

## 8. ABUTILON Miller, Gard. Dict. Abr., ed. 4. 1754.

苘麻属 qing ma shu

Herbs, subshrubs, shrubs, or small trees. Stipules usually caducous; leaf blade usually entire (lobed in *A. pictum*), palmately veined, base cordate, margin crenate or serrate. Flowers axillary or subterminal, solitary, paired or in small cymes, often aggregated into terminal panicles. Epicalyx absent. Calyx campanulate, lobes 5. Corolla mostly yellow or orange (red in *A. roseum*), often with dark center, campanulate to wheel-shaped, rarely ± tubular (*A. pictum*); petals 5, basally connate and adnate to filament tube. Anthers many, clustered at filament tube apex. Ovary (5–)7–20-loculed; ovules 2–9 per carpel; style branches as many as carpels. Fruit a schizocarp, often blackish when mature, subglobose to hemispherical; mericarps (5–)7–20, eventually dehiscent, apex rounded or acute, sometimes 2-awned, pericarp leathery. Seeds reniform, glabrous or slightly pubescent.

About 200 species: mostly in tropics and subtropics; nine species (three endemic, one introduced) in China.

Several species have become widespread tropical weeds. One species, *Abutilon pictum*, is widely grown as an ornamental. Paul (Fl. India 3: 269–270. 1993) indicates that *A. persicum* (N. L. Burman) Merrill occurs in China but we have seen no material or other records. If this species should be found, it would be distinguished by the 5-loculed ovary and gland-tipped hairs on the stems.

- 1a. Leaf blade palmately deeply 3–5-lobed; pedicel 7–10 cm, very slender, pendulous from near base, glabrous; corolla orange with prominent darker veins ..... 4. *A. pictum*
- 1b. Leaf blade orbicular-ovate or orbicular-cordate, at the most obscurely 3-cuspidate near apex; pedicel 1–7 cm, robust, often curved, hairy; corolla red, orange, or yellow, without darker veins, center sometimes purple-red.
- 2a. Styles and mericarps 14–25; petals 0.6–1.8 cm.
- 3a. Mericarp apex prominently 2-awned, awns 3–5 mm, usually spreading ..... 7. *A. theophrasti*
- 3b. Mericarp apex acute or obscurely awned, awns to 2 mm.
- 4a. Stems, petioles, and pedicels with 3 hair types: long simple hairs, minute stellate hairs, and short gland-tipped hairs; pedicel shorter than petiole; petals orange with purple bases; mericarps 20–25 ..... 6. *A. hirtum*
- 4b. Stems, petioles, and pedicels with 1 or 2 hair types: stellate hairs, sometimes mixed with a few long simple hairs; pedicel 1–2 × as long as petiole; petals uniformly yellow or orange; mericarps 14–20.
- 5a. Calyx shorter than schizocarp, lobes 3–4 × 3–4 mm, finally spreading; leaf blade abaxially stellate velvety ..... 8. *A. indicum*
- 5b. Calyx ca. as long as schizocarp, lobes 5–10 × 5–6 mm, usually appressed; leaf blade abaxially stellate pubescent ..... 9. *A. guineense*
- 2b. Styles and mericarps (5–)7–10; petals (1.5–)2.5–6 cm.
- 6a. Petals 1.5–1.7 cm; calyx lobes ovate, 0.7–1 cm; flowers in an open, conical, terminal panicle ..... 5. *A. paniculatum*
- 6b. Petals 2.5–6 cm; calyx lobes lanceolate, 1.5–4 cm; flowers axillary or in an irregular congested panicle.
- 7a. Mericarps 5, apices erect, long-acute; stems with gland-tipped hairs ..... *A. persicum* (see note)
- 7b. Mericarps 7–10, apices ± spreading, more abruptly contracted into awn; stems not glandular.
- 8a. Styles and mericarps 7; petals red or pink, 2.5–2.8 cm, adaxially stellate hairy ..... 1. *A. roseum*
- 8b. Styles and mericarps 8–10; petals mostly yellow or orange, sometimes with purple-red bases, 3.5–6 cm, adaxially glabrous.
- 9a. Leaf margin coarsely dentate or minutely crenate, adaxially sparsely stellate strigose and with long hairs; pedicel 3–5 cm; corolla yellow, often with purple-red center ..... 2. *A. sinense*
- 9b. Leaf margin irregularly crenate, adaxially densely tomentose; pedicel 1–2 cm; corolla uniformly orange ..... 3. *A. gebauerianum*

