate, apex acuminate and with an obtuse cusp. Inflorescences axillary or in leaf axils apically on branches, paniculate cymes, 2–4 cm, with flowers usually in clusters of 3 at end of branches. Flower buds ca. 5 × 3 mm. Hypanthium pyriform. Calyx lobes ca. 0.5 × 1.5 mm. Petals coherent. Stamens ca. 5 mm; anthers ca. 0.5 mm, with glandular protuberances at apex. Fruit red, globose pot-shaped, ca. 1 cm in diam. Fl. Mar–Apr, fr. May–Jun(–Nov).

• Broad-leaved evergreen forests, hillsides, valleys, stream margins; 800–1800(–2400) m. Guangxi, NW Yunnan.

30. *Syzygium sterrophyllum* Merrill & L. M. Perry, J. Arnold Arbor. 19: 103. 1938.

硬叶蒲桃 ying ye pu tao

Shrubs or trees, 1–5 m tall. Branchlets dark brown when dry, 4-angled. Petiole 3–6 mm; leaf blade narrowly lanceolate, 6–13 × 1–1.8 cm, leathery, abaxially brownish green when dry, adaxially grayish brown and not glossy when dry, secondary veins numerous, 1–1.5 mm apart, 45°–60° from midvein, abaxially slightly raised, and adaxially inconspicuous, intramarginal veins ca. 0.5 mm from margin, base narrowly cuneate and decurrent, apex acuminate. Inflorescences axillary or in leaf axils apically on branches, cymes, 1–1.5 cm, several-flowered. Flower buds ca. 4.5 mm. Flowers white. Hypanthium obconic, ca. 3 mm. Petals coherent. Stamens 3–4 mm. Style equal length to stamens. Fruit bluish black, ellipsoid, 7–8 × 5–6 mm, apically covered with 1–1.5 mm persistent calyx limb. Fl. Jun–Oct, fr. Nov–Jan(–Jun).

Broad-leaved evergreen forests, open forests, scrub, mountain valleys, riversides; (100–)600–1200 m. Guangxi, Hainan, Yunnan [Vietnam].

31. *Syzygium forrestii* Merrill & L. M. Perry, J. Arnold Arbor. 19: 238. 1938.

滇边蒲桃 dian bian pu tao

Trees, 8–15 m tall. Branchlets blackish brown when dry, ca. 2 mm thick, compressed or slightly angled. Petiole 1.2–1.8 cm; leaf blade elliptic, 6–11 × 2.5–4 cm, leathery, adaxially glands sparse, secondary veins numerous, 1.5–5 mm apart, and abaxially slightly raised, intramarginal veins 0.5–1 mm from margin, base cuneate, apex acuminate and with a ca. 1.5 cm obtuse cusp. Inflorescences axillary or in leaf axils apically on branches, paniculate cymes, 3–8 cm, numerous-flowered; secondary peduncles 0.5–3 cm. Flower buds subsessile, ca. 5 × 3.5 mm, basally abruptly contracted into a short thick stipe, apex globose. Calyx lobes inconspicuous. Petals distinct or coherent. Stamens ca. 6 mm; anthers elliptic, ca. 0.6 mm, apically with glandular protuberances. Fruit ellipsoid-ovoid, ca. 8 × 6 mm. Fl. Oct–Nov, fr. Dec–Jan.

• Broad-leaved evergreen forests, mountain slopes, valleys; 2100–2400 m. Yunnan.

32. *Syzygium tephrodes* (Hance) Merrill & L. M. Perry, J. Arnold Arbor. 19: 223. 1938.

方枝蒲桃 fang zhi pu tao

Eugenia tephrodes Hance, J. Bot. 23: 7. 1885.

Shrubs to trees, to 6 m tall. Branchlets grayish white when dry, narrowly winged at angle; old branches grayish brown, terete. Leaves subsessile; leaf blade ovate-lanceolate, 2–5(–11) × 1–1.5(–3) cm, leathery, abaxially slightly pale when dry, adaxially grayish green to grayish brown and not glossy when dry, secondary veins 12–16 on each side of midvein, ca. 1.5 mm apart, nearly same level as leaf surface, abaxially slightly visible, and adaxially conspicuous, intramarginal veins very near margin, base slightly cordate, margin glandular punctate, apex obtuse and with an acuminate to acute tip. Inflorescences termi-

nal, paniculate cymes, 3–4 cm; peduncle grayish white, ridged. Flowers white, fragrant. Hypanthium grayish white, narrowly obconic, ca. 4 mm, longitudinally corrugate when dry. Calyx lobes 4, ovate-rounded, ca. 1 mm. Petals coherent, rounded, ca. 2 mm. Stamens 3–4 mm. Style 6–7 mm. Fruit grayish white, broadly ellipsoid, 3–4 mm, apical part narrow, apically with persistent calyx lobes. Fl. May–Jul, fr. Nov–Dec.

• Broad-leaved evergreen forests, valleys, slopes, stream margins; 300(–2000) m. Hainan.

33. *Syzygium guangxiense* Hung T. Chang & R. H. Miao, Acta Bot. Yunnan. 4: 22. 1982.

广西蒲桃 guang xi pu tao

Shrubs, to 1 m tall. Branchlets grayish brown when dry, flattened and angled; old branches gray. Petiole 4–6 mm; leaf blade long elliptic, 8–12 × 3–5 cm, thinly leathery, abaxially brownish when dry, adaxially grayish brown and not glossy when dry, secondary veins ca. 1.5 mm apart, at an angle of ca. 80° from midvein, and slightly raised on both surfaces, intramarginal veins ca. 1 mm from margin, base broadly cuneate to obtuse, apex acute and with a cusp less than 1 cm. Flowers not seen. Inflorescences axillary, cymes. Fruit globose, 2.5–3 cm in diam., apical persistent calyx limb ca. 1 × 3.5 mm. Fr. Nov.

• Thickets, limestone hillsides; ca. 500 m. S Guangxi.

34. *Syzygium tenuirhachis* Hung T. Chang & R. H. Miao, Acta Bot. Yunnan. 4: 19. 1982.

细轴蒲桃 xi zhou pu tao

Trees, to 9 m tall. Branchlets blackish brown when dry, angled. Petiole 3–5 mm; leaf blade oblong to ovate-oblong, 6–9 × 2–3 cm, leathery, secondary veins 1.5–2.5 mm apart, at an angle of ca. 70° from midvein, abaxially obscure, and adaxially inconspicuous, intramarginal veins ca. 1 mm from margin, base broadly cuneate, apex acuminate and with an obtuse cusp. Inflorescences axillary, paniculate cymes, 1- or 2-clustered, 2–3 cm; peduncle slender, ridged; bracts acicular. Flowers 3-clustered, sessile. Flower buds long pyriform, ca. 4 mm. Hypanthium ca. 3 mm. Calyx lobes shallowly wavy. Petals distinct, ca. 2.5 mm. Stamens slightly prominent. Fruit globose, 1.2–1.5 cm in diam. Fl. Jun.

• 1100–1200 m. Guangxi (Xilin).

35. *Syzygium wenshanense* Hung T. Chang & R. H. Miao, Acta Bot. Yunnan. 4: 21. 1982.

文山蒲桃 wen shan pu tao

Trees, to 10 m tall. Branchlets 4-angled. Petiole ca. 1 mm; leaf blade ovate, 4–5.5 × 2.5–3.5 cm, leathery, abaxially with small glands, adaxially slightly dull, secondary veins 1–1.5 mm apart and almost perpendicular to midvein, intramarginal veins ca. 1 mm from margin, base rounded to slightly cordate, apex shortly acute and with an obtuse cusp. Flowers not seen. Inflorescence terminal, cymose, 1–1.5 cm, sessile. Fruit globose, ca. 8 mm in diam.

• Mixed forests, limestone hillsides. Yunnan (Wenshan).

36. *Syzygium tsoongii* (Merrill) Merrill & L. M. Perry, *J. Arnold Arbor.* 19: 112. 1938.

狭叶蒲桃 xia ye pu tao

Eugenia tsoongii Merrill, *Philipp. J. Sci.* 21: 504. 1922; *E. leucocarpa* Gagnepain (1918), not Merrill (1916).

Shrubs or trees, 1–5 m tall. Branchlets grayish brown when dry, slender, 4-angled. Petiole less than 2 mm; leaf blade linear to narrowly oblong, 1.5–4.5 × 0.4–1.2 cm, leathery, abaxially slightly grayish white when dry, adaxially olive green when dry, adaxially with numerous small glands, midvein impressed, secondary veins 1–1.5 mm apart, at an angle of 55°–65° from midvein, abaxially slightly raised, and adaxially inconspicuous, intramarginal veins very close to margin, base gradually narrow and rounded to slightly obtuse, apex obtuse. Inflorescences terminal, paniculate cymes, ca. 3 cm; peduncle 4-ridged. Flower buds conic, 5–7 mm. Flowers white, ca. 1.2 cm. Hypanthium obconic, ca. 4 mm, glandular punctate, corrugate when dry, glaucous. Calyx lobes 4 or 5, suborbicular, ca. 1 mm, persistent. Petals 4 or 5, coherent, rounded, ca. 2 mm in diam., glandular punctate. Stamens 5–7 mm. Style ca. 8 mm. Fruit white when ripe, globose, 5–7 mm in diam. Fl. May–Aug, fr. Oct–Dec.

