

15. HIBISCUS Linnaeus, Sp. Pl. 2: 693. 1753, nom. cons.

木槿属 mu jin shu

Bombycidendron Zollinger & Moritzi; *Fioria* Mattei; *Furcaria* (Candolle) Kosteletzky (1836), not Desvaux (1827); *Hibiscus* sect. *Furcaria* Candolle; *H.* sect. *Sabdariffa* Candolle; *Ketmia* Miller; *Sabdariffa* (Candolle) Kosteletzky; *Solandra* Murray (1785), not Linnaeus (1759), nor Swartz (1787), nom. cons.; *Talipariti* Fryxell.

Shrubs, subshrubs, trees, or herbs. Leaf blade palmately lobed or entire, basal veins 3 or more. Flowers axillary, usually solitary, sometimes subterminal and ± congested into a terminal raceme, 5-merous, bisexual. Epicalyx lobes 5 to many, free or connate at base, rarely very short (*H. schizopetalus*) or absent (*H. lobatus*). Calyx campanulate, rarely shallowly cup-shaped or tubular, 5-lobed or 5-dentate, persistent. Corolla usually large and showy, variously colored, often with dark center; petals adnate at base to staminal tube. Filament tube well developed, apex truncate or 5-dentate; anthers throughout or only on upper half of tube. Ovary 5-loculed or, as a result of false partitions, 10-loculed; ovules 3 to many per locule; style branches 5; stigmas capitate. Fruit a capsule, cylindrical to globose, valves 5, dehiscence loculicidal and sometimes partially septicial or indehiscent (*H. vitifolius* Linnaeus). Seeds reniform, hairy or glandular verrucose.

About 200 species: tropical and subtropical regions; 25 species (12 endemic, four introduced) in China.

According to recent molecular studies (Pfeil et al., Syst. Bot. 27: 333–350. 2002), *Hibiscus* is paraphyletic, and as more taxa are sampled and a more robust phylogeny is constructed, the genus undoubtedly will be recast. Species of other genera of Hibisceae found in China, such as *Abelmoschus*, *Malvaviscus*, and *Urena*, fall within a monophyletic *Hibiscus* clade. *Decaschistia*, which is currently placed in the Decaschisteae, also falls within this clade, but only a single Australian species was sampled and this may not be representative of the genus as a whole. Given the unsettled taxonomy of *Hibiscus*, we are choosing to be conservative, recognizing the paraphyletic nature of *Abelmoschus*, *Malvaviscus*, *Urena*, and possibly *Decaschistia*, and refraining from recognizing additional segregates of *Hibiscus* such as *Fioria* and *Talipariti*, which themselves may not be monophyletic.

The large colorful flowers of many species mean that the genus is of great horticultural interest and several species are now widely distributed in China. *Hibiscus elatus* Swartz and *H. radiatus* Cavanilles were included in FRPS but they are cultivated species of limited occurrence and do not meet the criteria for inclusion in this Flora.

Hibiscus forrestii Diels (Notes Roy. Bot. Gard. Edinburgh 5: 252. 1912), described from Yunnan, could not be treated here because no material was seen by the authors.

- 1a. Herbs, annual or perennial, sometimes ± scandent.
 - 2a. Epicalyx absent; calyx membranous, persistent and enclosing capsule 25. *H. lobatus*
 - 2b. Epicalyx present; calyx leafy, rarely ± fleshy.
 - 3a. Ovary and capsule glabrous; perennial herbs 18. *H. moscheutos*
 - 3b. Ovary and capsule strigose or pilose; annual or perennial herbs.
 - 4a. Leaf blade cordate, ovate, or orbicular, not lobed; capsule margins winged 19. *H. yunnanensis*
 - 4b. Leaf blade palmately lobed; capsule margins without wings.
 - 5a. Stems with reflexed or retrorsely curved prickles; epicalyx lobes with foliaceous appendage at or above middle.
 - 6a. Perennial herbs or subshrubs; stipules filiform; pedicel 0.3–0.7 cm; corolla purple, petals ca. 7 cm (cultivated) *H. radiatus* (see note above)
 - 6b. Annual herbs, often prostrate or scandent; stipules leafy, narrowly lanceolate or auriculate; pedicel 1–5 cm; corolla pale yellow with dark purplish center, fading to dull pink, petals ca. 3.5 cm.
 - 7a. Stipules auriculate; stem prickles without basal tubercle, curved 20. *H. surattensis*
 - 7b. Stipules narrowly lanceolate; stem prickles with prominent basal tubercle, straight 21. *H. hispidissimus*
 - 5b. Stems usually without prickles; epicalyx lobes with or without appendages.
 - 8a. Herbs annual, stems slender, erect or procumbent, with long white hairs; leaf blade lobes obovate to oblong, irregular, pinnately lobed, sometimes leaf ± compound; calyx papery, inflated, pale with purplish veins 22. *H. trionum*
 - 8b. Herbs annual or perennial, stems robust, erect; leaf blade lobes lanceolate; calyx leafy or fleshy, not inflated, uniformly colored.
 - 9a. Stems not spiny; epicalyx lobes lanceolate, with spiny appendage near apex, connate at base; calyx and epicalyx lobes red, thick and fleshy 23. *H. sabdariffa*
 - 9b. Stems sparsely prickly; epicalyx lobes filiform, spiny, without appendage, free; calyx and epicalyx lobes green, not thickened 24. *H. cannabinus*
 - 1b. Shrubs or trees.
 - 10a. Leaf margin entire or nearly so; epicalyx cup-shaped, lobes 8–12, joined for more than ca. 1/4 of length.

