

# 1. PISONIA Linnaeus, Sp. Pl. 2: 1026. 1753.

腺果藤属 xian guo teng shu

*Calpidia* Thouars; *Ceodes* J. R. Forster & G. Forster.

Shrubs, trees, or vines. Stems sometimes armed. Leaves opposite or alternate, petiolate, margin entire. Inflorescences axillary (or terminal), many-flowered cymes or panicles; bracts absent or inconspicuous, caducous. Flowers unisexual (plant dioecious), bisexual, or polygamous; bracteoles 2–4. Male perianth limb campanulate or funnelliform. Stamens 6–10. Female perianth ovate-tubular or cylindrical, 5–10-lobed. Ovary sessile, oblique. Stigma capitate or lobed. Fruit oblong or clavate, ribbed, with sticky glands. Seed oblong, with a deep longitudinal furrow; embryo straight, cotyledons recurved, enclosing the endosperm.

Between 35 and 40(–75) species: tropical and subtropical regions, most diverse in SE Asia and tropical America; three species in China.

Some authors place freestanding plants that have bisexual or polygamous flowers and fruits with sessile glands in the genus *Ceodes* and recognize up to 75 species, but most modern authors believe the similarities between the groups outweigh the differences and recognize only one genus with 35(–40) species. The very sticky fruits can attach to birds, and species of *Pisonia* are often common on isolated islands hosting colonies of sea birds.

- 1a. Plants climbing, spiny; flowers unisexual; fruit with rows of conspicuous stalked glands ..... 1. *P. aculeata*
- 1b. Plants erect, not spiny; flowers bisexual or polygamous; fruit with sessile glands.
  - 2a. Flowers bisexual; inflorescence 1–4 cm; pedicel 1–1.5 mm, apex bracteolate; perianth tube funnelliform; fruit clavate, ca. 1.2 cm, muricate, aculeate, apex without persistent perianth ..... 2. *P. grandis*
  - 2b. Flowers polygamous; inflorescence 5–12 cm; pedicel 1.5–6 mm, apex without bracteole; perianth tube campanulate; fruit subterete, 2.5–4 cm, smooth, apex with spreading persistent perianth ..... 3. *P. umbellifera*

## 1. *Pisonia aculeata* Linnaeus, Sp. Pl. 2: 1026. 1753.

腺果藤 xian guo teng

Shrubs vinelike, climbing, to 20 m. Bark olive green. Stems with axillary spines, pilose or glabrous; branches pendent, often with 5–10 mm, recurved thorns. Petiole 1–1.5 cm; leaf blade ovate to elliptic, 3–10 × 1.5–5(–7) cm, ± leathery, abaxially greenish, adaxially dark green, glabrous, pubescent yellow-brown, lateral veins 4–6 pairs, base cuneate or rotund, apex acute or obtuse. Cymes axillary, yellow-brown pubescent. Pedicel with 3 ovate bracteoles near apex. Flowers unisexual; perianth yellow, fragrant. Male perianth tube funnelliform, puberulous, apex 5-lobed, lobes short triangular. Stamens 6–8, exerted; anthers subglobose. Female perianth tube ovate-tubular, apex 5-lobed; style exerted; stigma lacerate. Fruit clavate, 7–14 × 4 mm, 5-ribbed, with rows of stalked glands and brownish black pubescent; carpopodium long. Fl. Jan–Jun.

Thickets along seashores and open forests. Hainan, SE Taiwan [Africa, America, Asia, Australia].

## 2. *Pisonia grandis* R. Brown, Prodr. 1: 422. 1810.

抗风桐 kang feng tong

*Ceodes grandis* (R. Brown) D. Q. Lu.

Trees to 14(–30) m; trunk 30–50(–70) cm in diam. Bark white-gray, with conspicuous furrows and large leaf-scars; puberulous to nearly glabrous, lenticels conspicuous; branches unarmed. Petiole 1–8 cm; leaf blade elliptic, oblong, or ovate, (7–)10–20(–30) × (4–)8–15(–20) cm, papery or membranous, puberulous or glabrescent, lateral veins 8–10 pairs, base rounded or slightly cordate, mostly oblique, margin entire, apex acute to acuminate. Cymes terminal, 1–4 × 3–5 cm; peduncle ca. 1.5 cm, with light brown hairs. Flowers bisexual. Pedicel 1–1.5 mm, apex with 2–4 oblong bracteoles. Perianth tube funnelliform, ca. 4 mm, 5-lobed, with 5 rows of black glands.

Stamens 6–10, exerted. Stigma fimbriate, included. Fruit clavate, ca. 1.2 cm × 2.5 mm, 5-ribbed, with sessile glands, without persistent perianth, rib with a row of viscid prickles, hairy between the ribs. Seed 9–10 × 1.5–2 mm. Fl. summer, fr. late summer–autumn.

Forests. Hainan (Xisha Qundao), E Taiwan [India, Indonesia, Malaysia, Sri Lanka; NE Australia, Madagascar, Maldives, Pacific Islands].

In the Xisha Qundao (part of the South China Sea Islands archipelago), *Pisonia grandis* is a dominant tree in the forests, often forming pure stands.

## 3. *Pisonia umbellifera* (J. R. Forster & G. Forster) Seemann, Bonplandia 10: 154. 1862.

胶果木 jiao guo mu

*Ceodes umbellifera* J. R. Forster & G. Forster, Char. Gen. Pl. 71. 1775; *Calpidia excelsa* (Blume) Heimerl; *Pisonia alba* Spanoghe; *P. excelsa* Blume.

Trees 4–20(–28) m, tomentose or glabrous; branches unarmed. Petiole 1–2.5 cm; leaf blade black-brown when dry, elliptic, oblong, or ovate-lanceolate, 10–20 × 4.5–8 cm, papery, glabrous, lateral veins 8–10 pairs, base broad cuneate, apex acuminate or slightly obtuse. Cymes terminal, paniculate, 5–12 cm. Flowers polygamous. Pedicel 1.5–6 mm, with 1–3 bracteoles near base. Perianth tube white, campanulate, 5–7 mm, with brown hairs, apex 5-lobed. Stamens 7–10, slightly exerted; filaments unequal, base united in a ring; anthers subglobose. Ovary oblong, upper acuminate. Style slender; stigma fimbriate, slightly exerted. Fruit subterete, slightly curved, 2.5–4 cm × 6–7 mm, 5-ribbed, smooth, glutinous; carpopodium thick, ca. 1 cm, with spreading persistent perianth at apex. Fl. and fr. autumn–winter.

Moist thickets, open forests; low to medium elevations. Hainan, S Taiwan [India (Andaman Islands), Indonesia, Malaysia, Philippines, Thailand, Vietnam; Australia, Madagascar, Pacific Islands (Hawaii)].

