

9. MICROTROPIS Wallich ex Meisner, Pl. Vasc. Gen. 1: 68; 2: 49. 1837, nom. cons.,
not E. Meyer (1836).

假卫矛属 *jia wei mao shu*

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Chingithamnus Handel-Mazzetti; *Otherodendron* Makino; *Paracelastrus* Miquel.

Small trees or shrubs, evergreen or deciduous, glabrous, rarely pubescent; bark gray-brown; branchlets terete to somewhat quadrangular. Leaves opposite, entire, often revolute, estipulate. Inflorescences axillary, extra-axillary, or terminal, cymose, fasciated, or thyrsoid. Flowers bisexual, rarely unisexual, dioecious, 5-merous (occasionally 4–6-merous); sepals persistent in fruit, slightly enlarged; petals white or yellowish white. Disk shallowly calathiform to annular or absent, intrastaminal; anthers longitudinally dehiscent, introrse, rarely extrorse. Ovary 2- or 3-locular; ovules erect, 2 per locule. Capsule ellipsoid, leathery, not enclosed in or sitting on fleshy perianth parts, 1-locular, laterally split along one side. Seed 1, ovoid, furrowed, coat often slightly fleshy and aril-like.

More than 60 species: tropical and subtropical zones of Africa, America, and E and SE Asia; 27 species (20 endemic) in China.

This genus is divided into three sections: *Microtropis* sect. *Cymosopaniculatae*, *M.* sect. *Remotiflorae*, and *M.* sect. *Microtropis*.

- 1a. Inflorescences generally with prolonged rachis (*M.* sect. *Cymosopaniculatae*).
- 2a. Main peduncle very long, 14–18 cm; peduncle, rachis, and branches stout and slightly flat 1. *M. thyrsoflora*
- 2b. Main peduncle short, less than ca. 4 mm; peduncle, rachis, and branches terete.
- 3a. Leaf blade narrowly ovate, narrowly ovate-elliptic, or ovate-lanceolate, 4.5–9 × 1.5–3.5 cm; peduncle 2–3 mm 2. *M. semipaniculata*
- 3b. Leaf blade oblong-elliptic to oblong, 19–24 × 5.5–6.5 cm; peduncle 3–3.4 mm 3. *M. malipoensis*
- 1b. Inflorescences without prolonged rachis.
- 4a. Inflorescences dichasial; peduncle more than 1 cm; flowers loosely aggregated (*M.* sect. *Remotiflorae*).
- 5a. Flowers 4- or 6-merous.
- 6a. Inflorescences 3- or 4-branched; flower buds pyramidal; flowers 4-merous 12. *M. pyramidalis*
- 6b. Inflorescences 1- or 2-branched; flower buds subglobose; sepals 4; petals and stamens 6.
- 7a. Leaf blade 4–7.5 × 1.5–3 cm; inflorescences 3-flowered 13. *M. hexandra*
- 7b. Leaf blade 4–15 × 3–5 cm; inflorescences 3–7-flowered 14. *M. henryi*
- 5b. Flowers 5-merous.
- 8a. Inflorescences 2–4-branched; peduncle 1–3 cm; flowers more than 7 per inflorescence (*M. macrophylla*: inflorescences 1- or 2-branched, but peduncle 1.5–2 cm).
- 9a. Leaf blade small, 4.5–8 cm, leathery, obelliptic to ovate-elliptic, apex obtuse or obtusely acute 4. *M. japonica*
- 9b. Leaf blade large, 6.5–15 cm, papery or nearly leathery, apex acuminate, acute, or slightly caudate.
- 10a. Leaf blade apex narrowly caudate; secondary veins only 3–5 pairs 5. *M. macrophylla*
- 10b. Leaf blade apex acuminate or acute; secondary veins 8–13 pairs.
- 11a. Leaf blade narrowly elliptic, small, 6.5–13 × 2–4.5 cm; secondary veins 9–13 pairs, oblique, straight; capsule ca. 5 cm 6. *M. petelotii*
- 11b. Leaf blade broadly elliptic, large, 10–15 × 5–7 cm; secondary veins 8–10 pairs; capsule up to 2 cm 7. *M. fallax*
- 8b. Inflorescences 1- or 2-branched; peduncle ca. 1 cm; flowers less than 7 per inflorescence.
- 12a. Leaf blade narrow, length 4–5 × width, rectangular-lanceolate or broadly oblanceolate; inflorescences ca. 3-flowered 11. *M. triflora*
- 12b. Leaf blade wide, length less than 3 × width, rectangular or elliptic, rarely broadly ovate; inflorescences 3–7- or more flowered.
- 13a. Branchlets tetragonal; leaf blade 8–13 cm 10. *M. tetragona*
- 13b. Branchlets terete, or becoming so at maturity; leaf blade less than 9 cm.
- 14a. Leaf blade 3.5–7 × 1.5–3.5 cm, apex caudate, secondary veins 4–7 pairs; pedicel ca. 1.5 mm 8. *M. submembranacea*
- 14b. Leaf blade 4–9 × 2–4 cm, apex acuminate, secondary veins 11 or 12 pairs; pedicel ± absent 9. *M. pallens*
- 4b. Inflorescences conferti-dichasial; peduncle less than 1 cm (except *M. gracilipes*: peduncle 1–2.5 cm); flowers subsessile or sessile, dense (*M.* sect. *Microtropis*).
- 15a. Peduncle long, 1–2.5 cm; branchlets, petioles, and peduncles often with sparse short hairs 15. *M. gracilipes*
- 15b. Peduncle absent, very short, or up to 1 cm, generally glabrous.
- 16a. Leaf blade carnose, irregularly verrucose when dry, rarely papery and without warts when dry.
- 17a. Leaf blade thickly papery, small, 6–11 cm, secondary veins obvious; inflorescences 2–7-flowered.

