

12. SALACIA Linnaeus, Mant. Pl. 2: 159. 1771, nom. cons.

五层龙属 *wu ceng long shu*

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Courondi Adanson.

Climbing or scrambling shrubs or small trees, glabrous or glabrescent; branchlets subterete, internode usually dilated or slightly flat. Leaves opposite to subopposite, rarely alternate, entire, crenate, or serrate, estipulate. Inflorescences axillary or cauliflorous, thyrsoid, cymose, or fasciculate. Flowers bisexual, 5-merous. Disk fleshy, pulvinate or cupular, entire or lobed, extrastaminal. Stamens (2 or)3; anthers longitudinally, obliquely, or transversely dehiscent, extrorse or apical. Ovary (2 or)3-locular, whole or mostly concealed in disk; ovules axile, 2–9 per locule. Berry spheroid, fleshy or subligneous. Seeds 2–12, angular, exalbuminous, surrounded by mucilaginous arils.

About 200 species: chiefly in tropical regions; ten species (eight endemic) in China.

- 1a. Berry usually up to 2 cm in diam.; leaf blade small, 5–11 × 2–5 cm.
 - 2a. Leaf blade entire; axillary or terminal cymes, many flowered, peduncle 4–7 mm; berry ca. 1.6 cm in diam. 9. *S. confertiflora*
 - 2b. Leaf blade sinuate; axillary fascicles, 3–6-flowered, peduncle absent; berry ca. 1 cm in diam. 10. *S. chinensis*
- 1b. Berry 2–5 cm in diam.; leaf blade large, (8–)10–25 × 4–10 cm.
 - 3a. Flowers many, fasciculate, peduncle ca. 1 cm.
 - 4a. Leaf blade oblong or oblong-elliptic, abaxially not glaucous 1. *S. polysperma*
 - 4b. Leaf blade ovate to narrowly ovate, abaxially glaucous 2. *S. glaucifolia*
 - 3b. Flowers many or few, fasciculate, peduncle absent.
 - 5a. Leaf blade margin entire.
 - 6a. Leaf blade lanceolate 3. *S. cochinchinensis*
 - 6b. Leaf blade obovate-elliptic or oblong-elliptic.
 - 7a. Leaf blade obovate-elliptic, 15–20 × 7–11 cm; flowers 3 or 4, axillary or extra-axillary; sepal margin ciliolate 4. *S. obovatilimba*
 - 7b. Leaf blade oblong-elliptic, 12–17 × 5–7.5 cm; flowers many, axillary; sepal margin membranous 5. *S. hainanensis*
 - 5b. Leaf blade margin subentire to denticulate or serrulate.
 - 8a. Branches slender, smooth, glabrous, sparsely lenticellate; leaf blade papery 8. *S. aurantiaca*
 - 8b. Branches robust, densely lenticellate; leaf blade leathery or subleathery.
 - 9a. Leaf blade narrowly or broadly oblong-elliptic, 13–23 × 6–8 cm; flowers many, pedicel 8–9 mm; berry up to 4.5 cm in diam. 6. *S. amplifolia*
 - 9b. Leaf blade oblong-lanceolate, 10–15 × 3.5–5 cm; flowers 3 or 4, pedicel ca. 1 mm; berry commonly 2–2.5 cm in diam. 7. *S. sessiliflora*

1. *Salacia polysperma* Hu, Bull. Fan Mem. Inst. Biol., Bot. 10: 153. 1940.

多籽五层龙 *duo zi wu ceng long*

Salacia polysperma subsp. *verrucosorugosa* H. W. Li.

Climbing shrubs, ca. 5 m tall; branches slender, brown-red when young, brown-gray at maturity, densely lenticellate, lentils tumorlike, minute. Leaves alternate; petiole thick, up to 1 cm; leaf blade oblong or oblong-elliptic, (8–)10–25 × (2.5–)3–7 cm, thinly leathery, base subrounded to broadly cuneate, margin sinuate, weakly serrulate, apex shortly acuminate; midvein abaxially prominent, adaxially concave, lateral veins 9–11 pairs, obliquely ascendant, reticulate near margin, reticulate veins abaxially convex. Fascicles axillary, many flowered; peduncle up to 1 cm; petiole 5–7 mm. Flowers light green; sepals deltoid-orbicular, up to 1.5 mm, margin erose, apex obtuse; petals sub-orbicular, recurved. Disk cupular, subpentagonous, ca. 0.5 mm.

