

20. OREOCNIDE Miquel, Pl. Jungh. 1: 39. 1851.

紫麻属 *zi ma shu*

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Villebrunea Gaudichaud-Beaupré.

Shrubs or trees, evergreen, without stinging hairs. Leaves alternate; stipules caducous, lateral, free; leaf blade pinnately veined or 3-veined, margin serrate, denticulate, or entire; cystoliths punctiform. Inflorescences axillary, small, pedunculate, densely capitate clusters of unisexual flowers (plants dioecious); solitary glomerules or pairs of dichotomously branched cymes; bracts small. Male flowers: perianth lobes 3 or 4, valvate; stamens 3 or 4; filaments inflexed in bud; rudimentary ovary obovate-clavate, woolly. Female flowers: perianth tube adnate to ovary, mouth contracted, apex 3- or 4-toothed; staminodes absent; stigma sessile, discoid or peltate, long ciliate hairs along margin; ovule orthotropous. Achene drupaceous, straight, adnate to thinly fleshy perianth, enclosed as base or almost wholly by discoid or cuplike fleshy receptacle. Seeds with endosperm; cotyledons ovate or broad.

About 18 species: tropical and subtropical E Asia and New Guinea; ten species (one endemic) in China.

The fibers are used to make ropes, nets, and coarse cloth.

- 1a. Leaves pinnately veined; male perianth lobes 4.
 - 2a. Leaf margin denticulate or serrulate from basal 1/3 1. *O. rubescens*
 - 2b. Leaf margin entire 2. *O. integrifolia*
- 1b. Leaves 3-veined; male perianth lobes 3.
 - 3a. Leaf margin entire or nearly so.
 - 4a. Leaf margin entire, blade broadly ovate or oblong-ovate, 4–11 cm wide, pubescent abaxially 8. *O. trinervis*
 - 4b. Leaf margin entire or sparsely crenate-serrulate distally, blade narrowly elliptic or elliptic-lanceolate, 1–4 cm wide, glabrous on both surfaces 9. *O. kwangsiensis*
 - 3b. Leaf margin serrate.
 - 5a. Inflorescences almost sessile or pedunculate; achene often verrucose 10. *O. frutescens*
 - 5b. Inflorescences, at least female ones, pedunculate; achene smooth.
 - 6a. Leaves cuspidate or shortly caudate at apex, yellow-green to dark green, mostly somewhat tomentose abaxially, margin often coarsely serrate.
 - 7a. Leaves elliptic, ovate, or obovate; stipules 1–2 cm 3. *O. tonkinensis*
 - 7b. Leaves obovate to oblanceolate; stipules 0.7–1 cm 4. *O. obovata*
 - 6b. Leaves acuminate or caudate-acuminate at apex, green, pubescent or glabrous abaxially, margin serrulate or crenulate.
 - 8a. Branchlets and petioles villous; secondary veins 5–7 pairs 5. *O. serrulata*
 - 8b. Branchlets and petioles appressed puberulent, then glabrescent; secondary veins 2 or 3 pairs.
 - 9a. Leaves membranous, crenulate; female inflorescences 0.4–0.6 cm 6. *O. boniana*
 - 9b. Leaves herbaceous, serrulate; female inflorescences 0.7–1.2 cm 7. *O. pedunculata*

1. Oreocnide rubescens (Blume) Miquel in Zollinger, Syst. Verz. 101. 1854.

红紫麻 *hong zi ma*

Urtica rubescens Blume, Bijdr. Fl. Ned. Ind. 506. 1826; *U. sylvatica* Blume; *Villebrunea integrifolia* Gaudichaud-Beaupré var. *sylvatica* J. D. Hooker; *V. rubescens* (Blume) Blume; *V. sylvatica* (Blume) Blume.