- 18a. Secondary veins 8–11 pairs, oblique, straight; petiole 3–5 mm; flowers 5-merous, inflorescences generally 2-flowered 23. *M. biflora*
- 18b. Secondary veins 5–8 pairs, curved; petiole 5–15 mm; flowers 4- or 5-merous, inflorescences 3–7-flowered 24. *M. oligantha*
- 17b. Leaf blade carnose, slightly fleshy, large, 7–18 cm, secondary veins not obvious; inflorescences 5–20-flowered.
- 19a. Leaf blade ovate, base broadly cuneate, apex narrowly acute; inflorescences 5-flowered 25. *M. osmanthoides*
- 19b. Leaf blade obovate, rectangular, rectangular-elliptic, or broadly oblanceolate; inflorescences more than 10-flowered.
- 20a. Branchlets brownish; leaf blade ovate, obovate, or rhombic, apex obtuse; petiole 4–6 mm 26. *M. wui*
- 20b. Branchlets blackish purple; leaf blade rectangular, elliptic, or broadly oblanceolate, apex acute or shortly acuminate; petiole 8–15 mm 27. *M. obscurinervia*
- 16b. Leaf blade papery or slightly leathery, not carnose, glabrous when dry.
- 21a. Fruit globose; secondary veins 3–5 pairs 16. *M. sphaerocarpa*
- 21b. Fruits elongate; secondary veins 4–11 pairs.
- 22a. Peduncle 5–10 mm; flowers usually 4-merous, rarely 5-merous 17. *M. yunnanensis*
- 22b. Peduncle short, 2–5 mm; flowers 5-merous (*M. fokiensis* 4- or 5-merous).
- 23a. Leaves obovate, oblanceolate, rarely rhombic-elliptic; flowers 4- or 5-merous 18. *M. fokiensis*
- 23b. Leaves elliptic, rectangular, or rectangular-elliptic; flowers 5-merous.
- 24a. Leaves small, 3–10 × 1–4 cm, apex acute or shortly acuminate; petiole short, 3–7 mm.
- 25a. Leaves coriaceous, rhombic-elliptic or narrowly ovate-elliptic; capsule ca. 1.5 cm 19. *M. paucinervia*
- 25b. Leaves thickly papery, rectangular-elliptic or narrowly ovate-elliptic; capsule ca. 2 cm 20. *M. reticulata*
- 24b. Leaves large, 5–19 × 2–11 cm, apex acuminate, base narrowly cuneate; petiole long, 5–15 mm.
- 26a. Secondary veins 7–11 pairs, straight; leaves abaxially brownish when dry; inflorescences 3–7-flowered; capsule smooth without any warts 21. *M. obliquinervia*
- 26b. Secondary veins 5–8 pairs, slender and curved; leaves abaxially gray-brown when dry; inflorescences with 7–15 flowers; capsule surface with small warts 22. *M. discolor*

1. *Microtropis* sect. *Cymosopaniculatae* (Merrill & F. L. Freeman) C. Y. Cheng & T. C. Kao in C. Y. Cheng & P. H. Huang, Fl. Reipubl. Popularis Sin. 45(3): 153. 1999.

聚伞圆锥组 ju san yuan zhui zu

Microtropis ser. *Cymosopaniculatae* Merrill & F. L. Freeman, Proc. Amer. Acad. Arts 73: 304. 1940.

Inflorescences generally with prolonged rachises, thyrses arranged in dichasia, branching peduncles long and obvious, inflorescence loose. Flowers 5-merous.

About ten species: mainly in SE Asia; three species (all endemic) in China.

1. *Microtropis thyrsoflora* C. Y. Cheng & T. C. Kao, Acta Phytotax. Sin. 26: 310. 1988.

大序假卫矛 da xu jia wei mao

Shrubs or small trees, 2–8 m tall; branchlets stout, internodes short, dark purplish brown. Petiole thick, 1–1.2 cm, flat up to apex; leaf blade rectangular or rectangular-elliptic, rarely obovate-elliptic, 7–11 × 3–5 cm, leathery, abaxially pale green, adaxially dark green (dark gray when dry), base broadly cuneate or decurrent, apex acute or shortly acuminate; midvein thick, obviously prominent on both surfaces, secondary veins 6–8 pairs, anastomosing at margin. Thyrses large, generally on branched axis, 8–9 × 7–8 cm, generally of 5 cymose branches, each branch stout and slightly flat; peduncle 14–18 mm, flat; rachis 10–13 mm; secondary peduncle up to 30 mm, third peduncle 10–12 mm, fourth peduncle 8–10 mm, fifth peduncle 3–5 mm; each peduncle apically with 2 triangular bracts, bracts ca. 2.5 mm; pedicels ca. 1 mm, flat, or absent; floral buds slightly globose, 2.5–3 mm wide. Flowers 5-

merous; sepals fleshy, approximately leathery, nephroid; petals elliptic. Disk annular. Stamens with short filament; anther rectangular. Ovary broadly subulate; style short and thick. Capsule elliptic or obovate-elliptic, ca. 18 × 7 mm, persistent sepals slightly enlarged.

- Thick forests; ca. 2300 m. Guangxi.

2. *Microtropis semipaniculata* C. Y. Cheng & T. C. Kao, Acta Phytotax. Sin. 26: 310. 1988.

复序假卫矛 fu xu jia wei mao

Small trees to shrubs; branchlets slightly tetragonal. Petiole 6–9 mm; leaf blade narrowly ovate, ovate-elliptic, or ovate-lanceolate, 4.5–9 × 1.5–3.5 cm, leathery, base widely cuneate or nearly rounded, margin slightly revolute, apex narrowly acute; secondary veins 4–6 pairs, thin. Thyrses axillary or on branched axis, broadly spreading; rachis present or absent; peduncle short, only 2–5 mm if rachis present, rachis 5–15 mm,

secondary peduncle 1.2–2.2 cm, pedicels 2–3 mm; if rachis absent peduncle long, 2–3 cm. Flowers white, ca. 5 mm wide; sepals 5, semiorbicular, 1.5–2 mm; petals 5, patent, rectangular-elliptic or slightly obovate, ca. 3 mm. Disk annular or approximately calathiform, fleshy, margin entire. Stamens 5; filament slender, 1.5–2 mm; anther rectangular-elliptic. Ovary narrowly subulate; style thick, ca. 1 mm. Capsule oblong, ca. 2 cm.

