## **4. STIXIS** Loureiro, Fl. Cochinch. 1: 290, 295. 1790.

## 班果藤属 ban guo teng shu

Roydsia Roxburgh.

Woody vines [or clambering shrubs]. Twigs often with lenticels. Stipular spines absent. Leaves alternate, simple; petiole sometimes geniculate, apically often thickened; leaf blade leathery, sometimes with pellucid spots, glabrous or sometimes with trichomes, midvein adaxially with small pustules, margin entire. Inflorescences axillary racemes [or terminal panicles], many flowered; bracts subulate, often caducous. Flowers small. Pedicel short. Sepals (5 or)6, basally connate into a short tube, lobes erect, spreading, or reflexed. Petals absent. Androgynophore terete, short; stamens (15-)20-50(-100); filaments distinct, unequal with outermost shortest; anthers dorsifixed. Gynophore  $\pm$  as long as filaments; ovary nearly globose or ovoid, glabrous or with trichomes, apically often with vertical grooves, 3(or 4)-loculed, placentation axile; placentae each with 4-10 ovules; style solitary, linear, entire or divided into 3(or 4) subulate stigmas, sometimes unlobed. Fruit drupaceous, ellipsoid, small, surface with lenticels, apex often with persistent style; fruiting pedicel and gynophore  $\pm$  equal, forming a woody stipe much shorter than fruit. Seeds 1(-3) per fruit, ellipsoid, erect, covered by sarcocarp; seed coat thin; cotyledons fleshy, unequal, larger surrounding smaller.

About seven species: SE Asia; three species in China.

- 1a. Leaf blade abaxially glabrous; ovary glabrous; gynophore 7–10 mm; sepals erect or spreading at anthesis .......... 1. S. suaveolens
- 1b. Leaf blade abaxially puberulent or glabrescent; ovary tomentose; gynophore 0.7–2.5 mm; sepals reflexed at anthesis.

  - 2b. Inflorescences 5–9 cm, mostly unbranched; stamens 16–24; style ca. 0.5 mm; fruit ca. 2 cm ............................... 3. S. scandens
- **1. Stixis suaveolens** (Roxburgh) Pierre, Bull. Mens. Soc. Linn. Paris 1: 654. 1887.

## 班果藤 ban guo teng

Roydsia suaveolens Roxburgh, Pl. Coromandel 3: 87. 1819.

Vines 1–15 m, woody. Twigs pale red to pale tan-colored when dry, stout, terete, shortly pubescent, soon glabrescent; internode length unequal, to 5 cm or longer. Petiole (1-)2-3(-5) cm, stout, with bubblelike raised structures, apically with slightly inflated pulvinus; leaf blade elliptic, oblong, or oblonglanceolate, broadest at middle but sometimes slightly basally or apically,  $(10-)15-28[-40] \times (3.5-)4-10$  cm, leathery, both surfaces glabrous, reticulate veins obvious, base cuneate to nearly rounded, apex nearly rounded to  $\pm$  acuminate and with a 5–12mm tip. Inflorescences axillary, racemes or sometimes branched or forming panicles, 15-25 cm, at first erect then drooping; axis shortly pubescent to shortly tomentose; bracts linear to ovate, 3-6 mm, trichomes like those on axis. Pedicel 2-4 mm, stout. Receptacle (torus) ca. 3.5 mm in diam., dish-shaped. Sepals (5 or)6, pale yellow, elliptic-oblong,  $(4-)5-6(-9) \times 2-3$  mm, erect or spreading, never reflexed, both surfaces densely tomentose, apex acute to obtuse. Androgynophore ca. 2 mm, glabrous; stamens (27-)40 to ca. 80; filaments 4-6(-11) mm, pubescent; anthers 0.5-0.7 mm. Gynophore 7-10 mm, with dense tan pubescence; ovary ellipsoid, 1.7-2.5 mm, glabrous or basally sometimes with trichomes; styles 3(or 4), apex recurved; stigma absent. Fruit orange when mature, ellipsoid, 3-5 × 2.5-4 cm, surface with thin yellow verrucose flecks; endocarp thin, woody; fruiting pedicel plus gynophore 0.7-1.3 cm, ca. 5 mm in diam. Seed ellipsoid, 1.8-2 cm. Fl. Apr-May, fr. Aug-Oct.

Thickets, open forests, along rivers; near sea level to 1500 m.

Guangdong, W Guangxi, Hainan, S Xizang, S and SE Yunnan [Bangladesh, Bhutan, Cambodia, NE India, Laos, Myanmar, Nepal, N and NE Thailand, Vietnam].

The flowers are noted as fragrant. The fruit is eaten in Hainan and NE India.