Mountain valleys, margin of mixed forests by streams; 400–600 m. Guangxi, Hainan, Hunan [Vietnam].

37. *Syzygium buxifolium* Hooker & Arnott, *Bot. Beechey Voy.* 187. 1833.

赤楠 chi nan

Shrubs or small trees. Branchlets blackish brown when dry, 4- or 6-angled. Leaves opposite or ternate; petiole ca. 2 mm; leaf blade broadly elliptic, elliptic, orbicular, obovate, or broadly obovate, 1–3 × 0.5–2(–2.2) cm, leathery, abaxially slightly pale when dry, adaxially dark brown and not glossy when dry, abaxially glandular, secondary veins numerous, 1–1.5 mm apart, abaxially slightly raised, and adaxially inconspicuous or depressed, intramarginal veins 1–1.5 mm from margin and depressed or not, base broadly cuneate, cuneate, or obtuse, apex rounded, obtuse, or acute and sometimes with an obtuse cusp. Inflorescences terminal, cymes, ca. 1 cm, several-flowered. Flower buds ca. 3 mm. Hypanthium obconic, ca. 2 mm. Calyx lobes shallow wavy. Petals 4, white, distinct, ca. 2 mm. Stamens ca. 2.5 mm. Style as long as stamens. Fruit red turning purplish black, globose, 5–7 mm in diam. Fl. Jun–Aug, fr. Oct–Dec.

Sparse forests or scrub in mountains, hills; 200–1200 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hubei, Hunan, Jiangxi, Sichuan, Taiwan, Zhejiang [S Japan, Vietnam].

- 1a. Leaves opposite; leaf blade broadly elliptic, elliptic, or sometimes broadly obovate, 1.5–3 × 1–2 cm, secondary and intramarginal veins adaxially flattened; branchlets 4-angled 37a. var. *buxifolium*
- 1b. Leaves ternate especially apically on branchlets or opposite; leaf blade broadly elliptic, elliptic, orbicular, or sometimes obovate, 1–2.5 × 0.5–1(–2.2) cm,

secondary and intramarginal veins adaxially sometimes depressed; branchlets 4- or 6-angled 37b. var. *verticillatum*

37a. *Syzygium buxifolium* var. *buxifolium*

赤楠(原变种) chi nan (yuan bian zhong)

Eugenia microphylla Abel; *E. sinensis* Hemsley; *E. somae* Hayata; *Syzzium buxifolium* (Hooker & Arnott) Meyen & Schauer; *Syzygium somae* (Hayata) Mori.

Branchlets 4-angled. Leaves opposite; leaf blade broadly elliptic, elliptic, or sometimes broadly obovate, 1.5–3 × 1–2 cm, secondary adaxially inconspicuous, base broadly cuneate to obtuse, apex rounded to obtuse and sometimes with an obtuse cusp.

Sparse forests or scrub in mountains; 200–1200 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hubei, Hunan, Jiangxi, Sichuan, Taiwan, Zhejiang [S Japan, Vietnam].

37b. *Syzygium buxifolium* var. *verticillatum* C. Chen, *Harvard Pap. Bot.* 11: 25. 2006.

轮叶赤楠 lun ye chi nan

Branchlets 4- or 6-angled. Leaves ternate especially apically on branchlets or opposite; leaf blade broadly elliptic, elliptic, orbicular, or sometimes obovate, 1–2.5 × 0.5–1(–2.2) cm, secondary and intramarginal veins adaxially sometimes depressed, base cuneate to broadly cuneate, apex broadly acute, obtuse, or rounded.

• Scrub on mountain slopes, hills; 200–1200 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hunan, Jiangxi.

38. *Syzygium grijsii* (Hance) Merrill & L. M. Perry, *J. Arnold Arbor.* 19: 233. 1938.

轮叶蒲桃 lun ye pu tao

Eugenia grijsii Hance, *J. Bot.* 9: 5. 1871; *E. pyxophylla* Hance.

Shrubs, less than 1.5 m tall. Branchlets blackish brown when dry, slender, 4-angled. Leaves usually ternate; petiole 1–2 mm; leaf blade narrowly oblong to narrowly lanceolate, 1.5–2 × (0.2–)0.5–0.7 cm, leathery, abaxially slightly pale when dry, adaxially dark brown and not glossy when dry, abaxially with numerous glands, secondary veins dense, 1–1.5 mm apart, at an angle of ca. 50° with midvein, and abaxially more conspicuous, intramarginal veins very close to margin, base cuneate, apex obtuse to slightly acute. Inflorescences terminal or axillary, cymes, 1–1.5 cm, few-flowered. Flowers white. Hypanthium ca. 2 mm. Calyx lobes very short. Petals 4, distinct, suborbicular, ca. 2 mm. Stamens ca. 5 mm. Style as long as stamens. Fruit reddish black, globose, 4–5 mm in diam. Fl. May–Jul, fr. Nov–Dec.

• Thickets, open woodlands, streamsides, slopes, valleys; 100–900 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangxi, Zhejiang.

39. *Syzygium oblancilimum* Hung T. Chang & R. H. Miao, *Acta Bot. Yunnan.* 4: 23. 1982.

倒披针叶蒲桃 dao pi zhen ye pu tao

Shrubs, to 0.6 m tall, branched. Branchlets grayish brown when dry, ridged. Petiole ca. 1 mm; leaf blade oblanceolate, 2.2–3 × 0.7–1 cm, leathery, abaxially slightly pale when dry, adaxially grayish brown and not glossy when dry, adaxially with numerous impressed glands, secondary veins 1–1.5 mm apart, at an angle of ca. 45° from midvein, abaxially inconspicuous, and adaxially impressed, intramarginal veins very close to margin, base becoming narrow and cuneate, apex rounded to obtuse. Flowers not seen. Infructescences terminal, cymes, ca. 1 cm, several-fruited. Fruit globose, ca. 4 mm in diam.; persistent calyx 1–1.5 mm; calyx lobes shortly triangular, ca. 0.5 mm. Fr. Sep.

- Riversides, sandy areas; 700–800 m. Yunnan (Mengla).

40. *Syzygium sichuanense* Hung T. Chang & R. H. Miao, Acta Bot. Yunnan. 4: 21. 1982.

四川蒲桃 *si chuan pu tao*

Trees, small, glabrous. Branchlets blackish brown when dry, ridged, glabrous. Petiole ca. 5 mm; leaf blade ovate-lanceolate, 6–9 × 2–2.5 cm, leathery, abaxially yellowish brown when dry, adaxially blackish brown and not glossy when dry, abaxially with numerous protuberant black glands, secondary veins dense, 1–2 mm apart, and at an angle of ca. 60° from midvein, intramarginal veins ca. 1 mm from margin, both secondary and intramarginal veins abaxially visible and adaxially inconspicuous, base cuneate and decurrent, apex caudate-acuminate. Inflorescences terminal, cymes, ca. 1 cm, 1–3-flowered; peduncle ca. 5 mm; bracts acicular, ca. 1 mm. Hypanthium obconic, ca. 3 mm. Calyx lobes 4, short and obtuse. Petals distinct, ca. 2 mm. Stamens 4–5 mm. Style as long as stamens.

- Sichuan.

The specific epithet was incorrectly spelled "*szechuanense*" in FRPS (53(1): 91. 1984).

41. *Syzygium handelii* Merrill & L. M. Perry, J. Arnold Arbor. 19: 233. 1938.

贵州蒲桃 *gui zhou pu tao*

Shrubs, to 2 m tall. Branchlets yellowish brown when dry, 4-ridged. Petiole 3–4 mm; leaf blade lanceolate to narrowly oblong, 3–6.5 × 1–1.8 cm, leathery, abaxially yellowish brown when dry, adaxially brownish green and slightly glossy when dry, abaxially glandular, secondary veins numerous, ca. 1 mm apart, at an angle of ca. 45° from midvein, and conspicuous on both surfaces when dry, intramarginal veins ca. 0.5 mm from margin, base cuneate, apex gradually narrowing into an obtuse cusp. Inflorescences terminal, paniculate cymes, 2–4 cm; peduncle ridged; bracts small. Flower buds long ovate, ca. 4 mm. Hypanthium obconic, ca. 3 mm, smooth, apical part cuneate. Calyx lobes inconspicuous. Petals usually 4, distinct, broadly obovate, ca. 3 mm. Stamens 5–8 mm. Style ca. 7 mm. Fruit globose, ca. 6 mm in diam. Fl. May–Jun.

- Broad-leaved evergreen forests, scrub, streamsides, valleys; 500–1000 m. Guangdong, Guangxi, Guizhou, Hubei, Hunan.

42. *Syzygium rockii* Merrill & L. M. Perry, J. Arnold Arbor. 19: 223. 1938.