1. **Abutilon roseum** Handel-Mazzetti, Symb. Sin. 7: 607. 1933.

红花苘麻 hong hua qing ma

Herbs annual, to 1 m tall. Petiole as long as leaf blade; leaf blade orbicular to ovate, 7–20 × 7–20 cm, abaxially densely stellate velutinous, adaxially scabrous-strigose, base cordate, margin undulate, dentate, apex caudate-acuminate. Flowers aggregated into terminal or axillary panicles. Pedicel 4–7 cm, densely villous, articulate at middle. Calyx ca. 12 mm, lobes 5, ovate-lanceolate, densely villous. Corolla red or pink; petals obovate, 2.5–2.8 cm, adaxially stellate villous. Staminal column ca. 1 cm, hirsute. Mericarps 7, long hirsute, apex with 2 extending awns, pericarp leathery.

• Grasslands on slopes; ca. 2200 m. SW Sichuan, NW Yunnan.

*Abutilon roseum* is readily distinguished by its red or pink petals that are stellate pubescent on the inner surface.

2. **Abutilon sinense** Oliver, Hooker's Icon. Pl. 18: t. 1750. 1888.

华苘麻 hua qing ma

Shrubs to ca. 3.5(–6) m tall. Petiole 8–20 cm, silky villous; leaf blade nearly orbicular-ovate, 7–13 × 4–13 cm, abaxially stellate tomentose and villous, adaxially stellate strigose with long hairs, base cordate, margin sparsely dentate, apex caudate-acuminate. Flowers solitary or paired, axillary, large. Pedicel 3–

5 cm, densely tomentose and villous. Sepals lanceolate, 1.5–2.5 × 0.5–0.8 mm, densely stellate tomentose, connate at base. Corolla yellow with purple-red center, campanulate; petals obovate, 3.5–5 cm. Staminal column 2.5–3 cm, glabrous. Ovary 8–10-loculed; stigmas capitate. Schizocarp 2–3 × 1.5–2.2 cm; mericarps 8–10, apex pointed, stellate, pericarp leathery. Seeds 7–9 per mericarp, reniform, sparsely hispid. Fl. Jan–May.

Open forests on slopes, bamboo forests, scrub on slopes; 300–2000 m. Guangdong, Guangxi, Guizhou, Hubei, Sichuan, Yunnan [N Thailand].

- 1a. Leaf blade ovate, margin coarsely dentate ..... 2a. var. *sinense*  
1b. Leaf blade suborbicular, margin subentire or minutely crenate ..... 2b. var. *edentatum*

**2a. *Abutilon sinense* var. *sinense***

华苘麻(原变种) hua qing ma (yuan bian zhong)

Leaf blade ovate, margin coarsely dentate, apex caudate-acuminate.

Open forests on slopes, bamboo forests; 300–2000 m. Guangdong, Guangxi, Guizhou, Hubei, Sichuan, Yunnan [N Thailand].

**2b. *Abutilon sinense* var. *edentatum* K. M. Feng in C. Y. Wu, Fl. Yunnan. 2: 202. 1979.**

无齿华苘麻 wu chi hua qing ma

Leaf blade suborbicular, margin subentire or minutely sparsely crenate, apex long caudate-acuminate.

- Scrub on slopes; ca. 1200 m. W Yunnan (Luxi).

