

7. Tribe INGEAE

印加树族 yin jia shu zu

Wu Delin (吴德邻 Wu Te-lin); Ivan C. Nielsen

Leaves pinnate or bipinnate; stipules most often inconspicuous, sometimes spinescent; petiole, rachis, and pinnae most often with glands; leaflets opposite or (rarely) alternate, rarely 1-foliolate. Flowers heteromorphic or not, in heads, corymbs, umbels, racemes, spikes, or panicles, these again axillary or arranged in axillary and/or terminal panicle, cauliflory present in some genera. Calyx gamosepalous, valvate. Corolla gamopetalous, valvate. Stamens numerous, lower part of filaments united into a tube; anther glandless; pollen-grains usually collected into 2–6 masses in each locus. Ovaries 1 to many, free. Legumes various, dehiscent or not, straight, spirally contorted to curved, moniliform or not, segmented or not, funicular aril present in a few species. Seeds various, with pleurogram or not.

About 35 genera and 930–970 species: mostly distributed in tropics; seven genera (four introduced) and 38 species (five endemic, seven introduced) in China.

- 1a. Legume dehiscent into 2 valves.
 - 2a. Legume curved into a circle; stipules spinescent 33. *Pithecellobium*
 - 2b. Legume straight or slightly curved; stipules not spinescent.
 - 3a. Legume with thickened sutures, elastically dehiscing from apex and downward; seeds with pleurogram 32. *Calliandra*
 - 3b. Legume without thickened sutures, dehiscing along both dorsal and ventral sutures; seeds without pleurogram 37. *Archidendron*
- 1b. Legume indehiscent or late dehiscent.
 - 4a. Legume contorted into a half or full circle 36. *Enterolobium*
 - 4b. Legume straight.
 - 5a. Flowers in spikes 34. *Falcataria*
 - 5b. Flowers in head or short corymbs.
 - 6a. Legume septate between seeds, thick, fleshy 38. *Samanea*
 - 6b. Legume not septate between seeds, flat, thin 35. *Albizia*

32. CALLIANDRA Benth, J. Bot. (Hooker) 2: 138. 1840, nom. cons.

朱缨花属 zhu ying hua shu

Shrubs or small trees, usually unarmed. Leaves bipinnate, eglandular; stipules often persistent, or sometimes spinescent, rarely absent; pinnae 1 to several pairs; leaflets opposite, small and numerous, or larger and from few pairs to only 1. Heads globose and axillary, or racemes terminal. Flowers (5 or)6-merous, polygamous. Calyx campanulate, toothed. Petals united to middle; middle flowers sometimes heteromorphic with an elongated tubular corolla. Stamens numerous (to 100), red or white, ± united into a tube and long exerted, showy; anthers mostly glandular hairy. Ovary sessile, ovules numerous; style filiform. Legume slightly falcate, strap-shaped, flat, rigidly leathery, often narrowed to base, margin thickened, 2-valved, valves elastically opening from apex to base, continuous inside. Seeds obovoid or orbicular, compressed, testa hard, with pleurogram, without aril.

About 200 species: mainly in tropical and subtropical regions of the Americas, a few in India, Madagascar, and Myanmar; two species (one introduced) in China.

Calliandra riparia Pittier, native to South America, is not treated here because it is only cultivated in China and not commonly so.

- 1a. Stipules spinelike 1. *C. umbrosa*
- 1b. Stipules not spinelike, ovate-lanceolate 2. *C. haematocephala*

1. *Calliandra umbrosa* (Wallich) Benth in Bentham & Hooker, Gen. Pl. 1: 597. 1865.

云南朱缨花 yun nan zhu ying hua

Inga umbrosa Wallich, Pl. Asiat. Rar. 2: 23. 1831.

Shrubs, 1–2 m tall. Branchlets terete. Stipules spinelike, 0.5–1.5 cm; petiole 0.4–5 cm, glabrous; pinnae 1 pair, 2–5.5 cm, with a pair of large sessile leaflets at apex and an odd one much smaller below on outside, all with a gland on rachis at base; leaflets oblong to elliptic, 3–15 × 1.5–7.5 cm, subleathery, base cuneate, often oblique, apex acuminate. Heads axillary or

on old branches; peduncles 3–4 cm. Flowers homogeneous, tetramerous. Calyx campanulate, ca. 1.3 mm, slightly 4-toothed. Corolla funnel-shaped, ca. 7 mm. Stamens numerous; filaments white. Ovary glabrous. Legume strap-shaped, flat, 10–14 × 2–2.4 cm, margin thickened, base attenuate, apex rounded, oblique, mucronate, dehiscent from apex to base. Seeds 4. Fl. Aug–Oct, fr. Jan–Mar.

Thickets; 300–400 m. W Yunnan (Yingjiang) [India].

2. *Calliandra haematocephala* Hasskarl, Retzia 1: 216. 1855.

朱缨花 zhu ying hua

Shrubs or small trees, deciduous, 1–3 m tall. Branchlets brown, cylindric, rough. Stipules persistent, ovate-lanceolate; petiole 1–2.5 cm; pinnae 1 pair, 8–13 cm; petiolules ca. 1 mm; leaflets 7–9 pairs, obliquely lanceolate, 2–4 cm × 7–15 mm, sparsely pilose along margin, midvein close to upper margin, base oblique, apex obtuse, mucronate. Heads axillary, ca. 3 cm in diam. (including filaments); peduncles 1–3.5 cm. Calyx campanulate, ca. 2 mm. Corolla purplish; tube 3.5–5 mm, 5-lobed; lobes reflexed, ca. 3 mm, glabrous. Stamens numerous, scarlet, very brilliant; staminal tube white, ca. 6 cm, mouth inside with

a subulate appendix; filaments deep red, ca. 2 cm. Legume dull brown, linear-oblongate, 6–11 cm × 5–13 mm, valves elastically open from apex to base along sutures when ripe, reflexed. Seeds 5 or 6, brown, oblong, 7–10 × ca. 4 mm. Fl. Aug–Sep, fr. Oct–Nov.

Cultivated in gardens of Fujian, Guangdong, Taiwan [native to South America].

This plant is grown as an ornamental.

33. PITHECELLOBIUM Martius, Flora 20(2, Beibl.): 114. 1837 [“*Pithecollobium*”], nom. cons.

牛蹄豆属 niu ti dou shu

Trees [or shrubs], armed by spinescent stipules and stipels. Leaves bipinnate, not sensitive to touch; rachis and pinnae usually with extra-floral nectaries; leaflets 1 [to several] pairs per pinna. Inflorescences pedunculate heads or corymbs aggregated in terminal or axillary panicles. Flowers uniform, bisexual, 5-merous. Calyx shortly toothed. Corolla gamopetalous, 5-lobed. Stamens numerous, united into a tube at base. Ovary solitary. Legume spirally contorted [or straight], in most species dark brown outside, reddish orange within, flat, dehiscing along both sutures. Seeds brown or blackish, obovoid or asymmetric; testa hard, with a pleurogram; funicle developed into an aril.

About 18 species: indigenous to tropical and subtropical regions of the Americas; one species (introduced) in China.

1. *Pithecellobium dulce* (Roxburgh) Benth, London J. Bot. 3: 213. 1844.

牛蹄豆 niu ti dou

Mimosa dulcis Roxburgh, Pl. Coromandel 1: 67. 1798.

Trees, evergreen. Branches often pendulous; branchlets armed with spinescent stipules. Pinnae 1 pair; glands at junction of pinnae and leaflets; leaflets sessile, 1 pair per pinna, elliptic or obovate-elliptic, 2–5 × 0.2–2.5 cm, both surfaces glabrous, reticulate veins raised abaxially, base slightly oblique, apex

obtuse or emarginate. Inflorescence pedunculate heads, aggregated in terminal panicles. Calyx funnel-shaped, 1–1.5 mm, tomentose. Corolla ca. 6 mm. Stamens numerous, connate into a tube at base. Legume blackish brown, curved into a circle, flat, 5–7 cm in diam. Seeds dark brown, shiny, ovoid-ellipsoid, ca. 1.5 cm, hard, with pleurogram. Fl. Mar–Jun, fr. Jul. $2n = 26$.

Cultivated in Fujian, Guangdong, Guangxi, Hainan, Jiangxi, Taiwan, Yunnan, Zhejiang [native to tropical regions of C and N South America; cultivated throughout the tropics].

The timber is used for general construction and the bark for its tannins.

34. FALCATARIA (I. C. Nielsen) Barneby & J. W. Grimes, Mem. New York Bot. Gard. 74: 254. 1996.

南洋楹属 nan yang ying shu

Paraserianthes sect. *Falcataria* I. C. Nielsen, Bull. Mus. Natl. Hist. Nat., B, Adansonia 5: 327. 1984.

Trees, unarmed. Leaves bipinnate; stipules caducous; pinnae 6–20 pairs; leaflets numerous, subsessile, opposite. Inflorescence axillary, consisting of 2- or 3-times-branched panicles of few flowered spikes. Flowers homomorphic, sessile. Calyx broadly campanulate or hemispherical, 5(or 6)-toothed. Corolla sericeous; lobes as many as calyx teeth, ca. 1/4 connate into a tube. Stamens numerous. Ovary with an intrastaminal disk around base. Legume straight, broadly linear, plano-compressed, stiffly papery, narrowly winged along ventral suture, late dehiscent through both sutures. Testa hard, with pleurogram.

Three species: Australia (Queensland), Indonesia (Maluku Islands), New Guinea, and Pacific islands, one species cultivated in the New World; one species (introduced) in China.

1. *Falcataria moluccana* (Miquel) Barneby & J. W. Grimes, Mem. New York Bot. Gard. 74: 255. 1996.

