

7. TRIUMFETTA Linnaeus, Sp. Pl. 1: 444. 1753.

刺蒴麻属 ci shuo ma shu

Bartramia Linnaeus.

Herbs, rarely subshrubs, annual or perennial, erect or procumbent, hairs with swollen base, stellate or with 1 ray and apparently simple. Leaves alternate, simple or palmately 3–5-lobed, palmately veined, margin serrate. Flowers solitary or arranged in small cymes or fascicles, axillary, opposite to leaves, bisexual; peduncle very short. Sepals 5, free, valvate, usually with hooked appendages at tip. Petals as many as sepals, free, thickened glands on base of adaxial surface. Stamens 5 to numerous; filaments free; anthers dorsifixed, subglobose, dehiscence longitudinal, borne on androgynophore; androgynophore fleshy, segmented, short, with 5 glands opposite to petals. Ovary 2–5-loculed; ovules 2 per locule; style simple; stigma 2–5-lobed. Fruit a capsule nearly globose, 3–6-valved, spiny or strigose, loculicidally dehiscent or indehiscent, spine tips pointed, straight or hooked. Seeds with endosperm; cotyledons fleshy, epigeous.

Between 100 to 160 species: primarily in tropical and subtropical areas, several species are widespread weeds; seven species in China.

- 1a. Capsule dehiscent, spines 3–10 mm; leaf blade not lobed.
 - 2a. Capsule spines glabrous or hairy at base only; leaf blade hairs mostly unbranched, occasionally few-rayed on main veins; flower bud nearly glabrous 3. *T. annua*
 - 2b. Capsule spines uniformly hairy; leaf blade hairs mostly obviously stellate, abaxially tomentose; flower bud obviously hairy.
 - 3a. Capsule spines with straight or gently curved apex; pedicel ca. 1.5 mm 1. *T. cana*
 - 3b. Capsule spines with strongly hooked apex; pedicel 3–5 mm 2. *T. pilosa*
- 1b. Capsule indehiscent, spines 1.5–4 mm; blade of lower leaves often 3–5-lobed or coarsely dentate.
 - 4a. Blade of upper leaves 0.7–1.5 cm wide, abaxial hairs apparently simple 4. *T. grandidens*
 - 4b. Blade of upper leaves 1.5–6 cm wide, abaxial hairs stellate.
 - 5a. Leaf blade base cordate, abaxial surface densely yellow-brown tomentose, apex obtuse; stamens 20–35 7. *T. procumbens*
 - 5b. Leaf blade base broadly cuneate or rounded, abaxial surface pilose or pubescent, apex acute or acuminate; stamens 10 or 15–20.
 - 6a. Pedicels less than 1 mm; stamens 10 5. *T. rhomboidea*
 - 6b. Pedicels 2–3 mm; stamens 15 or more 6. *T. semitriloba*

1. *Triumfetta cana* Blume, Bijdr. 126. 1825.

毛刺蒴麻 mao ci shuo ma

Triumfetta tomentosa Bojer; *T. tomentosa* var. *calvescens* Franchet.

Herbs woody or subshrubs to 2 m tall. Branchlets yellow-brown tomentose, hairs stellate. Petiole 1–3 cm; leaf blade ovate or ovate-lanceolate, 4–8 × ca. 2.4 cm, abaxially densely stellate tomentose, adaxially sparsely stellate hairy, basal veins 3–5, 2 lateral ones ascending beyond 1/2 blade, base rounded, margin irregularly serrate, apex acuminate. Cymes 1 to several per axil; peduncle ca. 3 mm. Flower buds densely appressed gray-white puberulent. Pedicel ca. 1.5 mm. Sepals narrowly oblong, ca. 7 mm, tomentose. Petals oblong, slightly shorter than sepals, base shortly stalked, stalk ciliate. Stamens 8–10 or rarely more. Ovary 4-loculed, spiny; stigma 3–5-lobed. Capsule globose, ca. 4 mm in diam., spiny, dehiscent into 4 valves; spines slender, 5–7 mm, puberulent, curved, tip straight. Seeds 2 per cell. Fl. summer–autumn.

Secondary forests, scrub. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Xizang, Yunnan [Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, Thailand, Vietnam].

2. *Triumfetta pilosa* Roth, Nov. Pl. Sp. 223. 1821.

