

7. **TABERNAEMONTANA** Linnaeus, Sp. Pl. 1: 210. 1753.

狗牙花属 *gou ya hua shu*

Ervatamia (A. de Candolle) Stapf; *Pagiantha* Markgraf; *Rejoua* Gaudichaud-Beaupré.

Shrubs or small trees, latex white. Stems repeatedly dichotomously branched. Leaves opposite; adaxial surface of petiole often with a basal semicircular or semiamplexicaul ocrea. Cymes corymbose or umbellate, at branch forks, many or rarely 1-flowered. Calyx divided halfway down or deeper, with few to many basal glands inside. Corolla salverform, widened at or near middle, lobes sharply overlapping to left [or right]. Stamens inserted in widened part of corolla tube; filaments short or almost none; anthers oblong or narrowly triangular, free from pistil head, base sagittate or deeply cordate and not spurred; disc absent. Ovaries 2, free; ovules numerous. Style filiform; pistil head with a subglobose or lampshade-shaped basal part and stigmatic, 2-cleft apical part. Follicles 2, divaricate. Seeds with a red or orange fleshy aril; coma absent.

Ninety-nine species: Africa, Asia, North America, Pacific Islands, South America; five species in China.

- 1a. Corolla double; plants cultivated 4. *T. divaricata*
- 1b. Corolla single.
 - 2a. Corolla lobes pubescent inside all over or only in basal half, ciliate, often pubescent outside 3. *T. corymbosa*
 - 2b. Corolla lobes glabrous inside or pubescent only at extreme base, mostly not ciliate.
 - 3a. Corolla tube not twisted; stamens inserted at lower 1/4–1/3 of corolla tube 4. *T. divaricata*
 - 3b. Corolla tube mostly twisted; stamens inserted at middle or upper half of corolla tube.
 - 4a. Sepals rounded, obtuse or sometimes acute; corolla tube 8–23 × as long as calyx (see also *T. bufalina*).
 - 5a. Corolla tube glabrous inside, twisted 0.25–0.5 turn just below anthers, up to 11 × as long as calyx; fruit 1.2–7.1 cm, 2–40-seeded, if smaller and few seeded then with a lateral ridge along each side 5. *T. pandacaqui*
 - 5b. Corolla tube pubescent or pilose inside around anthers, if twisted, 10–23 × as long as calyx; fruit 1–1.6 cm, 1–3-seeded, not ridged when mature (see also *T. corymbosa*) 1. *T. bovina*
 - 4b. Sepals acuminate, awl-shaped or not; corolla tube 4–7 × as long as calyx.
 - 6a. Corolla of mature bud with a subglobose or broadly ovoid, rounded or obtuse head, glabrous inside; midvein and secondary veins mostly paler than blade on both leaf surfaces 5. *T. pandacaqui*
 - 6b. Corolla of mature bud with an ovoid, acuminate or acute head, hairy or glabrous inside; veins not paler than blade.
 - 7a. Peduncle rather robust; bracts scalelike; corolla head of mature bud 6–12 mm 4. *T. divaricata*
 - 7b. Peduncle slender; bracts not scaly; corolla head of mature bud mostly up to 5 mm 2. *T. bufalina*

1. **Tabernaemontana bovina** Loureiro, Fl. Cochinch. 1: 118. 1790.

药用狗牙花 *yao yong gou ya hua*

Ervatamia bovina (Loureiro) Markgraf; *E. officinalis* Tsiang; *E. tonkinensis* (Pierre ex Pitard) Markgraf; *Tabernaemontana officinalis* (Tsiang) P. T. Li; *T. tonkinensis* Pierre ex Pitard.