南洋楹 nan yang ying

Albizia moluccana Miquel, Fl. Ned. Ind. 1: 26. 1855; *Adenantha falcataria* Linnaeus; *Albizia falcata* (Linnaeus) Backer; *A. falcataria* (Linnaeus) Fosberg; *Paraserianthes falcataria* (Linnaeus) I. C. Nielsen.

Trees, large, to 45 m tall. Branchlets minutely pubescent with many tiny, pale lenticels. Stipules caducous, small; leaf rachis to 40 cm, usually with a large, oval, disk-shaped gland near base; pinnae 6–20 pairs, densely rusty tomentose, to 10 cm; leaflets 6–26 pairs, sessile, slightly falcate, obliquely oblong, 1–1.5 cm × 3–6 mm, abaxially sparsely (densely so on veins) puberulent, adaxially glabrous, midvein at ca. 1/4 lamina width along distal margin, other basal veins conspicuous, base

obtuse-rounded or nearly cuneate, apex acute. Spike solitary, axillary, or several arranged in a panicle. Flowers greenish yellow to cream. Calyx broadly campanulate or hemispherical, ca. 2.5 mm, sericeous, with small teeth. Corolla 5–7 mm, sericeous; lobes oblong-ovate, 2.4–4 mm. Stamens ca. 1 cm. Legume straight, strap-shaped, flat, 10–13 × 1.3–2.3 cm, late dehiscent through both sutures. Seeds 10–15, compressed ellipsoid, ca. 7

× 3 mm; testa brown, with narrow U-shaped pleurogram. Fl. Apr–Jul, fr. Sep–Dec. $2n = 26^*$.

Cultivated in Fujian, Guangdong, Guangxi, Hainan, Yunnan [Indonesia (Maluku Islands), New Guinea (including New Britain); Pacific islands (Solomon Islands)].

This species is grown as an ornamental and is widely planted in tropical countries as a fast-growing timber tree.

35. *ALBIZIA* Durazzini, Mag. Tosc. 3(4): 13. 1772.

合欢属 *he huan shu*

Trees or shrubs, usually unarmed, rarely scandent and with short, recurved hooks. Leaves bipinnate; stipules usually small, rarely larger and caducous; petiole and rachis with glands; leaflets small in numerous pairs or larger in few pairs. Inflorescences of globose heads, arranged in axillary or terminal panicles. Flowers bisexual. Calyx campanulate or funnel-shaped, 5-toothed. Corolla funnel-shaped, upper part 5-lobed. Stamens numerous, connate into a tube at base, free part of filaments long exerted; anthers small. Central flowers of heads with broader calyx and much longer filament tube. Ovary flattened; style long, slender; stigma minute. Legume broadly linear or oblong, straight, plano-compressed, indehiscent, or dehiscent along both sutures, continuous inside. Seeds ovoid or orbicular, compressed, funicle filiform.

Between 120 and 140 species: tropical to warm regions of the world; 16 species (two endemic, two introduced) in China.

- 1a. Midvein of leaflets medial or eccentrically close to lower margin.
- 2a. Shrubs or climbers, with a curved prickle below leaf scar 1. *A. corniculata*
- 2b. Trees, unarmed.
- 3a. Main vein of leaflets slightly eccentrically close to lower margin 2. *A. procera*
- 3b. Main vein medial.
- 4a. Pinnae 1 pair; corolla 8–10 mm; seeds with U-shaped pleurogram 3. *A. attopeuensis*
- 4b. Pinnae 1–4 pairs; corolla 6–7 mm; seeds with single pleurogram.
- 5a. Flowers sessile; pedicel of legume without a joint 4. *A. crassiramea*
- 5b. Flowers pedicellate; pedicel of legume with a joint.
- 6a. Marginal flowers with glabrous calyces; legume indehiscent; seeds narrowly elliptic 5. *A. retusa*
- 6b. Marginal flowers with puberulent to velutinous calyces; legume dehiscent; seeds orbicular in outline 6. *A. lucidior*
- 1b. Midvein of leaflets eccentrically close to upper margin.
- 7a. Leaflets (1.5–)1.8–4.5 × 0.7–2 cm.
- 8a. Flowers sessile; pedicel of legume not jointed 7. *A. odoratissima*
- 8b. Flowers pedicellate (except central flower); pedicel of legume jointed.
- 9a. Both surfaces of leaflets hairy, leaflets 5–14 pairs.
- 10a. Ovary glabrous; leaflets to 4.5 × 2 cm 8. *A. kalkora*
- 10b. Ovary puberulent; leaflets to 2.5 × 1 cm 9. *A. duclouxii*
- 9b. Both surfaces of leaflets glabrous or abaxially sparsely puberulent.
- 11a. Leaflets 4–8 pairs, apically rounded-obtuse or emarginate 10. *A. lebbeck*
- 11b. Leaflets 13–20 pairs, apically rounded and apiculate 11. *A. calcarea*
- 7b. Leaflets smaller than 1.8 × 1 cm.
- 12a. Both surfaces of leaflets hairy.
- 13a. Leaflets 8–15 pairs, falcate-oblong, 12–17 mm, apex acute 12. *A. mollis*
- 13b. Leaflets 10–22 pairs, oblong, 6–10 mm, apex obtuse 13. *A. garrettii*
- 12b. Leaflets glabrous except at margin.
- 14a. Corolla 10–12 mm; stamens 3–3.8 cm 14. *A. sherriffii*
- 14b. Corolla 6.5–8 mm; stamens shorter than 2.5 cm.
- 15a. Stipules smaller than leaflets, linear; rachis of inflorescence short and zigzag; stamens pink 15. *A. julibrissin*
- 15b. Stipules larger than leaflets, half-cordate; rachis of inflorescence long and straight; stamens green-white or yellow 16. *A. chinensis*

1. *Albizia corniculata* (Loureiro) Druce, Rep. Bot. Soc. Exch. Club Brit. Isles 4: 603. 1917.

天香藤 *tian xiang teng*

Mimosa corniculata Loureiro, Fl. Cochinch. 2: 651. 1790;
Albizia millettii Benth.

Shrubs, scandent, or lianas ca. 20 m. Branchlets often with a curved prickle below petiole. Stipules deciduous, small; petiole with a complanate gland near base; pinnae 2–6 pairs; leaflets 4–10 pairs, oblong or obovate-oblong, 1.2–2.5 × 0.7–1.5 cm, main vein at middle, abaxially puberulent, adaxially glabrous, base oblique, apex obtuse or emarginate or hardly

mucronate. Heads usually 6–12-flowered, arranged in terminal or axillary panicles; peduncles 5–10 mm, soft, sparsely pubescent. Flowers dimorphic, sessile. Calyx less than 1 mm, calyx and corolla puberulent. Corolla white; tube ca. 4 mm; lobes ca. 2 mm. Filaments ca. 1 cm. Ovary glabrous, stipitate. Legume dehiscent, ligulate, flat, 10–20 × 3–4 cm, glabrous. Seeds brown, oblong. Fl. and fr. Apr–Nov.

Open fields and forests; 100–1000 m. Fujian, Guangdong, Guangxi, Hainan [Cambodia, Indonesia, Laos, Malaysia, Philippines, Thailand, Vietnam].

2. *Albizia procera* (Roxburgh) Benth. London J. Bot. 3: 89. 1844.

黄豆树 huang dou shu

Mimosa procera Roxburgh, Pl. Coromandel 2: 12. 1799.

Trees, deciduous, to 15 m tall. Branchlets slightly pubescent or subglabrous. Leaf petiole with an oblong gland ca. 1 cm above base; pinnae 3–5 pairs, 15–20 cm; petiolules ca. 2 mm; leaflets 6–12 pairs, ovate to subrhombic, 3–4.5 × 1.2–2.2 cm, subleathery, sparsely appressed pubescent, main vein closer to lower side, base oblique, apex obtuse or emarginate. Heads ca. 20-flowered, arranged in axillary or terminal panicles. Flowers uniform, sessile. Calyx 2–3 mm, glabrous. Corolla yellow-white, ca. 6 mm; lobes lanceolate, ca. 2.5 mm, apex pubescent. Staminal tube longer than corolla tube. Ovary glabrous, subsessile. Legume ligulate, flat, 10–15 × 1.5–2.5 cm, glabrous. Seeds 8–12, obovoid-elliptic; pleurogram obovate-elliptic. Fl. May–Sep, fr. Sep–Feb of following year.

Thin forests, thickets; 100–600 m. Guangdong, Guangxi, Hainan, Taiwan, Yunnan [S and SE Asia].

3. *Albizia attopeuensis* (Pierre) I. C. Nielsen var. *laui* (Merrill) I. C. Nielsen, Adansonia, n.s., 19: 210. 1979.

海南合欢 hai nan he huan

Albizia laui Merrill, Lingnan Sci. J. 14: 7. 1935.

Trees, deciduous, ca. 10 m tall. Branchlets conspicuously lenticellate. Stipules inconspicuous; pinnae 1 pair, 10–15 cm; glands at junction of pinnae and leaflets; petiolules 5–7 mm, shortly tomentose; leaflets 2–4 pairs, rarely 1 pair, oblong or narrowly ovate, 5–10 × 2.5–5.5 cm, leathery or subleathery, abaxially puberulent on veins, main vein central, net veins raised on both surfaces, base subrounded to broadly cuneate, slightly asymmetric. Heads several to more than 10-flowered, arranged in panicles, ferruginous pubescent; peduncles 5–25 mm. Flowers dimorphic, yellowish, fragrant. Calyx tubular, 2–2.5 mm; teeth ovate-deltoid, outside densely pubescent. Corolla funnel-shaped, 8–10 mm; lobes oblong. Stamens 30–40; filaments ca. 3 cm, staminal tube shorter than corolla tube. Ovary linear, ca. 3.5 mm, sessile, glabrous. Legume oblong, compressed, 10–15 × 3–4 cm, glabrous, indehiscent. Seeds 9–12, black-brown, ellipsoidal; pleurogram shortly U-shaped. Fl. Feb–Jun, fr. Jun–Oct.