Stamens 3; filaments very short, inserted at margin of disk; anthers forked, dehiscing horizontally. Ovary mostly concealed in disk; style terete. Berry up to 5 cm in diam., exocarp ligneous when dry, minutely verruciform or smooth, usually 12-seeded. Fl. Aug–Sep, fr. Oct–Nov.

• Montane sparsely wooded valleys; 500–1800 m. Guangxi, S Yunnan.

2. *Salacia glaucifolia* C. Y. Wu in S. Y. Bao, Fl. Reipubl. Popularis Sin. 46: 290. 1981.

粉叶五层龙 *fen ye wu ceng long*

Climbing shrubs, ca. 5 m tall; branchlets terete, slightly compressed when young, brown-gray, sparsely lenticellate. Petiole ca. 1 cm, thick, rugose, canaliculate; leaf blade ovate to oblong, 10–15 × 5–7 cm, abaxially glaucous, light brown-gray, adaxially yellow-green when dry, shiny, margin entire; lateral veins 8–10 pairs, abaxially prominent. Cymes axillary; peduncle ca. 1 cm; pedicel slender, 2–5 mm. Flowers green;

sepals elliptic, 1–1.5 × ca. 1 mm, margin lacerate; petals broadly elliptic, 1.5–2 × 1–1.5 mm, verrucose, margin membranous, apex

mucronate. Disk cupular. Stamens 3; filaments flat; anthers forked. Ovary concealed in disk; ovules 2 per locule; style short. Fruit not seen. Fl. unknown.

- Humid forest valleys; ca. 400 m. SE Yunnan (Pingbian).

3. *Salacia cochinchinensis* Loureiro, Fl. Cochinch. 2: 526. 1790.

柳叶五层龙 liu ye wu ceng long

Shrubs, to 2 m tall; branchlets subtetragonous, compressed, becoming terete, brown-gray, ± minutely lenticellate. Petiole 4–5 mm, canaliculate; leaf blade oblong-lanceolate, 9–11(–15) × (2–)3–4 cm, papery or thinly leathery, adaxially chestnut brown to light black, not shiny, base narrowly cuneate, margin entire; lateral veins (6 or)7 or 8 pairs, reticulate veins conspicuous. Fascicles axillary, many flowered; pedicel 6–10 mm, base with multicolumn small scales. Flowers light green; sepals broadly deltoid, margin membranous, apex rounded; petals up to 3 mm, obovate, fleshy, margin membranous. Stamens 3; filaments flat, tongue-like, inserted at margin of disk, reflexed; anther sacs forked. Ovary 3-locular, concealed in disk; ovules 2 per locule. Berry globose, up to 2 cm in diam., exocarp fleshy when fresh, 1–3-seeded. Seeds angular. Fl. Feb–Apr, fr. May–Jul.

Sparse woods along roadsides; ca. 500 m. S Yunnan (Xishuangbanna) [Cambodia, Vietnam].

4. *Salacia obovatilimba* S. Y. Bao, Fl. Reipubl. Popularis Sin. 46: 290. 1981.

河口五层龙 he kou wu ceng long

Shrubs, ca. 2 m tall; branchlets brown-gray, glabrous, densely verrucose lenticellate. Petiole robust, up to 1 cm, grooved; leaf blade obovate-elliptic, 15–20 × 7–11 cm, leathery, adaxially shiny, base broadly cuneate, margin entire, apex mucronate, mucro 5–10 mm; midvein abaxially prominent, adaxially slightly concave, lateral veins 7–9 pairs, reticulate veins horizontally spreading, abaxially prominent, adaxially inconspicuous. Fascicles axillary or extra-axillary, 3- or 4-flowered; pedicel tenuous, 6–8 mm, glabrous, base with multicolumn deltoid scales. Sepals broadly deltoid, ca. 2 mm, margin ciliolate, apex subacute; petals ovate, ca. 4 mm, margin membranous, apex subrounded. Disk cupular, ca. 2 mm tall, pentagonous. Stamens 3; filaments flat, inserted at margin of disk; anthers forked, oblong. Ovary 3-locular, concealed in disk; ovules 2 per locule; style very short, subulate. Fruit not seen.

