

3. BROUSSONETIA L'Héritier ex Ventenat, Tabl. Règn. Vég. 3: 547. 1799, nom. cons., not Ortega (1798).

构属 gou shu

Allaeanthus Thwaites; *Smithiodendron* Hu.

Trees, shrubs, or climbers, deciduous, with latex; monoecious or dioecious. Winter buds small. Stipules free, lateral, ovate-lanceolate, caducous. Leaves alternate, spirally arranged or distichous; leaf blade simple to palmately lobed, margin toothed; primary veins 3-5 and plinerved, secondary veins pinnate. Male inflorescences axillary, spicate or ± capitate, many-flowered. Female inflorescences densely capitate to ± elongated; bracts clavate, persistent. Male flowers: calyx (3 or) 4-lobed, valvate; stamens inflexed in bud. Female flowers: calyx lobes connate into a tube, apically entire or 3- or 4-lobed, persistent; ovary enclosed, stipitate; style lateral; stigma linear, often with vestigial second lobe at base. Fruit densely aggregated into globose syncarp. Syncarp globose; pericarp membranous, enlarged; exocarp fleshy. Cotyledons orbicular, flat, or conduplicate; embryo curved.

Four species: E Asia, Pacific Islands; four species in China.

The bark fibers are used for making paper, the wood is used for furniture, and the leaves and fruit are used medicinally.

- 1a. Flowers produced on leafless stems; leaves distichous; leaf blade glabrous or nearly so; endocarp smooth 4. *B. kurzii*
- 1b. Flowers always produced on leafy stems; leaves spirally arranged; leaf blade adaxially scabrous or scabridulous; endocarp minutely tuberculate.
 - 2a. Stipules 1.5-2.0 × 8-10 mm; petiole 2.3-8 cm; leaf blade abaxially densely pubescent between pilose veins; syncarp 1.5-3 cm in diam., mostly pubescent with scattered stout, ± barbed hairs 1. *B. papyrifera*
 - 2b. Stipules 3-5 × 0.5-1 mm; petiole 0.8-1 cm; leaf blade abaxially glabrous or sparsely pubescent, mainly on veins; syncarp 0.8-1 cm in diam., with stellate clusters of stout strongly barbed hairs.
 - 3a. Plant monoecious, freestanding; male inflorescences globose, 0.8-1 cm 2. *B. kazinoki*
 - 3b. Plant dioecious, climbing; male inflorescences spicate, 1.5-2.5 cm 3. *B. kaempferi*

1. Broussonetia papyrifera (Linnaeus) L'Héritier ex Ventenat, Tabl. Règn. Vég. 3: 547. 1799.

构树 gou shu

Morus papyrifera Linnaeus, Sp. Pl. 2: 986. 1753; *Smithiodendron artocarpioideum* Hu.

Trees 10-20 m tall, flowers always produced on leafy stems; dioecious. Bark dark gray. Branchlets densely pubescent. Stipules ovate, 1.5-2 × 0.8-1 cm, apex attenuate. Leaves spirally arranged; petiole 2.3-8 cm; leaf blade broadly ovate to narrowly elliptic-ovate, simple or 3-5-lobed on young trees, 6-18 × 5-9 cm, abaxially densely pubescent but veins with coarser hairs, adaxially scabridulous and sparsely pubescent, base cordate and asymmetric, margin coarsely serrate, apex acuminate; secondary veins 6 or 7 on each side of midvein. Male inflorescences long spicate, 3-8 cm; bracts lanceolate, pubescent. Female inflorescences globose; bracts clavate, apically pubescent. Male flowers: calyx 4-lobed, lobes triangular-ovate and pubescent; anthers globose. Female flowers: calyx pipelike, lobes apically connate with style; ovary ovoid; stigma linear, pubescent. Syncarp orange-red when mature, 1.5-3 cm in diam., mostly pubescent with scattered stout and ± barbed hairs, fleshy. Drupelets equal in length to peduncle, with 2 rows of small verruca; exocarp shell-like. Fl. Apr-May, fr. Jun-Jul.

Anhui, Fujian, Gansu, Guangdong, Guangxi, Guizhou, Hainan, Hebei, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan, SE Xizang, Yunnan, Zhejiang [Cambodia, Japan, Korea, Laos, Malaysia, Myanmar, Sikkim, Thailand, Vietnam; Pacific Islands].