- 11a. Leaf blade ovate-oblong to elliptic-oblong, 3(–5)-veined, abaxial surface glabrous, stipules filiform; calyx longer than capsule 4. *H. grewiiifolius*
- 11b. Leaf blade cordate, 7–11-veined, abaxial surface hairy, often tomentose, stipules foliaceous or spathaceous; calyx as long as capsule.
- 12a. Branchlets glabrous; leaf blade 8–20 cm; seeds glabrous.
- 13a. Petals yellow with dark purple basal spot, 4–4.5 cm; calyx persistent 2. *H. tiliaceus*
- 13b. Petals red, 8–10 cm; calyx caducous (cultivated) *H. elatus* (see note above)
- 12b. Branchlets hairy; seeds hairy or minutely papillate.
- 14a. Branchlets with fascicled, long and silklike hairs; leaf blade 15–35 cm wide, stipules 2–4 cm wide; evergreen forest 1. *H. macrophyllus*
- 14b. Branchlets softly stellate pubescent, stellate hairs 0.5 mm or less; leaf blade 4–8 cm wide, stipules 0.3–1 cm wide; coastal sand 3. *H. hamabo*
- 10b. Leaf margin serrate or dentate; epicalyx lobes almost free, joined only at base, sometimes absent.
- 15a. Flowers in panicles, terminal or axillary; leaf blade cordate or ovate-cordate, not lobed; plant a climber 5. *H. austroyunnanensis*
- 15b. Flowers solitary, axillary, sometimes ± congested into a terminal raceme; leaf blade elliptic, oblong, or ovate to orbicular-ovate, often lobed; plant an erect shrub or tree, rarely climbing (*H. fragrans*).
- 16a. Epicalyx lobes spatulate, apex rounded, rarely lobed; leaf blade leathery, densely stellate tomentose 6. *H. aridicola*
- 16b. Epicalyx lobes filiform to ovate, apex obtuse or acute; leaf blade papery, indumentum sparser.
- 17a. Flowers pendulous; pedicel glabrous; staminal column longer than corolla; leaf blade not lobed.
- 18a. Petals deeply pinnatifid, reflexed; epicalyx lobes 1–2 mm 7. *H. schizopetalus*
- 18b. Petals entire or only slightly incised, spreading but not reflexed; epicalyx lobes 8–15 mm 8. *H. rosa-sinensis*
- 17b. Flowers erect or patent; pedicel hairy; staminal column shorter than or equaling corolla; leaf blade usually lobed (not lobed in *H. fragrans*).
- 19a. Leaf blade base cuneate or broadly cuneate, 3–5-veined; style glabrous or hairy.
- 20a. Epicalyx lobes 4–6 mm, connate for 1/3–1/2 length; seed glabrous 17. *H. leviseminus*
- 20b. Epicalyx lobes 6–25 mm, connate at base only; seed glabrous or hairy (ornamental deciduous shrubs).
- 21a. Leaf blade cuneate, ovate, or orbicular; epicalyx lobes lanceolate-oblong, 3–5 mm wide 16. *H. sinosyriacus*
- 21b. Leaf blade ovate, orbicular, or rhomboid; epicalyx lobes linear, 0.5–2 mm wide 15. *H. syriacus*
- 19b. Leaf blade base cordate, truncate, or rounded, 5–11-veined; style hairy.
- 22a. Epicalyx lobes ovate, 5–12 mm wide.
- 23a. Leaf blade ovate, not lobed; corolla ca. 3 cm in diam. 9. *H. fragrans*
- 23b. Leaf blade palmately 3–7-lobed; corolla 7–12 cm in diam.
- 24a. Pedicel and epicalyx lobes strigose with long ferruginous hairs ca. 3 mm 10. *H. paramutabilis*
- 24b. Pedicel and epicalyx lobes densely pale stellate pubescent 11. *H. indicus*
- 22b. Epicalyx lobes linear or linear-lanceolate, 1.5–5 mm wide.
- 25a. Epicalyx lobes 5 or 6, 16–25 × 3–5 mm; pedicel 1–3 cm 14. *H. labordei*
- 25b. Epicalyx lobes 8, 8–16 × 1.5–2 mm; pedicel 4–13 cm.
- 26a. Pedicels and epicalyx lobes strigose, hairs ca. 3 mm; leaf blade suborbicular, lobes 3–5 12. *H. taiwanensis*
- 26b. Pedicels and epicalyx lobes densely woolly pubescent; leaf blade ovate or cordate, lobes 5–7 13. *H. mutabilis*

1. *Hibiscus macrophyllus* Roxburgh ex Hornemann, Suppl. Hort. Bot. Hafn. 149. 1819.

大叶木槿 da ye mu jin

Pariti macrophyllum (Roxburgh ex Hornemann) G. Don; *Talipariti macrophyllum* (Roxburgh ex Hornemann) Fryxell.

Trees 6–9 m tall, to 30 cm d.b.h.; trunk erect, bark gray-white. Branchlets, bud, leaves, petioles, stipules, epicalyx lobes, and inflorescences densely hairy, hairs usually 6–8-fascicled, brown, silklike, ca. 8 mm. Bud terminal, 7–9 cm. Stipules foliaceous, oblong, large, caducous; petiole 15–30 cm; leaf blade nearly orbicular-cordate, not lobed, 20–36 cm in diam., both surfaces densely stellate velutinous, basal veins 7–9, promi-

nently raised abaxially, lateral veins and veinlets prominent, prominently raised abaxially, slightly impressed adaxially, base cordate, margin entire or serrate, apex acuminate. Inflorescences terminal, multi-flowered cymes, to 30 cm. Pedicel 2.5–3 cm, bracts spatulate and connate at base, large, caducous. Epicalyx lobes 10–12, filiform, ca. 2.5 cm, nearly as long as sepals, connate at base. Calyx campanulate, lobes 5, lanceolate. Corolla yellow with purple center, ca. 6 cm in diam.; petals villous abaxially. Staminal column ca. 3 cm. Ovary hairy; style branches 5, hairy; stigma capitate. Capsule oblong, 2.5–3 cm, densely scabrous hirsute. Fl. Mar–May, fr. Jul.

Evergreen broad-leaved forests, near villages; 400–1000 m. S Yunnan (Xishuangbanna) [Cambodia, India, Indonesia, Malaysia, Myanmar, Pakistan, Thailand, Vietnam].

2. *Hibiscus tiliaceus* Linnaeus, Sp. Pl. 2: 694. 1753.

黄槿 huang jin

Hibiscus boninensis Nakai; *H. tiliaceus* var. *heterophyllum* Nakai; *H. tiliaceus* var. *tortuosus* (Roxburgh) Masters; *H. tortuosus* Roxburgh; *Pariti boninense* (Nakai) Nakai; *P. tiliaceum* (Linnaeus) A. Jussieu; *P. tiliaceum* var. *heterophyllum* (Nakai) Nakai; *Talipariti tiliaceum* (Linnaeus) Fryxell.

Shrubs evergreen or trees, 4–10 m tall, to 60 cm d.b.h.; bark gray-white. Branchlets glabrous or nearly so, rarely stellate puberulent or stellate. Stipules foliaceous, oblong, ca. 2 × 1.2 cm, stellate pilose, apex rounded, caducous; petiole 3–8 cm; leaf blade nearly orbicular to broadly ovate, 8–15 × 8–15 cm, leathery, green, abaxially densely gray-white stellate puberulent, adaxially very sparsely stellate scaly, glabrescent, basal veins 7 or 9, base cordate, margin entire or obscurely crenate, apex abruptly acuminate. Inflorescence a 1- to few-flowered racemelike cyme, terminal or axillary; peduncle 4–5 cm. Pedicel 1–3 cm, with 1 pair of stipulelike bracteoles at base. Epicalyx lobes 7–10, joined for 1/3–1/2 of length, free lobes 2–2.5 mm, triangular-acuminate with slightly rounded sinuses, densely gray-white stellate puberulent. Calyx 1.5–2.5 cm, connate proximally for 1/4–1/3 of length, lobes 5, lanceolate, stellate puberulent, persistent. Corolla yellow with dark purple center, campanulate, 6–7.5 cm in diam.; petals obovate, 4–4.5 cm, yellow stellate puberulent abaxially. Filament tube ca. 3 cm, glabrous. Style branches 5, slender, with glandular hairs. Capsule subglobose to ovoid, ca. 2 cm, obscurely beaked, densely fascicled-hirsute, valves 5, woody. Seeds reniform, smooth, glabrous. Fl. Jun–Aug.

Sea shores, along streams, sandy soil; near sea level to 300 m. Fujian, Guangdong, Hainan, Taiwan [Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand, Vietnam; pantropical].

Borssum Waalkes (Blumea 14: 30–38. 1966) recognized a series of six subspecies. Chinese material belongs to the nominate subspecies, *Hibiscus tiliaceus* subsp. *tiliaceus*.

Fiber from the bast of *Hibiscus tiliaceus* is used on Hainan to make fishing nets.

3. *Hibiscus hamabo* Siebold & Zuccarini, Fl. Jap. 1: 176. 1841.

海滨木槿 hai bin mu jin

Hibiscus tiliaceus Linnaeus var. *hamabo* (Siebold & Zuccarini) Maximowicz; *Talipariti hamabo* (Siebold & Zuccarini) Fryxell.