**3. *Abutilon gebauerianum* Handel-Mazzetti, Symb. Sin. 7: 607. 1933.**

滇西苘麻 dian xi qing ma

*Abutilon sinense* Oliver var. *yunnanense* Hochreutiner.

Shrubs, to 3 m tall. Branchlets gray stellate tomentose. Stipules subulate, ca. 5 mm, caducous; leaf blade ovate-cordate, 4–8 × 4–8 cm, both surfaces densely tomentose, base cordate, margin irregularly crenate, apex long caudate-acuminate. Flowers solitary, axillary, large. Pedicel 1–2 cm, densely tomentose, apically articulate. Sepals cup-shaped, 2–2.5 cm, densely tomentose, lobes 5, lanceolate. Corolla orange; petals cuneate-obovate, 4–6 cm. Staminal column ca. 5 cm, glabrous. Ovary 8–10-loculed. Schizocarp ca. 2 cm; mericarps 8–10, tomentose, apex pointed, pericarp leathery. Seeds reniform, ca. 2 mm in diam., sparsely hispid. Fl. Jan–Feb.

- Scrub in dry hot river valleys; 700–2500 m. SW Yunnan.

*Abutilon gebauerianum* is similar to *A. sinense*, but it can be distinguished by its densely tomentose and crenate leaves and even larger flowers.

**4. *Abutilon pictum* (Gillies ex Hooker) Walpers, Repert. Bot. Syst. 1: 324. 1842.**

金铃花 jin ling hua

*Sida picta* Gillies ex Hooker, Bot. Misc. 3: 154. 1833; *Abutilon striatum* Dickson ex Lindley; *S. striata* (Dickson ex Lindley) Dietrich.

Shrubs evergreen, to 1 m tall. Stipules subulate, ca. 8 mm, caducous; petiole 3–5 cm, glabrous; leaf blade palmately 3–5-lobed, 5–8 cm in diam., abaxially glabrous or sparsely stellate, margin serrate or dentate, apex long acuminate. Flowers solitary, axillary. Pedicel pendulous, 7–10 cm, glabrous. Calyx campanulate, ca. 2 cm, lobes 5, ovate-lanceolate, parted to 3/4 of calyx, densely brown stellate puberulent. Corolla orange, with purple veins, campanulate, ca. 3 cm in diam.; petals obovate, 3–5 cm, sparsely pilose abaxially. Filament tube ca. 3.5 cm. Ovary hairy, 10-loculed; style branches purple, longer than filament tube; stigma capitate. Fruit unknown. Fl. May–Jul.

Cultivated. Beijing, Fujian, Hubei, Jiangsu, Liaoning, Yunnan, Zhejiang [native to South America (Brazil, Uruguay); cultivated worldwide].

*Abutilon pictum* is widely grown as an ornamental. A variegated cultivar ('Thompsonii') is popular.

**5. *Abutilon paniculatum* Handel-Mazzetti, Symb. Sin. 7: 606. 1933.**

圆锥苘麻 yuan zhui qing ma

Shrubs, deciduous, to 2 m tall, most parts stellate tomentose. Branchlets slender, terete. Stipules filiform, 1–2 cm; petiole 3–5 cm, tomentose; leaf blade ovate-cordate, 4–9 × 4–7 cm, both surfaces densely stellate tomentose, base cordate, margin irregularly crenate, apex long caudate. Flowers in conical, terminal panicle. Pedicel 2–3 cm, articulate near apex. Calyx disk-shaped, lobes 5, ovate, 7–10 mm. Corolla yellow to orange, 1.5–2 cm in diam.; petals obovate, 1.5–1.7 cm, glabrous. Filament tube stellate hispid. Schizocarp nearly globose; mericarps 10, ovate, ca. 4 mm, apex rounded. Fl. Jun–Aug.

- Scrub on slopes, roadsides; 2300–3000 m. SW Sichuan (Muli), NW Yunnan.