- Thick forests; 1200–1600 m. SW Guangxi.

3. *Microtropis malipoensis* Y. M. Shui & W. H. Chen, Acta Bot. Yunnan. 24: 707. 2002.

麻栗坡假卫矛 ma li po jia wei mao

Evergreen trees, to 5 m tall; branchlets terete, ca. 2 mm in diam., brown; internode 2–5 mm, with obvious and rounded leaf scars. Petiole 15–20 × 1.5–2 mm; leaf blade oblong-elliptic to oblong, 19–24 × 5.5–6.5 cm, papery, deep green, base cuneate, margin entire, apex acuminate; midvein prominent, secondary veins 12 or 13 pairs, anastomosing adjacent to margin. Corymbiform cymes axillary, lax, 4- or 5-branched; peduncle 3–3.3 mm. Fruits ovate, 2.5–3 cm, including a rostrum, rostrum ca. 1 mm; stipes 2–4.5 mm; persistent sepals broadly ovate, ca. 2 mm, imbricate, 4-lobed, connected on base; lobe ca. 1 × 5 mm, entire,

2. *Microtropis* sect. *Remotiflorae* C. Y. Cheng & T. C. Kao in C. Y. Cheng & P. H. Huang, Fl. Reipubl. Popularis Sin. 45(3): 188. 1999.

疏花组 shu hua zu

Dichasium loosely spreading, fastigiate, flabellate or broadly patent. Peduncle generally up to 1 cm; secondary peduncle and pedicels obvious or at least conspicuous. Flowers 5-merous, rarely 4- or 6-merous.

Eleven species: S and SE Asia; eleven species (six endemic) in China.

4. *Microtropis japonica* (Franchet & Savatier) H. Hallier, Meded. Rijks-Herb. 1910: 33. 1911.

日本假卫矛 ri ben jia wei mao

Elaeodendron japonicum Franchet & Savatier, Enum. Pl. Jap. 2: 310. 1879; *Cassine japonica* (Franchet & Savatier) Kuntze; *C. kotoensis* Hayata; *Microtropis kotoensis* (Hayata) Koidzumi; *Otherodendron japonicum* (Franchet & Savatier) Makino.

Evergreen small trees or shrubs; branchlets glabrous, dark gray-brown. Petiole 2–12 mm; leaf blade elliptic, broadly elliptic, rhombic-elliptic, or ovate-elliptic, 4.5–8 × 2–4 cm, leathery, base cuneate or decurrent up to 1 cm, margin slightly revolute, apex obtuse to obtusely acute, sometimes emarginate; secondary veins 4–6 pairs. Cymes axillary or terminal; peduncle 10–15 mm, 2 or 3(or 4) × dichotomously branched, secondary peduncle 1–4 cm; terminal flowers on subaxes sessile; longest pedicels up to 2.5 mm. Flowers ca. 5 mm wide, yellowish white; sepals 5, thick, broadly semiorbicular, 1–1.5 × 2–2.5 mm, margin irregularly serrulate, persistent in fruit; petals 5, slightly fleshy, oblong, ca. 3 mm. Disk annular, fleshy, with 5 very shallow lobes. Stamens 5; filament very short,

obtuse; persistent style 0.2–0.3 mm. Capsule ovate, 2.5–3 cm, including a rostrum, ca. 1 cm. Seed 1, elliptic.

- Evergreen forests; ca. 1700 m. E Yunnan.

inserted on disk. Ovary with short, thick style. Capsule oblong, 1.5–2 × 0.7–1 cm, apex finely mucronate, surface with fine and longitudinal crest. Seed obovate-elliptic, 1–1.2 cm, surface vermilion or dark red. Fl. ca. Apr.

Forests. Taiwan [Japan].

5. *Microtropis macrophylla* Merrill & F. L. Freeman, Proc. Amer. Acad. Arts 73: 229. 1940.

大叶假卫矛 da ye jia wei mao

Microtropis macrocarpa C. Y. Cheng & T. C. Kao.

Shrubs 1.5–3 m tall; branchlets slender, brown. Petiole 5–10 mm; leaf blade rectangular or oblong, 8–15 × 3.5–7 cm, papery, abaxially green, adaxially yellowish green, base widely cuneate or decurrent, apex widely rounded, long caudate, tail 11–15 × 1–2 mm; midvein slender, obviously prominent abaxially, secondary veins 3–5 pairs, obviously prominent abaxially, curved. Cymes mainly on branched axis, 1 or 2 × dichotomously branched; peduncle 1.5–2 cm, secondary peduncle ca. 1.5 cm; lateral pedicel ca. 1 cm or longer; terminal flowers subsessile. Flowers 5-merous. Capsule fusiform when immature, ca. 5 × 1.3 cm, apex with subulate rostrum;

persistent sepals slightly thickened, approximately leathery, semiorbicular or nephroid, 3.5–4 mm wide. Fl. Jul, fr. Oct.

Evergreen forests, thick forests, slopes; 1500–1700 m. S Xizang, SE Yunnan [Myanmar].

6. *Microtropis petelotii* Merrill & F. L. Freeman, Proc. Amer. Acad. Arts 73: 291. 1940.