Trees or shrubs, deciduous, 1–5 m tall, young stems softly stellate pubescent, stellate hairs 0.5 mm or less. Stipules foliaceous, oblong-ovate, ca. 1.5 × 1 cm, deciduous; petiole 1–2.5 cm; leaf blade orbicular to broadly obovate, not lobed, 3–6(–7) × 3.5–7(–8) cm, abaxially densely whitish puberulent, adaxially sparsely and minutely stellate pubescent, basal veins 5–7, base cordate, margin irregularly crenulate to subentire, apex abruptly acuminate; abaxial nectary at base of midrib. Flowers solitary, axillary, or by abortion or reduction of upper leaves in a few-flowered terminal raceme. Pedicel 3–10 mm, with densely mixed simple and stellate hairs, accrescent in fruit. Epicalyx cup-shaped, ca. 1 cm, lobes 8–10, connate for 1/2 of length, narrowly triangular. Calyx campanulate, 1.8–2.1 cm, deeply 5-lobed, longer than epicalyx; nectaries present, obscure. Corolla showy, yellow later turning orange-red, with dark red spots in center, 5–12 cm in diam.; petals obovate, 4–5 cm, stellate pubescent abaxially. Staminal column 1.5–2 cm, glabrous, apical 2/3 antheriferous, ca. 1/2 as long as petals. Style branches longer than staminal column; stigma capitate. Capsule ovoid, 2.5–3.5 cm, densely brownish hirsute. Seeds reniform, ca. 4.5 mm, minutely papillate (appearing glabrous).

Coastal sands; near sea level. Zhejiang [Japan (Bonin and Ryukyu Islands), Korea; cultivated in India and Pacific islands (Hawaii)].

This species is easily recognized by its obovate leaf blades.

4. *Hibiscus grewiifolius* Hasskarl, Cat. Hort. Bot. Bogor. 197. 1844.

樟叶槿 zhang ye jin

Bombycidendron grewiifolium (Hasskarl) Zollinger & Moritz; *Hibiscus bantamensis* Miquel; *H. cinnamomifolius* Chun & Tsiang; *H. praeclarus* Gagnepain.

Trees evergreen, to 7 m tall. Branchlets terete, light gray-white, glabrous or very minutely hairy. Stipules filiform, minute, caducous; petiole 2–4.5 cm, pilose; leaf blade ovate-oblong to elliptic-oblong, not lobed, 8–15 × 6–7 cm, papery or nearly leathery, glabrous, basal veins 3(–5), prominently raised abaxially, base obtuse or broadly cuneate, margin entire, apex shortly acuminate. Flowers unknown. Epicalyx lobes 9, filiform, 1–1.5 cm, glabrous. Epicalyx cup-shaped, 8–12-dentate. Sepals 5, oblong-lanceolate, campanulate, connate for 1/5 of length, longer than capsule, glabrous, persistent. Capsule solitary, axillary, fruit stalk ca. 4.5 cm, glabrous, ovoid, ca. 2 cm in diam.; mericarps 5, glabrous. Seeds 4 or 5 per mericarp, reniform, ca. 5 × 3 mm, densely woolly abaxially. Fr. Jan–Feb.

Hill forests; ca. 2000 m. Hainan [Indonesia, Laos, Myanmar, Thailand, Vietnam].

5. *Hibiscus austroyunnanensis* C. Y. Wu & K. M. Feng, Fl. Yunnan. 2: 223. 1979 [“*austro-yunnanensis*”].

滇南芙蓉 dian nan fu rong

Shrubs climbing, 3–5 m tall. Branchlets terete, densely

stellate puberulent. Stipules lanceolate, needle-shaped, caducous; petiole 2–4 cm, stellate puberulent; leaf blade cordate or ovate-cordate, not lobed, 6–10 × 5–8 cm, densely stellate puberulent when young, glabrescent, densely stellate puberulent abaxially, verrucose adaxially, basal veins 5, base cordate, margin serrate, apex acute to acuminate. Inflorescences terminal or axillary, 2–3-flowered panicles, fascicled, or flowers solitary, densely stellate puberulent. Pedicel 3–5 cm. Epicalyx lobes 5, connate at base, much shorter than calyx. Calyx campanulate, connate for 1/2 length, ca. 1.8 × 3 cm, densely stellate puberulent, lobes 5, ovate-triangular. Corolla white, flushed purplish abaxially, campanulate, ca. 5 cm in diam.; petals obovate, 2.5–3 cm, bearded at base. Staminal column ca. 1.5 cm, glabrous; filaments free for ca. 4 mm. Style branches 5, glabrous or minutely hairy. Capsule ellipsoid, ca. 3.5 × 1.5 cm, densely stellate tomentose, apex acute; mericarps 5; persistent sepals foliaceous, ca. 2 cm. Seeds reniform, villous, hairs white, ca. 8 mm. Fl. Dec.

- Mixed forests in valleys, streamsides; 500–1300 m. S Yunnan.

Hibiscus austroyunnanensis is similar to *H. fragrans* Roxburgh, but differs in having shorter petioles (5–7 cm in *H. fragrans*) and a larger corolla (ca. 3 cm wide in *H. fragrans*). It is also similar to the Indian species *H. scandens* Roxburgh, which differs in having 3-lobed leaf blades, the epicalyx as long as or longer than the calyx, and the corolla white or yellow, with a crimson center.

6. *Hibiscus aridicola* J. Anthony, Notes Roy. Bot. Gard. Edinburgh 15: 241. 1927.

旱地木槿 han di mu jin

Hibiscus aridicola var. *glabratus* K. M. Feng.

Shrubs deciduous, erect, 1–2 m tall; most parts densely yellow stellate tomentose, hairs of 2 sizes, more scalelike on veins. Branchlets terete or angular. Stipules filiform, 5–8 mm; petiole 1–6 cm; leaf blade ovate or orbicular-ovate, not lobed, 5–8 × 5–10 cm, thickly or thinly leathery, base truncate or cordate, margin dentate, apex acute to obtuse. Flowers solitary, subterminal. Pedicel 2.5–6 cm, articulate at end. Epicalyx lobes 6, linear-spatulate to oblanceolate, 8–12 × 2–4.5 mm, stellate scaly, apex rounded. Calyx cup-shaped, 2–2.2 × ca. 2 cm, lobes joined for more than 1/2 length, triangular-acuminate, 2.5–3 cm, abaxially densely yellow to brown stellate floccose interspersed with larger, paler stellate scales, adaxially sparsely villous near margins, barbate at base. Corolla white, sometimes tinged yellow in center, ± reflexed; petals obovate, 4–4.5 × ca. 4 cm. Staminal column 2–2.5 cm; anthers very dense, brick-red. Style exerted from filament tube by ca. 1 cm, curved, branches 5, not spreading, sometimes sparsely ciliate toward apex. Capsule ovoid, ca. 2.3 cm. Seeds reniform, woolly, hairs white, ca. 5 mm. Fl. Oct–Nov.

- Scrub, slopes, hot and dry river valleys; 1300–2100 m. SW Sichuan, NW Yunnan.

Hibiscus aridicola var. *glabratus*, with thinner textured leaf blades and glabrous styles, seems better regarded as just a shade form. *G. Forrest 16931* is a distinctive form possibly worthy of formal recognition: it is much more robust, with a darker indumentum, leaf blades to 20 × 20 cm with irregularly coarsely dentate margins, pedicels to 9 cm, and very distinctive epicalyx lobes that are broadly spatulate, to 20 × 14 mm, and irregularly 3-lobed.

