

3. LAPORTEA Gaudichaud-Beaupré, Voy. Uranie, Bot. 498. 1830, nom. cons.

艾麻属 ai ma shu

Chen Jiarui (陈家瑞 Chen Chia-jui); Ib Friis, C. Melanie Wilmot-Dear

Fleurya Gaudichaud-Beaupré; *Spectrocnide* Maximowicz; *Urticastrum* Heister ex Fabricius, nom. rej.

Herbs or subshrubs, armed with stinging hairs. Leaves alternate, petiolate; stipules deciduous, intrapetiolar, incompletely connate, apex 2-cleft; leaf blade papery, pinnately veined or 3-veined, margin often coarsely dentate or serrate, rarely entire; cystoliths punctiform or botuliform. Inflorescences solitary, axillary, pedunculate, loose glomerules forming panicles or sometimes racemes or spikes, unisexual (plants monoecious or dioecious); bracts present, very small. Male flowers: perianth lobes 4 or 5, slightly subvalvate, depressed, inflexed in bud; stamens 4 or 5; rudimentary ovary clavate or subglobose. Female flowers: perianth lobes 4, free or connate at base, strongly unequal, dorsal-ventral 2 greatly unequal and smaller, lateral 2 equal and larger; staminodes absent. Ovary at first straight, soon oblique, ovoid; style usually filiform; stigma often linear, at length often reflexed, papillose on 1 side; ovule orthotropous. Achene ovoid to semicircular, often compressed, sessile or stipitate on oblique torus, usually reflexed on dorsiventrally or laterally winged pedicels. Seeds with thin or no endosperm; cotyledons broad.

About 28 species: pantropical; seven species (two endemic) in China.

The stem fibers are used to make ropes. The stinging hairs are poisonous.

- 1a. Pedicels of female flowers conspicuously laterally and symmetrically winged; achene articulated on pedicel.
 - 2a. Subshrubs or herbs; leaf blade broad ovate to cordate, base often truncate, abaxial surface often purplish 3. *L. violacea*
 - 2b. Herbs; leaf blade ovate to lanceolate, base broadly cuneate or rounded, rarely shallowly cordate, abaxial surface light green.
 - 3a. Herbs often with tuberous roots; leaf axils often with woody bulbils; female perianth with the 2 lateral lobes largest 1. *L. bulbifera*
 - 3b. Herbs without tuberous roots; leaf axils usually lacking woody bulbils; female perianth with the dorsal lobe largest 2. *L. medogensis*
- 1b. Pedicels of female flowers slightly dorsiventrally and asymmetrically winged, or not winged; achene not articulated on pedicel.
 - 4a. Leaf blade apex long caudate; achene smooth 4. *L. cuspidata*
 - 4b. Leaf blade apex acuminate; achene with a triangular ridge enclosing a warty depression.
 - 5a. Inflorescences paniculate, to 5 cm; stigma ligulate.
 - 5b. Inflorescences long spicate, to 25 cm; stigma 3-fid 7. *L. interrupta*
 - 6a. Stems, petioles, and perianth without gland-tipped hairs; leaf blade 3.5–7.5 × 2–6 cm; inflorescences 1–5 cm; peduncle 0.1–2.5 cm 5. *L. fujianensis*
 - 6b. Stems, petioles, and perianth with long, gland-tipped hairs; leaf blade 8–17 × 6–13 cm; inflorescences to 20 cm, peduncle 7–14 cm 6. *L. aestuans*

1. *Laportea bulbifera* (Siebold & Zuccarini) Weddell, Monogr. Urtic. 139. 1856.

珠芽艾麻 zhu ya ai ma

Urtica bulbifera Siebold & Zuccarini, Abh. Math.-Phys. Cl. Königl. Bayer. Akad. Wiss. 4(3): 214. 1846; *Boehmeria bodinieri* H. Léveillé; *Laportea bulbifera* subsp. *dielsii* (Pampanini) C. J. Chen; *L. bulbifera* subsp. *latiuscula* C. J. Chen; *L. bulbifera* subsp. *rugosa* C. J. Chen; *L. bulbifera* var. *sinensis* S. S. Chien; *L. dielsii* Pampanini; *L. elevata* C. J. Chen; *L. oleracea* Weddell; *L. sinensis* C. H. Wright; *L. terminalis* Wight.