长勾刺蒴麻 chang gou ci shuo ma

Herbs woody at base, or subshrubs to 1(–1.5) m tall. Branchlets yellow-brown stellate tomentose, simple hairs also present. Petiole 1–5 cm; leaf blade ovate or narrowly ovate, 3–14 × 1.3–4.5 cm, thickly papery, abaxially densely yellow-brown stellate tomentose, adaxially sparsely stellate, basal veins 3, lateral 2 ascending beyond 1/2 blade, base rounded or subcordate, margin irregularly serrate, apex acuminate or acute. Cymes 1 to several per node; peduncle 5–8 mm. Flower buds pilose. Pedicel 3–5 mm. Bracts lanceolate, ca. 1 mm. Sepals narrowly lanceolate, 6–10(–12) × 1–1.5 mm, hairy, apex cucullate, apical appendage 0.5–1 mm. Petals as long as sepals. Stamens 10(–30). Ovary hairy. Capsule globose, body 3–5 mm in diam., spiny, overall 1.1–1.3 × 1.2–1.4 cm, 4-loculed, dehiscent; spines 6–8 mm, hairy, tip hooked. Fl. summer–autumn.

Dry scrub. Guangdong, Guangxi, Guizhou, Sichuan, Yunnan [Bhutan, ?Cambodia, India, ?Laos, Malaysia, Nepal, New Guinea, Sri Lanka, Thailand, ?Vietnam; tropical Africa, Australia].

3. *Triumfetta annua* Linnaeus, Syst. Nat., ed. 12, 2: 327; Mant. Pl. 1: 73. 1767.

单毛刺蒴麻 dan mao ci shuo ma

Herbs annual, or subshrubs. Branchlets yellow-brown tomentose. Stipule narrowly triangular; petiole 1–7.5 cm, sparsely simple-pilose; leaf blade ovate or ovate-lanceolate, 5–13 × 3–7 cm, papery, sparsely pilose, both surfaces simple-pilose, basal

veins 3–5, 2 lateral ones ascending beyond 1/2 blade, base rounded or subcordate, margin serrate, apex caudate or acuminate. Peduncle very short. Pedicel 3–6 mm, villous. Bracts 2–3 mm, villous. Flower bud nearly glabrous. Sepals ca. 5 mm, tips appendaged. Petals oblanceolate, slightly shorter than sepals. Stamens 10. Ovary 3- or 4-loculed, spiny; style very short; stigma 2–3-lobed. Capsule impressed globose, ca. 6 mm in diam., spiny, dehiscent, 3- or 4-valved; spines 3–7 mm, glabrous or hairy at base, tip hooked. Fl. autumn.

Open areas, roadsides. Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangxi, Sichuan, Yunnan, Zhejiang [Bhutan, India, Malaysia, Nepal, Pakistan; Africa].

Triumfetta annua was incorrectly named as *T. suffruticosa* Blume by some authors, including Merrill; it has also been confused with *T. japonica* Makino, which is restricted to Japan, Korea, and the Philippines.

4. *Triumfetta grandidens* Hance, J. Bot. 15: 329. 1877.

粗齿刺蒴麻 cu chi ci shuo ma

Herbs woody, creeping or not, many branched; stems pubescent, hairs simple, or glabrous. Petiole 5–10 mm, hairy; lower leaf blades rhomboid, 3–5-lobed; upper ones oblong, 1–2.5 × 0.7–1.5 cm, both surfaces glabrous or abaxially hairy on veins, basal veins not strongly ascending, base cuneate, margin serrate, apex obtuse. Cymes 10–20 mm; peduncle 5–7 mm. Pedicel 2–3 mm. Sepals filiform, ca. 6 mm, abaxially puberulent. Petals broadly ovate, slightly shorter than sepals, shortly stalked. Stamens 8–10. Ovary 2- or 3-loculed. Capsule globose, spiny, indehiscent; spines 2–4 mm, puberulent or glabrous, tip shortly hooked. Fl. winter–spring.

Sandy coasts, coastal wastelands. Guangdong, Hainan [Cambodia, Malaysia, Thailand, Vietnam].

Triumfetta grandidens has been included within *T. repens* (Blume) Merrill & Rolfe, but the combination of small leaves with relatively very large triangular marginal teeth is very distinctive.

- 1a. Stems and capsule pubescent or puberulent 4a. var. *grandidens*
1b. Stems and capsule glabrous 4b. var. *glabra*

4a. *Triumfetta grandidens* var. *grandidens*

粗齿刺蒴麻(原变种) cu chi ci shuo ma (yuan bian zhong)

Triumfetta dunalis O. Kuntze.

Branchlets and leaves hairy. Stems and capsule pubescent or puberulent.

Guangdong, Hainan [Malaysia, Vietnam].

4b. *Triumfetta grandidens* var. *glabra* R. H. Miao ex Hung T. Chang, Acta Phytotax. Sin. 20: 178. 1982.

秃刺蒴麻 tu ci shuo ma

Stems, branchlets, leaves, and capsule glabrous.

- Coastal wastelands. Hainan.

5. *Triumfetta rhomboidea* Jacquin, Enum. Syst. Pl. 22. 1760.

