

### 13. RAUVOLFIA Linnaeus, Sp. Pl. 1: 208. 1753.

萝芙木属 *luo fu mu shu*

Trees or shrubs with latex. Leaves whorled, rarely opposite, with glands axillary and sometimes on petiole. Cymes pedunculate, terminal or axillary, each branch ends in as many inflorescences and/or branches as leaves in a whorl. Calyx deeply divided, without glands. Corolla white, yellow, green, or pink, rarely with a red tube, salverform or campanulate; tube cylindric, swollen on 1 side at or above middle, villous inside distal half, throat not scaly, often with long hairs inside; lobes overlapping to left. Stamens inserted in widening of corolla tube; filaments very short; anthers ovate, free from pistil head, base rounded; disc ringlike or cup-shaped, entire or lobed at apex. Ovaries 2, free or connate. Style filiform; pistil head drum-shaped, with a pendulous ring, apex shortly 2-cleft. Drupes 2, distinct or connate. Seed 1, without coma.

About 60 species: Africa, Asia, America; seven species in China.

- 1a. Trees; lateral veins 30–45 pairs, subparallel, nearly at right angles to midvein ..... 1. *R. sumatrana*
- 1b. Shrubs; lateral veins 5–20 pairs, arcuate ascending.
  - 2a. Ovaries and fruit of connate carpels, often only at base.
    - 3a. Leaves ovate or elliptic, tomentose when young; corolla tube 2–3 mm; fruit entire at apex ..... 2. *R. tetraphylla*
    - 3b. Leaves narrowly elliptic or obovate, glabrous; corolla tube 10–20 mm; fruit forked at apex.
      - 4a. Leaves usually narrowly elliptic, 7–20 cm, membranous; petiole 10–15 mm; inflorescences solitary; peduncle, pedicel, calyx, and corolla red or reddish; corolla lobes 1.5–3.5 mm; stamens inserted at middle of corolla tube ..... 3. *R. serpentina*
      - 4b. Leaves obovate, 1–6 cm, leathery; petiole 2–4 mm; peduncle, pedicel, and calyx green; corolla tube white, lobes 10–14 mm; stamens inserted at corolla throat ..... 4. *R. cubana*
  - 2b. Ovaries and fruit of free carpels.
    - 5a. Corolla white, tube widened at middle; stamens inserted at middle of corolla tube ..... 7. *R. verticillata*
    - 5b. Corolla reddish, green, or yellow, tube widened at top; stamens inserted at corolla throat.
      - 6a. Lateral veins of leaf blade prominent; inflorescences long, at least some branches puberulent; corolla greenish or green ..... 5. *R. vomitoria*
      - 6b. Lateral veins of leaf blade inconspicuous; inflorescences short, glabrous; corolla yellow ..... 6. *R. tiaolushanensis*

#### 1. *Rauvolfia sumatrana* Jack, Malayan Misc. 1(5): 22. 1820.

苏门答腊萝芙木 *su men da la luo fu mu*

Trees to 20 m tall. Leaves in whorls of 3–5; petiole 2–3 cm; leaf blade oblong or narrowly obovate, 12–20 × 4–8 cm, leathery, glabrous, apex apiculate or nearly so; lateral veins 30–45 pairs, subparallel, nearly at a right angle to midvein. Inflorescences dense, 8–12 × 12–15 cm; peduncle 5–8 cm. Corolla white, tube cylindric, 4–6 mm; lobes broadly ovate, 1.2–1.7 mm; throat villous. Disc less than 0.5 mm. Ovaries distinct, ca. 1 mm. Drupes subglobose, 1.5–1.8 × 1.8–2.4 cm. Seeds 1 or 2.

S Guangdong [Indonesia, Malaysia, Philippines, Thailand].

Cultivated for medicine. The wood is used to make rapier scabbards in Java.

