

## 4. DENDROCNIDE Miquel, Pl. Jungh. 1: 29. 1851.

火麻树属 huoma shu shu

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Trees or shrubs, evergreen, branches sympodial, often with terminal rosettes of leaves, armed with stinging hairs. Leaves alternate, spiral, petiolate; stipules deciduous, intrapetiolar, completely connate, leathery, often large, apex entire; leaf blade leathery or papery, pinnately veined, rarely 3-5-veined, margin entire, undulate, or crenulate; cystoliths punctiform. Inflorescences solitary, pedunculate, generally forming cymose-panicles or racemes unisexual (plants dioecious); female glomerules often with thickened, fleshy flabellate receptacle; bracts present. Male flowers 4- or 5-merous; filaments of stamens inflexed in bud; rudimentary ovary conspicuous. Female flowers: perianth lobes 4, connate at base, subequal, lateral lobes slightly larger; staminodes absent. Ovary ovoid, erect; stigma filiform or ligulate, papillous on 1 side; ovule orthotropous. Achene slightly oblique, often compressed, often large, verrucose, persistent stigma usually reflexed; pedicels simple or swollen, cylindrical, not winged. Seeds with thin or no endosperm; cotyledons broad.

About 36 species: S and SE Asia, Australia, Pacific Islands; six species (one endemic) in China.

The stem fibers are used to make ropes. The stinging hairs may be very irritating.

- 1a. Female flowers pedicellate, freely borne or in loose clusters at extremities of peduncles; pedicels often fleshy but not swollen.
  - 2a. Leaf blade broadly ovate or broadly elliptic, base rounded or subcordate; male flowers 5-merous; achene orbicular-ovoid, ca. 2.5 mm ..... 5. *D. basirotunda*
  - 2b. Leaf blade elliptic, oblong- or obovate-lanceolate, base often cuneate, sometimes rounded or deeply cordate; male flowers 4-merous; achene pyramidal, 5-6 mm ..... 6. *D. sinuata*
- 1b. Female flowers sessile or subsessile, usually 1 in a row on often fleshy flabellate swollen receptacles.
  - 3a. Leaf blade cordate; male flowers 5-merous ..... 4. *D. urentissima*
  - 3b. Leaf blade ovate or lanceolate; male flowers 4(or 5)-merous.
    - 4a. Leaf blade obovate or oblong-lanceolate, base often cuneate ..... 1. *D. stimulans*
    - 4b. Leaf blade ovate, elliptic, or oblong, base obtuse or shallowly cordate.
      - 5a. Inflorescence branches densely armed with poisonous stinging hairs, reddish green; bracts of female inflorescence linear; second year branchlets with stinging hairs ..... 2. *D. meyeniana*
      - 5b. Inflorescence branches with a few short non-poisonous hairs, whitish green; bracts of female inflorescence triangular; second year branchlets glabrous ..... 3. *D. kotoensis*

**1. *Dendrocnide stimulans*** (Linnaeus f.) Chew, Gard. Bull. Singapore 21: 206. 1965.

海南火树麻 hai nan huoma shu ma

*Urtica stimulans* Linnaeus f., Suppl. Pl. 418. 1782; *Laportea annamica* Gagnepain; *L. hainanensis* Merrill & Metcalf; *L. stimulans* (Linnaeus f.) Miquel.

Shrubs or small trees, straight, branches widely spreading. 3 m tall, bark whitish gray, lenticellate, leaf scars conspicuous, otherwise smooth; upper stem and branches glabrous, without stinging hairs, stipules brownish, caducous, ovate, ca. 0.7 cm, leathery, margin herbaceous, puberulent abaxially; petiole 1.5-4 cm, with stinging hairs and dense punctiform cystoliths on both surfaces; leaf blade light green, obovate or oblong-lanceolate, 6-17 × 2-5 cm, papery or leathery, penniveined, lateral veins 6-8 each side, adaxial surface sparsely armed with short, stinging hairs, abaxial surface sparsely pubescent and armed with stinging hairs, base often cuneate, margin entire, sometimes inconspicuously serrulate at apex, apex acuminate, acumen often sharp; cystoliths minutely punctiform, conspicuous adaxially and along veins abaxially. Inflorescences in distal axils of branches, racemose, shorter than leaves; female inflorescences longer than leaves, long pedunculate, armed with stinging hairs. Male flowers sessile, in bud 1.5 mm; perianth lobes 4, elliptic, setulose; stamens 4; rudimentary ovary obpyra-

