

1. RINOREA Aublet, Hist. Pl. Guiane, 235. 1775, nom. cons.

三角车属 san jiao che shu

Conohoria Aublet.

Shrubs or small trees. Leaves alternate, rarely opposite, margin entire or serrate; stipules deciduous. Inflorescences axillary or terminal, racemose, paniculate, or sometimes cymose, rarely flowers solitary. Flowers bisexual, actinomorphic, small. Sepals subequal, leathery. Petals equal or subequal, not spurred. Filaments free or ± connate, inserted inside at top of disk; connectives dilated abaxially from base or from apex into thin, scarious appendages exceeding anthers. Disk circular, slightly 5-lobed. Ovary ovoid, with few or numerous ovules; styles erect; stigmas terminal, not divided. Capsule usually 3-valved, rarely 2-valved. Seeds few, ellipsoid, glabrous or pubescent.

About 340 species: tropical Africa, tropical America, and tropical Asia; four species (one endemic) in China.

- 1a. Disk 5-lobed; stigmas slightly 3-lobed; stamens without filaments, connectives with granular scales 4. *R. virgata*
- 1b. Disk dilated and circular; stigmas not divided; stamens with filaments, connectives without abaxial scales.
 - 2a. Appendages at top of connectives narrowly triangular, less than 1 mm, anthers lanate at base adaxially, apex barbate; stipules later deciduous; petioles 2–5 mm 3. *R. erianthera*
 - 2b. Appendages at top of connectives not narrowly triangular, anthers without cushionlike tomentum at base adaxially, apex not barbate; stipules caducous; petioles 7–12 mm.
 - 3a. Leaf veins raised on both surfaces, very conspicuous; pedicels to 1 cm; fruit small, less than 1 cm; seeds with brown dots 1. *R. bengalensis*
 - 3b. Leaf veins slightly raised abaxially, not very conspicuous; flowers subsessile; fruit large, ca. 2 cm; seeds creamy-white 2. *R. longiracemosa*

1. *Rinorea bengalensis* (Wallich) Kuntze, Revis. Gen. Pl. 1: 42. 1891.

三角车 san jiao che

Alsodeia bengalensis Wallich, Trans. Med. Soc. Calcutta 7: 224. 1835; *A. wallichiana* J. D. Hooker & Thomson; *Rinorea* acuminata, fugacious, scar circular; petiole 5–12 mm, glabrous; leaf blade elliptic-lanceolate or elliptic, (2.5–)5–12(–17) × 1.5–6 cm, veins raised on both sides, lateral veins alternate, 6–9-paired, veinlets reticulate, dense and conspicuous, base cuneate, rarely subrounded, margin serrulate, remotely toothed near base or subentire, apex acuminate. Flowers white, in axillary contracted racemes; peduncles absent; pedicel to 1 cm, slightly yellow tomentose. Sepals broadly lanceolate, ca. 2 mm, abaxially yellow-brown tomentose. Petals ovate-oblong, ca. 5 mm, apex recurved. Stamens with short filaments; anthers 2-loculed, oblong, longitudinally dehiscent, appendages at top of connectives broadly ovate. Capsule subglobose, 3-valved. Seeds broadly ovoid, glaucous, with brown dots. Fl. Apr–May and Oct, fr. Sep. $2n = 16$.

Thickets, dense forests; below 600 m. SW Guangxi, Hainan [India, Malaysia, Myanmar, Sri Lanka, Thailand, Vietnam; NW Australia].

2. *Rinorea longiracemosa* (Kurz) Craib, Fl. Siam. 1: 90. 1925.

短柄三角车 duan bing san jiao che

Alsodeia longiracemosa Kurz, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 39(2): 63. 1870.

Shrubs or small trees, 1–2 m tall. Young branches inconspicuously cicatricate, yellow-brown tomentose; old branches gray-white, glabrous. Leaves alternate; stipules dark brown, narrowly lanceolate or subulate, ca. 4 mm, slightly hairy, fugacious; petiole ca. 7 mm, yellow-brown puberulous when young, sparsely puberulous when old; leaf blade elliptic or elliptic-

glandulosa Merrill (1928), not Merrill (1917); *R. wallichiana* (J. D. Hooker & Thomson) O. Kuntze.

Shrubs or small trees, 1–5 m tall. Young branches with conspicuous leaf scars, greenish, glabrous or with very few hairs; old branches dark brown. Leaves alternate, old ones subleathery, slightly nitid; stipules lanceolate, 1–1.7 cm, apex lanceolate, (7–)12–14(–16) × (1.5–)3.5–4.5(–6) cm, glabrous, veins not very conspicuous, slightly raised abaxially, midvein yellow-brown hairy near base, margin remotely serrate, teeth denser in upper half, apex caudate or long acuminate. Flowers glaucous, subsessile, in axillary contracted-racemes. Sepals 5, persistent, subtriangular. Corolla campanulate; petals 5, persistent, subequal, elliptic. Stamens with short filaments. Capsule subglobose, ca. 2 cm. Seeds creamy-white, subglobose. Fl. unknown, fr. May.