广序假卫矛 *guang xu jia wei mao*

Shrubs or trees, 4–10 m tall; branchlets purplish brown, slightly tetragonal. Petiole 8–12 mm; leaf blade narrowly elliptic to narrowly rectangular, 6.5–13 × 2–4.5 cm, leathery, yellowish white when dry, base cuneate, rarely widely cuneate, apex acuminate to acute; midvein fine, prominent on both surfaces, secondary veins 9–13 pairs, oblique, straight. Cymes axillary or along branch axis, mainly 3 or 4 × dichotomously branched, loose, spreading; peduncle 10–18 mm, secondary peduncle 5–7 mm; pedicels very short; terminal flowers absent on secondary and tertiary branches. Flowers 5-merous; sepals nephroid-semiorbicular, outer sepals obviously smaller; petals oblong, 2.5–3 mm. Disk annular or shallowly calathiform, slightly 5-lobed. Stamens short; filament shorter than ca. 1 mm; anther slightly scalariform-cordate. Ovary triangular-subulate. Capsule nearly terete, ca. 1.5 cm. Fl. Jun–Oct, fr. Jun–Oct.

Evergreen and mossy forests, thick forests; 1300–2200 m. Guangxi, S Yunnan [Vietnam].

7. *Microtropis fallax* Pitard in Lecomte, Fl. Indo-Chine 1: 881. 1912.

越南假卫矛 *yue nan jia wei mao*

Small trees, to 6 m tall; branchlets purple-brown, tetragonal when young, becoming gray, terete. Petiole 1–1.2 cm; leaf blade broadly elliptic, 8.5–15 × 3.2–7 cm, base cuneate or broadly cuneate, apex acuminate or apiculate, apiculus 3–5 mm; secondary veins 8–10 pairs, slightly prominent on abaxial surface. Cymes axillary, 3–5-flowered; peduncle short, 3–4 mm. Inflorescence 5–10 cm, 4- or 5-branched. Persistent sepals 5, ca. 2 × 3 mm, imbricate, outer ones smaller than inner ones. Capsule elliptic, to 2 × 0.5–0.7 cm, sessile, 2-valved, blackish, enclosed on persistent sepals at base; persistent style ca. 2 mm; stigma slightly 4-lobed. Seed 1, oblong to obovate; aril red. Fr. Oct.

Broad-leaved forests; 500–900 m. SE Yunnan [N Vietnam].

8. *Microtropis submembranacea* Merrill & F. L. Freeman, Proc. Amer. Acad. Arts 73: 291. 1940.

灵香假卫矛 *ling xiang jia wei mao*

Cassine micrantha Hayata; *Microtropis caudata* C. Y. Cheng & T. C. Kao; *M. micrantha* (Hayata) Koidzumi.

Shrubs, 3–4 m tall; branchlets, leaves, and flowers fragrant when dry. Petiole ca. 5 mm; leaf blade ovate, ovate-elliptic to elliptic, rarely broadly lanceolate, 3.5–7 × 1.5–3.5 cm, sometimes longer, abaxially gray, base widely cuneate or rounded, apex acuminate; secondary veins 4–7 pairs, fine, prominent on

both surfaces. Cymes axillary, terminal or on branched axis, generally 3–7-flowered; peduncle 5–10 mm, secondary peduncle 2.5–3.5 mm; pedicels ca. 1.5 mm. Flowers 5-merous; sepals broadly semiorbicular; petals broadly obovate, ca. 2 mm. Disk shallowly annular, shallowly 5-lobed, lobe widely rounded. Filament ca. 1 mm; length of anther equal to width. Ovary narrowly ovate; style thick. Capsule broadly elliptic, ca. 1.5 × 0.5–0.6 cm. Fr. Apr.

• Evergreen forests, thick forests on hills; 1000–1800 m. Fujian, Guangdong, S Guangxi, Hainan, Yunnan.

9. *Microtropis pallens* Pierre, Fl. Forest. Cochinch. 20: t. 305b. 1895.

淡色假卫矛 *dan se jia wei mao*

Shrubs, 1–2 m tall; branchlets tetragonal when young, becoming terete, glabrous. Petiole 5–6 mm; leaf blade ovate to oblong, 4–9 × 2–4 cm, papery, abaxially pallid or slightly silver, adaxially green, glabrous, base cuneate, apex acute; secondary veins 7–12 pairs, prominent on both surfaces. Cymes densely dichasial, up to 1 cm; peduncle 2–3.5 mm; pedicels ± absent. Flowers 5-merous; sepals slightly membranous, ca. 1 mm, margin erose; petals obovate. Disk absent. Ovary conical, incompletely 2-loculed, 4 ovules per ovary; style short and thick; stigma nearly 4-lobed. Capsule ovate or oblong, 2-valved, ca. 10 × 6 mm, valve up to 1.5 mm thick. Seed ca. 9 × 5 mm. Fl. Jan–Mar, fr. Sep–Oct.

Seasonal rain forests, evergreen forests; ca. 400 m. SE Yunnan [Laos, Vietnam].

10. *Microtropis tetragona* Merrill & F. L. Freeman, Proc. Amer. Acad. Arts 73: 290. 1940.

方枝假卫矛 *fang zhi jia wei mao*

Small trees or shrubs; branchlets obviously tetragonal, purplish brown. Petiole 5–10 mm; leaf blade rectangular-elliptic or narrowly ovate-elliptic, 8–13 × 2.5–5 cm, papery or thinly leathery, rarely falciform-acuminate, base cuneate, apex acuminate; secondary veins 6–9 pairs, slender, obliquely arching upward, closed on margin. Cymes 3–7-flowered, rarely more, loose, spreading; peduncle fine, 5–11 mm, secondary peduncle 3–5 mm; pedicels 1.5–3 mm. Flowers 5-merous; sepals semiorbicular; petals rectangular-elliptic or slightly broadly ovate-elliptic. Disk thin, annular, shallowly 5-lobed or entire. Stamens small and short; filament very short and conspicuous. Ovary broadly triangular-ovate; style often 4-lobed. Capsule nearly oblong, ca. 2 cm × 8–9 mm, apex often with short rostrum; valves abaxially finely angulate. Fl. Aug–Oct, fr. ca. Oct–Nov.