#### 2. *Rauvolfia tetraphylla* Linnaeus, Sp. Pl. 1: 208. 1753.

四叶萝芙木 *si ye luo fu mu*

Shrubs to 2 m tall, pubescent or tomentose when young, glabrescent with age. Leaves in whorls of 3–5; petiole 2–5 mm; leaf blade ovate, narrowly ovate, or oblong, 1–15 × 0.8–4 cm, membranous, base broadly cuneate to rounded, apex acute or obtuse; lateral veins 5–12 pairs. Peduncle 1–4 cm. Corolla white, tube urceolate, 2–3 mm, long hairy inside distal half; lobes ovate or suborbicular. Stamens inserted

at corolla throat. Ovaries connate. Drupes subglobose, 5–10 mm in diam., glabrous, connate. Seeds 2. Fl. May, fr. Jun-Aug.  $2n = 66$ .

S Guangdong, SW Guangxi, Hainan, S Yunnan [native to tropical America].

Cultivated for medicine.

The latex has been reported to be emetic, cathartic, and expectorant and is used for treating dropsy. The fruit juice is used as a substitute for ink.

#### 3. *Rauvolfia serpentina* (Linnaeus) Bentham ex Kurz, Forest Fl. Burma 2: 171. 1877.

蛇根木 *she gen mu*

*Ophioxylon serpentinum* Linnaeus, Sp. Pl. 2: 1043. 1753; *O. majus* Hasskarl.

Shrubs to 1 m tall, erect, glabrous. Stems usually unbranched, slender, straw colored. Leaves grouped near stem apex, in whorls of 3–5; petiole 1–1.5 cm; leaf blade narrowly elliptic or obovate, membranous, 7–17 × 2–9 cm, base cuneate, apex acuminate or rarely obtuse; lateral veins 7–15 pairs. Cymes congested; peduncle 5–13 cm, red or reddish. Pedicel and calyx red or reddish. Corolla white, tube cylindric, 1–1.8 cm, inflated at middle and pilose inside distal half; lobes obliquely suborbicular, 1.5–3.5 mm. Stamens inserted at middle of corolla tube. Ovaries connate in basal half. Drupes ellipsoid, ca. 8 mm, connate for half their length. Fl. Feb-Oct, fr. May-Dec.  $2n = 22$ .

Montane forests; 800–1500 m. S Yunnan (Gengma, Jing-hong), cultivated in S Guangdong, S Guangxi, Hainan [India, Indonesia, Malaysia, Myanmar, Sri Lanka, Thailand].

The roots are used as a sedative and in the treatment of hypertension. The bark, leaves, and roots are used against snake and scorpion poisoning.

**4. Rauvolfia cubana** A. de Candolle, Prodr. 8: 339. 1844.

古巴萝芙木 gu ba luo fu mu

Shrubs to 5 m tall, glabrous. Leaves usually in whorls of 3; petiole 2–4 mm; leaf blade obovate, 1–6 × 1–2 cm, leathery; lateral veins inconspicuous. Peduncle 2–4 cm. Pedicel 6–11 mm. Corolla white, tube cylindric, ca. 2 cm; lobes obovate-elliptic, 1–1.4 cm. Stamens inserted at corolla throat. Ovaries connate in basal half. Drupes obovoid, 1–1.2 cm × 5–7 mm, connate along lower half, apex 2-forked. Seeds rugose. Fl. Jul.

S Yunnan [introduced from Cuba].

Cultivated for medicine.

**5. Rauvolfia vomitoria** Afzelius, Stirp. Guinea Med. 1. 1817.

催吐萝芙木 cui tu luo fu mu

Shrubs to 5 m tall, glabrous. Stems erect, stiff. Leaves whorled; leaf blade broadly ovate or ovate-elliptic, 5–12 × 3–6 cm; lateral veins 8–17 pairs. Cymes usually 4 together. Corolla greenish or pale green, tube subcylindric, 6–12 mm, inflated at throat, pubescent inside; lobes dolabriform, 1–2 mm. Stamens inserted at corolla throat; disc ringlike, shorter than ovaries. Ovaries distinct. Style filiform, pubescent at base; pistil head fleshy, base membranous. Drupes 2, distinct, ovoid or ellipsoid, 0.8–1.4 cm × 6–9 mm. Fl. Aug–Oct, fr. Oct–Dec.  $2n = 22, 66$ .