7. *Hibiscus schizopetalus* (Dyer ex Masters) J. D. Hooker, Bot. Mag. 106: t. 6524. 1880.

吊灯芙蓉 diao deng fu sang

Hibiscus rosa-sinensis Linnaeus var. *schizopetalus* Dyer ex Masters, Gard. Chron., n.s., 11: 272. 1879.

Shrubs evergreen, erect, to 3 m tall. Branchlets slender, usually pendulous, glabrous. Stipules subulate, ca. 2 mm, usually caducous; petiole 1–2 cm, stellate; leaf blade elliptic or oblong, not lobed, 4–7 × 1.5–4 cm, papery, glabrous, base obtuse or broadly cuneate, margin dentate, apex acute or shortly acuminate. Flowers solitary, axillary on upper branchlets, pendulous. Pedicel slender, 8–14 cm, glabrous or slightly hairy, articulate in middle. Epicalyx lobes 5, lanceolate, 1–2 mm, ciliate, apex obtuse or acute. Calyx tubular, ca. 1.5 cm, sparsely hairy, 5-lobed, usually dehiscent on 1 side. Petals 5, red, ca. 5 cm, deeply pinnatifid, strongly reflexed. Staminal column longer than corolla, 9–10 cm, glabrous, curved upward toward tip; anthers restricted to upper part. Style branches 5, glabrous. Capsule oblong-cylindric, ca. 4 × 1 cm. Fl. year-round.

Cultivated. Fujian, Guangdong, Guangxi, Hainan, Taiwan, S Yunnan [native to E Africa; now widely cultivated as an ornamental].

Though clearly most closely related to *Hibiscus rosa-sinensis*, there is no reason to doubt that *H. schizopetalus* is indigenous to East Africa.

8. *Hibiscus rosa-sinensis* Linnaeus, Sp. Pl. 2: 649. 1753.

朱槿 zhu jin

Shrubs evergreen, 1–3 m tall. Branchlets terete, sparsely stellate pilose. Stipules filiform, 5–12 mm, hairy; petiole 5–20 mm, villous; leaf blade broadly or narrowly ovate, not lobed, 4–9 × 2–5 cm, papery, pilose on veins abaxially only, base rounded or cuneate, margin dentate or lobed, apex acuminate. Flowers solitary, axillary on upper branches, usually pendulous, simple or double. Pedicel 3–7 cm, sparsely stellate pilose or nearly glabrous, articulate near apex. Epicalyx lobes 6–7, filiform, connate at base, 8–15 mm, sparsely stellate, apex obtuse or acute. Calyx campanulate, ca. 2 cm, stellate puberulent, lobes 5, ovate to lanceolate. Corolla rosy red, reddish, or orange-yellow, funnel-shaped, 6–10 cm in diam., often double; petals obovate, pilose abaxially, apex rounded. Staminal column 4–8 cm, glabrous. Style branches 5. Capsule ovoid, ca. 2.5 cm, glabrous, apex beaked. Fl. year-round.

- Cultivated as an ornamental. Fujian, Guangdong, Guangxi, Hainan, Sichuan, Taiwan, Yunnan [not known in the wild but believed to have originated in China; now widely cultivated].

Hibiscus rosa-sinensis is a very popular flowering shrub or houseplant with a great many cultivars. Plants with double flowers have been named as var. *rubroplenus* Sweet (重瓣朱槿 chong ban zhu jin).

9. *Hibiscus fragrans* Roxburgh, Fl. Ind., ed. 1832, 3: 195. 1832.

香芙蓉 xiang fu rong

Scandent shrubs, robust climbers, or trees, trunk to 20 cm d.b.h.; stems, petioles, and pedicels stellate pubescent. Stipules linear to lanceolate, ca. 1 × 0.3 cm, stellate tomentose; petiole 5–7 cm; leaf blade ovate, not lobed, 5–15 × 4–12 cm, thickly

papery, both surfaces stellate hairy, denser abaxially, glabrescent, basal veins 5–7, base cordate, margin repand or dentate, apex acuminate. Flowers solitary, axillary, ± congested into a terminal raceme, fragrant. Pedicel 3–7 cm, with subapical articulation. Epicalyx lobes 5, ovate, joined at base, 4–14 × 5–10 mm, stellate pubescent, apex acuminate. Calyx lobes joined for ca. 1/2 length, ovate, 1–2 × 0.3–1 cm, abaxially with mixed stellate and club-shaped hairs, adaxially stellate tomentose, apices acuminate. Corolla white to pale pink with pale yellow center, ± spreading, ca. 3 cm in diam.; petals 2–4 × 2–3 cm, abaxially sparsely stellate pilose, adaxially glabrous. Filament tube ca. 1 cm, purplish. Capsule ovoid, 3–4 × 1.5–2 cm, densely stellate hairy. Seeds small, reniform, white or brown hirsute.

Tropical and subtropical evergreen forests; below 1400 m. ?Yunnan [Bangladesh, NE India, Myanmar].

Handel-Mazzetti (Oesterr. Bot. Z. 87: 124. 1938) identified a gathering by Wissman, probably no longer extant, as *Hibiscus fragrans*. It has not been possible to confirm the presence of this species within China, but it does seem quite likely that it extends into our area.

10. *Hibiscus paramutabilis* L. H. Bailey, Gentes Herb. 1: 109. 1922.

庐山芙蓉 lu shan fu rong

Shrubs deciduous or small trees, erect, 1–4 m tall. Branchlets, stipules, and petioles stellate puberulent. Stipules filiform, ca. 6 mm, caducous; petiole 3–14 cm; leaf blade palmately 5–7-lobed or sometimes 3-lobed, 5–14 × 6–15 cm, papery, palmate veins 5, stellate on both surfaces, base truncate or nearly cordate, lobe margin sinuately dentate, apex acuminate. Flowers solitary, axillary on upper branches and branchlets. Pedicel 2–12 cm, articulate near apex, densely puberulent and strigose with long hairs ca. 3 mm. Epicalyx lobes ovate, 8–12 mm wide, apex obtuse or acute. Calyx campanulate, lobes 5, ovate-lanceolate, connate for 1/4 of length, densely yellow-ferruginous stellate tomentose. Corolla white with purple-red center, 10–12 cm in diam.; petals obovate, 5–7 cm, stellate abaxially, veined, white barbate at base, apex rounded or emarginate. Staminal column ca. 3.5 cm. Style branches 5, villous. Capsule oblong-ovoid, ca. 2.5 × 2 cm; mericarps 5, densely yellow-ferruginous stellate tomentose and long hirsute. Seeds reniform, villous, hairs red-brown, ca. 3 mm. Fl. Jul–Aug.

• Scrub, slopes, valleys; 500–1100 m. Guangxi, Hunan, Jiangxi.

- 1a. Pedicel 2–4 cm 10a. var. *paramutabilis*
 1b. Pedicel 4–12 cm 10b. var. *longipedicellatus*

10a. *Hibiscus paramutabilis* var. *paramutabilis*

庐山芙蓉(原变种) lu shan fu rong (yuan bian zhong)

Hibiscus saltuarius Handel-Mazzetti.

Pedicel 2–4 cm.

• Slopes; 800–1100 m. Guangxi, Hunan, Jiangxi.

