Trees, shrubs, climbers [or rarely herbs]. Leaves simple, alternate, rarely opposite or whorled, without stipules, often glandular. Inflorescences terminal, axillary, or at apices of lateral branches, racemose (often paniculate), corymbose, cymose, umbellate, or fascicled on scaly spur branches in leaf axils. Flowers bisexual or polygamous, rarely unisexual and plants polygamo-dioecious or dioecious, 4- or 5-(or 6)-merous, actinomorphic. Sepals basally connate or free, persistent, usually glandular. Petals basally connate or rarely free, usually glandular. Stamens as many as and opposite to petals, usually adnate to base or throat of corolla tube, sometimes free, rarely united into a tube; anthers 2-celled, dorsifixed, dehiscing longitudinally or by apical slits or pores, rarely transversely septate; filaments present or absent. Ovary superior, rarely inferior to half-inferior, 1-celled; placentation free-central, sometimes basal; ovules 1 to several in 11 to many rows, usually embedded in placenta, anatropous or semicampylotropous. Style 1; stigma simple or lobed. Fruit drupes with fleshy exocarp or capsules. Seeds 1 to many; endosperm fleshy or horny; embryo $x = 10–13, 23$.

About 42 genera and more than 2,200 species: primarily in tropical and subtropical or warm temperate regions of both hemispheres; five genera and 120 species (51 endemic) in China.

Chinese genera of economic value include *Ardisia* (medicine, oil, edible, wild vegetables), *Maesa* (edible, tea, dye), *Aegiceras* (tannin, fine fuel), *Embelia* (vermifuge, edible), *Myrsine* (medicine, fine wood, tannin, fuel).


1. **MAESA** Forsskál, Fl. Aegypt. Arab. 66. 1775.

About 200 species: primarily in Old World tropics; 29 species in China.

1a. Ovary and fruit semi-inferior to inferior; bracteoles 2; seeds numerous, angular ................................................. 1. **Maesa**

1b. Ovary and fruit superior; bracteoles absent; seeds 1, globose or elongated and curved.

2a. Fruit an elongated curved capsule; anther cells transversely septate; usually mangrove plants .................................. 2. **Aegiceras**

2b. Fruit a globose drupe often with a fleshy exocarp; anthers not septate; mountains and broad-leaved forests.

3a. Inflorescences on a long peduncle or at tips of specialized lateral branches; corolla lobes contorted in bud. Stigma usually apiculate ............................................................................................... 3. **Ardisia**

3b. Inflorescences often on scaly short branches or spurs; corolla lobes imbricate or valvate in bud. Stigma often not apiculate.

4a. Inflorescences racemose or paniculate, terminal or axillary; climbing shrubs, rarely vines .............................. 4. **Embelia**

4b. Inflorescences umbellate or fascicled, at axils of apical leaves; shrubs or small trees ............................ 5. **Myrsine**
lineate ........................................................................................................................................ 5. *M. macilentoides*

7b. Leaf blade lanceolate to ovate; calyx lobes puberulent or inconspicuously pellucid.

8a. Inflorescences punctate 5–8 mm; leaf base obtuse ............................................................ 6. *M. brevipaniculata*

8b. Inflorescences (10–)20–40 mm; leaf blade base truncate to cordate .............................. 7. *M. macilenta*

4b. Branchlets hirsute or stramineous hirtellous and reddish glandular granulose.

9a. Plants hirsute.

10a. Petiole 1.2–2.5 cm; pith hollow.

11a. Plants gray hirsute; branchlets terete; inflorescences racemose, ca. 6 cm; leaf blade apex caudate-acuminate, margin serrate, teeth not callose ................................................... 8. *M. insignis*

11b. Plants reddish hirsute; branchlets angular; inflorescences glomerate or paniculate, rarely to 4 cm; leaf blade apex cuspidate, margin serrate or dentate, teeth callose ...... 9. *M. permollis*

10b. Petiole 0.4–1(–1.2) cm; pith solid.

12a. Inflorescences racemose, 0.4–1 cm; leaf blade oblongate ........................................... 10. *M. ambigua*

12b. Inflorescences few-branched panicles, 3–7 cm; leaf blade lanceolate .............. 11. *M. longilanceolata*

9b. Plants hirtellous and glandular granulose.

