

3. SCOLOPIA Schreber, Gen. Pl. 1: 335. 1789, nom. cons.

箭柊属 ce zhong shu

Aembilla Adanson; *Phoberos* Loureiro.

Shrubs or small trees, often spinose on trunk and branches. Leaves alternate; stipules small, caducous; usually petiolate; leaf blade leathery, pinnate-veined, sometimes 3-veined from base, with or without a pair of marginal glands at junction of petiole apex and base of blade, margin entire or toothed, each tooth with a small marginal gland. Flowers bisexual (usually), hypogynous, small, arranged in terminal or axillary bracteate racemes, sometimes in axillary fascicles or solitary; pedicels articulate at base. Sepals 4–6, imbricate, slightly united at base; calyx often opening early in bud to reveal closely packed anther tips and slightly exerted style. Petals isomerous with and similar to sepals, alternating with them, free or joined at base only. Disk extrastaminal, composed of a single row of 8–10, orange, short, thick glands, or rarely disk absent. Stamens many, exerted; filaments free, filiform, inserted on receptacle; anthers small, versatile, longitudinally dehiscent, connective sometimes produced beyond thecae into a triangular or oblong (in dried material), glabrous or hairy appendage. Ovary superior, sessile, 1-loculed, with 2–4 placentas, each with few ovules; style 1, entire; stigma capitate, entire, or very shortly 2–4-lobed. Berry fleshy, drying blackish, with persistent perianth and stamens at base, and long slender persistent style conspicuous at apex. Seeds (1 or)2 or 3(–20).

About 40 species: tropical and subtropical regions of the E hemisphere; four species in China.

In Chinese species: leaf not conspicuously 3-veined from base, basal 1 or 2 pairs of lateral veins high ascending but weaker than midvein, both surfaces of leaf blade glabrous; stamens glabrous, anther connectives produced beyond thecae; disk glands present; receptacle hairy; ovary, style, and fruit glabrous; seeds 1–6.

Herbarium material of *Scolopia* can be difficult to identify to species; a study of fresh flowers and fruit might provide characters to improve the following key.

- 1a. Leaves with a pair of glands at junction of leaf base and petiole apex, these much larger than any elsewhere along leaf margin 1. *S. chinensis*
- 1b. Leaves without a pair of glands at junction of leaf base and petiole apex, although sometimes with small glands on leaf margin some distance from petiole apex, these a similar size or only slightly larger than elsewhere along leaf margin.
 - 2a. Leaf blade 1.5–4 cm, abaxially vein reticulation often sparse or obscure (even at $\times 10$ mag.), apex acute to rounded, never acuminate nor apiculate; petiole usually puberulous (view at $\times 20$ mag.) 3. *S. buxifolia*
 - 2b. Leaf blade 3–9 cm, both surfaces with vein reticulation clear, not sparse, apex various; petiole glabrous (view at $\times 20$ mag.).
 - 3a. Leaf apex acuminate, acumen 0.5–2 cm; mature berry reddish; plants of Fujian, Guangdong, Guangxi, Hainan, Yunnan [and Vietnam] 2. *S. saeva*
 - 3b. Leaf apex acute to rounded, sometimes slightly acuminate, acumen ca. 0.5 cm or less; mature berry green or greenish black; plants of Fujian and Taiwan 4. *S. oldhamii*

1. *Scolopia chinensis* (Loureiro) Clos, Ann. Sci. Nat., Bot., sér. 4, 8: 249. 1857.

箭柊 ce zhong

Phoberos chinensis Loureiro, Fl. Cochinch. 1: 318. 1790; *P. cochinchinensis* Loureiro; *Scolopia siamensis* Warburg.