10b. *Hibiscus paramutabilis* var. *longipedicellatus* K. M. Feng, Acta Bot. Yunnan. 4: 29. 1982.

长梗庐山芙蓉 chang geng lu shan fu rong

Pedicels very long, 4–12 cm, articulated near apex.

• Valleys; ca. 500 m. Guangxi (Jinxu).

11. *Hibiscus indicus* (N. L. Burman) Hochreutiner, Mém. Soc. Hist. Nat. Afrique N. 2: 163. 1949.

美丽芙蓉 mei li fu rong

Shrubs deciduous, erect, to 3 m tall, entire plant densely stellate puberulent. Stipules lanceolate, ca. 5 mm, caducous; petiole terete, 6–11 cm; leaf blade cordate, 8–12 × 10–15 cm, papery, palmately 5–11-veined, usually 7-lobed proximally, usually 3–5-lobed distally, lobe margins irregularly dentate or entire, apices acuminate or obtuse. Flowers solitary, axillary on upper branchlets. Pedicel 6–15 cm, articulate at apex. Epicalyx lobes 4 or 5, ovate, connate at base, ca. 20 × 8–12 mm, densely stellate tomentose, apex obtuse or acute. Calyx cup-shaped, ca. 2.5 cm, lobes 5, ovate, connate for 1/3 of length, densely stellate tomentose. Corolla pink to white, 7–10 cm in diam.; petals obovate, ca. 6.5 cm, barbate at base, abaxially stellate hairy. Staminal column 3.5–4 cm. Style sparsely villous. Capsule nearly globose, ca. 3 cm in diam., hirsute; mericarps 5–6. Seeds reniform, ca. 3 mm, densely ferruginous puberulent. Fl. Jul–Dec.

• Scrub in valleys, coral limestone; 700–2000 m. Guangdong, Guangxi, Hainan, Sichuan, Taiwan, Yunnan.

Hibiscus indicus, despite its name, seems to be a Chinese endemic that was brought into cultivation and introduced to India and Indonesia more than 200 years ago (Borssum Waalkes, Blumea 14: 67. 1966).

- 1a. Leaf blade lobes broadly triangular, irregularly dentate; petals ca. 6.5 cm 11a. var. *indicus*
 1b. Leaf blade lobes obtuse, entire; petals ca. 3.5 cm 11b. var. *integrilobus*

11a. *Hibiscus indicus* var. *indicus*

美丽芙蓉(原变种) mei li fu rong (yuan bian zhong)

Alcea indica N. L. Burman, Fl. Indica, 149. 1768; *Hibiscus platystegius* Turczaninow; *H. venustus* Blume.

Leaf blade lobes broadly triangular, irregularly dentate, apices acuminate. Petals ca. 6.5 cm.

• Scrub in valleys; 700–2000 m. Guangdong, Guangxi, Sichuan, Yunnan.

11b. *Hibiscus indicus* var. *integrilobus* (S. Y. Hu) K. M. Feng, Fl. Reipubl. Popularis Sin. 49(2): 73. 1984.

全缘叶美丽芙蓉 quan yuan ye mei li fu rong

Hibiscus venustus var. *integrilobus* S. Y. Hu, Fl. China, Malvaceae [Fam. 153], 49. 1955.

Leaf blade lobes entire, apices obtuse. Petals ca. 3.5 cm.

• Coral limestone. S Taiwan (Hengchun).

This taxon has been overlooked in recent accounts of the plants of Taiwan.

12. *Hibiscus taiwanensis* S. Y. Hu, Fl. China, Malvaceae [Fam. 153], 48. 1955.

台湾芙蓉 tai wan fu rong

Trees or shrubs, erect, 3–8 m tall, deciduous, entire plant densely strigose and scabrous, not stellate, hairs ca. 3 mm. Petiole 14–17 cm; leaf blade suborbicular, papery, lobes 3–5, broadly triangular, serrate or dentate. Flowers solitary, axillary on upper branches. Pedicel 11–13 cm. Epicalyx lobes 8, filiform, 8–12 × 1.5–2 mm, stellate puberulent, apex acute. Corolla white, sometimes with purple center, very broadly funnel-shaped, 6–9 cm; petals nearly orbicular, 4–5 cm in diam., connate at base, villous, claw bearded.

- Taiwan (Alishan).

Hibiscus taiwanensis is very similar to *H. mutabilis* and differs only in having a hispid and scabrous, not stellate tomentose, indumentum. It has been suggested that the two might not be specifically distinct.

13. *Hibiscus mutabilis* Linnaeus, Sp. Pl. 2: 694. 1753.

木芙蓉 mu fu rong

Abelmoschus mutabilis (Linnaeus) Wallich ex Hasskarl; *Hibiscus mutabilis* f. *plenus* S. Y. Hu; *H. sinensis* Miller; *Ketmia mutabilis* (Linnaeus) Moench.

Shrubs or small trees, erect, 2–5 m tall, deciduous. Branchlets, petioles, pedicel, epicalyx, and calyx densely stellate and woolly pubescent. Stipules lanceolate, 5–8 mm, usually caducous; petiole 5–20 cm; leaf blade broadly ovate to round-ovate or cordate, 5–7-lobed, 10–15 cm in diam., papery, abaxially densely stellate minutely tomentose, adaxially sparsely stellate minutely hairy, lobes triangular, basal veins 7–11, margin obtusely serrate, apex acuminate. Flowers solitary, axillary on upper branches. Pedicel 5–8 cm, articulate near end. Epicalyx lobes 8, filiform, connate at base, 10–16 × ca. 2 mm. Calyx campanulate, 2.5–3 cm, lobes 5, ovate, acuminate. Corolla white or reddish, becoming dark red, ca. 8 cm in diam.; petals nearly orbicular, 4–5 cm in diam., hairy abaxially, barbate at base. Staminal column 2.5–3 cm, glabrous. Styles 5, pilose. Capsule flattened globose, ca. 2.5 cm in diam., yellowish hispid and woolly; mericarps 5. Seeds reniform, villous abaxially. Fl. Aug–Oct.

- Thickets along streams. Native in Fujian, Guangdong, Hunan, Taiwan, and Yunnan; cultivated in Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hebei, Hubei, Hunan, Jiangsu, Jiangxi, Liaoning, Shandong, Sichuan, Taiwan, Yunnan, and Zhejiang [cultivated and occasionally naturalized elsewhere].

Hibiscus mutabilis is almost certainly native to SE China but was domesticated a long time ago. It is now cultivated throughout the world and has occasionally become naturalized elsewhere, e.g., in Japan. Cultivars with double flowers have been called *H. mutabilis* f. *plenus* (重瓣木芙蓉 chong ban mu fu rong).

14. *Hibiscus labordei* H. Léveillé, Repert. Spec. Nov. Regni Veg. 12: 184. 1913.

贵州芙蓉 gui zhou fu rong

Shrubs deciduous, erect, 3–6 m tall. Branchlets stellate woolly. Stipules filiform, 5–6 mm, caducous; petiole 3–11 cm, densely stellate woolly; leaf blade palmately 3-lobed, 8–12 × 7–11 cm, papery, both surfaces sparsely stellate hirsute, basal veins 5, lobes triangular, central lobe longer, apex acuminate, lateral lobes shorter, base rounded, truncate or slightly cordate, margin obtusely serrate, apex obtuse or shortly acuminate.