Shrubs or small trees 0.5–5 m tall, glabrous except for flowers. Petiole 2–8 mm; leaf blade deep green adaxially, pale green abaxially, elliptic or narrowly so, 3–21 × 1–6 cm, papery, apex caudate or acuminate; lateral veins 4–12 pairs. Cymes shorter than leaves. Flower buds with a globose head, rounded at apex. Corolla white, tube 1.2–2.8 cm; lobes obliquely elliptic, 0.5–1.5 cm, puberulent on both surfaces. Stamens inserted above middle of corolla tube. Ovary glabrous. Follicles oblong, 1.5–2.4 × 0.6–1 cm, apex mostly acuminate. Fl. May–Jun, fr. Aug–Dec.

Sparse montane forests; 200–1000 m. W Guangxi, Hainan, Yunnan [Thailand, Vietnam].

2. **Tabernaemontana bufalina** Loureiro, Fl. Cochinch. 1:

117. 1790.

尖蕾狗牙花 *jian lei gou ya hua*

Ervatamia bufalina (Loureiro) Pichon; *E. ceratocarpa* Kerr; *E. chengkiangensis* Tsiang; *E. hainanensis* Tsiang; *Tabernaemontana ceratocarpa* (Kerr) P. T. Li; *T. chengkiangensis* (Tsiang) P. T. Li; *T. hainanensis* (Tsiang) P. T. Li; *T. jasminoides* Tsiang.

Shrubs or small trees 0.5–4 m tall, glabrous throughout. Petiole 1–8 mm; leaf blade elliptic or narrowly so, 4–17 × 1–6 cm, papery, apex acuminate; lateral veins 5–12 pairs. Cymes di- or trichotomous; bracts not scaly. Flower buds with an ovoid head, apex acute. Corolla white or yellow-white, tube 0.8–1.7 cm; lobes obliquely elliptic, mostly falcate, 5–15 × 3–10 mm. Stamens inserted at or above middle of corolla tube. Ovary glabrous. Follicles obliquely and narrowly ellipsoid, oblong, or very narrowly oblong, 2–12 × 0.5–1.5 cm, beak 1–2 cm. Fl. May–Aug, fr. Jul–Nov.

Mixed forests; 100–1000 m. Guangdong, Guangxi, Hainan, S Yunnan [Cambodia, Myanmar, Thailand, Vietnam].

The roots are used in Hainan to treat hypertension, snake poisoning, and rheumatism.

3. *Tabernaemontana corymbosa* Roxburgh ex Wallich, Bot. Reg. 15: t. 1273. 1829.

伞房狗牙花 san fang gou ya hua

Ervatamia chinensis (Merrill) Tsiang, *E. continentalis* Tsiang; *E. continentalis* var. *pubiflora* Tsiang; *E. corymbosa* (Roxburgh ex Wallich) King & Gamble; *E. kwangsiensis* Tsiang; *E. kweichowensis* Tsiang; *E. tenuiflora* Tsiang; *E. yunnanensis* Tsiang; *E. yunnanensis* var. *heterosepala* Tsiang; *Pagiantha corymbosa* (Roxburgh ex Wallich) Markgraf; *Tabernaemontana chinensis* Merrill; *T. continentalis* (Tsiang) P. T. Li; *T. continentalis* var. *pubiflora* (Tsiang) P. T. Li; *T. kwangsiensis* (Tsiang) P. T. Li; *T. kweichowensis* (Tsiang) P. T. Li; *T. tsiangiana* P. T. Li; *T. yunnanensis* (Tsiang) P. T. Li; *T. yunnanensis* var. *heterosepala* (Tsiang) P. T. Li.

Shrubs or small trees 0.8–8 m tall, glabrous except for flowers. Petiole 0.3–2 cm; leaf blade ovate to obovate, 7–30 × 2–14 cm, papery, apex acuminate; lateral veins 6–16 pairs. Cymes shorter or longer than leaves; di- or trichotomous. Flower buds with a globose head, rounded at apex. Calyx lobes ovate, ciliate. Corolla white, puberulent to glabrous, tube 1.8–3.1 cm; lobes obliquely elliptic, mostly falcate, 9–16 × 4–10 mm. Stamens inserted above middle of corolla tube. Follicles obliquely ellipsoid, 2–4.5 × 0.6–3 cm, beaked or rounded, sometimes stipitate. Fl. May–Sep, fr. Jul–Dec.