midal, 0.8 mm. Female flowers slightly sunken in a row on slightly fleshy flabellate peduncular receptacle, sessile, ca. 1 mm; perianth lobes 4, connate 1/2 of length, unequal, 2 lateral lobes wider, enclosing the ovary, triangular-ovate, ca. 0.4 mm, sparsely puberulent and armed with short stinging hairs; stigma somewhat straight, filiform, ca. 3 mm. Achene subglobose, oblique, compressed, ca. 3 mm in diam., inconspicuously verrucose; persistent perianth forming a minute cupule at base. Fr. Apr.

Forests; 100-600 m. Guangdong, Hainan, Taiwan [Indonesia, Laos, Malaysia, Philippines, Thailand, Vietnam; Borneo].

**2. *Dendrocnide meyeniana*** (Walpers) Chew, Gard. Bull. Singapore 21: 206. 1965.

咬人狗 yao ren gou

*Urtica meyeniana* Walpers, Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19, Suppl. 1: 422. 1843; *Dendrocnide meyeniana* (Walpers) Chew f. *subglabra* (Hayata) Chew; *Laportea batanensis* C. B. Robinson; *L. gaudichaudiana* Weddell; *L. meyeniana* (Walpers) Warburg; *L. mindanaensis* Warburg; *L. pterostigma* Weddell; *L. pterostigma* var. *subglabra* (Hayata) T. S. Liu & W. D. Huang; *L. subglabra* Hayata.

Trees, crown truncate; 3 m tall, bark gray, armed with

stinging hairs, bulbous at base, lenticellate, leaf scars conspicuous, prominent, otherwise smooth; second year branchlets, abaxial surface of stipules, petioles, leaf blade, and inflorescences armed with stinging hairs. Leaves crowded at apex of stem and branches; Stipules caducous, broadly triangular, ca. 1 cm, leathery, densely puberulent abaxially; petiole 4–12 cm, pubescent; leaf blade ovate to ovate or obovate-oblong, to 55 × 27 cm, leathery, penniveined, lateral veins 7–12 each side, abaxial surface pubescent or sometimes subglabrous, base obtuse, rounded, slightly cordate to subpeltate, margin entire, rarely dentate or crenate, apex acute, cuspidate, or acuminate; cystoliths minutely punctiform, conspicuous adaxially. Male inflorescences cymose paniculate, branches and flowers densely armed with stinging hairs; female inflorescences paniculate, more than 10 cm, ultimate branching angle more than 100 degrees, branchlets reddish green, densely armed with poisonous, stinging hairs, bracts linear, larger ones with midvein. Male flowers: perianth lobes 4 (or 5). Female flowers flabellately arranged but often not in 1 plane; sessile, perianth lobes 4, connate at base, unequal, 2 lateral lobes much wider than medial 2, enclosing ovary, ovate, ca. 0.7 mm, sparsely puberulent and armed with short stinging hairs; stigma ligulate. Achene subglobose, oblique, compressed, ca. 2 mm in diam., inconspicuously verrucose; persistent perianth forming a minute cupule at base. Fr. Apr–Jul.

Secondary forests, thickets, along streams; 100–500 m. Taiwan [Philippines].

**3. *Dendrocnide kotoensis*** (Hayata ex Yamamoto) B. L. Shih & Yuen P. Yang, Bot. Bull. Acad. Sin. 36: 162. 1995.

红头咬人狗 hong tou yao ren gou

*Laportea kotoensis* Hayata ex Yamamoto, Suppl. Icon. Pl. Formosan. 1: 2. 1925.