• Forests; 200–300 m. Hainan.

Albizia attopeuensis var. *attopeuensis* (*Pithecellobium attopeuense* Pierre) occurs in Laos, Thailand, and Vietnam.

4. *Albizia crassiramea* L. Bull. Misc. Inform. Kew 1915: 402. 1915.

白花合欢 bai hua he huan

Albizia lancangensis Y. Y. Qian; *A. laotica* Gagnepain; *A. yunnanensis* T. L. Wu.

Trees, 8–10 m tall. Branchlets ferruginous pubescent, lenticellate. Stipules inconspicuous; leaf glands elliptic, near base of petiole and near apex of rachis; pinnae 2–4 pairs; petiolules ca. 2 mm; leaflets 4–6 pairs, elliptic, ovate, or obovate, 2–7 × 1.5–4 cm, abaxially pubescent, adaxially glabrous, main vein central, slightly asymmetric, base obliquely truncate, apex rounded-obtuse. Heads 7–10-flowered, arranged in panicles; peduncles 2.5–3.5 cm, densely pubescent. Flowers dimorphic, sessile, white. Calyx cup-shaped, ca. 1 mm, 5-dentate, calyx and corolla yellowish or white tomentose. Corolla tube ca. 3.5 mm; lobes deltoid-ovate, ca. 2.5 mm. Stamens ca. 25; filaments ca. 2.5 cm, basally connate into a tube. Ovary glabrous, stipe ca. 1 mm. Legume dehiscent, red-brown, ligulate, 15–22 × ca. 3.5 cm, thin, glabrous. Seeds 8–11, brown, elliptic, ca. 9 × 6 mm; pleurogram narrowly elliptic. Fl. Aug, fr. Nov.

Forests; 500–1300 m. Guangxi, Yunnan [Laos, Myanmar, Thailand, Vietnam].

5. *Albizia retusa* Benth. London J. Bot. 3: 90. 1844.

兰屿合欢 lan yu he huan

Albizia littoralis Teijsmann & Binnendijk.

Trees, to 25 m tall. Branchlets terete, glabrous. Stipules inconspicuous; leaf glands circular, with somewhat raised margins, ca. 0.5 cm above base; pinnae ca. 3 pairs; leaflets 4–6 pairs, ovate-subrhombic, 2–3 × 1–1.7 cm, both surfaces sparsely puberulent, main vein medial or almost so, base asymmetric, broadly cuneate, apex rounded. Corymbs ca. 10-flowered, arranged in puberulent to tomentose panicles; peduncles ca. 2.5 cm. Flowers dimorphic, pedicellate. Calyx tubular, 2–3.5 mm; teeth inconspicuous. Corolla white, narrowly funnel-shaped, 7–9.5 mm; tube glabrous to faintly puberulent; lobes ± narrowly triangular, ca. 2.5 mm, puberulent to sericeous, apex acute. Stamens purple to pink; staminal tube irregularly split, intermediate between corolla tube and corolla. Ovary glabrous; stipe 1–2 mm. Legume indehiscent, yellowish, oblong, ca. 14 × 2.8 cm, bullate over seeds, glabrous. Seeds brown, narrowly elliptic, 8.5–9 × ca. 4.5 mm; pleurogram narrowly elliptic.

Sandy beaches, mangroves; low elevations. Taiwan [Indonesia, Japan (Ryukyu Islands), Malaysia, Philippines, S Thailand; Australia, Pacific islands (Vanuatu)].

6. *Albizia lucidior* (Steudel) I. C. Nielsen ex H. Hara, Enum. Fl. Pl. Nepal 2: 104. 1979.

光叶合欢 guang ye he huan

Inga lucidior Steudel, Nomencl. Bot., ed. 2, 1: 810. 1840; *Albizia bracteata* Dunn; *A. lucida* Benth.; *A. meyeri* Ricker; *Mimosa lucida* Roxburgh (1832), not Vahl (1807).

Trees, 8–20 m tall. Branchlets glabrous, angulate. Stipules inconspicuous; pinnae 1–3 pairs, with a gland near base of peti-

ole and between uppermost pinnae; petiolules ca. 3 mm; leaflets 1–6 pairs, elliptic, oblong, or obliquely obovate, 5–11 × 1.5–6 cm, both surfaces glabrous or puberulent, midvein central, base attenuate to subrounded, apex acute, acuminate, or obtuse, sometimes mucronate. Heads arranged in terminal or axillary panicles. Calyx campanulate, 1.5–3 mm. Corolla funnel-shaped, 6–7 mm; lobes lanceolate, ca. 4 mm. Stamens numerous; tube 3–4 mm. Ovary glabrous. Legume dehiscent, brownish, straight, ligulate, 10–30 × 2–4.5 cm. Seeds 4–9, brown, orbicular, 8–9 mm in diam. Fl. Apr–Jun, fr. Sep–Nov.

Secondary forests, thickets; 600–1900 m. Guangxi, Guizhou, Taiwan, Yunnan [S to SE Asia].

This species is grown as an ornamental.

7. *Albizia odoratissima* (Linnaeus f.) Bentham, London J. Bot. 3: 88. 1844.

香合欢 xiang he huan

Mimosa odoratissima Linnaeus f., Suppl. Pl. 437. 1782.

Trees, evergreen, 5–15 m tall. Branchlets pubescent when young. Stipules filiform, ca. 2.5 mm, caducous; leaf glands 1–2 cm above base of petiole and rachis between first and second pinnae, elliptic; pinnae 2–4(–6) pairs; leaflets sessile, 6–14 pairs, oblong, 2–3 × 0.7–1.4 cm, papery, both surfaces sparsely appressed pubescent, main vein eccentric, close to upper margin, base obliquely truncate, apex obtuse, sometimes mucronate. Heads arranged in panicles, ferruginous pubescent. Flowers dimorphic, 10–15, sessile, yellowish, fragrant. Calyx cup-shaped, 1–1.5 mm, puberulent to tomentose; teeth shorter than 0.25 mm. Corolla funnel-shaped, 4.5–6.5 mm; lobes lanceolate, 2–2.5 mm. Staminal tube ca. as long as corolla tube. Ovary ferruginous tomentose; stipe ca. 1 mm. Legume oblong, compressed, 10–18 × 2–4 cm, densely pubescent when young, sparsely pubescent when mature. Seeds 6–12, ovate in outline, ca. 9 × 6 mm; pleurogram narrowly ovate. Fl. Apr–Jul, fr. Jun–Oct.

Thin forests; sea level to 1500 m. Fujian, Guangdong, Guangxi, Guizhou, Hainan [Bangladesh, Bhutan, India, Laos, Myanmar, Nepal, Pakistan, Sri Lanka, Thailand, Vietnam].

8. *Albizia kalkora* (Roxburgh) Prain, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 66: 511. 1897.

山槐 shan huai

Mimosa kalkora Roxburgh, Fl. Ind., ed. 1832, 2: 547. 1832; *Acacia macrophylla* Bunge; *Albizia esquirolii* H. Léveillé; *A. henryi* Ricker; *A. longepedunculata* Hayata; *A. simeonis* Harms.

Trees, small, or shrubs, deciduous, 3–8 m tall. Branchlets dark brown, pubescent, with conspicuous lenticels. Stipules inconspicuous; leaf glands 1.5–3 cm above base, and at junctions of distal pairs of pinnae, circular to elliptic in outline; pinnae 2–4 pairs; leaflets 5–14 pairs, oblong or oblong-ovate, 0.8–4.5 × 0.7–2 cm, both surfaces pubescent, main vein slightly close to upper margin, base oblique, apex obtuse, mucronate. Heads 2–7, axillary or terminal, arranged in panicles. Flowers dimorphic, primarily white, turning yellow, with conspicuous pedicels. Ca-

lyx tubular, 2–3 mm, 5-toothed, calyx and corolla villous. Corolla 6–8 mm; lobes lanceolate. Stamens 2.5–3.5 cm, basally connate into a tube; tube shorter than corolla tube. Ovary glabrous; stipe ca. 1 mm. Legume dehiscent, ligulate, 7–17 × 1.5–3 cm, pubescent when young, glabrescent when mature. Seeds 4–12, obovoid or suborbicular; pleurogram oblong. Fl. May–Jun, fr. Aug–Oct. $2n = 26$.

Thickets, thin forests; sea level to 2600 m. Anhui, Fujian, Gansu, Guangdong, Guangxi, Guizhou, Hainan, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan, Zhejiang [India, Japan, Myanmar, Vietnam].

9. *Albizia duclouxii* Gagnepain, Notul. Syst. (Paris) 2: 116. 1911.

巧家合欢 qiao jia he huan

Trees, ca. 15 m tall. Branchlets brown, whitish tomentose. Stipules not seen; leaf gland elliptic, close to base of petiole; pinnae 1–3 pairs, ca. 10 cm; leaflets 7–13 pairs per pinna; oblong-falcate, 1.5–2.5 × 0.7–1 cm, both surfaces densely grayish tomentose, main vein eccentric, close to distal margin, base asymmetrically rounded, apex obtuse to shortly attenuate. Peduncles 2 or 3 together, axillary at distal leaves, with dimorphic flowers in corymbs, ca. 3.5 cm in diam.; pedicels to 4 mm. Calyx narrowly campanulate-obconical, ca. 4 mm, hirsute; teeth deltoid, obtuse. Corolla broadly funnel-shaped, ca. 8 mm, tomentose; tube very short, only ca. 2 mm. Staminal tube ca. 4 mm, longer than corolla tube. Ovary fusiform, densely puberulent in distal half, stipitate; style glabrous. Legume and seeds unknown. Fl. Apr–May.