Shrubs or small trees, evergreen, 2–6 m tall; bark grayish; twig tips puberulous (viewed at $\times 20$ mag.), branchlets glabrous, branches and branchlets often spiny; spines simple, 1–5 cm. Petiole short, 3–5 mm, puberulous; leaf blade elliptic to oblong-elliptic, 4–7 \times 2–4 cm, leathery, both surfaces glabrous, lateral veins 4–6 pairs, slender, basal 1 or 2 pairs high ascending, reticulate veins clear on both surfaces (at $\times 10$ mag. or less), not sparse, base broadly acute to subrounded, margin entire to serrulate, with a pair of glands at junction of blade and petiole, glands much larger than those elsewhere on margin, apex broadly acute to rounded, tip apiculate or with a very short blunt acumen 1–2 mm. Racemes axillary or terminal, 2–6 cm, puberulous. Pedicels 4–10 mm, puberulous. Flowers yellowish, ca. 4 mm in diam. Sepals 4 or 5(–7), ovate-triangular, 1–1.5

mm, abaxially pubescent, margin ciliate. Petals obovate-oblong, 1.5–2 mm, to 1.5 \times as long as sepals, outside sparsely pubescent to subglabrous, margin ciliate. Disk glands 10, fleshy. Stamens ca. 5 mm; anthers globose, connective with conspicuous appendage at apex, appendage ca. as long as connective, usually with 1 to few hairs at tip. Ovary ovoid; placentas 2 or 3, each with 2 pendulous ovules; style ca. 2 mm in young flowers, soon to 5 mm; stigma minutely lobed. Berry brownish red, dark purple, or black, orbicular-globose, (5–)8–10 mm in diam. Seeds (2–)4–6. Fl. Jun–Sep, fr. Oct–Apr of following year.

Sparse forests and thickets in hilly regions at low elevations, among rocks near coast; 50–400 m. Fujian, Guangdong, Guangxi, Hainan [Laos, Thailand, Vietnam; cultivated and/or naturalized in India, Malaysia, Sri Lanka].

Scolopia crenata (Wight) Clos was treated as a synonym of *S. chinensis* in FRPS (52(1): 16. 1999). However, *S. crenata* is, in fact, a different species that is distributed in India and the Andaman Islands.

2. *Scolopia saeva* (Hance) Hance, Ann. Sci. Nat., Bot., sér. 4, 18: 217. 1862.

广东簕柃 *guang dong ce zhong*

Phoberos saevus Hance, Ann. Sci. Nat., Bot., sér. 4, 3: 825. 1852; *Scolopia cinnamomifolia* Gagnepain; *S. henryi* Sleumer.

Shrubs or small trees, evergreen, 4–8(–10) m tall; bark grayish, not flaking; trunk spiny; spines simple or compound, to 11 cm; twig tips puberulous (view at $\times 20$ mag.), early glabrescent, branchlets glabrous. Petiole 5–10 mm, glabrous; leaf blade ovate, elliptic, or elliptic-lanceolate, 5–8 \times 2–5 cm, leathery, adaxially shiny, both surfaces glabrous, lateral veins 3–5 pairs, slender, basal 2 pairs high ascending, reticulate veins clear on both surfaces (at $\times 10$ mag.), not sparse, base mostly acute, cuneate or sides concave, sometimes attenuate, margin subentire to remotely and shallowly repand-serrate, glands at junction of blade and petiole absent, apex acuminate, acumen 0.5–2 cm. Racemes axillary or terminal, 2–5 cm, usually ca. $1/2 \times$ to as long as leaves, puberulous. Pedicels 5–10 mm, puberulous though appearing glabrous (view at $\times 20$ mag., even then hairs sometimes scarcely visible). Flowers whitish green. Sepals 4 or 5, ovate, 1.2–1.5 mm, outside glabrous or sparsely hairy toward base, margin ciliate. Petals obovate-oblong, 1.5–2 mm, outside glabrous, margin ciliate. Disk glands 4 or 5(–?10). Stamens ca. 6 mm; anthers ovoid, connective with appendage at apex, glabrous or glabrescent. Ovary ovoid; placentas 2 or 3, each with 1 or 2 ovules; style 3–5 mm, stigma minutely lobed. Berry reddish, obovoid-orbicular, 6–8 mm. Seeds 1 or 2, ovoid-oblong, angled. Fl. May–Oct, fr. Aug–Apr of following year.

Dry plains, mixed forests in mountains; 400–1500 m. Fujian, Guangdong, Guangxi, Hainan, Yunnan [Vietnam].