滇西蒲桃 *dian xi pu tao*

Trees, 10–15 m tall. Branchlets blackish brown, 4-angled. Petiole ca. 1 cm; leaf blade elliptic, 8–10 × 2.5–3.5 cm, leathery, abaxially slightly pale when dry, adaxially olive green and glossy when dry, midvein impressed, secondary veins numerous, 2–3 mm apart, and conspicuous on both surfaces, reticulate veins conspicuous between secondary veins, intramarginal veins near margin, base broadly cuneate, apex acuminate and with a ca. 1 cm obtuse cusp. Inflorescences terminal or axillary apically on branchlets, paniculate cymes, 5–10 cm; peduncle very short at most apical part. Flower buds 8–9 × ca. 2.5 mm. Flowers in several-flowered clusters. Hypanthium grayish white. Calyx lobes 1–1.5 mm, obtusely triangular. Anthers rounded. Style ca. 3 mm. Fl. Feb–Apr.

- Open or dense broad-leaved evergreen forests, slopes; 1000–1300 m. S Yunnan.

43. *Syzygium szemaoense* Merrill & L. M. Perry, J. Arnold Arbor. 19: 105. 1938.

思茅蒲桃 *si mao pu tao*

Shrubs or trees, 4–8 m tall. Branchlets grayish brown when dry, ridged; old branches brown, terete. Petiole 3–5 mm; leaf blade elliptic to narrowly elliptic, 4–10 × 1.7–4 cm, leathery, abaxially dark brown when dry, adaxially blackish brown and not glossy when dry, abaxially with numerous raised glands, adaxially with numerous small impressed glands, secondary veins numerous, 2–3.5 mm apart, at an angle of ca. 70° from midvein, abaxially slightly raised, and adaxially inconspicuous, intramarginal veins ca. 1 mm from margin, base cuneate, apex acuminate and sometimes sharply pointed or with an obtuse cusp. Inflorescences terminal or subterminal, paniculate cymes, ca. 1.5 cm, 3–9-flowered; peduncle 2–5 mm. Flower buds obovoid, ca. 3.5 mm. Hypanthium inconspicuous. Petals distinct, ca. 3 mm. Stamens ca. 4 mm. Fruit purple when ripe, ellipsoid-ovoid, 1–1.5 × 0.8–1 cm. Seed 1 per fruit; embryos numerous. Fl. Jul–Aug, fr. Sep–Dec.

- Sparse or dense forests, mountain slopes or summits; 500–1600 m. Guangxi, S Yunnan [Vietnam].

44. *Syzygium austrosinense* (Merrill & L. M. Perry) Hung T. Chang & R. H. Miao, Acta Bot. Yunnan. 4: 24. 1982.

华南蒲桃 *hua nan pu tao*

Syzygium buxifolium Hooker & Arnott var. *austrosinense* Merrill & L. M. Perry, J. Arnold Arbor. 19: 236. 1938.

Shrubs to trees, to 17 m tall, d.b.h. to 30 cm. Branchlets brown when dry, 4-angled. Petiole 2–5 mm; leaf blade elliptic, (2.5–)4–7 × (1–)2–3 cm, leathery, both surfaces greenish brown when dry, abaxially with raised glands, adaxially glandular, secondary veins 1.5–2 mm apart, at an angle of ca. 70° from midvein, abaxially slightly conspicuous, and adaxially inconspicuous, intramarginal veins less than 1 mm from margin, base broadly cuneate, apex acute to slightly obtuse. Inflorescences terminal or subterminal, cymes, 1.5–2.5 cm. Flower buds obovoid, ca. 4 mm. Hypanthium obconic, 2.5–3 mm. Calyx lobes 4, shortly triangular. Petals distinct, obovate, ca. 2.5 mm. Stamens 3–4 mm. Style 3–4 mm. Fruit black, globose, 6–7 mm in diam. Fl. Jun–Aug.

- Broad-leaved evergreen forests; 200–800(–2300) m. Fujian,

Guangdong, Guangxi, Guizhou, Hainan, Hubei, Hunan, Jiangxi, Sichuan, Zhejiang.

45. *Syzygium kusukusense* (Hayata) Mori, Trans. Nat. Hist. Soc. Taiwan 28: 504. 1938.

恒春蒲桃 heng chun pu tao

Eugenia kusukusensis Hayata, Icon. Pl. Formosan. 3: 119. 1913.

Trees, small. Branchlets terete. Petiole 1–2 cm; leaf blade oblong to ovate-lanceolate, 9–14 × ca. 4 cm, leathery, both surfaces glandular, adaxially dark brown and glossy when dry, secondary veins numerous, dense, parallel, 2–3 mm apart, slowly ascending, and conspicuous on both surfaces, intramarginal veins near margin, base cuneate, apex acuminate. Inflorescences terminal, paniculate cymes, ca. 4 × 6 cm, branched. Hypanthium 3–5 mm, obconic. Calyx lobes inconspicuous. Petals coherent. Stamens ca. 1.5 mm. Fruit purplish red, globose, ca. 2 cm in diam. Fl. Apr–May, fr. Nov–Dec.

• Broad-leaved evergreen forests, mountain slopes; 500–800 m. Taiwan (Hengchun Peninsula).

46. *Syzygium simile* (Merrill) Merrill, Philipp. J. Sci. 79: 414. 1951.

兰屿赤楠 lan yu chi nan

Eugenia similis Merrill, Philipp. J. Sci. 1(Suppl.): 106. 1906; *Syzygium lanyuense* E. C. Chang.

Trees, to 8 m tall. Branchlets light brown, slender; older branchlets dark brown, terete, glabrous. Petiole ca. 1 cm; leaf blade oblanceolate, obovate-elliptic, or oblong, 7–8 × 3.5–4 cm, subleathery, adaxially glandular punctate, secondary veins 8–9 on each side of midvein, ca. 8 mm apart, and inconspicuous, intramarginal veins 2–3 mm from margin, base attenuate to cuneate, margins slightly revolute, apex cuspidate. Inflorescences axillary, cymes 3–4 cm, few-flowered; branches short, opposite. Flowers pink, ca. 3 mm. Hypanthium campanulate. Calyx lobes broadly triangular, very short. Petals coherent. Stamens numerous, ca. 3 mm; anthers elliptic, small. Style ca. 3 mm; stigma sharp. Fruit blackish purple, globose, ca. 3 mm in diam., apically with a persistent calyx rim. Fl. Apr–May, fr. Sep.

Broad-leaved evergreen forests, hillsides; 100–400 m. Taiwan (Huoshao Dao, Lan Yu) [Philippines].

47. *Syzygium odoratum* (Loureiro) Candolle, Prodr. 3: 260. 1828.

香蒲桃 xiang pu tao

Opa odorata Loureiro, Fl. Cochinch. 1: 309. 1790; *Eugenia deckeri* Gagnepain; *E. millettiana* Hemsley.

Trees, to 20 m tall, d.b.h. to 30 cm. Branchlets grayish brown when dry, slender, terete or slightly compressed. Petiole 3–5 mm; leaf blade ovate-lanceolate to ovate-oblong, 3–7 × 1–2 cm, leathery, abaxially olive green when dry, adaxially glossy and with numerous impressed glands, secondary veins numerous, ca. 2 mm apart, at an angle of ca. 45° from midvein, abaxially slightly raised, and adaxially inconspicuous, intramarginal veins ca. 1 mm from margin, base obtuse to broadly cuneate,

apex caudate-acuminate. Inflorescences terminal or subterminal, paniculate cymes, 2–4 cm. Flower buds obovoid, ca. 4 mm. Hypanthium obconic, ca. 3 mm, corrugate when dry, glaucous. Calyx lobes 4 or 5, short, rounded. Petals white, distinct or coherent. Stamens and style very short. Fruit globose, 6–7 mm in diam., slightly glaucous. Fl. May–Aug, fr. (Sep–)Dec–Jan.

Sparse forests, broad-leaved evergreen forests in mountains, valleys, streamsides; below 100–400 m. Guangdong, Guangxi, Hainan [Vietnam].

48. *Syzygium album* Q. F. Zheng, Fl. Fujian. 4: 633. 1989.

白果蒲桃 bai guo pu tao

Trees, to 15 m tall. Branchlets reddish brown, thin, terete. Petiole 2–4 mm; leaf blade ovate-lanceolate to elliptic, 5–9 × 1.5–3 cm, leathery, abaxially slightly pale when dry, adaxially reddish brown and glossy when dry, adaxially with numerous impressed glands, secondary veins 11–14 on each side of midvein, intramarginal veins ca. 1 mm from margin, base broadly cuneate, margins slightly revolute, apex caudate-acuminate and with an acumen to 2 cm. Flowers not known. Infructescence terminal, cymose, ca. 9 cm, sparse. Fruit white, globose, 0.8–1.2 cm in diam. Fr. Apr.

• Broad-leaved evergreen forests, hills. Fujian (Yunxiao).

49. *Syzygium chunianum* Merrill & L. M. Perry, J. Arnold Arbor. 19: 240. 1938.