• Forests; ca. 1000 m. Guizhou, Sichuan, NE Yunnan (Qiaojia).

10. *Albizia lebbek* (Linnaeus) Bentham, London J. Bot. 3: 87. 1844 [“*lebbek*”].

阔荚合欢 kuo jia he huan

Mimosa lebbek Linnaeus, Sp. Pl. 1: 516. 1753; *Acacia lebbek* (Linnaeus) Willdenow.

Trees, deciduous, 8–12 m tall. Bark rough. Branchlets minutely pubescent, glabrous when old. Stipules caducous, small; leaf rachis with disklike glands near base and at base of pinnae, pubescent or glabrous; pinnae 2–4 pairs, 6–15 cm; leaflets 4–8 pairs, narrowly elliptic or slightly obliquely oblong, 2–4.5 × (0.9–)1.3–2 cm, both surfaces glabrous or abaxially sparsely finely pubescent, main vein slightly closer to upper margin, apex obtuse or retuse. Peduncles axillary, 2 or more together, to 10 cm; corymbs 30–40-flowered. Flowers dimorphic, fragrant; pedicels 3–4 mm, puberulent. Calyx funnel-shaped, ca. 4 mm, puberulent, with short teeth. Corolla green-yellow, funnel-shaped, 7–8 mm; lobes deltoid-ovate. Stamens white or light yellow-green; tube shorter than corolla tube. Ovary glabrous, sessile. Legume straw-colored, strap-shaped, flat, 15–28 × 2.5–4.5 cm, remaining on trees long after ripening. Seeds brown, 4–12, ellipsoidal, ca. 10 × 6–7 mm; pleurogram parallel to margins of seed. Fl. May–Sep, fr. Oct–May of following year. $2n = 26^*$.

Planted along roadsides and in gardens. Fujian, Guangdong,

Guangxi, Hainan, Taiwan [native to tropical Africa; introduced or naturalized in Bangladesh, Bhutan, India, Myanmar, Nepal, Pakistan, Sri Lanka].

This plant is grown as a roadside tree and is used ornamentally and for timber.

11. *Albizia calcarea* Y. H. Huang, *Acta Bot. Yunnan.* 5: 132. 1983.

光腺合欢 *guang xian he huan*

Trees, ca. 15 m tall. Branchlets subglabrous, with small, orbicular lenticels. Petiole and rachis glabrous; glands near base of petiole, oblong, (2.5–)5–6 mm; pinnae (2–)4–9 pairs; petioles absent or very short; leaflets 13–20 pairs, oblong, 1.5–3 × 0.8–1.4(–1.8) cm, both surfaces glabrous or abaxially sparsely villous, midvein slightly close to upper margin, base oblique, apex obtuse and mucronate. Heads solitary or fasciculate, terminal or axillary, ca. 20-flowered, arranged in panicles; peduncles to 15 cm. Pedicels ca. 3 mm. Calyx ca. 4 mm; teeth 1–1.5 mm, outside villous, apex acute. Corolla yellow-white, villous. Stamens ca. 3.5 mm; filaments connate into a tube at base. Ovary linear, glabrous. Legume brown, ligulate, compressed, 10–20 × 2.5–4 cm, glabrous. Seeds oblong, ca. 8 mm. Fl. Jun, fr. Dec.

• Thin forests of limestone areas; 200–300 m. Guangxi.

12. *Albizia mollis* (Wallich) Boivin, *Encycl.* 19(2): 33. 1838.

毛叶合欢 *mao ye he huan*

Acacia mollis Wallich, *Pl. Asiat. Rar.* 2: 76. 1831; *A. julibrissin* Durazzini var. *mollis* (Wallich) Benth.

Trees, 3–18(–30) m tall. Branchlets pubescent, angulate. Leaf glands near base of petiole and rachis of first pinnae insertion; rachis sulcate, villous; pinnae 3–7 pairs, 6–9 cm; leaflets 8–15 pairs, falcate-oblong, 1.2–1.7 cm × 4–7 mm, densely villous or adaxially glabrescent when old, midvein close to upper margin, base truncate, apex mucronate. Heads arranged in axillary panicles. Flowers white; pedicels very short. Calyx campanulate, ca. 2 mm, calyx and corolla tomentose. Corolla ca. 7 mm; lobes deltoid, ca. 2 mm. Filaments ca. 2.5 cm. Legume brown, ligulate, compressed, 10–16 × 2.5–3 cm. Seeds oblong, ca. 7 mm. Fl. May–Jun, fr. Aug–Dec. $2n = 26^*$.

Forests; 1500–2500 m. Guizhou, Xizang, Yunnan [India, Nepal].

This species is planted as a roadside tree and is used for wood.

13. *Albizia garrettii* I. C. Nielsen, *Adansonia*, n.s., 19: 212. 1979.

黄毛合欢 *huang mao he huan*

Trees, 10–15 m tall. Young branchlets puberulent, glabrescent. Stipules inconspicuous; leaf glands 1–1.5 cm above base, and between junctions of 1 or 2 distal pairs of pinnae, elliptic or slitlike, 2–2.5 mm; pinnae 5–8 pairs, 4–10 cm; leaflets 10–22 pairs, sessile, oblong, 6–10(–15) × (3–)4–6 mm, abaxially puberulent with yellow hairs, adaxially glabrous with few scattered hairs, main vein close to upper margin, base asymmetrically truncate on one side, narrowly cuneate on other side, apex asymmetrically obtuse, mucronate. Corymbs ca. 35-flowered,

axillary; peduncles ca. 5 cm. Flowers dimorphic, marginal flowers pedicellate. Calyx narrowly campanulate, ca. 3 mm; teeth triangular, 0.3–0.5 mm. Corolla funnel-shaped, 6.5–7 mm, puberulent; lobes ovate, ca. 2.5 mm. Staminal tube ca. as long as corolla tube. Ovary ca. 2.5 mm, glabrous; stipe ca. 0.5 mm. Legume dehiscent, brown, flat, ca. 14 × 3 cm, stalk ca. 6 mm, apex mucronate. Seeds ca. 10, elliptic, ca. 10 × 6–7 mm; pleurogram ca. 5 × 2 mm, parallel to margins of seed. Fl. May, fr. Aug–Nov.

Forests; ca. 1500 m. Yunnan [India (Assam), Myanmar, Thailand].

14. *Albizia sherriffii* E. G. Baker, *London J. Bot.* 76: 20. 1938.

藏合欢 *zang he huan*

Trees, 6–9 m tall. Branchlets brown tomentose. Leaf petiole 2–3.5 cm, with gland at base of petiole and junction of first pinnae; rachis 10–20 cm, brown tomentose; pinnae 8–16 pairs, opposite or subopposite, 5–10 cm, subsessile; leaflets 13–27 pairs, subfalcate-oblong, 5–10 × 1.5–3 mm, abaxially pubescent, adaxially glabrous, midvein close to upper margin, base truncate, apex acute. Heads 6.5–7.5 cm in diam., 40–50-flowered; peduncles 7–10 cm, brown tomentose, with a gland apart from head ca. 1 cm. Calyx 6–6.5 mm, 5-toothed. Corolla yellow-white, 1–1.2 cm, pubescent. Stamens numerous, spreading, 3–3.8 cm; filaments marginally white, centrally golden yellow, basally connate into a tube 7–8 mm. Ovary linear, subglabrous, sessile. Legume dehiscent, ligulate, flat, 10–14 × ca. 1.5 cm, densely tomentose, margin thickened. Seeds 6–10, oblong, ca. 5 × 3 mm; pleurogram parallel to margins of seed. Fl. Mar, fr. Sep.

Dense forests; 1200–1900 m. Xizang, Yunnan [Bhutan, India, Myanmar].

15. *Albizia julibrissin* Durazzini, *Mag. Tosc.* 3(4): 11. 1772.

合欢 *he huan*

Trees, deciduous, to 16 m tall; crown open. Branchlets angular; branchlet, leaf rachis, and inflorescence tomentose or pubescent. Stipules deciduous, linear-lanceolate, smaller than leaflets; pinnae 4–12 pairs, sometimes to 20 pairs in cultivated species; glands near base of petiole and leaf rachis of uppermost pinnae; leaflets 10–30 pairs, obliquely linear to oblong, 6–12 × 1–4 mm, main vein close to upper margin, base truncate, margin ciliate, apex apiculate. Panicles terminal. Flowers pink. Calyx tubiform, ca. 3 mm, pubescent. Corolla ca. 8 mm; lobes deltoid, ca. 1.5 mm. Filaments pink, ca. 2.5 cm. Legume strap-shaped, flat, 9–15 × 1.5–2.5 cm, glabrous. Fl. May–Jul, fr. Aug–Oct. $2n = 26^*$.

Widely cultivated in Anhui, Fujian, Gansu, Guizhou, Henan, Hubei, Hunan, Jiangsu, Jiangxi, ?Liaoning, ?Shaanxi, Shandong, Shanxi, Taiwan, Yunnan, Zhejiang [C, E, and SW Asia].

16. *Albizia chinensis* (Osbeck) Merrill, *Amer. J. Bot.* 3: 575. 1916.

楹树 *ying shu*

Mimosa chinensis Osbeck, *Dagb. Ostind. Resa*, 233. 1757; *Acacia stipulata* Candolle; *Albizia stipulata* (Candolle) Boivin.