• Mossy evergreen forests, streamsides; 1000–2100 m. S Guangxi, Hainan, SE Xizang, SE Yunnan.

11. *Microtropis triflora* Merrill & F. L. Freeman, Proc. Amer. Acad. Arts 73: 288. 1940.

三花假卫矛 *san hua jia wei mao*

Microtropis fokiensis Dunn var. *longipedunculata* W. C. Cheng; *M. triflora* var. *szechuanensis* C. Y. Cheng & T. C. Kao.

Shrubs, 2.5–5 m tall. Petiole slender, 6–12 mm; leaf blade lanceolate, oblong-lanceolate, broadly oblanceolate, or elliptic, 5.5–10 × 1–2.5(–4) cm, nearly leathery, base cuneate or decurrent, apex acute to narrowly acuminate; secondary veins 6–8 pairs, slightly curved. Cymes axillary, terminal or on branch axis, 3-flowered; peduncle 5–10 mm; terminal flowers sessile; lateral pedicels slender, 2.5–6 mm. Flowers 5-merous; sepals broadly semiorbicular, ca. 1.5 mm wide, margin ciliate; petals ovate-elliptic, ca. 3 mm, spreading in flower. Disk calathiform to annular, slightly fleshy, rim curved. Stamens ca. 2 mm. Ovary ampullaceous; stigma present. Capsule ovate-elliptic, ca. 1.5 cm. Seed ovate-elliptic, reddish brown. Fl. Aug–Sep, fr. ca. Aug–Oct.

• Forested slopes, forest margins; 1300–2100 m. Guizhou, Hubei, Sichuan, Yunnan.

12. *Microtropis pyramidalis* C. Y. Cheng & T. C. Kao, Acta Phytotax. Sin. 26: 313. 1988.

塔蕾假卫矛 ta lei jia wei mao

Small shrubs, 1–1.5 m tall; branchlets purplish brown, slightly tetragonal. Petiole 5–9 mm; leaf blade elliptic or oblong, 7–11 × 3–5.5 cm, papery, base cuneate or widely cuneate, apex caudate-acuminate to acuminate; midvein prominent on both surfaces, secondary veins 4–7 pairs, curved, small, thin. Cymes mainly on branched axis, 3 or 4 × dichotomously branched, branches slender and patent; peduncle 1–2 cm, secondary peduncle 5–15 mm; pedicels very short, less than ca. 3 mm or absent. Sepals broadly triangular-semiorbicular; petals rectangular, ca. 3 × 1 mm or more. Disk thin, narrowly annular. Stamens slightly as long as pistils; filament short and flat; anther ovate-elliptic, connective prominent, narrowly triangular. Ovary conical, ca. 1.5 mm. Fruit unknown. Fr. Apr.

• Seasonal evergreen forests, thick forests, valleys, streamsides; 800–1500 m. SW Guangxi, SE Yunnan.

13. *Microtropis hexandra* Merrill & F. L. Freeman, Proc. Amer. Acad. Arts 73: 289. 1940.

六蕊假卫矛 liu rui jia wei mao

Shrubs, to 3 m tall. Petiole 5–8 mm; leaf blade elliptic to narrowly elliptic, 4–7.5 × 1.5–3 cm, thickly papery, base cuneate to widely cuneate, apex acuminate; secondary veins 6–8 pairs, oblique, straight, curved near apex, prominent on both surfaces. Cymes often congested distally, often 3-flowered; peduncle 5–7 mm; pedicels 1–2.5 mm, sometimes sessile. Flowers white; sepals fleshy, often 4, rarely 5, semiorbicular, ca. 2 mm wide, very slightly ciliate or absent; petals 6, rarely 5, slightly fleshy, ovate-elliptic to rectangular-elliptic, ca. 3 mm. Disk shallowly calathiform, fleshy, very slightly lobed. Stamens 6, rarely 5, as long as pistils or longer; anther slightly rectangular, connective mucronulate. Ovary elliptic-ovate; style very short; stigma slightly lobed. Fruit unknown. Fl. Jun–Aug, fr. Nov.

• Humid evergreen forests, mountains; 1000–1800 m. SE Yunnan.

14. *Microtropis henryi* Merrill & F. L. Freeman, Proc. Amer. Acad. Arts 73: 289. 1940.

滇东假卫矛 dian dong jia wei mao

Evergreen shrubs, 2–3 m tall. Petiole 5–12 mm; leaf blade narrowly elliptic, elliptic, or narrowly oblong, 9–15 × 3–5 cm,

thinly papery or papery, base cuneate, apex acuminate or apiculate; secondary veins 5–8 pairs, curved. Cymes axillary or on branched axis, outspread, (1–)3–7-flowered; peduncle 5–8 mm, secondary peduncle 3–5 mm; pedicels 1–3 mm or sessile. Sepals 4, rarely 5, lateral ones smaller, nephroid-semiorbicular, margin irregularly serrulate; petals 5 or 6, broadly elliptic or obovate-orbicular. Disk inconspicuous. Stamens generally 6; filaments

very short; anther rectangular, connective mucronulate. Ovary rectangular-ovate; style very short to even absent. Capsule broadly elliptic, 1.3–1.7 cm × 8–10 mm, apex rounded, mucronulate, valves slightly smooth. Fl. Jun–Oct, fr. Apr–Aug.

- Humid evergreen forests, mountains; 800–2000 m. SW Yunnan.

3. *Microtropis* sect. *Microtropis*

密花组 mi hua zu

Inflorescences glomerulate cymes, sessile or subsessile, rarely long pedunculate. Flowers sessile or subsessile.