13a. Petiole 0.4–1 cm; leaf blade base obtuse to rounded.

14a. Calyx lobes acuminated; pedicel 1.5–2 mm ................................................................. 2. *M. parvifolia*

14b. Calyx lobes acute; pedicel 1.2–1.5 mm ........................................................................... 13. *M. marionae*

13b. Petiole 1–2(–3) cm; leaf blade base acute.

15a. Inflorescences racemose-spicate; pedicel obsolete to 0.8 mm; calyx conic ........ 14. *M. argentea*

15b. Inflorescences paniculate or rarely racemose; pedicel 1.8–2 mm; calyx discoid .... 15. *M. perlarius*

1b. Branchlet apex glabrous or glandular granulose, early glabrescent.

16a. Branchlet apex glabrous.

17a. Leaf blade leathery, apex cuspidate; inflorescences glomerate, shorter than petiole ........ 16. *M. reticulata*

17b. Leaf blade membranous or papery, apex caudate-acuminate; inflorescences paniculate, longer than petiole.

18a. Leaf blade membranous, adaxially dull, abaxially and hypanthium densely black punctate-lineate; inflorescence rachis and pedicels densely and minutely glandular granulose ................................................................. 7. *M. striatocarpa*

18b. Leaf blade papery, adaxially glossy, abaxially and hypanthium inconspicuously pellucid punctate; inflorescence rachis and pedicels glabrous and glossy ...................... 18. *M. acuminatissima*

16b. Branchlet apex glandular granulose, early glabrescent.

19a. Leaf blade margin undulate, subentire, or entire.

20a. Leaf blade membranous or papery; pedicel 1–2 mm.

21a. Branchlets terete, lenticellate; calyx lobes densely punctate-lineate; bracts and bracteoles wider than long; inflorescence rachis and pedicels glabrous ................. 22. *M. consanguinea*

21b. Branchlets angular, without lenticels; calyx lobes punctate; bracts and bracteoles longer than wide; inflorescence rachis and pedicels minutely glandular granulose ......................................................................................... 23. *M. ramentacea*

20b. Leaf blade leathery or rarely papery; pedicel 2.5–4 mm.

22a. Leaves prominently black punctate-lineate; bracts subulate, bracteoles and calyx lobes longer than wide, apery, apex acute ................................................................. 21. *M. hupehensis*

22b. Leaves inconspicuously pellucid punctate; bracts, bracteoles, and calyx lobes much wider than long, leathery, apex obtuse to rounded.

23a. Leaf blade linear-lanceolate, bullate, margin revolute, entire; fruit reddish, punctate-lineate, wrinkled ................................................................. 19. *M. salicifolia*

23b. Leaf blade lanceolate, oblong, or rarely ovate, smooth, flat, margin subentire to serrate distally; fruit yellowish, smooth ......................................... 20. *M. japonica*

19b. Leaf blade margin serrate or serrate-dentate.

24a. Petiole 2–4 cm.

25a. Inflorescences densely and minutely glandular granulose; pedicel 2–2.5 mm at maturity; branchlets sparingly lenticellate; leaves membranous, adaxially dull .............. 24. *M. confusa*

25b. Inflorescences glabrous; pedicel 0.8–1.5(–2) mm at maturity; branchlets without lenticels; leaves thin leathery, adaxially glossy ................................................................. 25. *M. membranacea*

24b. Petiole 1–1.8 cm.

26a. Calyx lobe and bracteoles obtuse to rounded apically; inflorescence rachis and pedicels densely and minutely glandular granulose ................................................. 26. *M. indica*