3. *Scolopia buxifolia* Gagnepain, Bull. Soc. Bot. France 55: 524. 1908.

黄杨叶簕柃 *huang yang ye ce zhong*

Scolopia hainanensis Sleumer; *S. nana* Gagnepain.

Shrubs or small trees, evergreen, 2–8 m tall; twig tips puberulous (view at $\times 20$ mag.); branchlets short, glabrous, spiny. Petiole short, ca. 3 mm, puberulous (view at $\times 20$ mag.); leaf blade elliptic to obovate, 1.5–4 \times 0.7–2 cm, leathery, both surfaces glabrous, adaxially shiny, lateral veins 2–5 pairs, slightly raised on both surfaces, basal pair high ascending, reticulate veins sparse and/or obscure on both surfaces, especially abaxially (at $\times 10$ mag.), base acute-cuneate or more rarely rounded, extreme base usually slightly rounded, margin entire or inconspicuously remotely serrulate, often slightly revolute, glands at junction of blade and petiole absent, apex broadly acute to rounded, never acuminate nor apiculate. Racemes usually axillary in upper part of branchlets, few flowered, to 3 cm, sometimes extremely short, puberulous (view at $\times 20$ mag.). Pedicels 5–11 mm, pubescent or glabrous. Flowers white. Sepals 4, rarely 5, ovate, 1–1.5 mm, outside glabrous, margin ciliate. Petals 1.5–2 mm, ovate-oblong, obovate-oblong, or nearly orbicular,

outside glabrous, margin ciliate. Disk glands 8. Stamens 3–5 mm, glabrous or minutely and sparsely hairy; anthers small, connective with glabrous or glabrescent appendage. Ovary ovoid; placentas 3, each with 1 or 2(–?4) ovules; style 3–5 mm, stigma triangular-ovoid. Berry red at maturity, globose, 5–10 mm in diam. Seeds 3–6. Fl. Jun–Sep, fr. Jun–Oct.

Sandy places along seashores, dry sandy gentle slopes, thickets; low elevations. Guangxi, Hainan [Thailand, Vietnam].

4. *Scolopia oldhamii* Hance, Ann. Sci. Nat., Bot., sér. 5, 5: 206. 1866.

台湾簕柃 *tai wan ce zhong*

Shrubs or small trees, evergreen, 3–6 m tall; bark gray-brown, smooth, not flaking, spotted; twig tips and young branchlets puberulous, older branchlets glabrous, branches spiny when young, unarmed when old. Petiole short, 2–6 mm, glabrous; leaf blade ovate, narrowly elliptic, ovate-lanceolate, or broadly obovate, 3–9 \times 1.5–4 cm, subleathery to leathery, both surfaces glabrous, midvein raised abaxially, impressed adaxially, lateral veins 4–6 pairs, basal 1 or 2 pairs high ascending, reticulate veins raised on both sides, clear, not sparse, base usually acute-cuneate or with sides slightly concave, less often obtuse-cuneate, margin entire or shallowly and remotely serrulate, glands at junction of blade and petiole absent, apex broadly acute to rounded, sometimes shortly acuminate, acumen ca. 5 mm or less, extreme tip blunt. Racemes axillary or terminal, few flowered, to 4 cm, sometimes very short, minutely puberulous (view at $\times 20$ mag.). Pedicels 3–4 mm, to 1 cm in fruit, minutely puberulous or glabrous. Flowers yellowish to white, 6–8 mm in diam. Sepals 5–6, ovate or oblong, 1.5–2 mm, outside glabrous, margin ciliate. Petals obovate, 2.5–3 mm, outside glabrous, margin ciliate. Disk glands 10–15. Stamens 4–5 mm, anther connective appendage glabrous or glabrescent. Ovary globose; style 3–5 mm; stigma minutely lobed. Berry green to blackish green when mature, globose, 7–9 mm in diam. Seeds 4 or 5. Fl. Aug–Sep, fr. Nov–May of following year.

Mountains, plains, sunny roadsides, roadside thickets, jungle margins, seashores; below 400 m. Fujian, Taiwan [Japan (Ryukyu Islands)].

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