**6. *Abutilon hirtum* (Lamarck) Sweet, Hort. Brit. 1: 53. 1826.**

恶味苘麻 e wei qing ma

Subshrublike herbs, ca. 80 cm tall. Branchlets, leaves, petioles, and pedicels densely hairy, with long hirsute and short gland-tipped hairs, or densely tomentose. Stipules filiform, ca. 5 mm, reflexed; petiole 2–9 cm; leaf blade orbicular-cordate, 3–8 × 3.5–7 cm, both surfaces stellate tomentose, base cordate, margin denticulate, apex cuspidate. Flowers solitary, axillary, large. Pedicel shorter than petiole, apically articulate. Calyx campanulate, lobes 5, ovate, 8–10 mm, densely tomentose. Corolla orange with purple center; petals obovate, ca. 1.5 cm, adaxially glabrous. Filament tube ca. 1 cm, stellate hairy at base. Schizocarp nearly globose, ca. 1 × 1.5 cm, apex truncate; mericarps 20–25, stellate hispid with long hairs. Seeds 3–5, nearly reniform, pilose. Fl. Apr–Jun.

Grasslands; 300–1300 m. Yunnan [India, Indonesia, Pakistan, Sri Lanka, Thailand, Vietnam; Africa, SW Asia (Arabia), Australia].

- 1a. Branchlets, petioles, leaves, and pedicels densely hairy with long hirsute and short glandular hairs ..... 6a. var. *hirtum*  
1b. Branchlets, petioles, leaves, and pedicels densely tomentose ..... 6b. var. *yuanmouense*

**6a. *Abutilon hirtum* var. *hirtum***

恶味苘麻(原变种) e wei qing ma (yuan bian zhong)

*Sida hirta* Lamarck, *Encycl.* 1: 7. 1783; *Abutilon graveolens* (Roxburgh ex Hornemann) Wight & Arnott; *A. graveolens* var. *hirtum* (Lamarck) Masters; *A. indicum* (Linnaeus) Sweet var. *hirtum* (Lamarck) Grisebach; *S. graveolens* Roxburgh ex Hornemann.

Branchlets, petioles, leaves, and pedicels densely hairy, both long hirsute and shortly glandular.

Grasslands; 300–400 m. SE Yunnan (Jinping) [India, Indonesia, Pakistan, Sri Lanka, Thailand, Vietnam; Africa, SW Asia (Arabia), Australia].

**6b. *Abutilon hirtum* var. *yuanmouense*** K. M. Feng in C. Y. Wu, *Fl. Yunnan*. 2: 204. 1979.

元谋恶味苘麻 yuan mou e wei qing ma

Branchlets, petioles, leaves, and pedicels densely tomentose, not long hirsute.

- Dry and hot grasslands; 1200–1300 m. Yunnan (Yuanmou).

**7. *Abutilon theophrasti*** Medikus, *Malvenfam.* 28. 1787.

苘麻 qing ma

*Sida abutilon* Linnaeus, *Sp. Pl.* 2: 685. 1753; *Abutilon avicennae* Gaertner, nom. illeg. superfl.; *A. avicennae* var. *chinense* Skvortsov; *A. avicennae* f. *nigrum* Skvortsov; *A. californicum* Benthams; *A. pubescens* Moench; *A. theophrasti* var. *chinense* (Skvortsov) S. Y. Hu; *A. theophrasti* var. *nigrum* (Skvortsov) S. Y. Hu; *A. tiliifolium* (Fischer) Sweet; *S. tiliifolia* Fischer.