Trees; bark smooth, indistinctly lenticellate; second year branchlets glabrous. Stipules broadly triangular, ca. 1 cm, leathery; petiole to 15 cm; leaf blade ovate, ovate-oblong to obovate-oblong, to 40 × 21 cm, leathery, penniveined, lateral veins 7–11 each side, subglabrous, very sparsely setose, base rounded, shallowly cordate to subpeltate, margin entire, rarely dentate or crenate, apex acute or short acuminate; cystoliths minutely punctiform, conspicuous adaxially. Male inflorescences cymose paniculate; subglabrous; branches whitish green, armed with a few non-poisonous hairs, ultimate branching angle less than 90 degrees. Male flowers: perianth lobes 4. Female flowers several on a flabellate receptacle; sessile, bracts triangular, linear, without midvein. Achene subglobose, oblique, compressed, ca. 2 mm in diam., inconspicuously verrucose; persistent perianth forming a minute cupule at base. Fr. Apr–Jul.

• Coastal forests, along streams; ?100–200 m. Taiwan (Taidong).

**4. *Dendrocnide urentissima*** (Gagnepain) Chew, Gard. Bull. Singapore 21: 207. 1965.

火麻树 huo ma shu

*Laportea urentissima* Gagnepain, Bull. Soc. Bot. France

75: 3. 1928; *Dendrocnide chingiana* (Handel-Mazzettii) Chew; *Laportea chingiana* Handel-Mazzetti.

Trees 3–15 m tall, 8–20 cm d.b.h.; bark whitish gray, lenticels elliptic; leaf scars semiorbicular, conspicuous; upper stem and branchlets velutinous and armed with stinging hairs, soon glabrescent. Stipules caducous, triangular-ovate, ca. 1 cm, leathery, puberulent abaxially; petiole 7–15 cm, velutinous and armed with short stinging hairs; leaf blade dark green, cordate, 15–25 × 12–22 cm, papery, 3–5-veined, lateral veins 5–7 each side, anastomosing before margin, adaxial surface strigose and sparsely armed with short, stinging hairs, abaxial surface velutinous, with red glandular dots, armed with stinging hairs on veins, base cordate, margin entire or inconspicuously serrulate at apex, apex acuminate; cystoliths minutely punctiform, conspicuous adaxially. Inflorescences in subterminal axils of branchlets, long paniculate, shorter than leaves; female inflorescences longer than leaves, to 50 cm, peduncles to 25 cm, densely armed with stinging hairs. Male flowers sessile, in bud 2 mm; perianth lobes 5, ovate, pubescent; stamens 5; rudimentary ovary obconic, 1 mm. Female flowers 4–6 in a row on slightly fleshy flabellate peduncular receptacle, entirely sessile, ca. 1 mm; perianth lobes 4, unequal, 1 large, ca. 1 mm, 2 medium ca. 0.5 mm, 1 small, ca. 0.3 mm. Ovary ca. 1 mm; stigma ligulate, ca. 3 mm; bracts ca. 0.3 mm. Achene dark reddish, subglobose, oblique, compressed, ca. 3 mm in diam., conspicuously verrucose; persistent perianth forming a minute cupule at base. Fl. Sep–Oct or Jan–Feb, fr. Oct–Dec or Apr–May.

Mixed forests on limestone; 800–1300 m. SW Guangxi, S Yunnan [Vietnam].

**5. *Dendrocnide basirotonda*** (C. Y. Wu) Chew, Gard. Bull. Singapore 25: 34. 1969.

圆基火麻树 yuan ji huo ma shu

*Laportea basirotonda* C. Y. Wu, Acta Phytotax. Sin. 6: 276. 1957.

