
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 funnell-shaped, upper part 5-lobed. Stamens numerous, connate into a tube at base, free part of filaments long exserted; 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 puberulent; 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. calcaria**

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. sherrifii**

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**


天香藤  tian xiang teng

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

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].

Mimosa procer a 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–sile. Legume ligulate, flat, 10–15 × 1.5–2.5 cm, glabrous. Seeds 8–12, obovoid-elliptic; pleurogram obovate-elliptic. Fl. May–sile.

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


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


7. 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. Corymbbs ca. 10-flowered, arranged in puberulent to tomentose panicles; peduncles ca. 2.5 cm. Flowers dimorphic, pedicellate. Calyx tubular, 2.5–3.5 mm; teeth inconspicuous. Corolla white, narrowly funnel-shaped, 7–9.5 mm; tube glabrous to faintly puberulent; lobes ± narrowly triangular, ca. 2.5 cm, 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 indescendent, 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)].


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

Trees, 8–20 m tall. Branchlets glabrous, angular. 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.


香合欢  xiāng hé huān


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, 10–18 × 2–4 cm, densely pubescent when young, ferruginous tomentose; stipe ca. 1 mm. Legume oblong, connate into a tube; tube shorter than corolla tube. Ovary glabrous, fusiform, densely puberulent when young, sparsely pubescent when mature. Seeds 4–12, obovoid or suborbicular; pleurogram narrowly ovate. Fl. Apr–May, fr. June–July of following year. 2n = 26.


山槐  shān huái

* 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-obovate, 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. Calyx 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; sealevel to 2600 m. Anhui, Fujian, Gansu, Guangdong, Guangxi, Guizhou, Hainan, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Shaaxi, Shandong, Shanxi, Sichuan, Taiwan, Zhejiang [India, Japan, Myanmar, Vietnam].


巧家合欢  qiǎo jiā hé huān


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 asymetrically 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).


光荚合欢  guāng jiá hé huān


Trees, deciduous, 8–12 m tall. Bark rough. Branchlets minutely pubescent, glabrous when old. Stipules caducous, small; leaf rachis with disk-like 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.


光腺合欢  guāng xiān hé huān

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; petio-
lutes 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.


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.


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. Staminial 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].


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, sub sessile; 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].


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

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, !?Laoning, !?Shaanxi, Shandong, Shanxi, Taiwan, Yunnan, Zhejiang [C, E, and SW Asia].


*Acacia chinensis* Osbeck, Dagb. Ostind. Resa, 233. 1757; *Albizia 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.