**2. Stixis ovata** (Korthals) H. G. Hallier subsp. **fasciculata** (King) Jacobs, Blumea 12: 8. 1963.

## 即锥序斑果藤 ji zhui xu ban guo teng

Roydsia fasciculata King, Ann. Roy. Bot. Gard. Calcutta 5(2): 121. 1896; Stixis fasciculata (King) Gagnepain.

Vines 1.5-3[-15] m, woody. Twigs pale red or pale tancolored when dry, stout, terete, lenticellate, pubescent with stellate and simple brownish trichomes, eventually glabrescent; internode length unequal, to 5 cm or longer. Petiole 1-2(-4?) cm, terete; leaf blade elliptic, oblong, or oblong-lanceolate, broadest at middle or slightly apically,  $(11-)14-17 \times (2.5-)3-$ 5.5[-9] cm, both surfaces sparsely pubescent with stellate trichomes, eventually glabrous except along veins, secondary veins 6–8 on each side of midvein, reticulate veins obvious, base cuneate to narrowly cuneate, apex nearly rounded to acuminate and with a 5-12-mm tip. Inflorescences terminal, sparsely branched panicles, (8-)12-35 cm, at first erect then drooping; axis shortly pubescent to shortly tomentose; bracts linear, 3–6 mm, trichomes like those on axis. Pedicel 3–6 mm, slender. Receptacle (torus) dish-shaped, ca. 1 mm in diam. Sepals (5 or)6, pale yellow, ovate-lanceolate,  $4-6 \times 1.5-2.5$  mm, reflexed, both surfaces densely tomentose, apex acute to obtuse. Androgynophore ca. 2 mm, glabrous; stamens (20–)26– 30[-40]; filaments 3-5 mm, glabrous; anthers 0.5-0.7 mm. Gynophore 2–2.5 mm, with dense tan pubescence; ovary ellipsoid, 1.7-2.5 mm, glabrous or basally sometimes with trichomes; styles 3(or 4), apex recurved; stigma obscurely 3lobed. Fruit orange when mature, ellipsoid, ca.  $4 \times 3$  cm, surface with thin yellow verrucose flecks; endocarp thin, woody; fruiting pedicel plus gynophore 6–8 mm, ca. 5 mm in diam. Seed ellipsoid, 1.2–1.5 cm. Fl. Apr–May, fr. Aug–Oct.

Forests; ca. 1200 m. S Yunnan [Laos, Myanmar, Vietnam].

Stixis ovata subsp. ovata differs in having longer inflorescences and an entirely glabrous gynophore. It is found in Indonesia (Borneo) and Malaysia.

3. Stixis scandens Loureiro, Fl. Cochinch. 1: 295. 1790.

和闭脉斑果藤 he bi mai ban guo teng

Vines 1-15 m, woody. Twigs pale red or pale tan-colored when dry, stout, terete, pubescent with stellate and simple brownish trichomes, eventually glabrescent; internode length unequal, to 5 cm or longer. Petiole (1-)2-3(-5?) cm, stout, with bubblelike raised structures, apically with a slightly inflated pulvinus; leaf blade oblong to oblong-lanceolate, broadest at middle or apically,  $11-13 \times 4-5.5$  cm, herbaceous to subleathery, both surfaces glabrous or abaxially sometimes with a few trichomes near veins, secondary veins 5-8 on each side of midvein, reticulate veins obvious, base cuneate to nearly rounded, apex nearly rounded to  $\pm$  acuminate and with a 5–12mm tip. Inflorescences axillary, racemes, 5-7.5(-9) cm, erect; axis densely pubescent to fulvous tomentose; bracts subulate, 2-3.5 mm, trichomes like those on axis. Pedicel 3-6 mm, stout. Receptacle (torus) ca. 1 mm in diam. Sepals (5 or)6, pale yellow, obovate, 5-6 × 1-1.2 mm, reflexed, both surfaces densely tomentose, apex obtuse. Androgynophore 0.2-0.5 mm, glabrous; stamens 16-24; filaments 2.5-5 mm, pubescent; anthers 0.5-0.7 mm. Gynophore 0.7-1.5 mm, with dense brownish pubescence; ovary ellipsoid, 2-2.5 mm, pubescent; style ca. 0.5 mm, apex recurved; stigma unlobed. Fruit orange when mature, ellipsoid, ca. 2 × 1.7 cm, surface with thin yellow verrucose flecks; endocarp thin, woody; fruiting pedicel plus gynophore ca. 6 mm, ca. 5 mm in diam. Seed ellipsoid, 1.6-2 cm. Fl. Apr-May, fr. Aug-Oct.

Forests; 100–1200 m. S Yunnan [NE India (Assam), Laos, Myanmar, Vietnam].

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