Small trees or shrubs 2–12 m tall; bark grayish brown or gray; branchlets brown or purplish, hirsute. Stipules linear-lanceolate, 0.6–1.3 cm; petiole 1–5 cm, sparsely hirsute; leaf blade oblong or oblanceolate, 7–25 × 3–8 cm, papery, pinnately veined, secondary veins 6–9 pairs, abaxial surface sparsely hirsute on veins, adaxial surface glabrous, base rounded or broadly cuneate, margin denticulate or serrulate from basal 1/3, apex acuminate or caudate-acuminate. Inflorescences in axils of fallen leaves or on older branches, pedunculate, branched dichotomously 2 or 3 times, 1–2 cm; glomerules 3–4 mm in

diam. Male flowers: perianth lobes 4, oblong, connate 1/2 of length, ca. 1 mm; rudimentary ovary subclavate. Female flowers ca. 1 mm. Achene conic, ca. 1.2 mm, surrounded by a fleshy discoid cupule at base. Fl. Mar–May, fr. Jul–Dec.

Mixed forests, forest margins in valleys; 400–1600 m. W Guangxi, Hainan, S Yunnan [S India, Indonesia, Malaysia, Myanmar, Sri Lanka, Thailand, Vietnam].

2. Oreocnide integrifolia (Gaudichaud-Beaupré) Miquel, Ann. Mus. Bot. Lugduno-Batavi 4: 306. 1869.

全缘叶紫麻 *quan yuan ye zi ma*

Villebrunea integrifolia Gaudichaud-Beaupré, Voy. Bonite, Bot., Atlas, t. 91. 1844; *Oreocnide integrifolia* subsp. *subglabra* C. J. Chen; *Villebrunea sylvatica* Blume var. *integrifolia* Weddell.

Small trees or shrubs 5–20 m tall; bark grayish brown or brown gray; branchlets reddish brown; branchlets and petioles

grayish brown velutinous, then glabrescent, or sparsely appressed pubescent. Stipules linear, 1–2 cm; petiole 1–9 cm; leaf blade adaxially green, then light green, becoming grayish green when dry, elliptic, oblong, oblong-lanceolate, or oblanceolate, 8–33 × 3.5–12 cm, papery, 3-veined, basal pair reaching middle margin, secondary veins 8–12 pairs, reticulate, abaxial surface densely villous or sparsely pubescent on veins, or sometimes tomentose, adaxial surface glabrous, base rounded or obtuse, margin denticulate to middle, entire apically, apex caudate to long caudate-acuminate. Inflorescences in axils of fallen leaves or on older branches, dichotomously branched 2 or 3 times, 1.5–2.5 cm; glomerules 4–5 mm in diam. Male flowers: perianth lobes 4, oblong, connate 1/2 of length, ca. 1.2 mm; rudimentary ovary subclavate. Female flowers ca. 1 mm. Achene conic, ca. 1.5 mm, 3- or 4-ribbed, surrounded by a fleshy discoid cupule at base. Fl. Mar–May, fr. Jul–Sep.

Rain forests, valleys; 200–1400 m. W Guangxi, Hainan, SE Xizang, W Yunnan [Bhutan, N India, Indonesia, Laos, Myanmar, Sikkim, Thailand, Vietnam].

3. Oreocnide tonkinensis (Gagnepain) Merrill & Chun, Sunyatsenia 5: 44. 1940.

宽叶紫麻 kuan ye zi ma

Villebrunea tonkinensis Gagnepain, Notul. Syst. (Paris) 4: 131. 1928; *Oreocnide villosa* Metcalfe.

Shrubs, 1–4 m tall; branchlets purplish brown; branchlets, petioles, and abaxial leaf veins densely villous or pubescent, then glabrescent. Stipules linear, 1–2 cm; petiole 1–7 cm; leaf blade abaxially light green or yellow-green, adaxially dark green, rugose, broadly elliptic, ovate, or obovate, 7–19 × 4–9 cm, papery, 3-veined, basal-lateral pair reaching apex, anastomosing with basal pair of secondary veins, secondary veins 2–4 pairs, anastomosing by margin, base rounded or obtuse, margin entire for proximal 1/3, or coarsely serrulate distally, apex caudate or acuminate. Inflorescences in axils of current and older branches, pedunculate, branched dichotomously 2 or 3 times, 1–1.5 cm; glomerules 3–4 mm in diam. Male flowers: perianth lobes 3, ovate, connate 1/2 of length, ca. 1.2 mm; rudimentary ovary subclavate. Female flowers ca. 1 mm. Achene ovoid, ca. 2 mm, smooth, surrounded by a fleshy discoid cupule at base. Fl. Oct–Dec, fr. Apr–Jul.