Herbs monoecious, rarely dioecious. Stems often caespitose, slightly woody at base, 50–150 cm tall, upper stems often zigzagged, 5-angled, rarely branched, axils often with 1–3 woody bulbils, 3–6 mm in diam.; upper stems and petioles pubescent and sparsely armed with stinging hairs, particularly at nodes and apically, glabrescent. Leaves whorled at stem apex or not; stipules early caducous, oblong-lanceolate, 5–10 mm, apex 2-cleft 1/2 of length; petiole 1.5–10 cm; leaf blade light

green abaxially, lanceolate to ovate or cordate, sometimes orbicular, 6–16 × 2.5–8 cm, papery, 3-veined, lateral basal pair reaching middle margin, lateral veins 4–6 each side of midvein, reaching teeth or anastomosing before margin, abaxial surface pubescent, veins sparsely armed with stinging hairs, particularly at base, adaxial surface appressed hirtellous and with sparse, stinging hairs, base broadly cuneate, rounded, rarely shallowly cordate, margin crenate, dentate or serrate, apex acuminate; cystoliths minutely punctiform, adaxially conspicuous. Male inflorescences in proximal axils, paniculate, 3–10 cm; female inflorescences terminal or in subterminal axils, 10–25 cm, peduncle 3–10 cm, often with flowers along 1 side. Male flowers pedicellate or subsessile, in bud ca. 1 mm; perianth lobes 5, oblong-ovate, puberulent, apex not corniculate; stamens 5; rudimentary ovary obpyramidal, 0.5 mm. Female flowers: pedicel 2–4 mm, strongly laterally winged; perianth lobes 4, almost free, strongly unequal, dorsal lobe concave, ca. 0.5 mm, 2 lateral larger, enclosing the ovary, oblong-ovate, 1/3–1 × as long as achene, abaxially setulose with stinging hairs, ventral lobe smallest, triangular-ovate, ca. 0.3 mm. Ovary stipitate, asymmetrically ovoid; stigma reflexed, filiform, 2–4 mm. Achene

minutely purplish spotted, broadly obovoid or semiorbicular, strongly compressed, 1.5–3 mm in diam., smooth, rarely rugose-striate; pedicel winged, spatulate to obovate, stipe ca. 0.5 mm, strongly reflexed; persistent lateral perianth lobes slightly enlarged, ca. 1.5 mm, investing ca. 1/2 of achene. Fl. Jun–Aug, fr. Aug–Dec.

Forest margins, thickets, roadsides, often partly shady, moist places; 700–3500 m. Anhui, N Fujian, Gansu, N Guangdong, N Guangxi, Guizhou, Hebei, Henan, Heilongjiang, Hubei, Hunan, Jiangxi, Jilin, Liaoning, Shaanxi, Shandong, Shanxi, Sichuan, Xizang, Yunnan, Zhejiang [Bhutan, India, Indonesia, Japan, Korea, Myanmar, Russia, Sikkim, Sri Lanka, Thailand, Vietnam].

2. *Laportea medogensis* C. J. Chen, Acta Phytotax. Sin. 28: 68. 1990.

墨脱艾麻 mo tuo ai ma

Herbs, often with fusiform tuberous roots, monoecious. Stems 30–60 cm tall, straight, simple, without axillary bulbils; stem and petioles puberulent and very densely armed with stinging hairs. Leaves regularly alternate; stipules early caducous, lanceolate, 10–14 mm, puberulent along rib abaxially, apex 2-cleft; petiole 4–8 cm; leaf blade greenish, broadly ovate, 14–17 × 9–12 cm, herbaceous or submembranous, 3-veined, lateral basal pair reaching middle, lateral veins 5 or 6 each side of midvein, anastomosing before margin, abaxial surface with short, stinging and setulose hairs on veins, adaxial surface with stinging hairs, base shallowly cordate, rarely subtruncate, margin coarsely dentate, each tooth with 1 apical stinging hair, apex short acuminate, acumen entire; cystoliths minutely punctiform, adaxially conspicuous. Male inflorescences in proximal axils, paniculate, 2–4 cm; female inflorescences in distal axils, at least 4 cm (when young), densely armed with stinging hairs. Male flowers shortly pedicellate or sessile, in bud 1–1.2 mm; perianth lobes 5, puberulent at apex, apex not corniculate; stamens 5; rudimentary ovary obpyramidal, ca. 0.6 mm. Female flowers pedicellate; perianth lobes 4, almost free, strongly unequal, dorsal lobe the largest, concave, ca. 0.9 × 1.2 mm, apex obtuse, 2 lateral (inner) lobes elliptic-ovate, ca. 0.8 mm, apex acute, ventral lobe smallest, narrowly ovate, ca. 0.4 mm. Ovary stipitate, triangular-ovoid; stigma filiform, ca. 2–3 mm. Achene unknown. Fl. Jan.