26b. Calyx lobe and bracteoles acute apically; inflorescence rachis and pedicels glabrous.
皱叶杜茎山  zhou ye du jing shan  
Shrubs 1–3 m tall. Branchlets and leaves densely brown scaly, glabrescent. Branchlets subterete, 2–3 mm in diam.; pith solid. Petiolule canaliculate, 2–3.5 cm; leaf blade broadly obovate, 6–16 × 5–12.5 cm, leathery, rugose, base broadly obvolute to acute, margin serrulate, apex cupululate-acuminate, acumen 4–6 mm; lateral veins 8–12 on each side of midrib, ending in subapical teeth, submarginal vein absent. Inflorescences axillary, paniculate, 3–4 cm, glabrous or puberulent; bracteoles triangular ovate, acute. Flowers creamy yellow, 2–3 mm. Pedicel ca. 1 mm. Calyx lobes broadly ovate, ca. 0.7 mm, orange punctate-lineate, margin entire and ciliate, apex acute or obtuse. Corolla campanulate; lobes as long as tube, ovate or suborbicular, subentire, obtuse or rounded at apex, orange punctate-lineate. Stamens inserted at middle of corolla tube; filaments very short; anthers ovoid. Pistil included. Style cylindric; stigma lobed. Fruit ovoid, ca. 3 mm in diam., somewhat succulent, pellucid punctate-lineate, slightly longer than persistent calyx lobes. Fl. Jul, fr. Oct.  
Mixed forests, scrub, stream banks, shady places; 2000–2800 m. SE Xizang, NW Yunnan [India].  
Leaf apex in var. *retusa* was said to be obtuse, truncate, or slightly retuse, and the taxon probably merits recognition.  

密脉杜茎山  mi xian du jing shan  
*Maesa prodigiosa* C. Chen.  
Shrubs 1–2(–6) m tall. Branchlets angular, sparsely brown scaly, glabrescent, lenticellate; pith solid. Petiole slightly canaliculate, 0.7–1.5 cm; leaf blade oblong, elliptic-lanceolate, to oblanceolate, 8.5–14 × 2.5–5.5 cm, papery, glabrous, base cuneate, margin serrate and densely minutely orange punctate-lineate, apex caudate-acuminate, acumen 0.8–2 cm; midrib and lateral veins prominently raised abaxially, lateral veins ca. 10 on each side of midrib, ending in teeth, submarginal vein absent. Inflorescences axillary on biennial branchlets, paniculate, 1.5–4 cm in fruit, many branched, glabrous; bracts lanceolate, ca. 0.5 mm; bracteoles ovate, glabrous. Flowers unknown. Pedicel 1–2 mm in fruit, glabrous. Fruit globose, 3–4 mm in diam., somewhat fleshy, glabrous, not punctate; persistent calyx lobes ovate-triangular, glabrous, punctate at tip, ciliate.  
Sparse broad-leaved forests, shrubby areas, sunny hillsides; ca. 600–2200 m. SE Xizang, W Yunnan [Bhutan, India, Myanmar, Nepal].  

凹脉杜茎山 ao mai du jing shan  
Shrubs 3–4 m tall. Branchlets terete, white pilose-tomentulose, glabrescent, striate; pith solid. Petiole canaliculate, 5–10 mm, minutely punctate; leaf blade narrowly lanceolate or lanceolate, 10–18 × 1.7–4 cm, leathery, glabrous, base cuneate or obtuse, densely and minutely punctate, margin serrulate, apex caudate-acuminate; lateral veins 9–15 on each side of midrib, connected by submarginal vein 1–2 mm from margin. Inflorescences axillary. 1- or 2-branched at base, racemose or paniculate, 2–3 cm, puberulent; bracteoles ovate. Corolla ca. 2 mm; lobes elliptic-oblong, longer than tube, glabrous, orange punctate-lineate, margin crenulate, apex obtuse. Stamens inserted on tube, somewhat exserted. Fruit ovoidal, ca. 5 mm in diam., prominently orange punctate-lineate; persistent calyx lobes broadly triangular, auriculate at base, ciliate, orange punctate-lineate, closed at fruit apex. Fl. Aug–Sep.  
* Broad-leaved forests, hillsides; 1700–2100 m. Xizang (Motuo).  