Thirteen species: S and SE Asia; 13 species (11 endemic) in China.

15. *Microtropis gracilipes* Merrill & F. P. Metcalf, Lingnan Sci. J. 16: 88. 1937.

密花假卫矛 mi hua jia wei mao

Microtropis confertiflora Merrill & F. L. Freeman; *M. gracilipes* var. *parvifolia* Merrill & F. P. Metcalf.

Shrubs, 2–5 m tall; branchlets slightly angulate. Petiole 3–9 mm, sparsely pubescent; leaf blade broadly oblanceolate, rarely oblong or obovate, 5–11 × 1.5–3.5 cm, leathery, glabrous, sometimes abaxially sparsely pubescent on veins, base cuneate, margin brownish white when dry, slightly revolute, apex acuminate or caudate; midvein prominent on both surfaces, secondary veins 7–11 pairs, straight, or apically slightly curved and closed. Cymes glomerate, dense, axillary or on branched axis; peduncle 1–2.5 cm, sparsely pubescent, unbranched or secondary peduncle 1–3 mm. Flowers 5-merous, sessile, clustered capitulum-like; sepals nephroid; petals slightly fleshy, broadly rectangular-elliptic, ca. 4 mm. Disk annular. Stamens ca. 1.5 mm; filament present. Ovary globose or ovate; style long, thick; stigma shallowly 4-lobed or slightly concave. Capsule broadly elliptic, 1–1.8 cm; persistent sepals slightly enlarged, sometimes slightly glaucous. Seed elliptic, dark red. Fl. Apr.

- Valley forests, slopes near streams, swamps; 700–1500 m. Fujian, Guangdong, Guangxi, Guizhou, Hunan.

16. *Microtropis sphaerocarpa* C. Y. Cheng & T. C. Kao, Acta Phytotax. Sin. 26: 314. 1988.

圆果假卫矛 yuan guo jia wei mao

Small trees, 2–3 m tall; branchlets smooth, slightly flat. Petiole short, formed by decurrent leaf base, 3–5 mm; leaf blade elliptic or rectangular-elliptic, 6–9 × 2.5–4 cm, papery, base decurrent, apex acute or acuminate; secondary veins 3–5 pairs, slender, curved, abaxially prominent. Cymes glomerate, 1–3-flowered, rarely up to 7-flowered; peduncle 3–5 mm. Flowers 4-merous, subsessile or sessile; sepals fleshy, broadly rounded, margin brown, erose with small teeth. Capsule subglobose, ca. 9 mm in diam., valves slightly smooth and flat, not obviously angulate.

- Forest margins; ca. 1200 m. NW Yunnan.

17. *Microtropis yunnanensis* (Hu) C. Y. Cheng & T. C. Kao ex Q. H. Chen, Fl. Guizhou. 2: 419. 1986.

云南假卫矛 yun nan jia wei mao

Microtropis illiciifolia (Hayata) Koidzumi var. *yunnanensis* Hu, Bull. Fan Mem. Inst. Biol. 7: 214. 1936.

Small trees or shrubs, 2.5–9 m tall. Petiole 5–9 mm; leaf blade rectangular or elliptic to ovate-elliptic, 4–10 × 1.5–3.5 cm, leathery, base cuneate or widely cuneate, margin slightly revolute, apex long acuminate or slightly caudate, often curved toward one side; secondary veins 7 or 8 pairs, ascendant. Cymes glomerate, axillary or on branched axis, 1–3-flowered, sometimes more; peduncle 5–10 mm; terminal flowers sessile or subsessile. Flowers generally 4-merous, rarely 5-merous; sepals thick, semiorbicular, ca. 2 mm wide, margin ciliate with dark brown toothlike cilia or entire; petals broadly elliptic, ca. 3 mm. Disk annular, thick, fleshy, lobe obtuse-triangular or truncate. Stamens 4, rarely 5. Ovary broadly conical; style thick, ca. 1 mm. Capsule rectangular-elliptic, 1.5–1.8 cm × 6–9 mm. Fr. Jan–Mar.

- Secondary forests on limestone hills; 1500–2000 m. W Guangxi, SW Guizhou, SE Yunnan.

In the protologue of *Microtropis yunnanensis*, Chen included *Myrsine chaffanjonii* H. Léveillé (Fl. Kouy-Tchéou, 287. 1914–1915, “*chaffanjoni*”) in synonymy. If indeed the two taxa are conspecific, the correct name is *Microtropis chaffanjonii* (H. Léveillé) Y. F. Deng (Ann. Bot. Fenn. 44: 397. 2007).

18. *Microtropis fokiensis* Dunn, J. Linn. Soc., Bot. 38: 375. 1908.

福建假卫矛 fu jian jia wei mao

Cassine illiciifolia Hayata; *C. matsudae* Hayata; *Microtropis illiciifolia* (Hayata) Koidzumi; *M. matsudae* (Hayata) Koidzumi; *Otherodendron matsudae* (Hayata) Hayata ex Loesener.

Small trees or shrubs, 1.5–4 m tall; branchlets slightly tetragonal. Petiole 2–8 mm; leaf blade narrowly obovate, broadly oblanceolate, obovate-elliptic, or rhombic-elliptic, 4–9 × 1.5–3.5 cm, thickly papery or leathery, base decurrent or narrowly cuneate, apex narrowly acute or acuminate; secondary veins 4–6 pairs. Cymes glomerate, short and small, axillary or on branched axis, rarely terminal, 3–9-flowered; peduncle short, 1.5–5 mm. Flowers very shortly pedicellate or sessile, 4-

merous or 5-merous; sepals semiorbicular, imbricate; petals elliptic to broadly elliptic, ca. 2 mm. Disk annular, flat and broadly semiorbicular. Stamens shorter than petals. Ovary ovate-globose; style obviously present; stigma shallowly 4-lobed. Capsule elliptic to ovate-elliptic, 1–1.4 × 0.5–0.7 cm.