• Moist places of evergreen forests, along streams; 800–1600 m. SE Xizang (Médog).

This is a remarkable but little-collected species; more collections are needed to understand its relationships.

3. *Laportea violacea* Gagnepain, Bull. Soc. Bot. France 75: 4. 1928.

葡萄叶艾麻 pu tao ye ai ma

Laportea vitifolia Handel-Mazzetti.

Herbs or subshrubs, perennial, monoecious. Stems purplish when dry, straight, many branched, 100–200 cm tall; upper stem, branches, and petioles sparsely armed with stinging hairs; hairs 3–4 mm, thick. Stipules early caducous, triangular-ovate, ca. 3 mm, apex 2-cleft; petiole 4–8 cm; leaf blade usually purplish abaxially, dark green adaxially, broadly ovate or cor-

date, 5–12 × 4–10 cm, papery, lustrous, 3-veined, lateral basal pair reaching middle and anastomosing with adjacent lateral veins, lateral veins 3 each side of midvein, anastomosing before margin, abaxial surface sparsely armed with stinging hairs, adaxial surface appressed setulose and with long, stinging hairs, base often truncate, rarely shallowly cordate or abruptly attenuate, margin coarsely dentate, apex acuminate; cystoliths minutely punctiform, adaxially conspicuous. Male inflorescences in proximal axils, paniculate, to 8 cm; female inflorescences subterminal, to 20 cm, peduncle 7–10 cm. Male flowers sessile, in bud ca. 1.5 mm; perianth lobes (4 or)5, elliptic, setulose, apex not corniculate; stamens 5; rudimentary ovary obpyramidal, 0.3 mm. Female flowers pedicellate; strongly laterally obovate-winged; perianth lobes 4, almost free, strongly unequal, dorsal lobe ovate, concave, ca. 0.3 mm, 2 lateral lobes largest, enclosing the ovary, narrowly ovate, ca. 0.7 mm, ventral lobe smallest, triangular-ovate, ca. 0.2 mm. Ovary stipitate, asymmetrically triangular-ovoid; stigma reflexed, filiform, 2–3 mm. Achene obovoid, strongly compressed, ca. 2 mm in diam., verrucose; stipe strongly reflexed, ca. 0.4 mm. Fl. Jun–Aug, fr. Aug–Nov.

Forests, thickets; 200–1100 m. SW Guangxi [Thailand, Vietnam].

4. *Laportea cuspidata* (Weddell) Friis, Kew Bull. 36: 156. 1981.

艾麻 ai ma

Girardinia cuspidata Weddell in Candolle, Prodr. 16(1): 103. 1869; *Laportea forrestii* Diels; *L. giraldiana* E. Pritzl ex Diels; *L. grossedentata* C. H. Wright; *L. macrostachya* (Maximowicz) Ohwi; *Sceptrocnide macrostachya* Maximowicz.

Herbs, roots often fusiform, tuberous, 5–10(–30) × 0.3–0.5(–1) cm. monoecious. Stems often caespitose, slightly woody at base, 40–150 cm tall, upper stem sometimes purplish, often zigzagged, 5-angled, rarely branched; sterile axils with 1–3 woody bulbils, 3–5 mm in diam.; upper stems and petioles sparsely pubescent and sparsely armed with stinging hairs particularly at nodes and basally, glabrescent. Stipules early caducous, ovate-triangular, 3–4 mm, apex 2-cleft; petiole 3–14 cm; leaf blade ovate, elliptic or suborbicular, 7–22 × 3.5–17 cm, membranous or papery, 3-veined, rarely tripliveined, lateral basal pair reaching to middle margin, lateral veins 2–4 each side of midvein, both surfaces sparsely pubescent and sparsely armed with stinging hairs, sometimes glabrescent, base cordate, rounded, rarely subtruncate, margin grossly dentate, teeth increasing in size toward apex, sometimes doubly serrate, apex long caudate, cauda occasionally serrate; cystoliths minutely punctiform, adaxially conspicuous. Male inflorescences in proximal axils, paniculate, 8–17 cm; female inflorescences subterminal, long spicate, 15–25 cm, peduncle 2–8 cm, often with glomerules at intervals along usually unbranched peduncle, sparsely pubescent and armed with stinging hairs. Male flowers pedicellate or sessile, in bud ca. 1.5 mm; perianth lobes 5, narrowly ovate, puberulent, apex not corniculate; stamens 5; rudimentary ovary obconic, 0.4 mm. Female flowers: pedicels ca. 1.5 mm, not winged; perianth lobes 4, almost free, strongly unequal, dorsal lobe broadly ovate, concave, ca. 0.6 mm, 2 lateral lobes largest, enclosing the ovary, oblong-ovate,