4. **Maesa montana** A. de Candolle, Prodr. 8: 79. 1844.  
金珠柳 jin zhu liu  
Shrubs or trees 2–3(–10) m tall. Branchlets terete, white pilose-tomentulose, glabrescent; pith solid. Petiole deeply canaliculate, 1–1.5(–1.8) cm; leaf blade elliptic, oblong, or lanceolate, rarely broadly ovate, 7–14(–23) × 3–7(–9) cm, membranous, base cuneate or obtuse, margin coarsely dentate or undulate with punctate teeth, apex acute or acuminate; lateral veins 8–12 on each side of midrib, ending in teeth, glabrescent or hirsipulose, submarginal vein absent. Inflorescences axillary, racemose or paniculate, 2–7(–10) cm, hirsute; bracteoles minute, lanceolate or ovate. Flowers ca. 2 mm. Pedicel 1–2(–3) mm. Calyx lobes ovate or oblong, glabrous or sometimes ciliate, entire, apex obtuse. Corolla white, campanulate; lobes ovate, as long as or longer than tube, orange punctate-lineate, margin entire or crenulate, apex obtuse or

**Short description:**

- **Family:** Myristicaceae
- **Genus:** Maesa
- **Species:** macilentoides
- **Description:** Shrubs 2–3 m tall. Branchlets angular, brown velutinous-tomentulose; pith solid. Petiole canaliculate, 3–5 mm; leaf blade linear-lanceolate, 9–15 × 1.8–3 cm, papery, glabrous, prominently thinly black punctate-lineate, base rounded, margin subentire to sparsely serrulate, apex acuminate or subacuminate; lateral veins 10–12 on each side of midrib, ending in teeth, submarginal vein absent. Inflorescences axillary, paniculate, 1–2 cm, glabrous or minutely puberulent; bracts subulate; bracteoles ovate to oblong. Flowers ca. 2 mm. Pedicel 1–2 mm, glabrous. Calyx lobes ovate, inconspicuously punctate-lineate, margin minutely ciliate, apex obtuse. Corolla tubular-campanulate; tube ca. 2 × as long as calyx lobes; lobes ca. 1/3 tube length, inconspicuously punctate-lineate, apex rounded. Stamens of staminate flowers unknown, those of pistillate flowers minute, included; anthers ovate. Pistil included. Style slender, less than 1 mm; stigma obscurely lobed. Fruit globose, ca. 4 mm in diam., longitudinal ribs obscure; persistent calyx lobes meeting conical style base, exposed part ca. 1/3 fruit length. Fl. Sep–Oct, fr. May–Jan.

* * Evergreen broad-leaved forests; 300–600 m. S Yunnan.


**Short description:**

- **Family:** Myristicaceae
- **Genus:** Maesa
- **Species:** brevpaniculata
- **Description:** Shrubs 0.5–3 m tall. Branchlets angular, brown velutinous pilosulose, barely flexuous; pith solid. Petiole canaliculate, 3–8 mm, pilosulose; leaf blade lanceolate or narrowly ovate, 7–10–13 cm, glabrous or puberulent, base obtuse, margin undulate to very sparsely serrulate, apex caudate-acuminate; lateral veins ca. 8 on each side of midrib, ending in minute punctate teeth, submarginal vein absent. Inflorescences axillary, paniculate, puberulent, 5–8 mm; bracteoles minute, lanceolate, hirsute. Flowers white, fragrant, ca. 1.5 mm. Pedicel ca. 1.5 mm, puberulent. Calyx lobes broadly ovate, acute or obtuse, puberulent, ciliate, inconspicuously pellucid punctate-lineate. Corolla campanulate, ca. 3 × length of calyx lobes; lobes broadly ovate, subequal tube, crenulate, rounded. Stamens shorter than corolla lobes; anthers broadly ovate or reniform, as long as filaments in staminate flowers. Pistil included. Style short, thick; stigma flattened, somewhat lobed. Fruit unknown. Fl. Apr–Jan.

* * Broad-leaved forests, valleys, hilly areas, shady places; 800–1300 m. S Yunnan.