Thickets, margins of mixed forests; 100–1400 m. SW Guangxi, SE Yunnan [N Vietnam].

This species has a variable leaf indumentum, and maintaining either infraspecific taxa or *Oreocnide villosa* does not seem warranted.

4. Oreocnide obovata (C. H. Wright) Merrill, Sunyatsenia 3: 250. 1937.

倒卵叶紫麻 dao luan ye zi ma

Shrubs, rarely climbers, 1.5–3 m tall; branchlets and petioles gray-brown, strigose or pubescent. Stipules linear, 0.7–1 cm; petiole 1–8 cm; leaf blade obovate to oblanceolate, 5–17 × 3.5–8 cm, papery, 3-veined, basal-lateral pair reaching apex, anastomosing with basal pair of secondary veins, secondary veins 2 or 3 (or 4) pairs, adaxially dark green, often rugose,

abaxially light green, pubescent, or gray-white tomentose, strigose on veins, base rounded or obtuse, rarely broadly cuneate or subcordate, margin entire in basal 1/3, coarsely serrate apically, apex cuspidate, mucronate, caudate, or rarely emarginate with a mucro. Inflorescences in axils of current and older branches, 2 or 3 times dichotomously branched, 0.8–1.5 cm; glomerules 3–4 mm in diam. Male flowers: perianth lobes (2 or)3, ca. 0.7 mm; rudimentary ovary clavate. Female flowers ca. 1 mm. Achene ovoid, 1–1.2 mm, smooth, surrounded by a white-fleshy discoid cupule at base. Fl. Dec–Feb, fr. May–Aug.

Mixed forests, thickets, near streams, often on limestone; 200–1400 m. W Guangdong, SW Guangxi, S Hunan, SE Yunnan [N Vietnam].

1a. Leaf blade obovate to oblanceolate, apex cuspidate, caudate, or rarely mucronate, proximal pair of secondary veins arising from proximal 1/3 of midvein 4a. var. *obovata*

1b. Leaf blade obtriangular to obovate, apex emarginate-mucronate, proximal pair of secondary veins arising from distal 1/3 of midvein 4b. var. *paradoxa*

4a. Oreocnide obovata var. *obovata*

倒卵叶紫麻(原变种) dao luan ye zi ma (yuan bian zhong)

Debregeasia obovata C. H. Wright, J. Linn. Soc., Bot. 26: 492. 1899; *Oreocnide obovata* var. *mucronata* C. J. Chen; *O. tonkinensis* (Gagnepain) Merrill & Chun var. *discolor* Gagnepain; *Villebrunea petelotii* Gagnepain.

Leaf blade obovate to oblanceolate, proximal pair of secondary veins arising from proximal 1/3 of midvein, apex cuspidate, caudate, or rarely mucronate.

Mixed forests, thickets, near streams, often on limestone; 200–1400 m. W Guangdong, SW Guangxi, S Hunan, SE Yunnan [N Vietnam].

4b. Oreocnide obovata var. *paradoxa* (Gagnepain) C. J. Chen in W. T. Wang & C. J. Chen, Fl. Reipubl. Popularis Sin. 23(2): 384. 1995.

凹尖紫麻 ao jian zi ma

Villebrunea paradoxa Gagnepain, Notul. Syst. (Paris) 4: 130. 1928.

Leaf blade obtriangular to obovate, proximal pair of secondary veins arising from distal 1/3 of midvein, apex emarginate-mucronate.

Thickets by streams in limestone mountains; 400–1100 m. SW Guangxi [N Vietnam].