Trees, deciduous, to 30 m tall. Branchlets yellow pubescent. Stipules deciduous, cordate, large, membranous, apex apiculate; glands just below junctions of pinnae; pinnae 6–12 pairs; leaflets 20–35(–40) pairs, sessile, oblong-linear, falcate, 6–10 × 2–3 mm, abaxially villous, main vein close to upper margin, base subtruncate, margin ciliate, apex acuminate. Heads 10–20-flowered, arranged in a terminal panicle; peduncles long or short, densely villous. Flowers dimorphic, green-white or yellowish, densely yellow-brown tomentose. Calyx funnel-shaped, ca. 3 mm, shortly 5-toothed. Corolla ca. 2 × as long as calyx; lobes ovate-deltoid. Stamens ca. 2.5 cm, tube ca. as long

as or slightly longer than corolla tube. Ovary yellow-brown villous, sessile. Legume indehiscent, or irregularly breaking up, plano-compressed, 10–15 × ca. 2 cm, slightly pubescent when young, glabrous when mature. Seeds elliptic, flat, ca. 7 × 4–5 mm; pleurogram minute, ca. 1 mm in diam., near micropyle. Fl. Mar–May, fr. Jun–Dec.

Forests and open fields; sea level to 1000 m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Xizang, Yunnan, Zhejiang [most areas with a seasonal climate in S and SE Asia].

This tree is used for its timber.

36. ENTEROLOBIUM Martius, Flora 20(2, Beibl.): 117. 1837.

象耳豆腐 xiang er dou shu

Trees, unarmed. Leaves bipinnate; stipules not conspicuous; petiole with gland; pinnae and leaflets in numerous pairs. Heads globose, solitary or in racemes, axillary. Flowers dimorphic or uniform, bisexual. Calyx campanulate, shortly 5-dentate. Corolla funnel-shaped, 5-lobed. Stamens numerous, basally connate into a tube; anthers eglandular. Ovary sessile, many ovuled; style filiform. Legume broadly circinate or incurved-reniform, thick, hard, not dehiscent; mesocarp spongy, at length hardened. Seeds transverse, compressed, with pleurogram; funicle filiform.

Five species: tropical regions of the Americas; one species (introduced) in China.

1. Enterolobium cyclocarpum (Jacquin) Grisebach, Fl. Brit. W. I. 226. 1860.

象耳豆 xiang er dou

Mimosa cyclocarpa Jacquin, Fragm. Bot. 30. 1800.

Trees, unarmed, deciduous, large, 10–20 m tall; crown spreading, thin. Young branchlets, leaves, and inflorescences white pubescent. Stipules caducous, small; petiole and rachis with glands; pinnae (3 or)4–9 pairs; leaflets 12–25(–30) pairs, subsessile, falcate-lanceolate, 8–14 × 3–6 mm, both surfaces sparsely pubescent, midvein close to upper margin, base trun-

cate, apex mucronate. Heads globose, 1–1.5 cm in diam., fasciculate or in racemes. Flowers greenish or white. Calyx ca. 3 mm, calyx and corolla pubescent. Corolla ca. 6 mm. Stamens numerous, basally connate into a tube. Legume black-brown, curved, auriculate-reniform, 5–7 cm in diam., fleshy, both ends rounded, indehiscent. Seeds 10–20, arranged in 2 rows, dark brown, shiny, narrowly ellipsoidal, ca. 1.5 cm, hard. Fl. Apr–Jun, fr. Oct–Dec.

Cultivated in Fujian, Guangdong, Guangxi, Jiangxi, Zhejiang [native to Central and South America; commonly cultivated in tropical areas].

37. ARCHIDENDRON F. Mueller, Fragm. 5: 59. 1865.

猴耳环属 hou er huan shu

Cylindrokelupha Kostermans; *Paralbizzia* Kostermans.

Trees or shrubs, unarmed. Leaves bipinnate; stipules present or not; petiole, rachis, and pinnae with glands; pinnae in few pairs; leaflets few to several pairs, rarely in 1 pair. Inflorescence a globose head or arranged in panicle, terminal or axillary, or cauliflorous. Flowers white, small, bisexual or polygamous, uniform. Calyx campanulate or tubular, 5-toothed. Petals connate below middle; lobes 5. Stamens numerous; filaments exerted, united into a tube; anthers small, apex eglandular. Carpels 1 to several, free, sessile or stipitate, many ovuled; style filiform; stigma terminal, capitellate. Legume much curved or spirally twisted, or straight, cylindrical, flat or swollen. Seeds ovoid or orbicular, without pleurogram.

About 100 species: tropical Asia; 16 species (three endemic) in China.

Key based on fruiting specimens

1a. Legume contorted.

2a. Pinnae 1 or 2 pairs; leaflets alternate or opposite.

3a. Leaflets alternate except for terminal pair, obliquely ovate or oblong, 5–9 × 2–4.5 cm 1. *A. lucidum*

3b. Leaflets opposite, elliptic or ovate-elliptic, 7–18 × 3–9 cm 2. *A. ellipticum*

2b. Pinnae 2–8 pairs; leaflets opposite.

4a. Branchlets angulate 3. *A. clypearia*

4b. Branchlets terete.

5a. Pinnae 2 or 3 pairs; leaflets 4–7 pairs, larger, 2–9 × 1.5–4 cm 4. *A. utile*

- 5b. Pinnae 5 or 6 pairs; leaflets 7–14 pairs, smaller, 0.5–2 × 0.4–0.9 cm 5. *A. multifoliolatum*
- 1b. Legume straight or slightly curved.
- 6a. Inflorescence cauliflorous; legume valves slightly contorted after dehiscence, conspicuously netted 6. *A. cordifolium*
- 6b. Inflorescence on leafy branches, terminal or axillary; legume valves not as above.
- 7a. Pinnae (1 or)2 pairs, if 1 pair then leaflets alternate.
- 8a. Young branchlets and leaf rachis conspicuously angulate; leaflets 8–30 × 5–12 cm 7. *A. eberhardtii*
- 8b. Young branchlets and leaf rachis not angulate; leaflets smaller than above.
- 9a. Leaflets opposite, abaxially sparsely ferruginous pubescent, lateral veins 5–7 pairs 8. *A. balansae*
- 9b. Leaflets alternate, except terminal one, both surfaces glabrous, lateral veins 3–5 pairs 9. *A. alternifoliolatum*
- 7b. Pinnae 1 pair; leaflets opposite or subopposite.
- 10a. Glands at petiole flat or concave.
- 11a. Leaflets 1–3 pairs, lateral veins 4–6 pairs 14. *A. kerrii*
- 11b. Leaflets 2 or 3 pairs, lateral veins 3, 4, or 6–11 pairs.
- 12a. Lateral veins 3 or 4 pairs 15. *A. robinsonii*
- 12b. Lateral veins 6–11 pairs 16. *A. turgidum*
- 10b. Glands at petiole and leaf rachis raised, more than 1 mm high, hollow.
- 13a. Leaflets 2 pairs.
- 14a. Petiolar gland 3–7 mm in diam.; leaflets to 25 cm 10. *A. xichouense*
- 14b. Petiolar gland 0.5–3 mm in diam.; leaflets to 14 cm 11. *A. chevalieri*
- 13b. Leaflets 2 or 3 pairs.
- 15a. Petiolar gland (1.5–)2(–3) mm in diam.; leaflets 3 pairs 12. *A. laoticum*
- 15b. Petiolar gland 0.5–1.5 mm in diam.; leaflets 2 or 3 pairs 13. *A. tonkinense*

Key based on flowering specimens

- 1a. Branchlets angular or winged.
- 2a. Flowers pedicellate 3. *A. clypearia*
- 2b. Flowers sessile 7. *A. eberhardtii*
- 1b. Branchlets terete.
- 3a. Ovary sessile 16. *A. turgidum*
- 3b. Ovary stipitate.
- 4a. Inflorescence cauliflorous; legume valves conspicuously netted 6. *A. cordifolium*
- 4b. Inflorescence on leafy branches, terminal or axillary; legume valves not netted.
- 5a. Leaflets alternate except for distal pair.
- 6a. Glands on leaf rachis depressed; calyx 1.5–2 mm; legume twisted into a circle 1. *A. lucidum*
- 6b. Glands on leaf rachis globose; calyx ca. 4 mm; legume cylindrical 9. *A. alternifoliolatum*
- 5b. Leaflets all opposite or subopposite.
- 7a. Tertiary veins of leaflets forming ladderlike connections between secondary ones 11. *A. chevalieri*
- 7b. Tertiary veins of leaflets not forming ladderlike connections.
- 8a. Petiolar gland raised, hollow.
- 9a. Calyx glabrous 12. *A. laoticum*
- 9b. Calyx faintly to densely puberulent.
- 10a. Calyx subtubular, ca. 2 mm; corolla ca. 5.5 mm, sericeous 13. *A. tonkinense*
- 10b. Calyx campanulate, ca. 3 mm; corolla ca. 8 mm, puberulent 10. *A. xichouense*
- 8b. Petiolar gland circular, elliptic, or oblong.
- 11a. Calyx tube puberulent to tomentose.
- 12a. Pinnae 1 or 2 pairs 1. *A. lucidum*
- 12b. Pinnae 2–6 pairs.
- 13a. Pinnae 2 or 3 pairs; leaflets 4–7 pairs, larger, 2–9 × 1.5–4 cm 4. *A. utile*
- 13b. Pinnae 5 or 6 pairs; leaflets 7–14 pairs, smaller, 0.5–2 × 0.4–0.9 cm ... 5. *A. multifoliolatum*
- 11b. Calyx tube glabrous.
- 14a. Distal leaves with only 1 pair of leaflets per pinna 14. *A. kerrii*
- 14b. Distal leaves with more than 1 pair of leaflets per pinna.
- 15a. Corolla (9–)12.5–15 mm 15. *A. robinsonii*
- 15b. Corolla to 8 mm.
- 16a. Corolla tube glabrous 14. *A. kerrii*
- 16b. Corolla tube puberulent to woolly.
- 17a. Heads 2–6-flowered 2. *A. ellipticum*
- 17b. Heads 10- or more flowered 8. *A. balansae*

1. Archidendron lucidum (Benth) I. C. Nielsen, *Adansonia*, n.s., 19: 19. 1979.

亮叶猴耳环 liang ye hou er huan

Pithecellobium lucidum Benth, London J. Bot. 3: 207. 1844; *Abarema lucida* (Benth) Kostermans.