密脉蒲桃 mi mai pu tao

Trees, to 22 m tall. Branchlets gray when dry, slender, rounded; old branches grayish brown. Petiole 7–12 mm; leaf blade elliptic to obovate-elliptic, 4–10 × 1.5–4.5 cm, thinly leathery, abaxially yellowish brown when dry, adaxially olive green or turning grayish brown when dry, both surfaces with small glands, secondary veins numerous, less than 1 mm apart, and gradually extending into margin, intramarginal veins very close to margin, base broadly cuneate to slightly obtuse, apex broadly and abruptly acuminate and with a 1–1.5 cm acumen. Inflorescences terminal or subterminal, paniculate cymes, 1.5–3 cm, few-branched, 3–9-flowered. Flower buds ca. 2.5 mm. Hypanthium ca. 2 mm, apex plano-truncate. Calyx lobes inconspicuous. Petals coherent. Stamens and style very short. Fruit greenish white, red, or black, globose, 6–7 mm in diam. Fl. Jun–Jul, fr. Aug–Dec.

• Broad-leaved evergreen forests, hills; 300–900(–1100) m. Guangxi, Hainan.

50. *Syzygium kwangtungense* (Merrill) Merrill & L. M. Perry, J. Arnold Arbor. 19: 241. 1938.

广东蒲桃 guang dong pu tao

Eugenia kwangtungensis Merrill, Sunyatsenia 1: 202. 1934.

Trees, to 5 m tall. Branchlets dark brown when dry, terete or slightly compressed; old branches brown. Petiole 3–5 mm; leaf blade elliptic to narrowly elliptic, 5–8 × 1.5–4 cm, leathery, abaxially brown to reddish brown when dry, adaxially dark brown and not glossy when dry, abaxially glandular, adaxially with numerous impressed glands, secondary veins 3–4 mm apart, at an angle of ca. 60° from midvein, and inconspicuous

on both surfaces, intramarginal veins ca. 1 mm from margin, base broadly cuneate to obtuse, apex obtuse to slightly acute. Inflorescences terminal or axillary, paniculate cymes, 2–4 cm; peduncle ± ridged. Flower buds 3–4 mm. Hypanthium obconic, ca. 3 mm. Calyx lobes inconspicuous. Petals white, coherent, ca. 3 mm in diam. Stamens 7–8 mm. Style as long as stamens. Fruit black, globose, 7–9 mm in diam. Fl. Jun–Jul, fr. Oct–Dec.

• Broad-leaved evergreen forests, mountain slopes, streamsides; below 100–600 m. Guangdong, Guangxi.

51. *Syzygium bullockii* (Hance) Merrill & L. M. Perry, J. Arnold Arbor. 19: 107. 1938.

黑嘴蒲桃 hei zui pu tao

Eugenia bullockii Hance, J. Bot. 16. 227. 1878.

Shrubs to trees, to 5 m tall. Branchlets grayish white when dry, slightly compressed. Leaves very shortly petiolate to nearly sessile; leaf blade elliptic to ovate-oblong, 4–12 × 2.5–5.5 cm, leathery, abaxially slightly pale when dry, adaxially dark brown and glossy when dry, secondary veins numerous and at an angle of ca. 70° from midvein, intramarginal veins 1–2 mm from margin, base rounded to slightly cordate, apex acuminate and with an obtuse acumen. Inflorescences terminal, paniculate cymes, 2–4 cm, many-flowered, branched; peduncle less than 1 cm. Hypanthium obconic, ca. 4 mm. Calyx lobes wavy. Petals white, coherent. Filaments distinct, 4–6 mm. Style as long as stamens. Fruit red to black, ellipsoid, ca. 10 × 8 mm. Fl. Mar–Aug(–Oct).

Secondary forests on flat areas, scrub at seaside; below 100–300(–400) m. W Guangdong, W Guangxi, Hainan [Laos, Vietnam].

52. *Syzygium paucivenium* (C. B. Robinson) Merrill, Philipp. J. Sci. 79: 408. 1951.

圆顶蒲桃 yuan ding pu tao

Eugenia paucivenia C. B. Robinson, Philipp. J. Sci. 4: 382. 1909; *E. kashotoensis* Hayata; *Syzygium kashotoense* (Hayata) Mori.

Trees, small. Branches dense; branchlets grayish brown when dry, terete. Petiole 2–3 mm; leaf blade elliptic to obovate-oblong, 3–5 × 2–2.5 cm, leathery to stiffly papery, abaxially brown when dry, adaxially dark brown when dry, abaxially with inconspicuous glands, adaxially with numerous small glands, secondary veins 2–3 mm apart, at an angle of 45°–55° from midvein, abaxially slightly raised, and adaxially slightly impressed, intramarginal veins ca. 1 mm from margin, base cuneate, apex rounded. Inflorescences terminal, cymes, 3–4 cm; branches short, dense. Flower buds pyriform, ca. 5 mm, apex rounded. Hypanthium obconic, ca. 4 mm. Calyx lobes inconspicuous. Petals 4, coherent, rounded, ca. 3 mm. Stamens 4–6 mm. Style ca. 5 mm.

Broad-leaved evergreen forests, windswept hills, 200–400 m. Taiwan (Huoshao Dao, Lan Yu) [Philippines].

53. *Syzygium toddalioides* (Wight) Walpers, Repert. Bot. Syst. 2: 179. 1843.

假乌墨 jia wu mo

Eugenia toddalioides Wight, Ill. Ind. Bot. 2: 16. 1841; *Syzygium augustinii* Merrill & L. M. Perry.

Trees, to 6 m tall. Branchlets gray when dry, compressed, shallowly grooved; old branches reddish brown. Petiole 7–10(–15) mm; leaf blade elliptic, 9–12 × 3.5–6 cm, leathery, abaxially slightly pale when dry, adaxially green when dry, adaxially with conspicuous glands, midvein impressed, secondary veins numerous, slender, dense, and parallel, reticulate veins evident between secondary veins, intramarginal veins ca. 1 mm from margin, base cuneate, apex slightly acute to acuminate and with an obtuse acumen. Inflorescences terminal, paniculate cymes, 3–9 cm. Hypanthium broadly obconic, ca. 5 × 5 mm, base contracted. Calyx lobes 1.5–2 × ca. 2 mm, apex rounded. Petals coherent. Stamens numerous, longer than petals; anthers ca. 0.8 mm. Style ca. 1 cm. Fruit purplish black, ellipsoid-ovoid, 1–1.5 cm. Fl. Sep–Nov, fr. Dec–Feb.

Broad-leaved evergreen forests, secondary forests, valleys, hills; 1400–2300 m. S Yunnan. [India, Myanmar, Thailand, Vietnam].

54. *Syzygium densinervium* (Merrill) Merrill var. *insulare* C. E. Chang, Bull. Taiwan Prov. Pingtung Inst. Agric. 5: 52. 1964.

岛生蒲桃 dao sheng pu tao

Trees, small, glabrous. Branches pale brown to grayish, terete. Petiole 1.5–2 cm; leaf blade obovate-oblong, 6–8 × 3–3.5 cm, thickly leathery, glabrous, adaxially with numerous obscure glands, secondary veins numerous, base attenuate to cuneate, apex obtuse to sometimes shortly acuminate. Inflorescences terminal, cymes, ca. 6 cm; branches stout, ultimate branches short. Hypanthium funnel-shaped. Calyx lobes short, irregular. Petals coherent. Stamens numerous. Fruit reddish when ripe, ovoid-ellipsoid, ca. 12 × 6 mm, glabrous; persistent calyx forming an apical rim.

• Broad-leaved evergreen forests, mountain slopes; low elevation. Taiwan (Hengchun Peninsula, Huoshao Dao, Lan Yu).

Syzygium densinervium var. *densinervium* occurs in the Philippines.

55. *Syzygium myrsinifolium* (Hance) Merrill & L. M. Perry, J. Arnold Arbor. 19: 226. 1938.

竹叶蒲桃 zhu ye pu tao

Shrubs or trees, to 6 m tall, d.b.h. to 20 cm. Branchlets grayish brown when dry, terete; old branches gray. Petiole 5–7 mm; leaf blade linear-lanceolate to narrowly lanceolate, 8–12 × 1.5–2.5(–3) cm, leathery, abaxially pale brown when dry, adaxially blackish brown and slightly glossy when dry, adaxially with numerous glands, secondary veins numerous, ca. 1.5 mm apart, at an angle of 40°–45° from midvein, abaxially raised, and adaxially inconspicuous, intramarginal veins very close to margin, base cuneate, apex acuminate and with an obtuse acumen or slightly acute. Inflorescences terminal, paniculate cymes, 4–7 cm, many flowered; peduncle with numerous mammilla or squarrose trichomes. Flower buds obovoid, ca. 5 mm. Hypanthium narrowly obconic, 4–7 mm. Calyx lobes 4 or 5, wavy. Petals coherent. Stamens 4–9 mm. Style 0.6–1.4 cm. Fruit purplish red to black, ellipsoid, 1–1.4 cm, with a shallowly cup-shaped calyx limbs at apical part. Fl. Dec–May, fr. Jun–Jul or Nov–Dec.