Lowland primary or secondary forests; below 1000 m. Hainan (Lingshui) [Cambodia, Indonesia, Laos, Malaysia, Myanmar, Thailand, Vietnam].

In FRPS (51: 4. 1991), the name *Rinorea sessilis* (Loureiro) Kuntze was misapplied to this species.

Rinorea longiracemosa is very rare in China.

3. *Rinorea erianthera* C. Y. Wu & Chu Ho, Acta Bot. Yunnan. 1(1): 149. 1979.

毛蕊三角车 mao rui san jiao che

Shrubs deciduous, 2–3 m tall. Young branchlets yellow-brown, puberulous; old ones purplish brown, glabrous, dotlike lenticellate. Leaves on long branches of current year larger and sparse; leaves on short branches of previous year smaller and

clustered, petioles and stipules puberulous when young; stipules deciduous, narrowly triangular-lanceolate, subequaling petioles; petiole very short, 2–5 mm; leaf blade yellow-green, rhombic-elliptic to obovate-elliptic, 1.5–6.5 × 0.6–2.5 cm, membranous, base cuneate, margin serrulate, apex acute to shortly acuminate. Flowers 1–3 in cymes, axillary in long branches; pedicels 1–1.5 cm, slender, hairy, with 2 bracteoles less than 1 mm at middle or below. Sepals 5, yellow-green, 4.5–6 × 2–5.5 mm, imbricate; outer 3 suborbicular, densely veined, apex apiculate; inner 2 elliptic, inconspicuously veined, hairy abaxially, margin ciliate. Petals 5, white, brownish when dry, narrowly lanceolate, 9–11 × 1.5–2 mm, hairy above middle abaxially, margin ciliate, reflexed after anthesis. Stamens yellowish white, ca. 9 mm; filaments linear, 2.5–3.5 mm; anthers linear, equaling or slightly exceeding filaments, lanate at base adaxially, thecae acuminate at apex, barbate, appendages at top of connectives narrowly triangular, less than 1 mm. Ovary narrowly globose, 3–5-angled; styles straight or curved, slender. Seeds (immature) brown, orbicular-reniform, compressed-flat, smooth, not nitid. Fl. Jun–Jul, fr. unknown.

- Thickets; ca. 1300 m. SW Sichuan (Jinyang).

4. *Rinorea virgata* (Thwaites) Kuntze, Revis. Gen. Pl. 1: 42. 1891.

鳞隔堇 lin ge jin

Scyphellandra virgata Thwaites, Enum. Pl. Zeyl. 21. 1858; *Alsodeia virgata* (Thwaites) J. D. Hooker & Thomson; *Rinorea pierrei* (H. Boissieu) Melchior; *S. pierrei* H. Boissieu.

Shrubs erect, ca. 1 m tall. Young branches puberulous; old ones gray-white, glabrous. Lower leaves often 2- or 3-clustered, upper ones alternate; stipules small, shorter than petioles, lanceolate or subtriangular, slightly raised abaxially, pubescent; petiole short, ca. 3 mm, tomentose; leaf blade ovate or elliptic, highly variable in size, (1.5–)3–4(–5) × (0.8–)1.5–2(–2.5) cm, veins slightly raised, slightly puberulous, margin serrulate, apex obtuse or ± acute. Flowers small, unisexual, actinomorphic, axillary, solitary or clustered. Staminate flowers: pedicels ca. 5 mm, slender, slightly hairy or glabrous; sepals 5, subtriangular, shortly hairy; petals 5, oblong, outside slightly hairy, apex acuminate; stamens subequaling petals, anthers 2-thecate, longitudinally dehiscent, connectives yellow, subulate; ovary reduced. Pistillate flowers: pedicels ca. 3 mm, glabrous, with 3 or 4 subtriangular bracteoles at base; sepals persistent, subtriangular, margin ciliate; petals oblong, outside slightly hairy; stamens reduced, connectives lanceolate, conspicuous, anthers absent; ovary ovoid-orbicular, glabrous, styles erect, stigmas capitate, 3-lobed. Capsule oblong, 3-valved, rarely 2-valved, apex caudate. Fl. spring–summer, fr. summer–autumn.

Forest margins, thickets; below 600 m. Hainan [Laos, Myanmar, Sri Lanka, Thailand, Vietnam].

VIOLACEAE