ca. 0.7 mm, setulose beneath, ventral lobe smallest, ovate, ca. 0.4 mm. Ovary short stipitate, enlarged in fruit, asymmetrically ovoid; stigma reflexed, filiform, ca. 2 mm. Achene obovoid, slightly compressed, ca. 2 mm, smooth; stipe 1–2 mm; persistent lateral perianth lobes slightly enlarged, ca. 1.5–1.8 mm. Fl. Jun–Jul, fr. Aug–Sep.

Forest margins, thickets, partly shady, moist places, roadsides; 800–2700 m. Anhui, SE Gansu, N Guangxi, Guizhou, Henan, Hubei, Hunan, Jiangxi, S Shaanxi, Sichuan, SE Xizang [Japan, Myanmar].

5. *Laportea fujianensis* C. J. Chen, Acta Bot. Yunnan. 4: 332. 1982.

福建红小麻 fu jian hong xiao ma

Herbs annual, monoecious. Stems often purplish basally, straight, 20–60 cm tall, upper stem not zigzagged, simple or few branched; upper stems and petioles densely armed with short stinging hairs. Stipules deeply 2-cleft, lobes nearly subulate, ca. 2.5 mm, setulose along rib abaxially; petiole 2–7 cm; leaf blade broadly ovate or subcordate, 3.5–7.5 × 2–6 cm, submembranous, 3-veined, lateral basal pair reaching middle margin, lateral veins 4 or 5 each side of midvein, reaching teeth, abaxial surface with dense, short, stinging hairs on veins, adaxial surface with appressed stinging hairs, base abruptly cuneate, truncate, or cordate, margin denticulate, apex acuminate; cystoliths botuliform, regularly arranged abaxially along veins. Male inflorescences in distal axils, paniculate, 1–2 cm; female inflorescences in proximal axils, 2–5 cm, peduncle 0.1–2.5 cm, densely armed with short stinging hairs. Male flowers pedicellate, in bud ca. 1 mm; perianth lobes (4 or)5(or 6), connate at base, obovate, puberulent, apex corniculate; stamens (4 or)5(or 6); rudimentary ovary obovoid, 0.4 mm. Female flowers pedicel slender, to 2–3 mm, not winged; perianth lobes 4, free, unequal, dorsal lobe far from lateral one, concave, ca. 0.2 mm, 2 lateral lobes largest, enclosing the ovary, broadly ovate, ca. 0.4 mm, ventral lobe smallest, narrowly ovate, ca. 1.5 mm. Ovary asymmetrically triangular-ovoid; stigma reflexed, ligulate, ca. 2 mm. Achene obliquely triangular-obovoid, slightly compressed, ca. 0.8 mm in diam., with triangular ridge enclosing a warty depression; persistent lateral perianth lobes forming a small basal cup. Fl. Jul–Aug, fr. Aug–Sep.

• Disturbed, moist places in forests, streams; ca. 300 m. S Fujian (Nanjing).

This species superficially resembles the widespread and rather weedy *Laportea aestuans*, but lacks the glandular hairs characteristic of that species, has smaller stipules, cystoliths arranged along the veins abaxially, and much shorter inflorescences.

6. *Laportea aestuans* (Linnaeus) Chew, Gard. Bull. Singapore 21: 200. 1965.

火焰桑叶麻 huo yan sang ye ma

Urtica aestuans Linnaeus, Sp. Pl., ed. 2, 2: 1397. 1763; *Fleurya aestuans* (Linnaeus) Miquel; *F. glandulosa* Weddell.