- Slopes, streamsides; low to middle elevations. Hainan, Yunnan.

- 1a. Flowers small; hypanthium ca. 4 mm; stamens 4–7 mm; style 0.6–0.8 cm 55a. var. *myrsinifolium*
 1b. Flowers large; hypanthium 6–7 mm; stamens 7–9 mm; style 1.2–1.4 cm 55b. var. *grandiflorum*

55a. *Syzygium myrsinifolium* var. *myrsinifolium*

竹叶蒲桃(原变种) zhu ye pu tao (yuan bian zhong)

Eugenia myrsinifolia Hance, J. Bot. 23: 8. 1885.

Hypanthium ca. 4 mm. Stamens 4–7 mm. Style 0.6–0.8 cm.

- Hainan, Yunnan.

55b. *Syzygium myrsinifolium* var. *grandiflorum* Hung T. Chang & R. H. Miao, Acta Bot. Yunnan. 4: 21. 1982.

大花竹叶蒲桃 da hua zhu ye pu tao

Hypanthium 6–7 mm. Stamens 7–9 mm. Style 1.2–1.4 cm.

- Hainan.

56. *Syzygium rehderianum* Merrill & L. M. Perry, J. Arnold Arbor. 19: 243. 1938.

红枝蒲桃 hong zhi pu tao

Shrubs or trees, to 13 m tall, d.b.h. to 18 cm. Branchlets red, brown when dry, terete, slightly compressed; old branches grayish brown. Petiole 7–9 mm; leaf blade elliptic to narrowly elliptic, 4–7 × 2.5–3.5 cm, leathery, abaxially slightly pale when dry, adaxially grayish brown to blackish brown and not glossy when dry, abaxially with numerous glands, adaxially with numerous small glands, secondary veins 2–3.5 mm apart, at an angle of ca. 50° from midvein, abaxially slightly raised, and adaxially inconspicuous, intramarginal veins 1–1.5 mm from margin, base broadly cuneate, apex abruptly acuminate and with a 5–10 mm obtuse acumen. Inflorescences axillary in axils apically on branches, cymes, 1–2 cm, usually with 5 or 6 branches. Flower buds ca. 3.5 mm. Hypanthium obconic, ca. 3 mm, apically flatted truncate. Calyx lobes inconspicuous. Petals white, coherent. Stamens 3–4 mm. Style slender, as long as stamens. Fruit black, ellipsoid-ovoid, 1.5–2 × ca. 1 cm. Fl. Jun–Aug, fr. Nov–Jan.

- Open to dense forests, valleys, hills, streamsides; 100–1000 m. Fujian, Guangdong, Guangxi, Hunan.

57. *Syzygium cumini* (Linnaeus) Skeels, U.S.D.A. Bur. Pl. Industr. Bull. 248: 25. 1912.

乌墨 wu mo

Trees, 6–20 m tall. Branchlets grayish white when dry, terete. Petiole 1–2 cm; leaf blade broadly elliptic to narrowly elliptic, 6–12 × 3.5–7 cm, leathery, abaxially slightly pale when dry, adaxially brownish green to blackish brown and slightly glossy when dry, both surfaces with small glands, secondary veins numerous, 1–2 mm apart, and gradually extending into margin, intramarginal veins ca. 1 mm from margin, base broadly cuneate to rarely rounded, apex rounded to obtuse and with a

short cusp. Inflorescences axillary on flowering branches or occasionally terminal, paniculate cymes, to 11 cm. Hypanthium obconic or long pyriform, ca. 4 mm or 7–8 mm. Calyx lobes inconspicuous, 0.3–0.7 mm. Petals 4, white or light purple, coherent, ovate and slightly rounded, ca. 2.5 mm. Stamens 3–4 mm. Style as long as stamens. Fruit red to black, ellipsoid to pot-shaped, 1–2 cm, 1-seeded; persistent calyx tube 1–1.5 mm. Fl. Feb–Mar or Apr–May, fr. Jun–Sep.

Secondary forests on level areas, wastelands, streamsides; below 100 to 1200 m. Fujian, Guangdong, Guangxi, Hainan, Yunnan [Bhutan, India, Indonesia, Laos, Malaysia, Nepal, Sri Lanka, Thailand, Vietnam; Australia].

- 1a. Hypanthium obconic, ca. 4 mm 57a. var. *cumini*
 1b. Hypanthium long pyriform, 7–8 mm 57b. var. *tsoi*

57a. *Syzygium cumini* var. *cumini*

乌墨(原变种) wu mo (yuan bian zhong)

Myrtus cumini Linnaeus, Sp. Pl. 1: 471. 1753; *Eugenia cumini* (Linnaeus) Druce; *E. jambolana* Lamarck; *Jambolifera chinensis* Sprengel; *Syzygium jambolanum* (Lamarck) Candolle.

Hypanthium obconic, ca. 4 mm.

Secondary forests on level areas, wastelands, streamsides; below 100 to 1200 m. Fujian, Guangdong, Guangxi, Hainan, Yunnan [Bhutan, India, Indonesia, Laos, Malaysia, Nepal, Sri Lanka, Thailand, Vietnam; Australia].

57b. *Syzygium cumini* var. *tsoi* (Merrill & Chun) Hung T. Chang & R. H. Miao, Acta Bot. Yunnan. 4: 22. 1982.

长萼乌墨 chang e wu mo

Eugenia tosi Merrill & Chun, Sunyatsenia 2: 291. 1935.

Hypanthium long pyriform, 7–8 mm.

- Guangxi, Hainan.

58. *Syzygium fruticosum* Roxburgh ex Candolle, Prodr. 3: 260. 1828.

簇花蒲桃 cu hua pu tao

Eugenia fruticosa (Roxburgh ex Candolle) Roxburgh.

Trees, to 12 m tall. Branchlets dark brown when dry, compressed or grooved; old branches grayish white. Petiole 1–1.5 cm; leaf blade narrowly elliptic to elliptic, 9–13 × 3.5–5.5 cm, thinly leathery, abaxially reddish brown when dry, adaxially brown and glossy when dry, both surfaces with numerous glands, secondary veins numerous, 2–3 mm apart, and gradually extending into margin, intramarginal veins ca. 1 mm from margin, base broadly cuneate to slightly rounded, apex acuminate. Inflorescences lateral below leaves, paniculate cymes, 4–7 cm. Hypanthium obconic, 2–2.5 mm. Calyx lobes inconspicuous. Petals 4, distinct, rounded, 1–1.5 mm wide. Stamens 1.5–2.5 mm. Style as long as stamens. Fruit red when ripe, globose, 6–7 mm in diam., 1-seeded. Fl. May–Jun, fr. Jun–Jul.

Sparse forests, wastelands; 500–1700 m. Guangxi, Guizhou, S Yunnan [Bangladesh, India, Myanmar, Thailand].

59. *Syzygium fluviatile* (Hemsley) Merrill & L. M. Perry, J. Arnold Arbor. 19: 241. 1938.

水竹蒲桃 shui zhu pu tao

Eugenia fluviatilis Hemsley, J. Linn. Soc., Bot. 23: 296. 1887.

Shrubs, 1–3 m tall. Branchlets brown when dry, terete. Petiole ca. 2 mm; leaf blade linear-lanceolate, 3–8 × 0.7–1.4 cm, leathery, abaxially yellowish brown when dry, adaxially dark brown and not glossy when dry, abaxially with numerous small raised glands, adaxially with numerous impressed glands, secondary veins numerous, 1.5–2 mm apart, at an angle of ca. 40° from midvein, abaxially slightly raised, and adaxially inconspicuous, intramarginal veins ca. 0.3 mm from margin, base gradually narrowed, apex obtuse to slightly rounded. Inflorescences axillary, cymes, 1–2 cm. Flower buds obovoid, ca. 4 mm. Hypanthium obconic, ca. 3.5 mm. Calyx lobes 4, very short. Petals white or purple, distinct, rounded, ca. 4 mm. Stamens 4–5 mm. Style as long as stamens. Fruit black when ripe, globose, 6–7 mm in diam. Fl. Apr–Jul, fr. Sep–Dec.

• Streamsides in forests; 100–1000 m. Guangxi, Guizhou, Hainan.

60. *Syzygium euonymifolium* (F. P. Metcalf) Merrill & L. M. Perry, J. Arnold Arbor. 19: 242. 1938.

卫矛叶蒲桃 wei mao ye pu tao

Eugenia euonymifolia F. P. Metcalf, Lingnan Sci. J. 11: 22. 1932.