Flowers solitary, axillary on upper branches. Pedicel 1–3 cm, densely stellate woolly. Epicalyx lobes 5 or 6, linear-lanceolate, 16–25 × 3–5 mm, densely stellate and hispid, apex obtuse to acute. Calyx campanulate, ca. 2.2 cm, lobes 5, ovate, densely golden stellate tomentose. Corolla white or pinkish with purple center, campanulate, 6–8 cm in diam.; petals obovate, ca. 6 cm, stellate and hirsute with long hairs abaxially, barbate at base. Staminal column ca. 3 cm. Style hirsute. Fl. Jun.

- Moist valleys; ca. 1300 m. N Guangxi, S Guizhou.

15. *Hibiscus syriacus* Linnaeus, Sp. Pl. 2: 695. 1753.

木槿 mu jin

Ketmia arborea Moench, nom. illeg. superfl.; *K. syriaca* (Linnaeus) Scopoli; *K. syrorum* Moench, nom. illeg. superfl..

Shrubs deciduous, erect, 1.5–4 m tall. Branchlets yellow stellate puberulent. Stipules filiform-subulate, ca. 6 mm, pilose; petiole 5–25 mm, stellate pubescent adaxially; leaf blade rhomboid to triangular-ovate or broadly lanceolate, variously 3-lobed or entire, 3–10 × 2–4 cm, papery, abaxially puberulent along veins or glabrous, adaxially glabrous, basal veins 3–5, base cuneate, margin irregularly incised, apex obtuse to subacute. Flowers solitary, axillary on upper branches. Pedicel 4–14 mm, stellate puberulent. Epicalyx lobes 6–8, filiform, 6–20 × 0.5–2 mm, ± free, connate at base only, densely stellate puberulent, apex obtuse or acute. Calyx campanulate, 14–20 mm, densely stellate puberulent, lobes 5, triangular. Corolla blue-purple, violet, white, pink, or reddish, sometimes with darker center, campanulate, sometimes double, 5–6 cm in diam.; petals obovate, 3.5–4.5 cm, pilose and stellate villous abaxially. Staminal column ca. 3 cm. Style glabrous. Capsule ovoid-globose, ca. 12 mm in diam., densely yellow stellate puberulent. Seeds reniform, with yellow-white hairs abaxially. Fl. Jul–Oct.

- Sea cliffs, hillsides, along streams, roadsides, also extensively cultivated; below 1200 m. Native in Anhui, Guangdong, Guangxi, Jiangsu, Sichuan, Taiwan, Yunnan, and Zhejiang; cultivated in Fujian, Guizhou, Hainan, Hebei, Henan, Hubei, Hunan, Jiangxi, Shaanxi, Shandong, and Xizang [cultivated in most tropical and temperate regions].

Despite the specific epithet, *Hibiscus syriacus* originated in China but was taken into cultivation very early and was distributed to the Middle East along early trade routes. It is a very popular frost-hardy flowering shrub from which many named cultivars have been developed, some of which have been given formal scientific names. These include:

H. syriacus var. *alboplenus* Loudon (白花重瓣木槿 bai hua chong ban mu jin): Flowers double, white, 6–10 cm in diam.

H. syriacus var. *amplissimus* L. F. Gagnepain (粉紫重瓣木槿 fen zi chong ban mu jin): Flowers double, pink-purple with red center.

H. syriacus var. *brevibracteatus* S. Y. Hu (短苞木槿 duan bao mu jin): Leaf blade rhomboid, base cuneate. Flowers single, purplish. Epicalyx lobes very small, 3–5 × 0.5–1 mm, silky.

H. syriacus var. *elegantissimus* L. F. Gagnepain (雅致木槿 ya zhi mu jin): Flowers double, pink, 6–7 cm in diam.

H. syriacus var. *grandiflorus* Rehder (大花木槿 da hua mu jin): Flowers single, peach or red.

H. syriacus var. *longibracteatus* S. Y. Hu (长苞木槿 chang bao mu jin): Flowers single, purplish. Epicalyx lobes nearly as long as sepals, 15–20 × 1–2 mm.

H. syriacus var. *paeoniiflorus* L. F. Gagnepain (牡丹木槿 mu dan mu jin): Flowers double, pink or purplish, 7–9 cm in diam.

H. syriacus var. *totoalbus* T. Moore (白花牡丹木槿 bai hua dan ban mu jin): Flowers single, white.

H. syriacus var. *violaceus* L. F. Gagnepain (紫花重瓣木槿 zi hua chong ban mu jin): Flowers double, greenish purple.

16. *Hibiscus sinosyriacus* L. H. Bailey, Gentes Herb. 1: 109. 1922.

华木槿 hua mu jin

Shrubs deciduous, erect, 2–4 m tall. Branchlets stellate puberulent when young. Stipules filiform, ca. 12 mm, stellate pilose; petiole 3–6 cm, stellate puberulent; leaf blade cuneate, ovate, or orbicular, usually 3-lobed, 7–12 × 7–12 cm, papery, basal veins 3–5, both surfaces sparsely stellate puberulent, lobes usually triangular, central lobe larger, base cuneate, broadly cuneate, or nearly rounded, margin acutely serrate. Flowers solitary, axillary on upper branches. Pedicel 1–2.5 cm, densely yellow stellate puberulent. Epicalyx lobes 6 or 7, lanceolate-oblong, free, connate at base only, 17–25 × 3–5 mm, densely stellate puberulent, apex obtuse or acute. Calyx campanulate, longer or shorter than epicalyx, lobes 5, ovate-triangular, densely golden stellate puberulent. Corolla purplish, 7–9 cm in diam.; petals obovate, 6–7 cm, stellate villous abaxially. Staminal column 4–5 cm. Style branches 5, glabrous. Fruit unknown. Fl. Jun–Jul.

• Scrub in valleys; 500–1000 m. Guangxi, Guizhou, Hunan (Hengshan, Qianyang), Jiangxi (Lushan).

Hibiscus sinosyriacus is very similar to *H. syriacus*. The main differences are the broader epicalyx lobes (3–5 mm, not 0.5–2 mm, wide), larger petals (6–7 cm, not 3.5–4.5 cm), and wider leaves (7–12 cm, not 2–4 cm, wide). It is also similar to *H. labordei* but differs from that species in having the leaf base cuneate to nearly rounded, not rounded to slightly cordate, and the style branches glabrous, not hirsute.

17. *Hibiscus leviseminus* M. G. Gilbert, Y. Tang & Dorr, **nom. nov.**

光籽木槿 guang zi mu jin

Replaced synonym: *Hibiscus leiospermus* K. T. Fu & C. C. Fu in K. T. Fu & C. W. Chang, Fl. Tsinling. 1(3): 454. 1981, not *Hibiscus leiospermus* Harvey in Harvey & Sonder, Fl. Capensis 1: 173. 1860.