**Short description:**

- **Family:** Myristicaceae
- **Genus:** Maesa
- **Species:** insignis
- **Description:** Shrubs 1.2–3(–4) m tall, gray-hirsute. Branchlets terete; pith hollow. Petiole subterete, 1.2–1.9 cm; leaf blade elliptic or ovate, 12–16(–19) × 4–6(–7) cm, base rounded or obtuse, margin coarsely serrate, teeth sharp but not callose, apex caudate-acuminate; lateral veins ca. 10 on each side of midrib, submarginal vein absent. Inflorescences axillary, racemose, ca. 6 cm, hirsute throughout; bracts lanceolate or subulate, ca. 1 mm; bracteoles lanceolate to narrowly so. Flowers yellowish, 2–3 mm. Calyx lobes ovate or subdeltate, ca. 1 mm, punctate-lineate, margin entire, ciliate, apex acute. Corolla campanulate; lobes broadly ovate or suborbicular, ca. as long as or shorter than tube, punctate-lineate, glabrous. Stamens included, inserted above middle of corolla tube; anthers ovate or broadly so, as long as filaments, not glandular. Style ± glandular, persistent; stigma lobed. Fruit white, globose, ca. 5 cm in diam., somewhat fleshy, hirsute, glandular, rarely with obscure longitudinal ribs; persistent calyx lobes closed at fruit apex. Fl. Jan–Feb, fr. Nov.

* * Sparse mixed forests, hills. Guangdong, Guangxi, Guizhou.


**Short description:**

- **Family:** Myristicaceae
- **Genus:** Maesa
- **Species:** permollis
- **Description:** Shrubs 1–3(–6) m tall, reddish hirsute. Branchlets angular; pith hollow. Petiole 2–3(–5) cm; leaf blade elliptic to broadly oblance-obovate, (12–)20–31 × (6–)12–29 cm, densely pilose or hirsute abaxially especially along veins, base
broadly truncate to subcordate, margin serrate or dentate, teeth callose, apex cuspitate; lateral veins ca. 10 on each side of midrib, ending in teeth, submarginal vein absent. Inflorescences axillary, glomerate or paniculate, rarely to 4 cm, densely hirsute; bracteoles ovate. Flowers white or yellowish, ca. 3 mm. Pedicel rarely to 1 mm. Calyx lobes ovate, densely hirsute or pilose, margin narrowly scarious, ciliate, apex acute. Corolla tubular-campanulate, glabrous; tube 1.5–2 mm; lobes ca. 0.7 mm, ovate or subrounded, spreading. Stamens included, attached at middle of corolla tube; anders broadly elliptic, ca. as long as filaments. Pistil included. Style short; stigma obscurely lobed. Fruit ovoid, 4–5 mm in diam., densely brown hirsute, apex acute or apiculate; persistent calyx lobes meeting at fruit apex. Fl. Mar, fr. Nov–Dec.

**Mixed forests, hillsides, valleys, stream banks, damp places; 500–1600 m. SW and S Yunnan [Laos, Myanmar, Thailand].**


** Jian sui du jing*shan**

Shrubs 1–4 m tall, reddish hirsute. Branchlets angular, longitudinally ridged; pith solid. Petiole canaliculate, 4(–10) mm; leaf blade elliptic to broadly obovate, 12–22 × 6–22 cm, papyry, punctate, base broadly rounded to truncate or subcordate, sometimes asymmetric, margin coarsely serrate or serrate-dentate, apex acute. Inflorescences axillary, short racemose, 4–10 mm, hirsute throughout; bracts subulate, ca. 1 mm; bracteoles narrowly ovate, inserted up to middle of pedicel. Flowers ca. 2 mm. Pedicel 0.5–1 mm. Calyx lobes triangular-ovate, ca. 1.5 mm, as long as tube or longer, punctate-lineate. Corolla campanulate, ca. 2 mm; lobes 1/3–1/2 length of tube, subrounded, lineate-lineate. Stamens included, inserted at distal part of corolla tube; anders broadly ovate, shorter than filaments. Pistil included. Style persistent; stigma lobed. Fruit globose, ca. 2 mm in diam., hirsute; persistent calyx lobes meeting at fruit apex. Fl. Mar, fr. Jul–Oct.

Dense evergreen broad-leaved forests, valleys, damp places; 900–1500 m. SE Yunnan [Vietnam].