• Slopes or forests in valleys; 800–2000 m. Anhui, Fujian, Hunan, Jiangxi, Taiwan, Zhejiang.

19. *Microtropis paucinervia* Merrill & Chun ex Merrill & F. L. Freeman, Proc. Amer. Acad. Arts 73: 285. 1940.

少脉假卫矛 shao mai jia wei mao

Small trees to shrubs; branchlets ± angulate, generally purplish brown. Petiole 3–7 mm; leaf blade elliptic, rhombic-elliptic, or obovate-elliptic, 3–8 × 1–4 cm, leathery, base cuneate or widely cuneate, rarely decurrent, margin revolute, apex obtuse-acute, rarely acuminate; secondary veins 4–7 pairs, slender, straight. Cymes axillary or on branched axis; peduncle ca. 1 cm or less. Flowers 5-merous, subsessile or sessile; sepals thick, nephroid, ca. 2 mm, margin with long cilia; petals ca. 2.5 mm, apex sometimes obtuse-emarginate. Disk shallowly calathiform, margin entire. Stamens short. Ovary conical. Capsule elliptic, ca. 1.5 cm × 8 mm, persistent sepals thick and leatherlike.

• Mountain areas; ca. 1200 m. Guangdong, S Guangxi, Hainan.

20. *Microtropis reticulata* Dunn, J. Bot. 47: 375. 1909.

网脉假卫矛 wang mai jia wei mao

Small shrubs, 1–2 m tall. Petiole 3–6 mm; leaf blade thickly papery, rectangular-elliptic, narrowly elliptic, or narrowly ovate-elliptic, 5–10 × 2–4 cm, base cuneate or broadly cuneate, margin slightly revolute, apex acute or acuminate; secondary veins 5–7 pairs, slender, oblique, straight, apically slightly ascending, obviously prominent abaxially. Cymes glomerate, axillary or terminal; peduncle short, thick, ca. 2 mm; pedicels very short to absent. Flowers 5-merous; sepals approximately semiorbicular; petals rectangular, ca. 2.5 mm. Disk annular. Stamens short; filament slightly conical. Ovary approximately ovate; style stout; stigma obtuse. Capsule elliptic, ca. 2 cm.

• Guangdong, Hainan.

21. *Microtropis obliquinervia* Merrill & F. L. Freeman, Proc. Amer. Acad. Arts 73: 286. 1940.

斜脉假卫矛 xie mai jia wei mao

Microtropis cathayensis Merrill & F. L. Freeman.

Small trees or shrubs, to 5 m tall. Petiole 5–15 mm; leaf blade lanceolate or oblong-elliptic to elliptic, 5–19 × 2–2.5 cm, leathery, base widely cuneate, somewhat decurrent, margin slightly revolute, apex acuminate or slightly caudate; midvein thick, secondary veins 7–11 pairs, veinlets straight, slender and prominent on both surfaces, veins anastomosing adjacent to margin. Cymes glomerate, axillary, on branch axis, rarely

terminal, 3–7-flowered, rarely more than 7-flowered; peduncle 2–5(–8) mm. Flowers subsessile or sessile, 5-merous; sepals widely rounded, semiorbicular; petals rectangular-elliptic or slightly ovate-elliptic, ca. 3 × 2 mm. Disk slightly fleshy, annular, lobes somewhat absent, slightly prominent. Filament very short, up to ca. 1 mm, rectangular-ovate. Ovary triangular-conical; stigma shallowly 2–4-lobed. Capsule broadly elliptic, 12–14 × 7–8.5 mm. Fl. throughout year.

• Secondary forests near streamsides, scattered forests, valleys; 700–2100 m. Guangdong, N Guangxi, Guizhou, Hunan, E Yunnan.

22. *Microtropis discolor* (Wallich) Arnott, Ann. Nat. Hist. 3: 152. 1839.

异色假卫矛 yi se jia wei mao

Cassine discolor Wallich in Roxburgh, Fl. Ind. 2: 378. 1824; *Microtropis sessiliflora* Merrill & F. L. Freeman.

Evergreen small trees or shrubs, 2.5–7 m tall. Petiole 5–10 mm; leaf blade rectangular or oblong, sometimes broadly lanceolate to narrowly ovate-elliptic, 7.5–19 × 2.5–8 cm, thickly papery or leathery, abaxially gray-brown, adaxially generally pale green when dry, base cuneate or broadly cuneate, apex caudate, tail up to 1.5 cm; midvein prominent on both surfaces, abaxially more conspicuous, secondary veins 5–8 pairs, slender, curved, prominent on both surfaces. Cymes glomerate, axillary or on branch axis, mainly 7–15-flowered; peduncle short, 2.5–6 mm, secondary peduncle 1.5–2.5 mm, third peduncle ca. 1 mm. Flowers 5-merous, subsessile; sepals slightly semiorbicular, imbricate, margin erosely toothed, teeth dark brown; petals slightly fleshy, rectangular, 2.5–3.5 × 1.5–2.5 mm, adaxially longitudinally angulate in center. Disk annular. Filament 1.5–2.5 mm; anther rectangular. Ovary elliptic-ovate; style absent; stigma 4-lobed. Capsule broadly elliptic, 10–14 × 8–10 mm, surface with thin, longitudinal costa formed by small wartlike elevations. Fl. and fr. Sep–Mar.

Evergreen forests; 800–1600 m. S Yunnan [Bhutan, India, Malaysia (peninsular), Myanmar, Thailand (peninsular), Vietnam].

23. *Microtropis biflora* Merrill & F. L. Freeman, Proc. Amer. Acad. Arts 73: 288. 1940.