5. Oreocnide serrulata C. J. Chen, Acta Phytotax. Sin. 21: 474. 1983.

细齿紫麻 xi chi zi ma

Shrubs 3–5 m tall; branchlets and petioles gray-brown, rusty villous. Stipules lanceolate, ca. 1 cm; petiole 1–7 cm; leaf blade abaxially light green or brown, adaxially dark green,

becoming dark brown when dry, lanceolate, narrowly ovate, or oblong-lanceolate, 6–23 × 2.5–8 cm, papery, 3-veined, basal-lateral pair reaching apex, anastomosing with proximal pair of secondary veins, secondary veins 5–7 pairs, proximal pair arising from basal 1/4–1/3, abaxial surface rusty velutinous, veins raised, adaxial surface rugose, subglabrous, base rounded, margin finely serrulate, apex long-acuminate or caudate-acuminate. Inflorescences in axils of current and older branches, dichotomously branched 2 or 3 times, 1–2 cm; glomerules 3–4 mm in diam. Male flowers pedicellate, perianth lobes (2 or)3, ca. 0.7 mm; rudimentary ovary clavate. Female flowers ca. 1 mm. Achene ovoid, almost not compressed, ca. 1.5 mm, smooth, almost completely surrounded by a thickly fleshy cupule. Fl. Feb–May, fr. Jun–Nov.

Forests on limestone, thickets; 900–1800 m. SW Guangxi, SE Yunnan [N Vietnam].

6. Oreocnide boniana (Gagnepain) Handel-Mazzetti, *Sinensia* 2: 3. 1931.

膜叶紫麻 mo ye zi ma

Villebrunea boniana Gagnepain, *Notul. Syst. (Paris)* 4: 129. 1928.

Shrubs ca. 2 m tall; branchlets and petioles dark brown, sparsely appressed pubescent, then glabrescent. Stipules lanceolate, 0.5–0.7 cm; petiole 0.5–1 cm; leaf blade abaxially light green, adaxially dark green, lanceolate, 3–8 × 1–2 cm, membranous, 3-veined, basal-lateral pair reaching middle, anastomosing with proximal pair of secondary veins, secondary veins 2 or 3 pairs, abaxial surface pubescent on veins, adaxial surface subglabrous, base rounded or subcordate, margin entire basally, regularly crenulate apically, apex acuminate or long acuminate. Inflorescences in axils of fallen leaves and older branches, dichotomously branched 1 or 2 times, 0.4–0.6 cm; glomerules 2–3 mm in diam. Male flowers: perianth lobes 3, ca. 0.7 mm; rudimentary ovary clavate. Female flowers ca. 1 mm. Achene ovoid, compressed, ca. 1.5 mm, smooth, surrounded by a fleshy discoid cupule at base. Fl. Mar–May, fr. Jun–Sep.

Shady places in forests on limestone, thickets, valleys; 100–300 m. SE Yunnan [N Vietnam].

7. Oreocnide pedunculata (Shirai) Masamune, *Prelim. Rep. Veg. Yakusima*: 69. 1929.

长梗紫麻 chang geng zi ma

Villebrunea pedunculata Shirai, *Bot. Mag. (Tokyo)* 9: 160. 1895.

Shrubs or small trees 2–5 m tall; bark dark brown; branches slender, branchlets, and petioles densely appressed pubescent, then glabrescent. Stipules lanceolate, 0.6–1 cm; petiole 1–4 cm; leaf blade abaxially light green, adaxially dark green, narrowly ovate or lanceolate, 5–15 × 1.2–4.5 cm, herbaceous or thinly papery, 3-veined, basal-lateral pair reaching apex, anastomosing with basal pair of secondary veins, secondary veins 2 or 3 pairs, abaxial surface strigillose on prominent veins, adaxial surface sparsely strigillose, then glabrescent, base rounded, obtuse, or rarely broadly cuneate, margin serrulate, apex acumi-

nate to long caudate-acuminate. Inflorescences in axils of last year's and older branches; female ones dichotomously branched 1 or 2 times, 0.7–1.2 cm; glomerules 2–3 mm in diam. Male flowers: perianth lobes 3, ca. 0.7 mm; rudimentary ovary clavate. Female flowers ca. 1 mm. Achene ovoid, compressed, ca. 1.5 mm, smooth, surrounded by a fleshy discoid cupule at base. Fl. Mar–May, fr. Jun–Oct.