Herbs subshrublike, annual, 1–2 m tall. Petiole 3–12 cm, stellate hairy; leaf blade orbicular-cordate, 5–10 cm in diam., both surfaces densely stellate pubescent, base cordate, margin minutely crenate, apex long acuminate. Flowers solitary, axillary, yellow. Pedicel 1–3 cm, pubescent, articulate near apex. Calyx cup-shaped, densely puberulent, lobes 5, ovate, ca. 6 mm. Corolla uniformly yellow; petals obovate, ca. 1 cm. Filament tube glabrous. Ovary 15–20-loculed, 1–1.5 cm, densely pubescent, apex truncate. Capsule semiglobose, ca. 1.2 × 2 cm; mericarps 15–20, stellate pilose, apex 2-awned, awns spreading, 3–5 mm, hairy. Seed reniform, brown, stellate puberulent. Fl. Jul–Aug.

Disturbed areas, neglected fields, also cultivated. Anhui, Fujian, Gansu, Guangdong, Guangxi, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Jilin, Liaoning, Nei Mongol, Ningxia, Shaanxi, Shandong, Shanghai, Sichuan, Taiwan, Xinjiang, Yunnan [India, Japan, Kazakhstan, Korea, Kyrgyzstan, Mongolia, Pakistan, Russia, Tajikistan, Thailand, Turkmenistan, Uzbekistan, Vietnam; Africa, SW Asia, Australia, Europe, North America].

*Abutilon theophrasti* is extensively cultivated for its bast fibers, which are used to make string, rope, shoes, rugs, and countless other

items; it is also used medicinally for fever, dysentery, and stomach-aches. The fiber is known as “China Jute” or “Tientsin Jute.”

**8. *Abutilon indicum*** (Linnaeus) Sweet, *Hort. Brit.* 1: 54. 1826.

磨盘草 mo pan cao

*Sida indica* Linnaeus, *Cent. Pl.* 2: 26. 1756; *Abutilon asiaticum* (Linnaeus) Sweet; *Abutilon cavaleriei* H. Léveillé; *A. cysticarpum* Hance ex Walpers; *A. indicum* var. *populifolium* (Lamarck) Wight & Arnott; *A. populifolium* (Lamarck) G. Don; *S. asiatica* Linnaeus; *S. populifolia* Lamarck.

Herbs subshrublike, annual or perennial, erect, many branched, 1–2.5 m, entire plant gray puberulent. Stipules subulate, 1–2 mm, curved outward; petiole 2–4 cm, gray puberulent and sparsely hairy, hairs silklake, ca. 1 mm; leaf blade ovate-orbicular or nearly orbicular, 3–9 × 2.5–7 cm, densely gray stellate puberulent, base cordate, margin irregularly serrate, apex acute or acuminate. Flowers solitary, axillary, 2–2.5 cm in diam. Pedicel ca. 4 cm, articulate near apex, gray stellate puberulent. Calyx green, disk-shaped, 6–10 mm in diam., densely gray puberulent, lobes 5, broadly ovate, apex acute. Corolla uniformly yellow; petals 7–8 mm. Staminal column stellate scabrous. Ovary 15–20-loculed. Fruit black, flat topped, ca. 1.5 cm in diam.; mericarps 15–20, apex acute, slightly awned, long stellate scabrous. Seeds reniform, sparsely stellate. Fl. Jul–Oct.

Disturbed sites on sandy soils; below 800(–1500) m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Sichuan, Taiwan, Yunnan [Bhutan, Cambodia, India, Indonesia, Laos, Myanmar, Nepal, Sri Lanka, Thailand, Vietnam].

Some authors, such as Borssum Waalkes (*Blumea* 14: 175. 1966), include the following species within *Abutilon indicum*.