Mixed woods, brushwoods; 500–1700 m. W Guangxi, S Guizhou, S Yunnan [Indonesia, Laos, Malaysia, Myanmar, Thailand, Vietnam].

The bark and leaves are used in Guangxi for the treatment of fractures.

4. *Tabernaemontana divaricata* (Linnaeus) R. Brown ex Roemer & Schultes, Syst. 4: 427. 1819.

狗牙花 gou ya hua

Nerium divaricatum Linnaeus, Sp. Pl. 1: 209. 1753; *Ervatamia coronaria* (Jacquin) Stapf; *E. divaricata* (Linnaeus) Burkill; *E. flabelliformis* Tsiang; *N. coronarium* Jacquin; *Tabernaemontana coronaria* (Jacquin) Willdenow; *T. flabelliformis* (Tsiang) P. T. Li.

Shrubs or small trees 0.5–5 m tall, glabrous. Petiole 3–10 mm; leaf blade elliptic or narrowly so, 3–18 × 1–6 cm, apex acuminate; lateral veins 5–17 pairs. Cymes dichotomous, 1–8-flowered; bracts scalelike. Flower buds with an ovoid head, apex acute or obtuse. Calyx lobes often ciliate. Corolla white, tube 1.5–2.7 cm; lobes simple or double, obovate or broadly so, 1.5–2.7 × 0.8–2 cm. Stamens inserted at basal third of corolla tube. Follicles obliquely and narrowly ellipsoid, 2–7 × 0.6–1.5 cm. Fl. Apr–Sep, fr. Jul–Nov. $2n = 22^*$.

Montane brushwoods, sparse forests; 100–1600 m. S Yunnan (cultivated in Fujian, Guangdong, Guangxi, Hainan, Taiwan, Yunnan) [Bangladesh, Bhutan, India, Myanmar, Nepal, Thailand; cultivated in tropical and subtropical Asia].

All parts of the plant are poisonous. The roots, leaves, and flowers are used in Guangdong and Guangxi against snake and scorpion poisoning. In modern medicine, the roots are used to treat hypertension, headache, and scabies.

5. *Tabernaemontana pandacaqui* Lamarck, Tabl. Encycl. 1(2): 299. 1792.

平脉狗牙花 ping mai gou ya hua

Ervatamia mucronata (Merrill) Markgraf; *E. pandacaqui* (Lamarck) Pichon; *E. puberula* Tsiang & P. T. Li; *Pagiantha pandacaqui* (Lamarck) Markgraf; *Tabernaemontana guangdongensis* P. T. Li; *T. mollis* Hooker & Arnott; *T. mucronata* Merrill; *T. subglobosa* Merrill; *T. thailandensis* P. T. Li.

Shrubs or small trees 1–14 m tall. Branchlets pubescent to glabrous. Petiole 0.3–2 cm; leaf blade elliptic or narrowly so, 3–25 × 1–10 cm, sometimes pubescent abaxially, apex acuminate, caudate, or obtuse; lateral veins 4–16 pairs. Cymes 3–16 cm. Flower buds with a broadly ovate head, apex rounded or obtuse. Corolla white, tube 0.8–2.2 cm; lobes obliquely oblong, falcate, 0.6–1.9 cm. Stamens inserted at or above middle of corolla tube. Ovary glabrous. Follicles obliquely ellipsoid, 1.2–7 × 0.5–3 cm, apex beaked or rounded. Fl. May–Jul, fr. Jul–Nov.

Open forests, brushwoods; low to middle altitudes. S Guangdong, Taiwan, S Yunnan [Indonesia, Malaysia, Philippines, Thailand; Australia, Pacific Islands].