Small trees, 5–7 m tall, 20–40 cm d.b.h., branchlets semiwoody; bark gray-green, sometimes purplish, lenticels elliptic; upper stem and branchlets appressed pubescent, soon glabrescent. Stipules caducous, broadly ovate, ca. 0.6–0.8 cm, leathery, densely puberulent abaxially; petiole 4–11 cm, sparsely appressed pubescent and armed with short stinging hairs; leaf blade dark green, broadly ovate or broadly elliptic, 11–22 × 7–16 cm, papery, 3-veined, lateral veins 5–8 each side, anastomosing before margin, tertiary veins subparallel, adaxial surface sparsely strigose or subglabrous, abaxial surface pubescent and sparsely armed stinging hairs on veins, base rounded or subcordate, margin entire or inconspicuously remotely serrulate, apex acuminate; cystoliths minutely punctiform, conspicuous adaxially. Inflorescences in distal axils of branchlets, long paniculate, slightly longer than petioles. Male flowers sessile, in bud 1.2 mm; perianth lobes 5, ovate, pubescent; stamens 5;

rudimentary ovary obovoid, 0.4 mm. Female flowers 3 or 4 in a row on slightly fleshy flabellate peduncular receptacle, subsessile, ca. 1 mm; perianth lobes 4, unequal, 1 large, ca. 1 mm, 2 medium ca. 0.5 mm, ventral small, ca. 0.2 mm. Ovary ca. 1 mm; stigma straight, ligulate, ca. 2 mm; bracts ca. 0.3 mm. Achene orbicular-ovoid, oblique, compressed, ca. 2.5 mm, conspicuously verrucose; persistent perianth forming a minute cupule at base. Fl. Aug–Sep, fr. Sep–Oct.

Mixed forests on limestone; 1000–1200 m. S Yunnan [Myanmar, Thailand].

**6. *Dendrocnide sinuata*** (Blume) Chew, Gard. Bull. Singapore 21: 206. 1965.

全缘火麻树 *quan yuan huo ma shu*

*Urtica sinuata* Blume, Bijdr. Fl. Ned. Ind. 505. 1826; *Laportea crenulata* Gaudichaud-Beaupré; *L. integrifolia* C. Y. Wu; *L. sinuata* (Blume) Miquel; *Urtica ardens* Blume (1825), not Link (1822); *U. crenulata* Roxburgh.

Shrubs or small trees, 3–7 m tall; branchlets spreading, semiwoody; bark gray-green; upper stem and branchlets sparsely armed with stinging hairs. Stipules brownish, caducous, ovate-lanceolate, ca. 1.5–2.5 cm, subleathery, puberulent abaxially; petiole 2–10 cm, sparsely pubescent and armed with stinging hairs; leaf blade elliptic, oblong- or obovate-lanceolate, rarely rhombic, 10–45 × 5–20 cm, leathery or papery, pinniveined, lateral veins 8–15 each side, anastomosing before margin, prominent abaxially, both surfaces subglabrous or sparsely armed with stinging hairs on veins, base cuneate, rounded, or deeply cordate, margin entire, sinuate to irregularly denticulate, apex acute to long acuminate; cystoliths minutely punctiform, conspicuous adaxially. Male inflorescences in distal axils of branchlets, long paniculate, 5–10 cm; armed with stinging hairs; female inflorescences also in distal axils, 10–20 cm. Male flowers subsessile, in bud 1.2 mm; perianth lobes 4, ovate, pubescent and armed with short stinging hairs; stamens 4; rudimentary ovary obovoid, 0.5 mm. Female flowers: pedicels often fleshy but not swollen; perianth lobes 4, unequal, 1–1.5 mm. Ovary ca. 1.5 mm; stigma ligulate, ca. 2 mm. Achene asymmetrically pyramidal, 5–6 mm, conspicuously verrucose; persistent perianth forming a minute cupule at base. Fl. Sep–Apr, fr. Sep–Nov.

Mixed forests; 300–800 m. S Guangdong, SW Guangxi, Hainan, S Xizang, SW Yunnan [India, Malaysia, Myanmar, Sikkim, Sri Lanka, Thailand].