刺蒴麻 ci shuo ma

Bartramia indica Linnaeus; *Triumfetta angulata* Lamarck;

T. bartramii Linnaeus, nom. illeg. superfl.; *T. indica* Lamarck; *T. trilocularis* Roxburgh; *T. velutina* Vahl.

Subshrubs or herbs. Branchlets gray-brown tomentose. Petiole 1–5 cm; lower leaf blades broadly ovate-orbicular, rhomboid, or broadly ovate, 3-lobed, 3–9.5 × 2–8.5 cm, abaxially stellate pilose, adaxially sparsely hairy, basal veins 3–5, 2 lateral ones reaching tip of lobes, base broadly cuneate or rounded, margin irregularly bluntly serrate, apex acute; upper leaf blades oblong-lanceolate, not lobed. Cymes 3–5 per axil; peduncle to 2 mm. Flower buds cylindrical, apex slightly wider, ca. 4 mm. Pedicel less than 1 mm. Sepals narrowly oblong, 4.5–5.5 mm, villous, appendaged at tip. Petals yellow, slightly shorter than sepals, hairy along margins. Stamens 10. Ovary spiny. Capsule globose, ca. 3 mm in diam., spiny, indehiscent; spines ca. 2 mm, gray-yellow puberulent, tip hooked. Seeds 2–6. Fl. summer–autumn. $2n = 32$.

Forest margins, open areas, wastelands; 100–1500 m. Fujian, Guangdong, Guangxi, Taiwan, Yunnan [throughout tropics; type from West Indies].

Triumfetta indica Lamarck (Encycl. 3: 420. 1792) is not based on *Bartramia indica* Linnaeus (Sp. Pl. 1: 389. 1753) and therefore blocks the transfer of *B. indica* to *Triumfetta*; hence the correct name for this species is *T. rhomboidea*.

The whole plant is used medicinally.

6. *Triumfetta semitriloba* Jacquin, Enum. Syst. Pl. 22. 1760.

菲岛刺蒴麻 fei dao ci shuo ma

Shrubs or perennial herbs, to 1 m or more tall. Branchlets pubescent, hairs simple and stellate. Petiole 0.5–6 cm; leaf blade broadly ovate, sometimes obscurely 3-lobed, 4–8 × 3–6 cm, membranous, abaxially grayish green, stellate pubescent,

adaxially pubescent, hairs simple, basal veins 3, base rounded, rarely shallowly cordate, margin irregularly serrate-dentate, apex acuminate; upper leaves usually oblong. Cymes 2 or 3 per axil; peduncle 1–2(–3) mm. Flower buds cylindrical, ca. 4 mm, pubescent. Pedicel 2–3 mm. Sepals linear, ca. 6 mm, abaxially stellate pubescent, appendage subapical, ca. 0.5 mm, pubescent. Petals narrowly elliptic-obovate, ca. as long as sepals, Stamens 15 or more, filaments glabrous. Ovary 3-loculed, spiny; style 3–5 mm; stigma \pm 3-lobed. Capsule globose, body 3–5 mm in diam., 3-loculed, indehiscent, glabrescent; spines 1.5–2 mm, retrorsely pilosulose at base, conical at base, tip hooked. Seeds 1 or 2 per cell. Fl. Oct–Jan.

Fields, wastelands. S Taiwan [Philippines; tropical America].

Triumfetta semitriloba is very easily confused with *T. rhomboidea*.

7. *Triumfetta procumbens* G. Forster, Fl. Ins. Austr. 35. 1786.

铺地刺蒴麻 pu di ci shuo ma

Shrubs, stems procumbent, to 3 m. Branchlets yellow-brown, shortly stellate hairy. Petiole 2–3 mm; leaf blade ovate-orbicular, sometimes 3-lobed, 2–4.5 \times 1.5–4.5 cm, thickly papery to slightly fleshy, abaxially densely yellow-brown tomentose, adaxially more sparsely shortly stellate tomentose, basal veins 5–7, base cordate, margin crenate, apex obtuse. Cymes solitary, 2–5-flowered; peduncle 5–10(–35) mm. Pedicel 2–3(–10) mm. Sepals 9–13 \times 2–2.5 mm, abaxially moderately densely stellate hairy, adaxially densely stellate tomentose near base, tips with subapical appendage terete, 1–2 mm, glabrous. Petals linear-obovate, 7.5–9 \times ca. 4 mm, claw tomentose. Androgynophore ca. 0.5 mm. Stamens 20–35; filaments 5–8 mm, glabrous. Capsule globose, 4-loculed, 1.5–2 cm in diam., spiny, indehiscent, glabrous or with sparse simple and stellate hairs; spines robust, 3–5 mm, puberulent, curved at tip. Seeds 1 or 2 per cell. Fr. May–Sep.

Coastal strands near sea level. South China Sea [Japan, Malaysia; Australia, Indian Ocean islands (Diego Garcia, Seychelles), SW Pacific islands].

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