• Forest shade; below 100–200 m. S and SE Yunnan (Hekou, Maguan, Mengla).

5. *Salacia hainanensis* Chun & F. C. How, Acta Phytotax. Sin. 7: 56. 1958.

海南五层龙 hai nan wu ceng long

Climbing shrubs; branchlets gray-brown; annual branches densely verrucose lenticellate. Petiole strong and robust, 1.5–2 cm; leaf blade oblong-elliptic, 12–17 × 5–7.5 cm, leathery, abaxially light yellow, inconspicuously papillate, adaxially light

black, shiny, base rounded to cuneate, margin entire, apex shortly and broadly mucronate or inconspicuously acuminate; lateral veins 7 or 8 pairs, broadly spreading, ascending. Fascicles axillary, several flowered; pedicel 1–1.5 cm, base with multicolumn small scales. Flowers yellow-green; sepals broadly elliptic, ca. 1 × 1.5 mm, margin membranous; petals horizontally spreading, elliptic, ca. 4.3 × 2.6 mm, apex rounded. Disk fleshy, cupular, 1–1.5 mm tall. Stamens 3; filaments flat, inserted at margin of disk. Ovary concealed in disk; ovules 2 per locule; style very short, thick. Fruit globose, ca. 4 cm in diam., glabrous, red when ripe, 1–3-seeded. Seeds elliptic, ca. 2.8 × 1.8 cm, black-brown when dry. Fl. May–Jun, fr. Aug–Oct.

- Mountainous forests; below 100–400 m. Hainan (Baoting).

6. *Salacia amplifolia* Merrill ex Chun & F. C. How, Acta Phytotax. Sin. 7: 55. 1958.

阔叶五层龙 kuo ye wu ceng long

Climbing or erect shrubs, to 4 m tall; branchlets green-yellow, glabrous. Petiole strong and robust, 1–1.5 cm, canaliculate; leaf blade narrowly or broadly elliptic, 13–23 × (4–)6–8 cm, thickly papery, abaxially light yellow when dry, inconspicuously papillate, adaxially green-yellow, shiny, base broadly cuneate to rounded, margin weakly crimped, subentire or repando-crenulate, rarely serrulate, apex shortly acuminate to subacute; lateral veins 9–10 pairs, abaxially prominent, adaxially plane, reticulate veins conspicuous. Fascicles axillary or extra-axillary, several flowered; pedicel 8–9 mm, tenuous, base squamate; squamellae serrate, imbricate. Flowers green-white or light yellow; sepals broadly ovate, ca. 1.4 mm, apex subacute to obtuse, margin ciliolate; petals subrounded, ca. 2.2 mm, broadly spreading. Disk cupular, brown-red when fresh, subpentagonous, flexing outward. Anthers transversely dehiscent. Ovary triangular; ovules 4 per locule, 2-columned; style very short. Fruit globose, yellow or red when ripe, up to 4.5 cm in diam., 4- or 5-seeded. Seeds ca. 3 × 1.6–2 cm, black when dry. Fl. Apr–May, fr. Aug–Oct.

- Thick forests; 200–300 m. S Hainan (Sanya).

7. *Salacia sessiliflora* Handel-Mazzetti, Anz. Akad. Wiss. Wien, Math.-Naturwiss. Kl. 59: 56. 1922.