Trees, 2–10 m tall, unarmed. Branchlets terete. Branchlet, petiole, and inflorescence shortly brown tomentose. Pinnae 1 or 2 pairs; leaf rachis and base of petiole with round, sunken glands; leaflets 2 or 3 pairs in lower pinnae, 4 or 5 pairs in upper pinnae, adaxially shiny and deep green, obliquely ovate or oblong, 5–9(–11) × 2–4.5 cm, apical ones larger, opposite, proximal ones alternate and smaller, both surfaces glabrous or puberulent on veins, base oblique, apex acuminate, mucronate. Heads globose, 10–20-flowered, arranged in panicles; peduncles to 1.5 cm. Flowers sessile. Calyx less than 2 mm, calyx and corolla shortly brown tomentose. Corolla white, 4–5 mm; lobes connate at middle. Staminal tube slightly shorter than corolla tube. Ovary shortly stipitate, glabrous. Legume twisted into a circle, 2–3 cm wide, margin between seeds constricted. Seeds black, ca. 1.5 × 1 cm. Fl. Apr–Jun, fr. Jul–Dec.

Thin forests; 100–1400 m. Fujian, Guangdong, Guangxi, Hainan, Sichuan, Taiwan, Yunnan, Zhejiang [Cambodia, Laos, Thailand, Vietnam].

2. Archidendron ellipticum (Blume) I. C. Nielsen, *Adansonia*, n.s., 19: 21. 1979.

椭圆叶猴耳环 tuo yuan ye hou er huan

Inga elliptica Blume, Cat. Gew. Buitenz. 88. 1823.

Trees, small, to 20 m tall. Branchlets terete, with white lenticels; young branchlets brown pubescent. Pinnae 1 or 2 pairs; glands at upper part of petiole and rachis; petiolules 3–4 mm; leaflets 2 or 3 pairs, opposite or subopposite, elliptic or ovate-elliptic, 7–18 × 3–9 cm, both surfaces glabrous, base cuneate to broadly cuneate, apex acuminate to long acuminate. Heads 2–6-flowered, arranged in terminal and axillary panicles. Calyx 4.5–5 mm; teeth 0.5–1 mm. Corolla 4.5–5 mm; lobes 2–2.5 mm. Staminal tube equaling corolla tube. Ovary puberulent. Legume curved into a circle, 4.5–8 mm in diam.; valves 2–3.5 cm wide. Seeds 1.7–2.1 × 1–1.1 cm. Fl. and fr. year-round.

Evergreen broad-leaved forests; ca. 1500 m. Yunnan [Indonesia, Malaysia, Philippines, Thailand].

The record of this species for China is possibly based on a misidentification.

3. Archidendron clypearia (Jack) I. C. Nielsen, *Adansonia*, n.s., 19: 15. 1979.

猴耳环 hou er huan

Inga clypearia Jack, Malay. Misc. 2(7): 78. 1822; *Abarema angulata* (Benth) Kostermans; *A. clypearia* (Jack) Kostermans; *Pithecellobium angulatum* Benth; *P. clypearia* (Jack) Benth; *P. clypearia* var. *acuminatum* Gagnepain.

Trees, to 10 m tall. Branchlets angulate, densely yellow tomentose. Leaf petiole 4-angulate; leaf rachis and base of petiole with glands; glands flat or hollow; pinnae (3 or) 4 or

5(–8) pairs, densely yellow tomentose, lowermost pinna with 3–6 pairs of leaflets, uppermost one with 10–12 pairs of leaflets; leaflets subsessile, adaxially shiny, oblique, rhombic-trapezoid, 1–7 × 0.7–3 cm, upper one largest, downward smaller, leathery, both surfaces slightly brown pubescent, base very unequally sided. Corymbs several flowered, arranged in terminal or axillary panicles. Flowers pedicellate. Calyx campanulate, 1–3 mm, 5-toothed, calyx and corolla densely brown villous. Corolla white or yellowish, 4–5 mm; lobes lanceolate. Stamens ca. 2 × as long as corolla, staminal tube equaling corolla tube. Ovary stipitate, hairy. Legume twisted, 1–1.5 cm wide, margin constricted between seeds. Seeds 4–10, black, ellipsoidal or broadly ellipsoidal, ca. 1 cm; testa wrinkled when dry. Fl. Feb–Jun, fr. Apr–Aug.

Forests; 500–1800 m. Fujian, Guangdong, Guangxi, Hainan, Taiwan, Yunnan, Zhejiang [tropical Asia].

This plant is important for the tannins contained in its bark.

4. Archidendron utile (Chun & F. C. How) I. C. Nielsen, *Adansonia*, n.s., 19: 20. 1979.

薄叶猴耳环 bao ye hou er huan

Pithecellobium utile Chun & F. C. How, Acta Phytotax. Sin. 7: 17. 1958; *Abarema utilis* (Chun & F. C. How) Kostermans.

Shrubs, 1–2 m tall, rarely small trees. Branchlets terete, brown pubescent. Pinnae 2 or 3 pairs, 10–18 cm; glands on petiole and rachis of apical 1 or 2 leaflets at places of insertion, glands circular, sessile; leaflets 4–7 pairs, opposite, oblong-rhombic, 2–9 × 1.5–4 cm, apical ones larger, downward smaller, membranous, abaxially pubescent, adaxially glabrous, base obtuse or acute, apex obtuse, mucronate. Heads ca. 15-flowered, ca. 1 cm in diam. (not including filaments), arranged in terminal panicles ca. 30 cm. Flowers sessile, white, fragrant. Calyx campanulate, 1.5–3 mm, teeth and corolla pubescent. Corolla 6–8 mm; lobes ovate-oblong, ca. 1.5 mm. Staminal tube shorter than corolla tube. Ovary stipitate, glabrous. Legume red-brown, falcate, 6–10 × 1–1.3 cm. Seeds black, shiny, suborbicular, ca. 1 cm. Fl. Mar–Aug, fr. Apr–Dec.

Forests; 100–700 m. Fujian, Guangdong, Guangxi, Hainan, Zhejiang [Vietnam].

5. Archidendron multifoliolatum (H. Q. Wen) T. L. Wu, **comb. nov.**

多叶猴耳环 duo ye hou er huan

Basionym: *Pithecellobium multifoliolatum* H. Q. Wen, Guihaia 15: 212. 1995; *Abarema multifoliolata* (H. Q. Wen) X. Y. Zhu.

Shrubs, ca. 1 m tall. Branchlets terete, brown puberulent. Pinnae 5 or 6 pairs, 4–11 cm; rachis ca. 12 cm; glands oblong or concave at petiolar base and rachis apex, on apical 1 or 2 leaflets at places of insertion; leaflets 7–14 pairs, subsessile, papery, oblong-rhombic, 0.5–2 × 0.4–0.9 cm, apical ones larger, proximal ones smaller, both surfaces puberulent, base unequally sided, margin entire, apex mucronate. Flowers not seen. Legume red, twisted, 7–13 × ca. 1.3 cm, pubescent. Seeds 4–9.

- Forests; ca. 700 m. Guangxi.

6. Archidendron cordifolium (T. L. Wu) I. C. Nielsen, *Acta Phytotax. Sin.* 21: 167. 1983.

心叶猴耳环 xin ye hou er huan

Zygia cordifolia T. L. Wu, *Acta Phytotax. Sin.* 19: 220. 1981; *Abarema cordifolia* (T. L. Wu) C. Chen & H. Sun; *Albizia cordifolia* (T. L. Wu) Y. H. Huang.

Trees. Branchlets brown, terete, glabrous, lenticellate. Pinnæ 1 pair; petiole 16–25 cm; petiolar gland orbicular, flat or concave; leaf rachis 20–22 cm; petiolules 5–7 mm; leaflets 3 or 4 pairs, obovate-oblong, 8–30 × 5–18 cm, both surfaces glandular hairy, more densely so abaxially, lateral veins 10–21 pairs, base slightly cordate, apex rounded or acute. Heads 20–50-flowered, arranged in panicles on old branches or stems. Calyx ca. 1.2 mm. Corolla ca. 2.2 mm. Filaments ca. 2 mm. Ovary ca. 1 mm. Legume brownish outside, orange-red inside, strap-shaped, 23–46 × 3.5–4 cm, dehiscent along both sutures; valves slightly contorted, leathery, conspicuously net-veined. Seeds 6–10, ovoid, compressed, ca. 2.5 × 1.7 × 0.7 cm; testa black. Fl. May, fr. Nov.

- Valleys; 200–300 m. Yunnan [Vietnam].

7. Archidendron eberhardtii I. C. Nielsen, *Adansonia*, n.s., 19: 30. 1979.

大棋子豆 da qi zi dou

Albizia eberhardtii (I. C. Nielsen) Y. H. Huang; *Cylindrokelupha eberhardtii* (I. C. Nielsen) T. L. Wu; *C. macrophylla* T. L. Wu.