Forest margins, valleys; 100–1200 m. Taiwan [Japan (Ryukyu Islands)].

8. Oreocnide trinervis (Weddell) Miquel, *Fl. Ned. Ind.* 1(1): 196. 1855.

三脉紫麻 san mai zi ma

Villebrunea trinervis Weddell, *Ann. Sci. Nat., Bot., sér.* 4, 1: 195. 1854.

Small trees ca. 4 m tall; branchlets sparsely pubescent. Stipules lanceolate, ca. 0.6 cm; petiole 1.5–12 cm, subglabrous; leaf blade broadly ovate to oblong, 9–20 × 4–11 cm, herbaceous, 3-veined, basal-lateral pair reaching apex, anastomosing with basal pair of secondary veins, secondary veins 2–3 pairs, sparsely pubescent abaxially, base obtuse or broadly cuneate, margin entire, apex long caudate-acuminate, 1–3 cm. Inflorescences in axils of fallen leaves and older branches; female ones dichotomously branched 1 or 2 times, 1.2–3.2 cm; glomerules ca. 3 mm in diam. Male flowers: perianth lobes 3. Female flowers ca. 1 mm. Achene ovoid, compressed, ca. 1.5 mm, surrounded by a fleshy discoid cupule at base. Fl. May.

Tropical rain forests, valleys at low elevations. Taiwan (Lan Yu) [Indonesia, Philippines].

9. Oreocnide kwangsiensis Handel-Mazzetti, *Sinensia* 2: 2. 1931.

广西紫麻 guang xi zi ma

Shrubs, 1–3 m tall; branchlets black, zigzagged; branchlets and petioles minutely strigillose. Stipules lanceolate, 0.3–0.4 cm; petiole 0.5–2 cm; leaf blade abaxially green or light blue green, adaxially dark or blue green, narrowly elliptic or elliptic-lanceolate, 2–11 × 1–4 cm, stiffly papery, 3-veined, basal-lateral pair reaching apex, secondary veins 2–3 pairs, indistinct, both surfaces glabrous, base broadly cuneate or subrounded, margin entire or sparsely and inconspicuously crenate-serrulate distally, apex acuminate or caudate-acuminate. Inflorescences in axils of both new and older branches, often dichotomously branched 3 times, 0.5–0.8 cm; glomerules 3–4 mm in diam. Male flowers: perianth lobes 3, ca. 1 mm; rudimentary ovary clavate. Female flowers ca. 1.5 mm. Achene black, ovoid, compressed, 1.5–2 mm, apex truncate, surrounded by a fleshy cupule to middle. Fl. Oct–Mar, fr. May–Oct.

• Thickets, mountains on limestone; ca. 800 m. NW Guangxi, S Guizhou.

10. Oreocnide frutescens (Thunberg) Miquel, *Ann. Mus. Bot. Lugduno-Batavi* 3: 131. 1867.

紫麻 zi ma

Shrubs or small trees, 1–3 m tall; branchlets and petioles

purplish brown, strigose or pubescent, rarely tomentose, then often glabrescent. Stipules linear-lanceolate, ca. 1 cm; petiole 1–7 cm; leaf blade ovate, narrowly ovate, or obovate, rarely oblanceolate, 3–15 × 1.5–6 cm, herbaceous, sometimes papery, 3-veined, basal-lateral pair reaching apex, anastomosing with basal pair of secondary veins, secondary veins 2–3 pairs, anastomosing by margin, adaxially dark green, sparsely strigillose, sometimes subglabrous, abaxially often gray-white tomentose, or light green, pubescent or strigillose on veins, base rounded or cuneate, margin serrate or dentate from base or sometimes middle, apex acuminate or caudate-acuminate. Inflorescences produced with or before new leaf flush in axils of fallen leaves and older branches, almost sessile clusters or pedunculate dichotomously branched cymes; glomerules 3–5 mm in diam. Male flowers: perianth lobes 3, ovate, connate at base, ca. 1.2 mm; rudimentary ovary subclavate, ca. 0.6 mm. Female flowers ca. 1 mm. Achene ovoid, ca. 1.2 mm, often verrucose, surrounded by a fleshy discoid cupule at base. Fl. Feb–Apr, fr. Jun–Oct.