无柄五层龙 wu bing wu ceng long

Shrubs, to 4 m tall; branchlets dark gray, with verruciform lenticels. Petiole 5–10 mm; leaf blade oblong-elliptic or oblong-lanceolate, 10–15 × 3.5–5 cm, thinly leathery, shiny, base rounded or broadly cuneate, margin weakly serrulate, apex acuminate to subacute; lateral veins 8 or 9 pairs, abaxially permanent, reticulate veins horizontally spreading. Fascicles axillary, few flowered; pedicel very short, ca. 1 mm. Flowers light green; sepals ca. 1 mm, ovate, margin ciliolate, apex subacute; petals oblong, ca. 2 mm, apex subacute. Disk cupular, less than 1 mm tall. Stamens 3; filaments short, flat, inserted at margin of disk; anthers nephroid. Ovary concealed in disk, 3-loculed; style robust, conical, ca. 0.5 mm. Berry orange-yellow to orange-red, 2(–4.5) cm in diam., exocarp thinly leathery when dry, 3- or 4-seeded. Fl. Jun, fr. Oct.

- Mountainous bosks; (200–)600–1600 m. Guangdong (Lianxian), Guangxi, Guizhou (N to Guanling), S Hunan, SE Yunnan.

The fruits of this species are slightly sweet and edible.

8. *Salacia aurantiaca* C. Y. Wu in S. Y. Bao, Fl. Reipubl. Popularis Sin. 46: 290. 1981.

橙果五层龙 cheng guo wu ceng long

Climbing shrubs; branches slender, flat when young, becoming cylindrical, brown, glabrous, sparsely lenticellate. Petiole ca. 5 mm, grooved; leaf blade long elliptic, 9–14 × 4–6 cm, papery, shiny, base obtuse, margin sparsely denticulate to serrulate, apex acuminate; midvein prominent on both surfaces, lateral veins tenuous, reticulate veins horizontally spreading, conspicuous abaxially. Flowers not seen. Berry orange, 2–3 cm in diam., exocarp thinly leathery when dry, glabrous, 4-seeded. Seeds ca. 2 × 1.2 cm, angular. Fr. Nov.

- Sparse forests; 100–200 m. S and SE Yunnan (Hekou, Jinghong, Mengla).

9. *Salacia confertiflora* Merrill, Lingnan Sci. J. 14: 27. 1935.

密花五层龙 mi hua wu ceng long

Climbing shrubs, to 10 m tall; branchlets slightly compressed, glabrous. Petiole 5–7 mm; leaf blade elliptic or ovate-elliptic, 5–11 × 2–5 cm, subleathery, abaxially gray-white, adaxially dark green, shiny, base obtuse or broadly acute, margin entire, apex shortly acuminate to mucronate; lateral veins 7 or 8 pairs, abaxially prominent. Cymes glomerulate, axillary or terminal; peduncle 4–7 mm; pedicel 2–3 mm. Flowers green or light yellow, ca. 2.5 mm in diam.; sepals subrounded, margin erose; petals broadly obovate, 1.5–2 mm, apex rounded. Disk robust. Berry oblong, ca. 2 × 1.6 cm. Fl. Aug, fr. Nov.

- Forests; low to middle elevations. Hainan (Baoting, Sanya).

10. *Salacia chinensis* Linnaeus, Mant. Pl. 2: 293. 1771.

五层龙 wu ceng long

Salacia prinoides (Willdenow) Candolle; *Tontelea prinoides* Willdenow.

Climbing shrubs, to 4 m tall; branchlets angular. Petiole 8–10 mm; leaf blade elliptic, narrowly ovate-rotund or obovate-elliptic, (3–)5–11 × (1.5–)2–5 cm, leathery, abaxially brown-green when dry, adaxially shiny olive-green, base cuneate, margin sparsely denticulate, apex subacute to shortly acuminate; lateral veins 6 or 7 pairs. Fascicles axillary, 3–6-flowered; pedicel 6–10 mm. Sepals deltoid, up to 1 mm, margin ciliolate; petals broadly ovate, ca. 3 mm, broadly spreading or curved outward, apex rounded. Disk cupular, ca. 1 mm tall. Stamens 3; filaments short, flat, inserted at margin of disk; anthers forked. Ovary concealed in disk, 3-loculed; ovules 2 per locule; style very

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short, conic. Berry globose or ovate, ca. 1 cm in diam., red when ripe, 1-seeded. Fl. Dec, fr. Jan–Feb.

Forests; below 100–700 m. Guangdong, Guangxi [Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Philippines, Sri Lanka, Thailand, Vietnam].

The roots of this species have medicinal uses, including normalizing menstruation and invigorating circulation.

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