Herbs annual, monoecious. Stems erect, few-branched, to 1.3 m tall; upper stems and petioles densely armed with stinging hairs and long gland-tipped hairs. Stipules ca. 10 mm,

apex 2-cleft; petiole 7–11 cm; leaf blade broadly ovate, 8–17 × 6–13 cm, thinly papery, 3-veined, lateral basal pair reaching middle margin, lateral veins 3 or 4 each side of midvein, both surfaces armed with stinging hairs, denser on abaxial surface, base rounded or cordate, margin dentate, apex acuminate; cystoliths punctiform, adaxially conspicuous. Inflorescences axillary, often bisexual, rarely all male, paniculate, male inflorescences in proximal axils, shorter, bisexual inflorescences in distal axils, 10–20 cm, peduncle 7–14 cm, with stinging hairs and often long gland-tipped hairs. Male flowers pedicellate, in bud ca. 1.5 mm; perianth lobes 4 or 5, connate at base, cymbiform, with a few long gland-tipped hairs and sparsely setulose, apex corniculate; stamens 4 or 5. Female flowers: pedicel ca. 2 mm, not winged; perianth lobes 4, free, unequal, dorsal lobe ovate, ca. 0.25 mm, 2 lateral lobes largest, enclosing the ovary, broadly ovate, ca. 0.5 mm, ventral lobe minute. Ovary asymmetrically ovoid; stigma slightly reflexed, ligulate, ca. 0.3 mm. Achene obliquely ovoid, compressed, ca. 1.5 mm in diam., both central surfaces with inconspicuously warty depression; persistent lateral perianth lobes forming a small, basal cup. Fl. Aug–Sep, fr. Oct–Nov.

Disturbed moist places by streams in forests; 200–500 m. C Taiwan [pantropical weed found throughout tropical Asia from India to Indonesia, tropical Africa, Madagascar, tropical America, West Indies].

7. *Laportea interrupta* (Linnaeus) Chew, Gard. Bull. Singapore 21: 200. 1965.

红小麻 hong xiao ma

Urtica interrupta Linnaeus, Sp. Pl. 2: 985. 1753; *Fleurya interrupta* (Linnaeus) Gaudichaud-Beaupré.

Herbs annual, monoecious. Stems straight, branched, 40–100 cm tall; upper stems and petioles sparsely armed with short

stinging and pubescent hairs. Stipules ovate-oblong, ca. 4 mm, setulose along rib abaxially, apex 2-cleft 1/2 of length; petiole 3–9 cm; leaf blade ovate or cordate, 5–8 × 4–5.5 cm, herbaceous, 3-veined, lateral basal pair reaching middle margin, lateral veins 5 or 6 each side of midvein, reaching teeth, both surfaces sparsely armed with short, stinging hairs, base abruptly cuneate or shallowly cordate, margin serrate, apex acuminate; cystoliths botuliform, regularly arranged abaxially along veins. Inflorescences axillary, long spicate, to 25 cm, glomerules at intervals along elongated peduncle consequent upon great reduction of the lateral branches, sparsely armed with minutely stinging hairs. Male flowers pedicellate, in bud ca. 1.2 mm; perianth lobes (3 or)4, connate 1/2 of length, obovate, puberulent, apex comiculate; stamens (3 or)4; rudimentary ovary obpyramidal, 0.5 mm. Female flowers: pedicel to 1.5 mm, not winged; perianth lobes 4, free, unequal, dorsal lobe ovate, concave, ca. 0.4 mm, 2 lateral lobes largest, enclosing the ovary, broadly ovate, ca. 0.4 mm, ventral lobe smallest, triangular ovate, ca. 0.3 mm. Ovary asymmetrically triangular; stigma reflexed, filiform, 3-fid, ca. 0.3 mm. Achene obliquely triangular, compressed, ca. 1.3 mm in diam., with triangular ridge enclosing a warty depression, persistent lateral perianth lobes forming a small basal cup. Fl. Jul–Aug, fr. Aug–Sep.

Disturbed, moist places of dense forests, streams; 600–1000 m. Taiwan, SW Yunnan [India, Indonesia, Japan, Malaysia, Myanmar, Philippines, Sri Lanka, Thailand, Vietnam; Africa].