Trees, to 12 m tall. Branchlets gray when dry, terete or compressed, pubescent; old branches grayish white. Petiole 8–10 mm; leaf blade elliptic to broadly elliptic, 5–9 × 3–4 cm, thin leathery, both surfaces grayish green when dry and with numerous small glands, adaxially not glossy, secondary veins 2–3 mm apart, at an angle of ca. 60° from midvein, abaxially slightly raised, and adaxially conspicuous, intramarginal veins ca. 1 mm from margin, base cuneate and decurrent, apex acuminate and with a 1–1.5 cm cusp. Inflorescences axillary, cymes, ca. 1 cm, 6–11-flowered. Flower buds ca. 2.5 mm. Hypanthium obconic, 1.5–2 mm, glandular punctate. Calyx lobes 4, short, obtuse. Petals white, distinct, rounded, ca. 2 mm. Stamens 2.5–3 mm. Style as long as stamens. Fruit purple to black, globose, 6–7 mm in diam. Fl. May–Aug, fr. Dec–Jan.

• Open or dense forests, hills, valleys, streamsides, trailsides; 100–500 m. Fujian, Guangdong, Guangxi.

61. *Syzygium hancei* Merrill & L. M. Perry, J. Arnold Arbor. 19: 242. 1938.

红鳞蒲桃 hong lin pu tao

Eugenia minutiflora Hance, J. Bot. 9: 5. 1871.

Shrubs or trees, to 20 m tall, d.b.h. 30–40 cm. Branchlets turning blackish brown when dry, terete. Petiole 3–6 mm; leaf blade narrowly elliptic, oblong, or obovate, 3–7 × 1.5–4 cm, leathery, both surfaces dark brown when dry, adaxially not glossy and with numerous small impressed glands, secondary veins ca. 2 mm apart, at an angle of ca. 60° from midvein, and

inconspicuous on both surfaces, intramarginal veins ca. 0.5 mm from margin, base broadly cuneate to narrow, apex obtuse to slightly acute. Inflorescences axillary, paniculate cymes, 1–1.5 cm, many-flowered. Flower buds obovoid, ca. 2 mm. Hypanthium obconic, ca. 1.5 mm. Calyx lobes inconspicuous. Petals 4, distinct, rounded, ca. 1 mm. Stamens slightly shorter than petals. Style as long as petals. Fruit red to black, globose, 10–12 × 5–8 mm. Fl. Jul–Sep, fr. Nov–Jan.

• Dense or sparse forests, scrub, hills, slopes; 100–800(–1200) m. Fujian, Guangdong, Guangxi, Hainan.

62. *Syzygium buxifolioides* Hung T. Chang & R. H. Miao, Acta Bot. Yunnan. 4: 20. 1982.

假赤楠 jia chi nan

Shrubs or trees, to 3 m tall. Branchlets grayish white when dry, terete, slender. Petiole 3–4 mm; leaf blade elliptic, 3–4 × 1.5–2 cm, leathery, both surfaces olive green when dry, abaxially with raised glands, adaxially not glossy and with numerous small impressed glands, secondary veins ca. 2 mm apart, at an angle of ca. 45° from midvein, abaxially slightly visible, and adaxially inconspicuous, reticulate veins inconspicuous, intramarginal veins ca. 0.5 mm from margin, base broadly cuneate, apex acuminate. Inflorescences axillary, cymes, ca. 1 cm, few-flowered. Flower buds 3–4 mm. Fruit globose, 1–1.2 cm in diam., 1-seeded; persistent calyx limbs ca. 1 × 2.5 mm. Fr. Nov.

• Dense forests; low elevations. Hainan (Baoting).

63. *Syzygium hainanense* Hung T. Chang & R. H. Miao, Acta Bot. Yunnan. 4: 20. 1982.

海南蒲桃 hai nan pu tao

Trees, to 5 m tall. Branchlets brown when dry, terete; old branches grayish white. Petiole 1–1.5 cm; leaf blade elliptic, 8–11 × 3.5–5 cm, leathery, abaxially reddish brown when dry, adaxially brown and slightly glossy when dry, adaxially with numerous glands, secondary veins numerous, 1–1.5 mm apart, at an angle of 75°–80° from midvein, abaxially raised, and adaxially visible, intramarginal veins ca. 1 mm from margin, base broadly cuneate, apex acute and with a 1.5–2 cm cusp. Flowers not seen. Infructescence axillary, cymose. Fruit ellipsoid to obovoid, 1.2–1.5 × 0.8–0.9 cm; persistent calyx lobes ca. 0.5 × 4 mm. Seeds 2 per fruit, 6–7 × 6–7 mm.

• Forests; low elevations. Hainan (Changjiang).

64. *Syzygium araiocladum* Merrill & L. M. Perry, J. Arnold Arbor. 19: 225. 1938.

线枝蒲桃 xian zhi pu tao

Trees, to 10 m tall. Branchlets brown when dry, very slender, terete. Petiole 2–3 mm; leaf blade ovate-long lanceolate, 3–5.5 × 1–1.5 cm, leathery, abaxially with numerous small glands, adaxially olive green when dry, secondary veins numerous, ca. 1.5 mm apart, at an angle of ca. 70° from midvein, and inconspicuous on both surfaces, intramarginal veins ca. 1 mm from margin, base broadly cuneate, apex long caudate-acuminate and with a ca. 2 cm acute and curved acumen. Inflorescences terminal or axillary, cymes, ca. 1.5 cm. Flower buds shortly clavate,

7–8 mm. Hypanthium ca. 7 mm, corrugate when dry, glaucous. Calyx lobes 4 or 5, triangular, ca. 0.8 mm, apex acute. Petals white, faintly fragrant, 4 or 5, distinct, ovate, ca. 2 mm. Stamens 3–4 mm. Style ca. 5 mm. Fruit subglobose, 5–7 × 4–6 mm. Fl. May–Jun, fr. Nov.

Rain forests; 300–1100 m. Guangxi, Hainan [Vietnam].

65. *Syzygium zeylanicum* (Linnaeus) Candolle, Prodr. 3: 260. 1828.

锡兰蒲桃 xi lan pu tao

Myrtus zeylanica Linnaeus, Sp. Pl. 1: 472. 1753; *Eugenia varians* Miquel; *E. zeylanica* (Linnaeus) Wight; *Jambosa bracteata* Miquel; *Syzygium myrtifolium* Miquel.

Trees, to 12 m tall. Branchlets yellowish brown when dry, terete; old branches grayish brown. Petiole 4–7 mm; leaf blade thinly long ovate to ovate-oblong, 8–10.5 × 3–4.5 cm, leathery, abaxially yellowish brown when dry, adaxially olive green and glossy when dry, secondary veins numerous, 2–3 mm apart, at an angle of 80°–85° from midvein, abaxially slightly raised, and adaxially conspicuous, intramarginal veins ca. 1 mm from margin, base rounded to obtuse, apex acuminate to caudate-acuminate and with a 1–1.5 cm cusp. Inflorescences terminal or subterminal, paniculate cymes, 2–4 cm; peduncle slender. Flower buds clavate, ca. 7 mm. Hypanthium 5–6 mm. Calyx lobes 4 or 5, reniform rounded, ca. 1 mm. Petals pale yellow, distinct, obovate, 3–4 mm. Stamens longer than petals. Fruit white, globose, 5–6 × ca. 7 mm. Fl. Apr–Jul, fr. Nov.

Forests or woodland margins. W Guangdong, S Guangxi [Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Sri Lanka, Thailand, Vietnam].

66. *Syzygium melanophyllum* Hung T. Chang & R. H. Miao, Acta Bot. Yunnan. 4: 22. 1982.

黑长叶蒲桃 hei chang ye pu tao

Trees, to 16 m tall. Branchlets blackish brown when dry, terete. Petiole 1–2 cm; leaf blade narrow oblong to lanceolate, 14–20 × 4–5.5 cm, leathery, abaxially blackish brown when dry, adaxially black and glossy when dry, both surfaces coarse or sometimes smooth, adaxially usually tubercular, secondary veins 23–32 on each side of midvein, 5–8 mm apart, at an angle of ca. 55° from midvein, and conspicuously raised on both surfaces, reticulate veins conspicuous, intramarginal veins 1.5–2 mm from margin, base cuneate, apex acuminate and with a slightly obtuse cusp. Flowers not seen. Infructescences terminal, cymose, ca. 7 cm; peduncle 1–1.5 cm. Fruit globose, ca. 2 cm in diam. (immature), glaucous; pericarp thick, fleshy. Fr. Apr–May.

• Secondary forests, mountain slopes; ca. 1400 m. Yunnan (Mengla).

67. *Syzygium brachythrsium* Merrill & L. M. Perry, J. Arnold Arbor. 19: 239. 1938.

短序蒲桃 duan xu pu tao

Trees, 5–12 m tall. Branchlets grayish brown when dry, slender, terete or slightly compressed. Petiole blackish brown, ca. 1 cm, slender; leaf blade elliptic to elliptic-ovate, 8–12 ×

2.5–5 cm, stiffly papery, abaxially yellowish brown when dry, adaxially dark brown when dry, secondary veins numerous, 1–2 mm apart, slowly ascending, abaxially raised, adaxially obvious, reticulate veins sparse, intramarginal veins close to margin, base cuneate, apex caudate-acuminate and with a ca. 1.5 cm cusp. Inflorescences terminal, cymes; peduncle 1–1.5 cm, secondary branches very short. Flower buds ca. 6 × 4.5 mm. Hypanthium ellipsoid. Calyx lobes 4, semiobicular, ca. 1 × 2 mm, apex obtuse. Petals pale green, distinct, ovate, ca. 3 mm. Stamens 2–3 mm. Fruit red, globose, 1.5–2 cm in diam. Fl. Jun–Aug, fr. Aug–Oct.

