

**6. APHANANTHE** Planchon, Ann. Sci. Nat., Bot., sér. 3, 10: 265, 337. 1848, nom. cons., not Link (1821).

糙叶树属 cao ye shu shu

Trees or shrubs, deciduous or semi-evergreen, dioecious or monoecious. Branchlets never spinose, never corky or winged. Stipules 2, free, caducous, leaving a short transverse scar on each side of the leaf base. Leaves alternate, distichous or in several ranks; papery to leathery, margin serrate or entire. Flowers appearing at same time as leaves, unisexual. Male inflorescences cymes. Female inflorescences 1-flowered. Male flowers: perianth 4- or 5-parted, tepals imbricate. Ovary absent or inconspicuous and hair-shaped. Stamens equal in number to tepals; filaments erect or apically incurved; anthers oblong. Female flowers: perianth 4- or 5-parted, tepals narrow and ± imbricate. Drupes ovoid to ± globose; exocarp ± fleshy; endocarp bony. Seed with thin endosperm or not; embryo involute; cotyledons narrow.

About five species: tropical and subtropical areas of E Asia, Madagascar, Mexico, and Pacific Islands; two species in China.

- 1a. Leaves leathery, pinnately veined; secondary veins anastomosing before reaching margin, margin entire or inconspicuously serrate; drupes 1.3–2 cm including beak, glabrous ..... 1. *A. cuspidata*
- 1b. Leaves papery, 3-veined from base; secondary veins extending to margin, each ending in a tooth, margin sharply serrate; drupes 0.8–1.3 cm including beak, pubescent ..... 2. *A. aspera*

**1. *Aphananthe cuspidata*** (Blume) Planchon in Candolle, Prodr. 17: 209. 1873

broadly cuneate to ± cordate, margin serrate, apex acuminate to narrowly acuminate; 3-veined from base; secondary veins 6–10 on each side of midvein, extending to margin, each ending in a

滇糙叶树 dian cao ye shu

*Aphananthe lissophylla* Gagnepain; *A. yunnanensis* (Hu) Grudzinskaja; *Cyclostemon cuspidatum* Blume; *Galumpita cuspidata* (Blume) Blume; *Gironniera cuspidata* (Blume) Kurz; *G. lucida* Kurz; *G. nitida* Benth; *G. reticulata* Thwaites; *G. yunnanensis* Hu.

Trees, to 15–20(–33) m tall, d.b.h. 50–80(–150) cm. Bark grayish brown, usually smooth. Branchlets slender, sparsely pubescent or glabrous. Stipules lanceolate, 6–10 mm, abaxially pubescent. Petiole 7–12 mm, slender, glabrous; leaf blade narrowly ovate, ovate, or oblong-lanceolate, (5–)10–15 × (2–)3–5(–7) cm, base rounded to broadly cuneate, margin usually entire but occasionally inconspicuously serrate, apex caudate-acuminate; venation pinnate; secondary veins 6–10(–17) on each side of midvein, anastomosing before reaching margin. Male flowers: in pairs or in 3–7 cm cymes, ca. 2 mm in diam. Tepals 5, obovate-oblong. Anthers glabrous. Female flowers: solitary. Perianth 5-lobed; tepals narrowly ovate, ca. 2 mm. Drupes brownish red when mature, ovoid, 1.3–2 × 0.7–1.2 cm, hardly compressed, glabrous; perianth and styles persistent; stalk as long as or slightly longer than drupe. Fl. Mar–Apr or Sep–Nov, fr. Jul–Sep or Nov–Dec.

Slopes on hills; 100–900(–1800) m. S Guangdong, Hainan, S Yunnan [Bhutan, India, Indonesia, Malaysia, Myanmar, Sikkim, Sri Lanka, Thailand, Vietnam].

**2. *Aphananthe aspera*** (Thunberg) Planchon in Candolle, Prodr. 17: 208. 1873.

糙叶树 cao ye shu

Trees or rarely shrubs, to 25 m tall, d.b.h. to 50 cm, deciduous. Bark brown or grayish brown, scabrous, longitudinally fissured. Branchlets yellowish green when young, brownish red in second year, old ones grayish brown, with distinct rounded lenticels. Stipules linear, 5–8 mm. Petiole 0.5–1.5 cm, puberulous; leaf blade ovate to ovate-elliptic, 5–10 × 3–5 cm, base

tooth. Male flowers: in proximal leaf axil of young branchlets. Tepals obovate-rounded, ca. 1.5 mm, with clustered hairs at center. Female flowers: solitary in distal leaf axil of young branchlets. Tepals linear-lanceolate, ca. 2 mm. Ovary pubescent. Drupes green or black, ± globose, ellipsoid, or ovoid-globose, 8–13 × 6–9 mm, pubescent; perianth and styles persistent; stalk 5–10 mm, pubescent.

Hills, valleys, streamsides, slopes; 100–1600 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangsu, Jiangxi, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan, Yunnan, Zhejiang [Japan, Korea, Vietnam].

The wood is fine and strong, the fiber is used for manufacturing ropes and staple rayon, and the leaves are used as feed for horses.

- 1a. Young branchlets, petioles, and leaf blades abaxially sparsely pubescent ..... 2a. var. *aspera*  
1b. Young branchlets and petioles covered with gray pubescence of elongate hairs, leaf blades abaxially densely with erect pubescence ..... 2b. var. *pubescens*

**2a. *Aphananthe aspera* var. *aspera***

糙叶树(原变种) cao ye shu (yuan bian zhong)

*Prunus aspera* Thunberg in Murray, Syst. Veg., ed. 14, 463. 1784; *Homoio Celtis aspera* (Thunberg) Blume.

Young branchlets and petioles sparsely pubescent. Leaf blade abaxially sparsely pubescent, adaxially scabrous with bristles. Fl. Mar–May, fr. Aug–Oct.

Valleys, streamsides; 100–600 m in E and N China, 500–1000 m in SE and SC China. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangsu, Jiangxi, Shaanxi, Shandong, Shanxi, Sichuan, SE Taiwan, Yunnan, Zhejiang [Japan, Korea, Vietnam].

**2b. *Aphananthe aspera* var. *pubescens* C. J. Chen, Acta Phytotax. Sin. 17(1): 49. 1979.**

柔毛糙叶树 rou mao cao ye shu

Young branchlets and petioles covered with gray pubescence of elongate hairs. Leaf blade abaxially densely covered with erect pubescence.

• Hills, slopes, valleys; 300–1600 m. W Guangxi, Jiangxi, Taiwan, S Yunnan, Zhejiang.