Trees, to 10 m tall. Branchlets strong, 1–1.5 cm in diam., obviously angulate. Leaves large; leaf rachis to 34 cm, obviously angulate; glands urceolate, raised; pinnæ 2 pairs; rachis ca. 35 cm; petiolules ca. 6 mm; leaflets 3 pairs, opposite, oblong, 8–30 × 5–12 cm, both surfaces glabrous, midvein central, lateral veins 6–11 pairs, base attenuate, apex acuminate. Heads 4- or 5-flowered, arranged in panicles ca. 20 cm, fasciculate on old branches. Flowers sessile. Calyx cup-shaped, ca. 3 mm; lobes deltoid. Corolla funnel-shaped, 1.1–1.2 cm, sericeous; lobes narrowly ovate, 3–3.5 mm, apex acute. Staminal tube ca. as long as corolla tube. Ovary glabrous, ca. 2.5 mm; stipe ca. 4 mm. Legume cylindrical, ca. 20 × 5 cm, dehiscent along both sutures; valves brown, ca. 5 mm thick, subwoody, squarrose-scaly. Seeds large, bullet-form on both ends, ca. 6 cm high, ca. 4 cm in diam., middle ones shortly cylindrical, ca. 4 cm high. Fr. Jan.

- Valleys, along streams in forests; ca. 1000 m. Guangxi [N Vietnam].

The seeds are rich in starch.

8. Archidendron balansae (Oliver) I. C. Nielsen, *Adansonia*, n.s., 19: 23. 1979.

锈毛棋子豆 xiu mao qi zi dou

Pithecellobium balansae Oliver, *Hooker's Icon. Pl.* 20: t. 1976. 1891; *Albizia balansae* (Oliver) Y. H. Huang; *Cylindrokelupha balansae* (Oliver) Kostermans.

Trees, 8–25 m tall. Branchlets red-brown, obviously lenticellate. Leaf petiole 6–8 cm; glands elliptic, flat; pinnæ 2 pairs; leaf rachis 16–24 cm; petiolules 5–8 mm; leaflets 4 pairs, opposite, with 1 gland per leaflet pair, oblong or oblanceolate, (5–)10–18 × 3–6.5 cm, abaxially ferruginous pubescent, more densely so on veins, adaxially glabrous or very sparsely ferruginous pubescent, lateral veins 5–7 pairs, conspicuous on both surfaces, base attenuate or obtuse, apex shortly acuminate. Flowers sessile, ca. 20 in globose head, heads arranged in panicle ca. 20 cm, ferruginous tomentose, branches sparse. Calyx cup-shaped, ca. 1.5 mm. Corolla tube ca. 2.5 mm; lobes 5, ca. 2 mm. Staminal tube equaling corolla tube; filaments 8–10 mm. Ovary stipitate, glabrous. Legume cylindrical, 7–15 × ca. 6 cm. Seeds 2–6, bullet-form at both ends, middle ones shortly cylindrical, ca. 4.5 cm high and in diam. Fl. Apr–May, fr. Jul.

- Thin forests; 600–1300 m. S Yunnan [Vietnam].

9. Archidendron alternifoliolatum (T. L. Wu) I. C. Nielsen, *Acta Phytotax. Sin.* 21: 164. 1983.

长叶棋子豆 chang ye qi zi dou

Cylindrokelupha alternifoliolata T. L. Wu, *Acta Phytotax. Sin.* 19: 219. 1981; *Albizia alternifoliolata* (T. L. Wu) Y. H. Huang; *Archidendron glabrifolium* (T. L. Wu) I. C. Nielsen; *C. glabrifolia* T. L. Wu.

Trees, to 6 m tall. Branchlets brown, yellow pubescent. Leaf petiole 2.5–6 cm, with globose gland above middle; pinnæ 1 pair; pinna rachis 10–13 cm, sparsely pubescent; petiolules 5–7 mm; leaflets 3 pairs, alternate except terminal opposite pair, oblong, 7–15 × 4–8 cm, lateral veins 3–5 pairs, base acute, apex acuminate. Heads more than 20-flowered, arranged in panicles. Calyx tubular, ca. 4 mm, 5-toothed, sparsely pubescent. Corolla tube ca. 5 mm; lobes lanceolate, ca. 4 mm, yellow pubescent. Filaments ca. 1.5 cm. Ovary glabrous. Legume cylindrical, 18–21 × 4–5 cm, dehiscent along both sutures. Seeds broadly cylindrical, ca. 2.8 cm high, ca. 3.5 cm in diam. Fl. Mar, fr. Nov.

- Forests; 1400–2000 m. Guangxi, Yunnan.

10. Archidendron xichouense (C. Chen & H. Sun) X. Y. Zhu in X. Y. Zhu et al., *Legumes China*, 78. 2007 [“*xichouensis*”].

巨腺棋子豆 ju xian qi zi dou

Cylindrokelupha xichouensis C. Chen & H. Sun, *Acta Bot. Yunnan.* 12: 120. 1990.

Trees, ca. 15 m tall. Branchlets terete. Leaf petiole 4–6 cm; petiolar gland above middle, raised and concave, 1.5–3 mm high, 3–7 mm in diam.; pinnæ 1 pair, 6–10 cm; petiolules 5–7 mm; leaflets 2 pairs, opposite, elliptic, 9–25 × 4–10 cm, terminal one larger, base cuneate, apex acuminate. Heads 10–15-flowered, arranged in panicles 10–20 cm. Calyx campanulate, ca. 3 mm; teeth ca. 0.5 mm. Corolla tubular, ca. 8 mm, puberulent; lobes ovate, ca. 2 mm. Staminal tube ca. as long as corolla tube. Ovary ca. 3 mm, glabrous. Legume slightly curved, cylindrical, ca. 4.5 cm in diam. Seeds cylindrical, 2–3 cm high, ca. 3 cm in diam., both ends truncate; testa hardened.

- Dense forests; 1000–1400 m. Guangxi, Yunnan.

11. Archidendron chevalieri (Kostermans) I. C. Nielsen, Adansonia, n.s., 19: 28. 1979.

坛腺棋子豆 tan xian qi zi dou

Cylindrokelupha chevalieri Kostermans, Reinwardtia 5: 248. 1960; *Albizia chevalieri* (Kostermans) Y. H. Huang (1983), not Harms (1907).

Trees, small, to 10 m tall. Branchlets gray, terete, glabrous. Leaf petiole 1–4 cm; petiolar gland raised, pot-form, ca. 2 mm high, 0.5–3 mm in diam.; pinnae 1 or 2 pairs, with similar gland at apex; petiolules 3–7 mm; leaflets 2 pairs, opposite, elliptic, 8–14 × 4–8 cm, upper one larger, both surfaces glabrous, mid-vein central, lateral veins 3 or 4 pairs, connected by parallel veins, base attenuate, apex shortly acuminate. Heads 10–20-flowered, arranged in narrow panicles to 15 cm. Flowers white, fragrant, sessile. Calyx 2.5–3 mm, glabrous; teeth inconspicuous. Corolla campanulate, 7–8 mm; lobes linear-oblong, only margin pubescent. Staminal tube ca. as long as corolla tube; anthers minute. Ovary glabrous; stipe ca. 2.5 mm. Legume slightly curved or straight, cylindrical, 4–10 × 2.5–3 cm, dehiscent along both sutures; valves brown, leathery, netted. Seeds 1–4, ca. 3 cm high, ca. 2.5 cm in diam., middle one shortly cylindrical, ca. 2 cm high, both ends turbinate. Fl. May, fr. Jul.

Dense wet forests; below 1700 m. Guangxi [N Vietnam].

12. Archidendron laoticum (Gagnepain) I. C. Nielsen, Adansonia, n.s., 19: 27. 1979.

老挝棋子豆 lao wo qi zi dou

Pithecellobium laoticum Gagnepain, Bull. Soc. Bot. France 99: 48. 1952; *Cylindrokelupha laotica* (Gagnepain) C. Chen & H. Sun.

Trees, ca. 10 m tall. Branchlets brownish, terete, glabrous. Leaf petiole 3–4.5 cm; petiolar glands at apex and insertion of first leaf pair, more than 1 mm high, 1.5–3 mm in diam., hollow inside; pinnae 1 pair; pinna rachis 5–12 cm; petiolules ca. 3 mm; leaflets 3 pairs, opposite, sublanceolate or oblanceolate, 6–10 × 2–3 cm, terminal one largest, firmly papery, lateral veins 5–9 pairs, glabrous on both surfaces, base attenuate, apex mucronate, slightly unequally sided. Heads ca. 20-flowered, ca. 2 cm in diam. (including filaments), 1 or 2 axillary or arranged in panicles; peduncles 1.5–2 cm. Calyx campanulate, 2–3 mm; teeth deltoid. Corolla 4.5–5.5 mm; lobes lanceolate, ca. 3 mm, margin and apex golden pubescent. Stamens ca. 1 cm, staminal tube equaling corolla tube. Ovary stipitate, glabrous. Legume and seeds unknown. Fl. Mar.

Margins of dense forests; 500–700 m. Yunnan [Laos, Vietnam].

The Chinese record of *Archidendron dalatense* (Kostermans) I. C. Nielsen (FRPS 39: 48. 1988, as *Cylindrokelupha dalatensis* (Kostermans) T. L. Wu) is based on a misidentification of *A. laoticum*. See S. Hang and J. Chen (Acta Bot. Yunnan. 12: 121–122. 1990, as *C. laotica*).

13. Archidendron tonkinense I. C. Nielsen, Adansonia, n.s., 19: 24. 1979.

绢毛棋子豆 juan mao qi zi dou

Albizia tonkinensis (I. C. Nielsen) Y. H. Huang; *Cylindrokelupha tonkinensis* (I. C. Nielsen) T. L. Wu.