• Broad-leaved evergreen forests, mountain slopes; 1800–2000 m. SE Yunnan.

68. *Syzygium euphlebia* (Hayata) Mori, Trans. Nat. Hist. Soc. Taiwan 28: 439. 1938.

细叶蒲桃 xi ye pu tao

Eugenia euphlebia Hayata, Icon. Pl. Formosan. 3: 119. 1913.

Shrubs or trees, 3–6 m tall, d.b.h. to 7 cm. Branchlets grayish white when dry, subterete to slightly angled, slender. Petiole ca. 1 cm; leaf blade obovate to elliptic, 5–6 × 2–3 cm, stiffly papery, abaxially brownish when dry, adaxially dark olive green and not glossy when dry, abaxially with conspicuous glands, adaxially with minute glands, secondary veins numerous, ca. 2 mm apart, at an angle of ca. 65° from midvein, and slightly raised on both surfaces when dry, base cuneate, apex acuminate and with an obtuse cusp. Inflorescences terminal, paniculate cymes, 2- or 3-branched, few-flowered. Hypanthium campanulate, ca. 3 × 3.5 mm. Calyx lobes 4, ca. 0.5 mm, apex very obtuse. Petals 4, rounded, ca. 3 mm. Stamens 3–5 mm. Style ca. 6 mm. Fruit purplish red to dark red, ellipsoid, ca. 1.5 × 1 cm. Fl. Jun–Jul, fr. Dec–Jan.

• Broad-leaved evergreen forests, mountain slopes; 400–700 m. Taiwan (Hengchun Peninsula).

69. *Syzygium jienfunicum* Hung T. Chang & R. H. Miao, Acta Bot. Yunnan. 4: 19. 1982.

尖峰蒲桃 jian feng pu tao

Trees. Branchlets dark grayish brown, terete or obtusely ridged. Petiole 4–7 mm; leaf blade oblong, 5–7.5 × 2.5–3.5 cm, leathery, abaxially brownish when dry, adaxially grayish brown and slightly glossy when dry, adaxially with numerous small glands, secondary veins 2–3 mm apart, at an angle of ca. 60° from midvein, abaxially slightly visible, and adaxially inconspicuous, intramarginal veins ca. 1 mm from margin, base cuneate and decurrent, apex acuminate to mucronate. Flowers not seen. Infructescences terminal, cymose. Fruit globose, ca. 1 cm in diam., 1-seeded. Fr. Jan.

• Sparse forests. SW Hainan (Ledong).

70. *Syzygium howii* Merrill & L. M. Perry, J. Arnold Arbor. 19: 243. 1938.

万宁蒲桃 wan ning pu tao

Trees, to 10 m tall, d.b.h. to 30 cm. Branchlets gray when dry, terete, grooved. Petiole ca. 3 mm; leaf blade broadly ellip-

tic to obovate, 2.5–6.5 × 1.5–3.5 cm, leathery, abaxially pale when dry, adaxially yellowish brown when dry, abaxially with numerous glands, adaxially with numerous minute appressed glands, secondary veins 9–13 on each side of midvein, 2–3 mm apart, slowly ascending, and inconspicuous on both surfaces or abaxially visible, intramarginal veins essentially at margin, base cuneate, apex obtuse to abruptly mucronate and with a ca. 8 mm cusp. Inflorescences terminal, paniculate cymes, ca. 1.5 cm; peduncle ca. 1 cm. Flower buds obovoid, 2.5–3 mm. Hypanthium ca. 2.5 mm, slightly ridged, apex shallowly wavy or flattened truncate. Stamens 2–3 mm; anthers very small. Fruit black, subglobose, ca. 1.6 × 1.8 cm. Fl. Jun–Sep, fr. Nov–Mar.

• Dense broad-leaved evergreen forests, valleys, mountain summits, streamsides; 400–1000(–2900) m. Hainan.

71. *Syzygium congestiflorum* Hung T. Chang & R. H. Miao, Acta Bot. Yunnan. 4: 19. 1982.

团花蒲桃 *tuan hua pu tao*

Shrubs, to 3 m tall. Branchlets brown when dry, terete; old branches grayish white when dry, stout. Petiole 2–4 mm; leaf blade oblong-oblong-elliptic, 4–6 × 1.5–2 cm, leathery, abaxially brownish when dry, adaxially grayish brown when dry, abaxially with conspicuous black glands, adaxially with numerous black glands, secondary veins 1.5–2.5 mm apart, at an angle of ca. 45° from midvein, and conspicuous on both surfaces, reticulate veins inconspicuous, intramarginal veins ca. 1 mm from margin, base cuneate, apex rounded to obtuse. Inflorescences terminal, cymes, 1–1.5 cm, branchless; peduncle ca. 8 mm. Flower buds globose, ca. 3 mm in diam. Hypanthium shortly obconic, ca. 2 mm. Calyx lobes inconspicuous. Petals distinct, rounded, ca. 2 mm. Stamens 1.5–2 mm; anthers white, short, small. Style 2–2.5 mm. Fruit globose, ca. 1 cm in diam. Fl. Mar–Apr, fr. May–Jun.

• Broad-leaved evergreen forests, hills; 400–1000 m. S Yunnan (Xishuangbanna).

72. *Syzygium formosanum* (Hayata) Mori, Trans. Nat. Hist. Soc. Taiwan 28: 439. 1938.

台湾蒲桃 *tai wan pu tao*

Eugenia formosana Hayata, J. Coll. Sci. Imp. Univ. Tokyo 30(1): 113. 1911; *E. acutisepala* Hayata; *Syzygium acutisepalum* (Hayata) Mori.

Shrubs or trees, 3–4 m tall. Branchlets 4-angled or terete, gray or grayish white, glabrous or papillate. Petiole 0.8–1.2 cm, slender; leaf blade elliptic, obovate-elliptic, or oblong, 4.5–6 × 1.5–2.7 cm or wider, leathery, abaxially grayish brown to yellowish brown when dry, adaxially brown to dark brown and glossy or not glossy when dry, abaxially with small conspicuous glands, secondary veins ca. 22 on each side of midvein, slender, and at an angle of 65°–70° from midvein, intramarginal veins ca. 0.5 mm from margin, base cuneate, apex obtuse, abruptly mucronate, or slightly acute and with an obtuse cusp. Inflorescences terminal and in axils apically on branches, cymes arranged into panicles, 3–3.5(–6) cm, 2- or 3-branched; peduncle slightly ridged; bracts acuminate. Flower buds ovoid, 2–2.5 mm. Hypanthium obconic, 2–4 × ca. 3 mm, base narrow. Calyx lobes 4, triangular, less than 1 mm. Petals 4, coherent,

suborbicular, ca. 2 mm. Stamens ca. 25; filaments 4–5 mm; anthers short and small. Style ca. 4 mm. Fruit dark red, rounded, ca. 10 × 7–8 mm. Fl. Feb–Mar, fr. Dec–Jan.

• Broad-leaved evergreen forests, secondary forests, trailsides; 400–800 m. Taiwan.

73. *Syzygium saxatile* Hung T. Chang & R. H. Miao, Acta Bot. Yunnan. 4: 22. 1982.

石生蒲桃 *shi sheng pu tao*

Shrubs. Branchlets terete, glabrous. Petiole ca. 3 mm; leaf blade oblanceolate, 5–8 × 1.5–2.5 cm, leathery, abaxially slightly brownish when dry, adaxially dark green and glossy when dry, secondary veins dense, intramarginal veins ca. 1 mm from margin, base cuneate, apex slightly acute. Inflorescences terminal, cymes, 1.5–2 cm, few-flowered; peduncle 5–7 mm. Hypanthium obconic, 4–5 mm, glabrous. Calyx lobes obtuse. Petals 4, distinct, broadly ovate, ca. 3 mm. Stamens 3–4 mm. Style as long as stamens.

• Mountain valleys and slopes, streamsides. Yunnan (Xichou).

74. *Syzygium levinei* (Merrill) Merrill & L. M. Perry, J. Arnold Arbor. 19: 110. 1938.

山蒲桃 *shan pu tao*

Eugenia levinei Merrill, Lingnan Sci. J. 13: 39. 1934.

Trees, 14–24 m tall, d.b.h. to 35 cm. Branchlets grayish white when dry, terete, chaffy. Petiole 5–7 mm; leaf blade elliptic to ovate-elliptic, 4–8 × 1.5–3.5 cm, leathery, both surfaces grayish brown when dry and with minute glands, secondary veins 2–3 mm apart and at an angle of ca. 45° from midvein, intramarginal veins ca. 0.5 mm from margin, base broadly cuneate, apex acute. Inflorescences terminal or axillary on apical parts of branchlets, paniculate cymes, 4–7 cm, many-flowered; peduncle squarrose or papillary. Flower buds obovoid, 4–5 mm. Flowers white. Hypanthium obconic, ca. 3 mm. Calyx lobes very short. Petals 4, distinct, rounded, 2.5–3 mm. Stamen ca. 5 mm. Style ca. 4 mm. Fruit subglobose, 7–8 mm, 1-seeded. Fl. Jun–Sep, fr. Feb–May.