The bark fibers are used for making paper, the wood is used for furniture, and the leaves, fruit, and bark are used medicinally.

2. Broussonetia kazinoki Siebold, Verh. Batav. Genootsch. Kunsten 12: 28. 1830.

楮 chu

Broussonetia kazinoki var. *ruyangensis* P. H. Ling & X. W. Wei; *B. monoica* Hance.

Shrubs 2-4 m tall, flowers always produced on leafy stems; monoecious. Branchlets obliquely spreading, pubescent when young, glabrescent. Stipules linear-lanceolate, 3-5 × 0.5-1 mm, apex acuminate. Petiole ca. 1 cm; leaf blade ovate to oblique-ovate, simple or 3-lobed, 3-7 × 3-4.5 cm, abaxially subglabrous, adaxially scabrous, base ± rounded to obliquely rounded, margin triangular serrate, apex attenuate to shortly acuminate. Male inflorescences globose, 0.8-1 cm in diam. Female inflorescences globose, pubescent. Male flowers: calyx 3- or 4-lobed, lobes triangular and adaxially pubescent; anthers elliptic. Female flowers: calyx pipelike, apically toothed, lobed, or entire; style 1, papillate at middle. Syncarp 0.8-1 cm in diam., with stellate clusters of stout strongly barbed hairs. Drupelets verrucate compressed; exocarp shell-like. Fl. Apr-May, fr. May-Jun.

Forest margins, low mountains, near houses. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Sichuan, Taiwan, Yunnan, Zhejiang [Japan, Korea].

3. Broussonetia kaempferi Siebold var. **australis** Suzuki, Trans. Nat. Hist. Soc. Taiwan 24: 433. 1934.

藤构 teng gou

Broussonetia sieboldii Blume.

Shrubs, scandent, flowers always produced on leafy stems;

dioecious. Bark blackish brown. Branchlets conspicuously spreading, pale gray pubescent when young, glabrescent. Leaves spirally arranged; petiole 0.8–1 cm, pubescent; leaf blade \pm ovate-elliptic, simple or occasionally 2- or 3-lobed, 3.5–8 \times 2–3 cm, scabrous and glabrous, base cordate to cuneate, margin finely serrate with glandular serrations at apex, apex attenuate to shortly acuminate. Male inflorescences spicate, 1.5–2.5 cm. Female inflorescences globose. Male flowers: calyx 3- or 4-lobed, adaxially pubescent; anthers yellow, elliptic-globose. Female flowers: style linear, exserted. Syncarp ca. 1 cm in diam., with stellate clusters of stout strongly barbed hairs. Fl. Apr–Jun, fr. May–Jul.

• Scrub, along trails on slopes; 300–1000 m. Anhui, Chongqing, Fujian, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangxi, Taiwan, SE Yunnan, Zhejiang.

Broussonetia kaempferi var. *kaempferi* is endemic to Japan.

The bark fibers are used for making paper.

4. *Broussonetia kurzii* (J. D. Hooker) Corner, Gard. Bull. Singapore 19: 234. 1962.

落叶花桑 *luo ye hua sang*

Allaeanthus kurzii J. D. Hooker, Fl. Brit. Ind. 5: 490. 1888.

Shrubs, scandent, large, flowering before leaves; dioecious. Branchlets long. Stipules obliquely triangular-lanceolate, 4–5 \times 2.5–3 mm, glabrous, base \pm amplexicaul, apex acute. Leaves distichous; petiole 0.7–1.4 cm, puberulous; leaf blade ovate-elliptic, 10–20 \times 5–10 cm, both surfaces glabrous and smooth or very minutely papillate, margin serrate; secondary veins 3–6 on each side of midvein. Male inflorescences cylindric, 4–5 cm. Female inflorescences globose, flowers intermixed with bracts. Male flowers: calyx 4-lobed. Female flowers: calyx pipelike, apically 4-lobed; ovary sessile; style linear, exserted. Syncarp 0.8–1 cm in diam. Drupelets compressed, smooth; exocarp woody. Fl. Apr–May, fr. May–Jun.

Tropical or seasonal rain forests; 200–600 m. S Yunnan [Bhutan, NE India, Laos, N Myanmar, Sikkim, Thailand, Vietnam].