Forests, margins of mixed forests, open thickets, valleys, roadsides; 300–2500 m. S Anhui, Fujian, SE Gansu, Guangdong, Guangxi, Hubei, Hunan, Jiangxi, S Shaanxi, Sichuan, SE Xizang, Yunnan, Zhejiang [Bhutan, Cambodia, N India, Japan, Laos, Malaysia, Myanmar, Sikkim, Thailand, Vietnam].

The stem fibers are used to make ropes.

- 1a. Female inflorescences sessile; leaf blade often gray-white tomentose abaxially; flowering before or with new leaf flush 10a. subsp. *frutescens*
- 1b. Female inflorescences distinctly pedunculate; leaf blade sparsely pubescent or strigillose abaxially; flowering after leaves have expanded.
 - 2a. Leaf blade narrowly obovate to elliptic-oblongate, margin 13–21-serrate distally; peduncle 5–13 mm 10b. subsp. *insignis*
 - 2b. Leaf blade ovate, margin 22–27-serrate from base; peduncle 3–8 mm 10c. subsp. *occidentalis*

10a. *Oreocnide frutescens* subsp. *frutescens*

紫麻(原亚种) *zi ma* (*yuan ya zhong*)

Urtica frutescens Thunberg in Murray, Syst. Veg., ed. 14, 851. 1784; *Boehmeria frutescens* (Thunberg) Thunberg; *B. fruticosa* Gaudichaud-Beaupré; *Morocarpus microcephalus* Benth; *Oreocnide fruticosa* (Gaudichaud-Beaupré) Handel-Mazzetti; *Villebrunea frutescens* (Thunberg) Blume; *V. frutescens* var. *hirsuta* Pampanini; *V. fruticosa* (Gaudichaud-Beaupré) Nakai; *V. microcephala* (Benth) Nakai.

Shrubs. Leaf blade ovate to narrowly obovate, sparsely strigillose adaxially, often gray-white tomentose abaxially. Female inflorescences sessile. Fl. Feb–Apr, fr. Jun–Oct.

Margins of mixed forests, open thickets, roadsides; 300–1500 m. S Anhui, Fujian, SE Gansu, Guangdong, Guangxi, Hubei, Hunan, Jiangxi, S Shaanxi, Sichuan, SE Yunnan [Cambodia, Japan, Laos, Malaysia, Myanmar, Thailand, Vietnam].

10b. *Oreocnide frutescens* subsp. *insignis* C. J. Chen, Acta Phytotax. Sin. 21: 475. 1983.

细梗紫麻 *xi geng zi ma*

Shrubs. Leaf blade abaxially light green, narrowly obovate to elliptic-oblongate, abaxial surface sparsely pubescent, adaxial surface glabrous, margin 13–21-serrate distally. Female peduncle 5–13 mm. Fl. Apr–Jun, fr. Jul–Aug.

- Forests, valleys; 500–1000 m. W Guangdong, S Guangxi.

10c. *Oreocnide frutescens* subsp. *occidentalis* C. J. Chen, Acta Phytotax. Sin. 21: 475. 1983.

滇藏紫麻 *dian zang zi ma*

Small tree 3–8 m tall. Leaf blade light green abaxially, ovate, abaxial surface strigillose, adaxial surface sparsely strigillose, margin 22–27-serrate from base. Female peduncle 3–8 mm. Fl. Apr–May, fr. Jul–Nov.

Along streams in forests; (800–)1400–2500 m. SE Xizang, Yunnan [Bhutan, N India, Sikkim].