Sparse or dense forests, hills, streamsides; 100–200 m. Guangdong, Guangxi, Hainan [Vietnam].

75. *Syzygium thumra* (Roxburgh) Merrill & L. M. Perry, J. Arnold Arbor. 20: 103. 1939.

黑叶蒲桃 *hei ye pu tao*

Eugenia thumra Roxburgh, Fl. Ind., ed. 1832, 2: 495. 1832.

Trees, 8–15 m tall, d.b.h. 25–30 cm. Branchlets brown when dry, terete or slightly compressed. Petiole 6–8 mm; leaf blade ovate-elliptic, 10–15 × 5–7 cm, leathery, abaxially blackish brown when dry, adaxially black and glossy when dry, secondary veins ca. 25 on each side of midvein, 3–6 mm apart, at an angle of ca. 80° from midvein, and raised on both surfaces, reticulate veins conspicuous between secondary veins, intramarginal veins ca. 2 mm from margin, base wide and obtuse, apex obtuse to slightly acute. Inflorescences terminal, paniculate cymes, ca. 9 × 7 cm; peduncle rounded, turning black. Flower buds obovoid, ca. 5 × 4 mm. Hypanthium obconic, ca. 3

mm. Calyx lobes 4, semiorbicular, ca. 1×2.5 mm. Petals distinct, broadly ovate, ca. 2.5 mm. Stamens 5–8 mm. Style as long as stamens. Fruit black when dry, globose, ca. 1.2 cm in diam. Fl. Apr, fr. Aug–Oct.

Broad-leaved evergreen forests, open slopes, valleys; 600–1000(–1200) m. S Yunnan [Laos, Malaysia, Myanmar, Thailand].

76. *Syzygium oblatum* (Roxburgh) Wallich ex Steudel, Nomencl. Bot., ed. 2, 2: 657. 1841.

高檐蒲桃 gao yan pu tao

Eugenia oblata Roxburgh, Fl. Ind., ed. 1832, 2: 493. 1832; *Jambosa pulchella* Miquel.

Trees, 12–20 m tall, d.b.h. to 40 cm. Branchlets dark brown when dry, terete. Petiole less than 1 cm; leaf blade elliptic to long elliptic, 9–12 \times 4–6 cm, leathery, abaxially slightly colored when dry, adaxially grayish brown and dull or glossy when dry, abaxially with numerous small glands, adaxially with inconspicuous glands, midvein impressed, secondary veins numerous, 2–3 mm apart, and nearly extending horizontally, intramarginal veins less than 1 mm from margin, base rounded to broadly cuneate, apex acuminate. Inflorescences terminal or a few axillary, paniculate cymes, 4–7 cm, branched; peduncle short. Hypanthium obconic, 4–5 mm. Calyx lobes 4(or 5), shortly angular, ca. $1 \times 2-3$ mm. Petals 4, white, coherent, ovate, ca. 5 mm. Stamens longer than petals. Style nearly as long as stamens. Fruit globose, 1–1.5 cm in diam., 1-seeded; persistent calyx limb ca. 1.5 mm. Fl. Apr–May, fr. Nov–Jan.

Open to dense forests, mountain slopes, streamsides; 500–1000 m. Xizang (Cona), S Yunnan [Bangladesh, Cambodia, India, Indonesia (Kalimantan), Malaysia, Thailand, Vietnam].

77. *Syzygium nanpingense* Y. Y. Qian, Guihaia 11: 210. 1991.

南屏蒲桃 nan ping pu tao

Trees, 5–8 m tall. Branchlets dark brown, somewhat compressed, glabrous. Petiole 1–1.5 cm; leaf blade elliptic, narrowly oblong, or obovate, 6–13 \times 2.3–5(–7) cm, subleathery, abaxially dark green, adaxially light tinged green, adaxially glandular punctate, secondary veins numerous and 2–3 mm apart, intramarginal veins 1–3 mm from margin, base narrowly cuneate, apex acuminate. Inflorescences axillary on leafless branches, panicle of cymes, 6–10 cm, many-flowered. Hypanthium yellow, turbinate, 2–2.5 mm. Calyx lobes inconspicuous. Petals 4, white, distinct, suborbicular, 1–1.5 \times 1.5–2 mm, caducous. Stamens numerous, 4–6 mm, equal; anthers ellipsoid, 0.3–0.5 mm. Style 6–7 mm. Fruit purple to blackish purple, ellipsoid to obovoid, 1–1.6 \times 0.7–1.1 cm. Fl. May, fr. Jul.

• Forests, mountain slopes, trailsides; ca. 1400 m. Yunnan (Simao).

78. *Syzygium bubengense* C. Chen, Harvard Pap. Bot. 11: 25. 2006.

补崩蒲桃 bu beng pu tao

Trees, to 8 m tall. Branchlets 4-angled but becoming terete, covered with rufescent brown bark peeling off in band-shaped strips. Petiole 5–8 mm; leaf blades oblong to elliptic, 8–10.5 \times 3.5–4.5 cm, stiffly papery, abaxially pale greenish brown

when dry, adaxially brown when dry, abaxially densely glandular punctate, adaxially glandular punctate, secondary veins 17–24 on each side of midvein, intramarginal veins 1–2 mm from margin, base broadly cuneate, margin slightly revolute, apex abruptly acuminate. Inflorescences axillary, cymose panicles, 5–7 cm; branchlets 5–8 mm, divaricate, glandular punctate. Flower buds obconic, ca. 8×5 mm, apex globose. Hypanthium broadly funnel-shaped, glandular punctate. Calyx lobes 4(or 5), shortly triangular, ca. 1×1.5 mm. Petals 4(or 5), distinct, ovately half-rounded, 2–3 \times ca. 4 mm, glandular punctate. Stamens numerous, to 8 mm, unequal. Style shorter than or as long as stamens. Fl. Apr–May.

• Broad-leaved evergreen forests. Yunnan (Mengla).

79. *Syzygium infrarubiginosum* Hung T. Chang & R. H. Miao, Acta Bot. Yunnan. 4: 23. 1982.

褐背蒲桃 he bei pu tao

Trees, to 14 m tall. Branchlets blackish brown when dry, terete; old branches brown. Petiole 1–1.2 cm; leaf blade elliptic, 6.5–9.5 \times 3–4 cm, leathery, abaxially reddish brown when dry, adaxially blackish brown and not glossy when dry, adaxially with numerous small glands, secondary veins dense, 1–1.5 mm apart, at an angle of ca. 80° from midvein, abaxially slightly raised, and adaxially inconspicuous, intramarginal veins ca. 1 mm from margin, base obtuse to broadly cuneate and usually oblique, apex acute and with a 5–10 mm cusp. Inflorescences terminal or subterminal, paniculate cymes, 4–6 cm; peduncle 2–3 cm; secondary peduncle 1–1.5 cm. Flower buds obovoid, ca. 6 mm. Hypanthium obconic, 4–5 mm. Calyx lobes shortly angular. Petals distinct, suborbicular, ca. 2.5 mm in diam. Stamens ca. 3 mm. Style 4–5 mm. Fl. Nov.

• Dense forests in valleys, on rocks next to water. Hainan (Dongfang).

80. *Syzygium lineatum* (Candolle) Merrill & L. M. Perry, J. Arnold Arbor. 19: 109. 1938.

长花蒲桃 chang hua pu tao

Jambosa lineata Candolle, Prodr. 3: 287. 1828; *Clavimyrthus latifolia* Blume; *C. lineata* (Candolle) Blume; *Myrtus lineata* Blume (1826), not Swartz (1788); *Syzygium longiflorum* Presl.

Trees. Branchlets blackish brown when dry, terete; old branches grayish white. Petiole 1–1.2 cm; leaf blade elliptic to ovate-elliptic, 6–8 \times 2.5–3.5 cm, leathery, abaxially slightly colored when dry, adaxially dark brown and glossy when dry, abaxially with numerous glands, adaxially with small glands, secondary veins dense, ca. 1 mm apart, at an angle of ca. 75° from midvein, abaxially visible but slender, and adaxially inconspicuous, intramarginal veins less than 1 mm from margin, base wide and obtuse, apex acuminate and with a 1–1.5 cm cusp. Inflorescences terminal, paniculate cymes, 8–10 cm, 3-branched, many-flowered. Flower buds pyriform, 6–7 mm. Hypanthium obconic, ca. 5 mm. Calyx lobes semiorbicular, short. Petals distinct, ovate, ca. 3 mm. Stamens 5–7 mm. Style 6–7 mm. Fruit ellipsoid, ca. 1 cm. Fl. Apr.

Guangxi [Indonesia, Malaysia, Myanmar, Thailand, Vietnam].