** Chang ye du jing*shan**

Shrubs 2(–5) m, reddish hirsute. Branchlets angular, longitudinally ridged; pith solid. Petiole canaliculate, 7–12 mm; leaf blade obovate or lanceolate, 6–14 × 2.5–4.8 cm, papyry, densely hirsute along primary and secondary veins, strigose along others, base broadly obtuse or subrounded, margin irregularly dentate distally, teeth callose and punctate, entire toward base, apex ciliate-acuminate; lateral veins 7 or 8 on each side of midrib, ending in teeth, punctate-lineate, submarginal vein absent. Inflorescences axillary, paniculate, (3–)5–7 cm, hirsute; bracteoles obovate or ovate, 0.6–0.8 mm, acuminate, minutely hirsute, margin ciliate. Flowers white, ca. 2 mm. Pedicel 1.2–1.5 mm, hirsute. Sepals broadly ovate, glabrous, margin entire, ciliate, prominently orange punctate-lineate, apex acute. Corolla campanulate; tube 1.2–1.5 mm; lobes suborbicular, margin erose, ciliate, subequalling tube, orange punctate-lineate, apex rounded. Stamens and pistil unknown. Fruit globose or ovoid, 3–4 mm in diam., glabrous, longitudinally ribbed; persistent sepals meeting at conical style base. Fl. Apr, fr. Oct–Nov.

* Broad-leaved forests, hillsides, valleys, river banks; 1300–1800 m. SE Xizang, NW Yunnan.


** Xiao ye du jing*shan**

Shrubs or climbers 0.5–3 m tall, decumbent. Branchlets angular, hirtellous and glandular granulose, glabrescent, flexuous; pith solid. Petiole canaliculate, 4–6 mm, puberulent; leaf blade elliptic or ovate, 2.5–6(–10) cm; papery, base obtuse to rounded, apex acuminate or rarely acute, glabrous to puberulent, base cuneate or obtuse to rounded, margin undulate to sparsely serrulate, apex acuminate to caudate-acuminate, rarely acute; lateral veins ca. 8 on each side of midrib, ending in punctate teeth, submarginal vein absent. Inflorescences axillary, paniculate, 3–7 cm, puberulent; bracteoles minute, lanceolate, hirsute. Flowers white, fragrant, ca. 1.5 mm. Pedicel 1.5–2 mm, puberulent. Calyx lobes broadly ovate, puberulent, orange punctate-lineate, margin entire, ciliate, apex acuminate. Corolla campanulate, ca. 3 length of calyx lobes; lobes broadly ovate, subequalling tube, crenulate, rounded. Stamens shorter than corolla lobes; anthers broadly ovate or reniform, ca. as long as filaments in stamine flowers. Pistil included. Style short, thick; stigma flattened, somewhat lobed. Fruit unknown. Fl. Feb–Apr.

Mixed forests, shrubby areas, sunny hillsides; 400–1700 m. Guangdong, Guangxi, Hainan, SE Yunnan [N Vietnam].


** Mao mai du jing*shan**

Shrubs 1.5–2(–5) m tall. Branchlets angular, reddish hirtellous and glandular granulose, glabrescent; pith solid. Petiole canaliculate, 7–10 mm, hirtellous, glabrescent; leaf blade elliptic, oblanceol, or lanceolate, 6–14 × 2.5–4.8 cm, base broadly obtuse to rounded, margin dentate distally and entire toward base, apex ciliate-acuminate or rarely acute; lateral veins 7 or 8 on each side of midrib, hirtellous or subglabrous, punctate-lineate, ending in glandular teeth, submarginal vein absent. Inflorescences axillary, paniculate, 3–5 cm, hirtellous; bracteoles oblanceolate-ovate or ovate, 0.6–0.8 mm, puberulent, ciliate. Flowers white, ca. 2 mm. Pedicel 1.2–1.5 mm, puberulent. Calyx lobes broadly ovate, punctate-lineate, glabrous, margin entire, ciliate, apex acuminate. Corolla campanulate, ca. 1.2 mm; lobes broadly
ovate or subrounded, erose, subequalling tube. Filaments ca. 1 mm, longer than anthers; anthers elliptic. Pistil included. Style very short, persistent. Fruit globose or ovoid, 3–4 mm in diam., glabrous, somewhat fleshy, ribbed; persistent calyx lobes meeting at about style base, exposed part ca. 1/3 fruit length.

Broad-leaved forests, hillsides, valleys, river banks; 1300–1800 m. Xizang, NW Yunnan [Myanmar].


`Maesa argentea` Wall. in Roxburgh, Fl. Ind. 2: 233. 1824.