**9. *Abutilon guineense*** (Schumacher) E. G. Baker & Exell, *J. Bot.* 74(Suppl.): 22. 1936.

几内亚磨盘草 ji nei ya mo pan cao

Herbs erect, 0.5–2 m tall, whole plant gray stellate puberulent. Stipules filiform, 3–6 mm, reflexed; petiole shorter to slightly longer than leaf blade, pubescent; leaf blade cordate, ovate, or nearly orbicular, sometimes obscurely 3-lobed, 1.5–8(–10) × 1–6(–10) cm, abaxially densely stellate puberulent or pubescent, adaxially sparsely stellate scabrous with long hairs or pubescent, base cordate, margin irregularly crenate or dentate, apex obtuse, acute, or acuminate. Flowers solitary, axillary. Pedicel 4–7 cm, pubescent, articulate near apex. Calyx campanulate or disk-shaped, ca. 1.2 × 1.7–2 cm, lobes rounded-ovate or ovate-acuminate, ca. 6 mm, densely stellate puberulent, apex acute. Petals yellow, obovate, ca. 0.6 or 1.8 cm, glabrous, bearded on claw. Staminal column glabrous or hairy. Schizocarp flattened-globose, ca. 0.7 × 1–1.5 cm in diam.; mericarps 14–20, stellate scabrous, apex acute, shortly awned, wall leathery, dehiscing on plant. Seeds reniform, glandular-hairy.

Grasslands, scrub-covered slopes. Hainan, Sichuan, Taiwan, Yunnan [Indonesia, Malaysia, New Guinea; Africa, Australia].

Verdcourt (in sched.) has commented on Asian material named as *Abutilon guineense* that he does not believe it is conspecific with the African type of this species. This obviously merits more detailed in-

vestigation.

- 1a. Calyx campanulate; petals ca. 1.8 cm;  
staminal column glabrous ..... 9a. var. *guineense*  
1b. Calyx disk-shaped; petals ca. 0.6 cm;  
staminal column stellate hairy ..... 9b. var. *forrestii*

**9a. *Abutilon guineense* var. *guineense***

几内亚磨盘草(原变种) ji nei ya mo pan cao (yuan bian zhong)

*Sida guineensis* Schumacher, Kongel. Danske Vidensk. Selsk., Naturvidensk. Math. Afh. 4: 81. 1829; *Abutilon indicum* (Linnaeus) Sweet subsp. *guineense* (Schumacher) Borssum Waalkes; *A. indicum* var. *guineense* (Schumacher) K. M. Feng; *A. taiwanense* S. Y. Hu.

Herbs ca. 0.5 m tall. Stipules ca. 3 mm; petiole usually shorter than leaf blade; leaf blade cordate, ovate, or nearly orbicular, 1.5–8 × 1–6 cm, abaxially densely stellate puberulent, adaxially sparsely stellate scabrous with long hairs, margin irregularly crenate, apex obtuse or acute. Calyx campanulate. Petals ca. 1.8 cm. Staminal column glabrous.

Hainan, Taiwan [Indonesia, Malaysia, New Guinea; Africa, Australia].

The identification of Asian material as the African *Abutilon guineense* is questioned by Verdcourt (in sched.).

**9b. *Abutilon guineense* var. *forrestii* (S. Y. Hu) Y. Tang, comb. nov.**

小花磨盘草 xiao hua mo pan cao

Basionym: *Abutilon forrestii* S. Y. Hu, Fl. China, Malvaceae [Fam. 153], 34. 1955; *A. bidentatum* Hochstetter ex A. Richard var. *forrestii* (S. Y. Hu) Abedin; *A. indicum* var. *forrestii* (S. Y. Hu) K. M. Feng.

Herbs to 2 m tall. Stipules 5–6 mm; petiole as long as leaf blade or slightly longer; leaf blade orbicular-cordate, often 3-toothed near apex, 5–10 cm in diam., both surfaces pubescent, margin irregularly dentate, apex acuminate. Calyx disk-shaped. Petals ca. 0.6 cm. Staminal column stellate puberulent.

• Grasslands, scrub-covered slopes in dry hot valley of Jinsha Jiang; 1000–1500 m. Sichuan, Yunnan.

This variety differs from the typical variety by the much smaller flowers and fruits and the shorter and more acute mericarp awns. These distinctions seem better defined than those between many of the accepted species.

Flora of China 12: 275–279. 2007.