S Guangdong, S Guangxi, S Yunnan [native to tropical Africa].

Cultivated for medicine. All parts are poisonous. The roots and leaves are reported to have emetic and cathartic properties, and the bark is used as a remedy for fever and indigestion.

**6. Rauvolfia tiaolushanensis** Tsiang, Sci. Rep. Kwantung Coll. Forest. 1: 10. 1962.

吊罗山萝芙木 diao luo shan luo fu mu

Shrubs to 1 m tall. Stems dark brown. Leaves opposite or in whorls of 3 or 4; petiole ca. 8 mm; leaf blade elliptic to oblong, 8–17 × 1.6–4 cm, lateral veins inconspicuous. Cymes ca. 2 cm; peduncle ca. 6 mm. Calyx lobes ca. 2.5 mm. Corolla yellow, tube cylindric, ca. 8 × 2 mm, dilated at throat, pubescent inside; lobes oblong or ovate, ca. 3.5 × 2.5 mm. Stamens inserted at corolla throat; filaments short; anthers broadly ovate, base rounded, apex short acuminate; disc cup-shaped, shorter than ovary. Ovaries distinct. Style filiform; pistil head club-shaped to capitate, base with a ringlike membrane. Drupes distinct, ellipsoid, 1–1.7 cm × 5–8 mm. Fl. Mar, fr. May.

• Montane forests; 300–600 m. Hainan (Baoting, Waning).

**7. Rauvolfia verticillata** (Loureiro) Baillon, Hist. Pl. 10: 170.

1889.

萝芙木 luo fu mu

*Dissolena verticillata* Loureiro, Fl. Cochinch. 1: 137. 1790; *Cerbera chinensis* Sprengel; *Ophioxylon chinense* Hance; *Rauvolfia altodiscifera* Miao, *R. brevistyla* Tsiang; *R. cambodiana* Pierre ex Pitard; *R. chinensis* (Sprengel) Hemsley; *R. latifrons* Tsiang; *R. perakensis* King & Gamble; *R. superaxillaris* P. T. Li & S. Z. Huang; *R. taiwanensis* Tsiang; *R. verticillata* var. *hainanensis* Tsiang; *R. verticillata* var. *oblanceolata* Tsiang; *R. verticillata* var. *officinalis* Tsiang; *R. yunnanensis* Tsiang.

Shrubs to 3 m tall, erect, glabrous. Branchlets pale gray, lenticellate. Lower leaves opposite, terminal leaves in whorls of 3 or 4; petiole 0.5–1.5 cm; leaf blade narrowly to broadly ovate or oblong, 3.5–25 × 5–13 cm, nearly papery to membranous; lateral veins 6 or 7 pairs. Cymes rather lax, 3–9 together; peduncle 2–15 cm. Pedicel 3–6 mm. Corolla white, tube cylindric, 1–1.8 cm, inflated and villous from middle to throat; lobes broadly elliptic or ovate, 1–4.5 mm. Stamens inserted at middle of corolla tube. Ovaries distinct. Drupes ellipsoid or ovoid, distinct, ca. 10 × 5 mm. Seed 1. Fl. Feb–Oct, fr. Apr–Dec.  $2n = 22^*$ .

Lowland, montane rain forests, monsoon forests, brush fields, river banks, rice fields, seashores; 0–1700 m. Guangdong, Guangxi, Guizhou, Hainan, Taiwan, Yunnan [Cambodia, India, Indonesia, Malaysia, Myanmar, Philippines, Sri Lanka, Thailand, Vietnam].

Used in China to treat snake poisoning, malaria, and typhus. The roots are used to treat hypertension and as a sedative.