Trees, small, 5–7 m tall. Branchlets brown, terete, glabrous, with small lenticels. Leaf petiole ca. 2.5 cm; petiolar gland raised, subglobose, hollow, 0.5–1 mm high, 0.5–1.5 mm in diam.; pinnae 1 pair; petiolules 2–3 mm; leaflets 2 or 3 pairs, opposite or subopposite, oblong or elliptic, (2.5–)5.5–10 × (1–)2–3.5 cm, both surfaces glabrous, lateral veins 4 pairs, raised abaxially, inconspicuous adaxially, base narrowly cuneate, apex obtuse-acuminate. Heads 12–15-flowered, ca. 1.2 cm in diam. (including filaments), arranged in panicles to 10 cm. Calyx ca. 2 mm; teeth deltoid, ca. 0.5 mm, densely ferruginous pubescent. Corolla campanulate or funnel-shaped, ca. 5.5 mm, sericeous; lobes narrowly oblong, ca. 2 mm. Staminal tube shorter than corolla tube, ca. 3 mm. Ovary ca. 1.5 mm, glabrous; stipe ca. 1.5 mm. Legume ovoid, 7–8 × ca. 5 cm, glabrous, dehiscent along both sutures; valves brown. Seeds 2, brown, turbinate, 3–4 cm high, ca. 3.5 cm in diam.

Thin evergreen forests of valleys; ca. 300 m. Guangxi [N Vietnam].

14. Archidendron kerrii (Gagnepain) I. C. Nielsen, Adansonia, n.s., 19: 29. 1979.

碟腺棋子豆 die xian qi zi dou

Pithecellobium kerrii Gagnepain, Bull. Soc. Bot. France 99: 49. 1952; *Abarema kerrii* (Gagnepain) Kostermans; *A. yunnanensis* Kostermans; *Albizia yunnanensis* (Kostermans) Y. H. Huang (1983), not T. L. Wu (1981); *Archidendron yunnanense* (Kostermans) I. C. Nielsen; *Cylindrokelupha kerrii* (Gagnepain) T. L. Wu; *C. yunnanensis* (Kostermans) T. L. Wu.

Trees, small, 3–8 m tall. Branchlets brown, terete, glabrous. Leaf petiole 2–5 cm; petiolar gland plate-form, at insertion of pinna and first leaflet pair; pinnae 1 pair; leaflets 1–3 pairs, opposite or subopposite, ovate, elliptic, or lanceolate, 6–14 × 3–6 cm, papery, both surfaces glabrous, lateral veins 4–6 pairs, abaxially conspicuous, base cuneate or acute, apex acuminate or acute. Heads 10–15-flowered, 8–10 mm in diam., arranged in axillary or terminal loose panicles. Calyx urceolate or cup-shaped, 2.3–3 mm; teeth irregular. Corolla tubular or narrowly funnel-shaped, 6–8 mm, glabrous; lobes narrowly deltoid or oblong, 2–3 mm, apex puberulent. Staminal tube ca. as long as corolla tube or shorter. Ovary glabrous; stipe ca. 1.5 mm. Legume cylindrical, ca. 10 × 2–2.5 cm, straight; valves brown. Seeds 6 or 7, shortly cylindrical at middle, 5–7 mm high, 1.3–2 cm in diam., both ends turbinate; testa black, crustaceous. Fl. May, fr. Aug.

Dense forests; 200–1800 m. Guangxi, Yunnan [Laos, Vietnam].

15. Archidendron robinsonii (Gagnepain) I. C. Nielsen, Adansonia, n.s., 19: 26. 1979.

棋子豆 qi zi dou

Pithecellobium robinsonii Gagnepain, Notul. Syst. (Paris) 2: 281. 1912; *Abarema robinsonii* (Gagnepain) Kostermans; *Albizia robinsonii* (Gagnepain) Y. H. Huang; *Cylindrokelupha robinsonii* (Gagnepain) Kostermans; *Paralbizzia robinsonii* (Gagnepain) Kostermans.

Trees, 8–9 m tall. Branchlets brown or reddish, cylindrical, glabrous, with curved leaf scars. Leaf petiole 2–6 cm; petiolar

gland circular, less than 0.5 mm high, 0.5–0.7 mm in diam., at upper portion of petiole and insertion of leaflets; rachis of pinnae 6–11 cm; pinnae 1 pair; petiolules ca. 4 mm; leaflets 3 pairs, opposite or subopposite, elliptic or lanceolate, 5–14(–20) × 3–5(–10) cm, both surfaces glabrous, lateral veins 3 or 4 pairs, conspicuous, base cuneate or acute, symmetric or not, apex acuminate. Heads 6–8-flowered, arranged in axillary panicles to 20 cm; peduncles 1–1.5 cm. Calyx urceolate or cup-shaped, 4.5–7 mm, glabrous; teeth inconspicuous. Corolla funnel-shaped or campanulate, (0.9–)1.2–1.5 cm; lobes narrowly ovate or elliptic, 4–5 mm, abaxially and apically sericeous. Staminal tube equaling corolla tube. Ovary glabrous; stipe 6–8 mm. Legume straight, cylindric, 10–20 × 3–3.5 cm; valves brown, leathery. Seeds to 7, ca. 2.5 × 2.5 cm, both ends turbinate; testa brown, crustaceous.

Dense forests of valleys; 300–700 m. Guangxi, Yunnan [Vietnam].

16. *Archidendron turgidum* (Merrill) I. C. Nielsen, *Adansonia*, n.s., 19: 32. 1979.

大叶合欢 da ye he huan

Pithecellobium turgidum Merrill, *Philipp. J. Sci.* 15: 239.

1919; *Albizia croizatiana* F. P. Metcalf; *A. turgida* (Merrill) Merrill; *Cylindrokelupha turgida* (Merrill) T. L. Wu; *Paralbizia turgida* (Merrill) Kostermans.

Trees, small, 4–9 m tall. Branches terete. Young branchlets and leaf rachis ferruginous tomentose. Leaf glands near tip of petiole and on rachis at places of leaflet insertion; pinnae 1 pair; petiolules 2–6 mm; leaflets opposite, 2 or 3 pairs, oblong, elliptic, obliquely lanceolate, or obliquely elliptic, 7–20 × 3.5–7 cm, papery, abaxially very sparsely appressed pubescent, more densely so on veins, adaxially glabrous, midvein central, lateral veins 6–11 pairs, base acute or rounded, apex long or shortly acuminate. Heads ca. 1.5 cm in diam., ca. 20-flowered, arranged in axillary or terminal panicles. Flowers white. Calyx cup-shaped, ca. 2 mm, 5-toothed. Corolla ca. 6 mm; lobes oblong, corolla and calyx white tomentose. Staminal tube much shorter than corolla tube. Ovary glabrous, sessile or nearly so. Legume swollen, oblong to strap-shaped, 7–20 × 2.5–3.5 cm. Seeds brown, ellipsoidal, 1.8–2.5 × ca. 2 cm, glabrous. Fl. Mar–May, fr. Jul–Dec.

Forests; 1000–1500 m. Guangdong, Guangxi [N Vietnam].

38. SAMANEA (Bentham) Merrill, *J. Wash. Acad. Sci.* 6: 46. 1916.

雨树属 yu shu shu

Pithecellobium sect. *Samanea* Bentham, *London J. Bot.* 3: 197, 215. 1844.

Trees, large, unarmed, with spreading crown. Leaves bipinnate; stipules deciduous, lanceolate; pinnae 3–6 pairs, with glands between pinnae on rachis; leaflets opposite. Inflorescences axillary corymbs, pedunculate; bracts small. Flowers dimorphic; central flowers enlarged, 7- or 8-merous; marginal flowers smaller, 5-merous. Calyx shortly lobed. Petals connate to middle. Stamens many, united at base into a tube; anthers not glandular. Ovary sessile; style filiform; ovules many. Legume straight or slightly curved, turgid with thickened margins, woody, indehiscent, septate between seeds. Seeds numerous, strongly biconvex, with pleurogram; aril absent.

Three species: mainly around the Amazon and in Central America; one species (introduced) in China.

1. *Samanea saman* (Jacquin) Merrill, *J. Wash. Acad. Sci.* 6: 47. 1916.

雨树 yu shu

Mimosa saman Jacquin, *Fragm. Bot.* 15. 1800; *Albizia saman* (Jacquin) F. Mueller; *Enterolobium saman* (Jacquin) Prain; *Pithecellobium saman* (Jacquin) Bentham.

Trees, 10–25 m tall. Branchlets puberulent to tomentose. Petiole 15–40 cm; pinnae 3–5(or 6) pairs, to 15 cm; glands at junctions of pinnae and leaflets; leaflets 3–8 pairs per pinna, asymmetrically oblong, 2–4 × 1–1.8 cm, abaxially pubescent, adaxially shiny, base half rounded, half truncate, apex rounded

or obtuse, often emarginate and mucronulate. Heads 1–5, together axillary, 5–6 cm in diam.; peduncles 5–6 cm. Marginal flowers pedicellate; calyx funnel-shaped, ca. 6 mm; corolla red or yellowish red, ca. 1.2 cm; stamens white at base, purple toward apex, ca. 3.5 cm; staminal tube shorter than corolla tube. Central flowers sessile; corolla to 1.2 cm; staminal tube longer than corolla. Legume black, oblong, compressed, 10–20 × 1.2–2.5 cm, sutures thickened, septate between seeds. Seeds brown, ellipsoidal, ca. 8 × 5 mm. Fl. Aug–Sep, fr. Dec.

Cultivated in Hainan, Taiwan, Yunnan [native to N part of tropical South America; planted throughout the tropics].