Shrubs erect, 0.5–2 m tall. Branchlets stellate puberulent when young. Stipules filiform, 3–4 mm; petiole 1–2.5 cm, puberulent; leaf blade ovate-orbicular, sometimes 3-lobed, 3–6 × 2–4.5 cm, papery, abaxially stellate puberulent, adaxially stellate puberulent or nearly glabrous, basal veins 3, base broadly cuneate or slightly rounded, margin sparsely denate (teeth large), apex obtuse. Flowers solitary, axillary on upper twigs. Pedicel 2–5 mm, golden yellow stellate tomentose; involucre campanulate, 7–10 mm, connate in proximal 1/3–1/2, densely stellate puberulent, segments 6(or 7), triangular, 3–4 mm wide. Epicalyx lobes 4–6 mm. Calyx campanulate, 2–2.5 cm, segments 5, triangular, acute, densely golden yellow stellate tomentose. Corolla white to purple-red, nearly campanulate, 7–8 cm in diam.; petals obovate, obtuse, veined, stellate villous abaxially. Staminal column ca. 4 cm. Style branches 5, densely villous. Capsule oblong-ellipsoid, ca. 2.5 × 1.2 cm, densely

golden yellow stellate tomentose and long hispid, 5-angular, apex beaked; mericarps 5. Seeds reniform, glabrous. Fl. Jul–Oct.

• Scrub on riverbanks or rocky mountains; 600–1300 m. Gansu, Shaanxi.

Hibiscus leviseminus is very similar to *H. mutabilis*; it differs in having a campanulate epicalyx with short and broad segments, a very short pedicel, 0.2–0.5 cm, not 5–8 cm, and glabrous, not villous, seeds.

18. *Hibiscus moscheutos* Linnaeus, Sp. Pl. 2: 693. 1753.

芙蓉葵 fu rong kui

Herbs perennial, erect, 1–2.5 m tall; stem stellate pubescent or nearly glabrous. Stipules silklike, caducous; petiole 4–10 cm, puberulent; leaf blade ovate to ovate-lanceolate, sometimes with 2 lateral lobes, 10–18 × 4–8 cm, abaxially gray-white tomentose, adaxially nearly glabrous or minutely puberulent, base cuneate or nearly rounded, margin bluntly dentate, apex caudate. Flowers solitary, axillary. Pedicel 4–8 cm, very sparsely stellate puberulent, articulate near apex. Epicalyx lobes 10–12, filiform, ca. 18 × 1.5 mm, densely stellate puberulent. Calyx 1/2 as long as epicalyx, lobes rounded, connate for more than 1/2 of length. Corolla white, pink, red, or purple, with dark red center, 10–14 cm in diam.; petals obovate, ca. 10 cm, abaxially sparsely pilose, adaxially bearded on margin. Staminal column ca. 4 cm. Ovary glabrous; style branches 5, sparsely scabrous. Capsule conic-ovoid, 2.5–3 cm; mericarps 5. Seeds reniform, 2–3 mm in diam., apex pointed. Fl. Jul–Sep.

Wet situations, also cultivated. Beijing, Jiangsu, Shandong, Shanghai, Yunnan, Zhejiang [native to North America (SE United States)].

Hibiscus moscheutos is a commonly grown garden ornamental.

19. *Hibiscus yunnanensis* S. Y. Hu, Fl. China, Malvaceae [Fam. 153], 56. 1955.

云南芙蓉 yun nan fu rong

Fioria yunnanensis (S. Y. Hu) Abedin.

Herbs perennial, subshrublike, to 2.1 m tall, entire plant stellate tomentose. Branchlets slender, terete. Stipules short, filiform, caducous; petiole 2–6 cm; leaf blade cordate, ovate, or orbicular, sometimes obscurely 3-lobed, 6–10 × 2.5–9 cm, basal veins 5–7, base cordate, margin sparsely serrate, apex obtuse or acuminate; blades on distal part of stem smaller, base rounded, apex acuminate. Flowers solitary or in cymes, axillary on twig tips. Pedicel 6–28 mm. Epicalyx lobes 8–10, filiform, 6–10 mm. Calyx shallowly cup-shaped, ca. 1 × 1 cm, lobes 5, triangular, 1/2 as long as calyx. Corolla yellow with purple-red center, campanulate, ca. 2.5 cm in diam.; petals obovate, ca. 1.5 cm. Staminal column ca. 8 mm. Capsule nearly globose, ca. 1.2 cm in diam., long hirsute, 5-angular, winged along margins, apex beaked. Persistent sepals foliaceous, ca. 2 × 1 cm. Seeds reniform, glabrous, verrucose. Fl. Jul–Aug.

• Dry and hot grassy slopes; 500–600 m. S Yunnan (Yuanjiang).

Hibiscus yunnanensis is closely related to the widespread *H. vitifolius* Linnaeus, differing only in leaf shape, which in *H. vitifolius* is prominently 3–7-lobed.

20. *Hibiscus surattensis* Linnaeus, Sp. Pl. 2: 696. 1753.

刺芙蓉 ci fu rong

Furcaria surattensis (Linnaeus) Kosteletzky.

Herbs annual, subshrublike, 0.5–2(–4) m tall, usually procumbent, sometimes scandent, most parts sparsely villous and aculeate, prickles retrorsely curved. Stipules auriculate, foliaceous, ca. 5 mm, sparsely long hirsute; petiole 2–7 cm, abaxially sparsely aculeate, adaxially densely long hirsute; leaf blade palmately 3–5-lobed, 5–10 × 5–11 cm, lobes ovate-lanceolate, 3–7 × 1.5–3 cm, sparsely strigose on both surfaces, margin irregularly serrate; basal veins 5, sparsely aculeate. Flowers solitary, axillary. Pedicel 1–5 cm, sparsely aculeate and villous. Epicalyx lobes 8–10, base terete, 5–7 mm, inner branch erect, linear-lanceolate to filiform, 1–2 cm, aculeate, outer branch/abaxial appendage ovate to elliptic, 0.7–1 cm. Calyx turning reddish in fruit, shallowly cup-shaped, lobes 5, ovate-lanceolate, apex long acuminate, ca. 2.5 cm, aculeate. Corolla pale yellow with dark red center; petals ca. 3.5 cm. Capsule ovate-globose, ca. 1.2 × 1 cm, densely scabrous and hirsute with long hairs, shortly beaked. Seeds reniform, sparsely strigose with white minute hairs. Fl. Sep–Mar.

Forest margins, open slopes, valleys, streamsides; 300–1200 m. Hainan, Hong Kong, S Yunnan [Bhutan, Cambodia, India, Laos, Myanmar, Philippines, Sri Lanka, Thailand, Vietnam; Africa, Australia].

The auriculate stipules and ovate epicalyx lobe appendages of this species are instantly diagnostic.

21. *Hibiscus hispidissimus* Griffith, Not. Pl. Asiat. 4: 521. 1854.

思茅芙蓉 si mao fu rong

Hibiscus aculeatus Roxburgh (1832), not Walter (1788), nor F. Dietrich (1817), nor G. Don (1831); *H. furcatus* Roxburgh ex Candolle (1824), not Willdenow (1809); *H. surattensis* Linnaeus var. *furcatus* Roxburgh ex Hochreutiner.

Herbs, to 1.5 m tall, trailing or suberect, most parts simple-pubescent and aculeate, prickles with prominent basal tubercles, retrorsely reflexed, straight. Stipules lanceolate, 5–14 × 2–3 mm, margins setose; petiole 2–8 cm, abaxially aculeate, adaxially densely pubescent; leaf blade broadly ovate or palmately 3–5(–7)-lobed, 2.5–10 × 3–8 cm, both surfaces with tubercle-based prickly hairs on veins. Flowers solitary, axillary. Pedicel 1.5–7 cm. Epicalyx lobes 8–12, 1–2 cm long overall, inner branch erect, linear-lanceolate, outer branch oblong-ovate, slightly shorter. Calyx deeply divided, shorter than epicalyx, lobes adaxially densely white puberulent. Corolla yellow with purple center, 5–10 cm wide. Capsule ovoid, ca. 1.5 cm, enclosed in enlarged calyx, densely hairy. Seeds brownish, ± reniform, 4–5 mm, sparsely white scaly.