双花假卫矛 shuang hua jia wei mao

Shrubs, to 2 m tall; branchlets terete, generally pallid, internodes long, generally 4–8.5 cm. Petiole 3–5 mm; leaf blade ovate-oblong or rectangular-elliptic, 6–10.5 × 1.8–4.5 cm, thickly papery, dark gray when dry, base broadly cuneate, apex acuminate or narrowly acuminate; veins fine, secondary veins 8–11 pairs, oblique, straight. Inflorescences terminal, axillary or on branched axis, 2-flowered, rarely 3-flowered; peduncle very short, up to 1.5 mm. Flowers 5-merous, sessile, white or light yellow; sepals erect; petals rectangular, sometimes broad near apex, ca. 3 mm. Stamens short; filament ca. 1 mm. Ovary ovate; stigma short, thick. Capsule broadly elliptic, 1.3–1.5 cm × ca. 9 mm. Fl. Dec to early spring, fr. winter.

• Dense forests; ca. 200 m. Guangdong.

24. *Microtropis oligantha* Merrill & F. L. Freeman, Proc. Amer. Acad. Arts 73: 288. 1940.

逢春假卫矛 feng chun jia wei mao

Shrubs; branchlets slender, terete, purplish brown, internodes 3–10 cm. Petiole 5–15 mm; leaf blade rectangular-elliptic, 8–11 × 3–4 cm, thickly papery, abaxially pallid, adaxially olive, base cuneate, apex acuminate to caudate-acuminate; secondary veins 5–8 pairs, curved. Cymes glomerate, axillary, 3–7-flowered; peduncle shorter than 1 mm. Flowers 4- or 5-merous, sessile; sepals slightly fleshy, semiorbicular or nephroid, 1.5–2 mm wide; petals rectangular-elliptic or elliptic, ca. 3.5 × 1.5–1.8 mm. Disk annular. Filament ca. 1 mm; anther elliptic, ca. 0.5 mm. Ovary triangular-ovate; style very short; stigma shallowly 2-lobed. Fruit unknown. Fl. Sep.

- Evergreen forests; 800–1700 m. SE Yunnan.

25. *Microtropis osmanthoides* (Handel-Mazzetti) Handel-Mazzetti, Sinensia 3: 189. 1933.

木樨假卫矛 mu xi jia wei mao

Chingithamnus osmanthoides Handel-Mazzetti, Sinensia 2: 128. 1932.

Shrubs, to 6 m tall; branchlets brown or gray-brown. Petiole thick, short, 2.5–5 mm; leaf blade ovate, broadly ovate, or ovate-lanceolate, 7–13 × 2.5–8 cm, leathery, abaxially gray-green, becoming gray-brown when dry, adaxially verrucose, becoming gray when dry, with small warts, base rounded or broadly cuneate, apex acute or narrowly acuminate; midvein obvious abaxially, yellowish white when dry, secondary veins 7–11 pairs, oblique, straight, obvious. Cymes glomerate, axillary, on branched axis or terminal, generally 5-flowered; peduncle absent, 2-bracteate, bracts triangular-ovate, ca. 1 mm. Flowers 5-merous, sessile; sepals fleshy, nephroid or cordate, 1.5–2 mm wide, margin with small teethlike cilia; petals rectangular, ca. 2.5 mm, margin sometimes erosely small toothed, base with linear, short claws. Disk thin, annular. Filament less than

0.5 mm; anther ovate, ca. 0.5 mm. Ovary triangular-subulate; stigma shallowly 2-lobed. Capsule elliptic, 1.5–2 cm. Seed elliptic-ovate, ca. 1.5 cm.

Thick forests, valleys. Guangxi, Guizhou [Vietnam].

26. *Microtropis wui* Y. M. Shui & W. H. Chen, Bot. Bull. Acad. Sin. 43: 306. 2002.

吴氏假卫矛 wu shi jia wei mao

Shrubs, scandent, 1–2 m tall, glabrous; branchlets terete, 0.8–1.3 cm in diam., brownish; internodes 12–15 cm; leaf scars semiorbicular. Petiole stout, 4–6 × 2.5–3.5 mm; leaf blade obovate or rhombic, 3.4–5 × 1.6–1.8 cm, abaxially gray-green, adaxially deep green, base auricular, margin slightly revolute, apex obtuse; midvein very prominent abaxially, less so adaxially, secondary veins 12–15 pairs, anastomosing adjacent to margin. Cymes axillary or on branched axis, glomerate; peduncle 1–2 mm; pedicels incrassate, 3–3.5 mm. Sepals ovate, persistent in fruit. Capsule 15–20, ellipsoid or ovoid, 1.8–2 cm × 8–9 mm (length includes rostrum), rostrum 2–3 mm. Fr. Nov–Jan.

- Secondary forests on limestone hills; 600–800 m. SE Yunnan [?Vietnam].

27. *Microtropis obscurinervia* Merrill & F. L. Freeman, Proc. Amer. Acad. Arts 73: 283. 1940.

隐脉假卫矛 yin mai jia wei mao

Evergreen shrubs, 1–2 m tall; branchlets purplish brown or blackish purple. Petiole thick, 8–15 mm; leaf blade slightly fleshy, narrowly rectangular, narrowly rectangular-elliptic, or broadly oblanceolate, 8–18 × 2.5–7 cm, leathery, with irregular and small warts when dry; midvein prominent abaxially, secondary veins 7–11 pairs, oblique, straight, not obvious. Cymes glomerate, more than 10-flowered; peduncle absent. Flowers white, 5-merous, sessile, slightly urn-shaped in flower, 4–5 mm; sepals leathery, slightly nephroid, 1.2–1.4 mm; petals rectangular, 2.5–3 mm, with short claws at base. Disk thin, annular, margin entire. Ovary ovate; style short and thick; stigma shallowly 2-lobed. Capsule elliptic or approximately elliptic-ovate, 1.5–2 cm. Seed ovate-elliptic, ca. 1.5 cm.

- Forests, valleys; 800–1500 m. Hainan.