About 1500 m. Yunnan (Simao) [Bangladesh, India, Myanmar, Sri Lanka, Thailand; Africa].

Hibiscus hispidissimus is apparently known in China only by a single 19th-century collection, *A. Henry 13566*. See Pradeep and Sivaraajan (Taxon 40: 634–637. 1991) for a discussion of the nomenclature of this species.

22. *Hibiscus trionum* Linnaeus, Sp. Pl. 2: 697. 1753.

野西瓜苗 ye xi gua miao

Trionum annuum Medikus.

Herbs annual, erect or procumbent, 25–70 cm tall; stems slender, white stellate hirsute. Stipules filiform, ca. 7 mm, stellate coarsely hirsute; petiole 2–4 cm, stellate hirsute and stellate puberulent; leaf blade 3–6 cm in diam., dimorphic; blades on proximal part of stem orbicular, those on distal part of stem palmately 3–5-lobed, central lobe longer, lateral lobes shorter, lobes obovate to oblong, usually pinnate, sparsely stellate spiny hairy abaxially, sparsely hirsute or glabrous adaxially. Flowers solitary, axillary. Pedicel ca. 2.5 cm, elongated to 4 cm in fruiting, stellate hirsute. Epicalyx lobes 12, filiform, connate at base, ca. 8 mm, hirsute. Calyx greenish, campanulate, swollen, connate for ca. 1/2 length, 1.5–2 cm, membranous, long hirsute or stellate hirsute, lobes 5, triangular, longitudinally purple-veined. Corolla very pale yellow with purple center, 2–3 cm in diam.; petals 5, obovate, ca. 2 cm, abaxially sparsely very minutely puberulent. Staminal column ca. 5 mm; filaments slender, free for ca. 3 mm; anthers yellow. Styles 5, glabrous. Capsule oblong-globose, ca. 1 cm in diam., coarsely hirsute; mericarps 5, endocarp black, thin, exocarp papery. Seeds black, reniform, glandularly verrucose. Fl. Jul–Oct.

Ruderal weed. Throughout China [Kazakhstan, Kyrgyzstan, Mongolia, Tajikistan, Turkmenistan, Uzbekistan; pantropical].

23. *Hibiscus sabdariffa* Linnaeus, Sp. Pl. 2: 695. 1753, nom. cons.

玫瑰茄 mei gui jie

Sabdariffa rubra Kosteletzky.

Herbs annual, erect, to 2 m tall; stems purplish, robust, glabrous. Stipules filiform, ca. 1 cm, sparsely villous; petiole 2–8 cm, sparsely villous; leaf blade dimorphic; blades on proximal part of stem ovate, those on distal part of stem palmately 3-lobed, lobes lanceolate, 2–8 × 0.5–1.5 cm, base rounded or broadly cuneate, margin serrate, apex obtuse or acuminate, glabrous; basal veins 3–5, glanduliferous along midrib on abaxial surface. Flowers solitary, axillary, subsessile. Epicalyx lobes 8–12, red, lanceolate, connate at base, 5–15 × 2–3 mm, sparsely long hirsute, with spiny appendix near apex. Calyx purplish, cup-shaped, connate for ca. 1/3 length, ca. 1 cm in diam., fleshy, sparsely spiny and coarsely hairy, lobes 5, triangular, 1–2 cm, acuminate. Corolla yellow with dark red center, 6–7 cm in diam. Capsule ovoid-globose, ca. 1.5 cm in diam., densely coarsely hairy. Seeds reniform, glabrous. Fl. summer–autumn.

Cultivated. Fujian, Guangdong, Hainan, Taiwan, Yunnan [probably originating in Africa, now cultivated throughout the tropics].

The fleshy calyx and epicalyx are edible, both fresh as a vegetable and dried as a tea.

24. *Hibiscus cannabinus* Linnaeus, Syst. Nat., ed. 10, 2: 1149. 1759.

大麻槿 da ma jin

Abelmoschus verrucosus (Guillemin & Perrottet) Walpers; *Furcaria cavanillesii* Kosteletzky; *Hibiscus unidens* Lindley; *H. verrucosus* Guillemin & Perrottet; *Ketmia glandulosa* Moench.

Herbs annual or perennial, erect, robust, to 3 m tall, glabrous, sparsely sharply spiny. Stipules silklike, 6–8 mm; petiole 6–20 cm, sparsely spiny; leaf blade dimorphic; blades on proximal part of stem cordate, those on distal part of stem palmately 3–7-lobed, lobes lanceolate, 2–12 × 0.6–2 cm, base cordate or nearly rounded, margin serrate, glabrous on both surfaces, apex acuminate; basal veins 5–7, glandular near base of midrib. Flowers solitary, axillary, nearly sessile. Epicalyx lobes 7–10, not red, filiform, free, 6–8 mm, sparsely spiny. Calyx nearly campanulate, connate for ca. 1/2 length, ca. 3 cm, spiny and white tomentose, lobes 5, lanceolate, 1–2 cm, long caudate. Corolla yellow with red center; petals oblong-obovate, ca. 6 cm. Staminal column 1.5–2 cm, glabrous. Styles 5, glabrous. Capsule globose, ca. 1.5 cm in diam., densely spiny, apex shortly beaked. Seeds reniform, subglabrous. Fl. autumn.

Cultivated. Guangdong, Hebei, Heilongjiang, Jiangsu, Liaoning, Yunnan, Zhejiang [native to Africa and India].

Hibiscus cannabinus is cultivated as a fiber crop (“kenaf”). The seed oil is considered inedible but is used industrially and in oil-lamps.

25. *Hibiscus lobatus* (Murray) Kuntze, Revis. Gen. Pl. 3(2): 19. 1898 [*“lobata”*].

草木槿 cao mu jin

Solandra lobata Murray, Commentat. Soc. Regiae Sci. Gott. 6: 20. 1785; *Hibiscus solandra* L’Héritier.

Herbs annual, erect, 50–70 cm tall. Branchlets puberulent (hairs simple) and rarely sparsely stellate hairy. Stipules lanceolate, ca. 3(–8) mm, villous; petiole as long as or slightly longer than leaf blade, stellate, puberulent and villous; leaf blade membranous, dimorphic; blades on proximal part of stem ovate-orbicular, 1.5–3 cm, those in middle 3-parted, ca. 5 cm, on distal part of stem nearly divided or 3-foliolate, margin roundly dentate, stellate pilose and puberulent abaxially, pilose adaxially. Flowers solitary or arranged in sparse racemes, axillary. Pedicel 2–2.5 cm, pilose, articulate near end. Epicalyx absent. Calyx cup-shaped, ca. 4 mm, membranous, lobes 5, lanceolate, abaxially pilose and strigose, persistent. Corolla yellow; petals 0.6–0.7 cm. Staminal column ca. 0.4 cm. Styles 5, extending. Capsule broadly ovoid, ca. 7 mm, apex beaked; mericarps 5, endocarp thin, villous along ventral suture. Seeds with scalelike hairs. Fl. Oct–Dec.

Moist open forests. Hainan [Bhutan, India, Malaysia, Myanmar, Nepal, Pakistan, Sri Lanka; Africa, Madagascar].

Hibiscus lobatus is the only species of *Hibiscus* in China that lacks an epicalyx.