Shrubs or rarely small trees to 5 m tall. Branchlets densely hirtellous and glandular glabrous; pith solid. Pediole canaliculate, 1.8–2(–3) cm, sparsely pilose; leaf blade ovate or broadly elliptic, 12–17(–22) × 5–9(–11) cm, sparsely hirtellous and glandular glabrous abaxially, glabrescent adaxially except granulose veins, reticulate punctate-lineate, base acute, margin serrate-dentate, apex acuminate; lateral veins ca. 8 on each side of midrib, ending in teeth, submarginal vein absent. Inflorescences axillary, racemose-spicate, 1–4(–5) cm, axis pilose; bracteoles ovate, sparsely pilose. Flowers white, (2–)3 mm. Pedicel subobsolete to 0.8 mm, hirtellous. Calyx conical; lobes ovate, glabrous, punctate-lineate, margin entire, apex acute or obtuse. Corolla tubular-campanulate, ca. 3 mm; tube ca. 2 mm; lobes ca. 1 mm, punctate-lineate, margin ± erose-denticulate near base; apex broadly obtuse. Stamens included, inserted at middle of corolla tube; anthers ovate, shorter than filaments. Pistil included. Style thick, cylindric; stigma 3- or 4-lobed. Fruit globose to ovoid, 3–4(–5) mm in diam., punctate-lineate, glabrous; persistent calyx lobes rarely meet at fruit apex. Fl. Mar–Apr, fr. Dec–May.

Sparse broad-leaved forests, shrubby areas, hillsides, damp places; 200–1400 m. Guangdong, Guangxi, Hainan, Sichuan, Taiwan, Yunnan [Thailand, Vietnam].


Trees glabrous. Branchlets thick, wrinkled, obtusely angular; pith solid. Pediole subterete to terete, (1.5–)2–3 cm; leaf blade broadly obovate or elliptic, 15–24 × 7–14 cm, leathery, glabrous, base rounded or broadly obtuse, margin crenulate with sharp teeth, apex cuspidate; veins prominently raised on both surfaces, densely and minutely pubescent, scabrous especially adaxially; lateral veins ca. 10 on each side of midrib, running into marginal vein. Inflorescences axillary, contorted racemes appearing glomerate, shorter than pediole. Flowers unknown. Pedicel ca. 2.5 cm in fruit. Fruit ovoid, ca. 5 mm in diam., punctate-lineate, pubescent; persistent calyx lobes triangular, meeting at fruit apex. Fl. Jun.

Broad-leaved forests, valleys; 200–400 m. S Yunnan [Vietnam].


Broad-leaved forests, hillsides, valleys; 200–400 m. S Yunnan [Vietnam].

**Shrubs to 5 m tall.** Branchlets angular, 2–2.5 mm in diam., apices glabrous; pith solid. Leaf blade abaxially, crenate, rounded, obtuse or sometimes subtruncate, margin crenulate with sharp teeth, apex cuspidate-acuminate, acumen 1–2 cm; lateral veins 7–10 on each side of midrib, ending in teeth. Inflorescences axillary or sometimes terminal, paniculate, 5–12 cm; bracteoles ovate, entire, black punctate-lineate. Flowers white, ca. 2 mm. Pedicel 1.3–1.5 mm. Calyx lobes ovate, persistent, glabrous, margin entire, ciliate; apex acute. Corolla short campanulate, lobes equaling or longer than tube, broadly ovate to subreniform, margin minutely denticulate or crenulate, apex rounded. Stamens inserted at middle of corolla tube, included; anthers broadly ovate or reniform, ca. as long as filaments. Pistil included. Style short, persistent, stigma subcapitate, slightly lobed. Fruit yellowish, globose, 2–3 mm in diam. Fl. Jan–May, fr. Aug–Nov.

* Dense broad-leaved forests, damp seepage areas on hillsides, 1300–1800 m. Yunnan.


**Fruit globose, ca. 3 mm in diam., punctate-lineate, glabrous; lobes broadly ovate, as long as tube, irregularly crenulate. Stamens inserted at distal half of corolla tube; anthers broadly oblong or reniform, not glandular, shorter than filaments. Pistil included. Style thick, cylindric; stigma 4-lobed. Fruit globose, ca. 3 mm in diam., punctate-lineate, glabrous, 1/4–1/3 exposed; persistent calyx lobes rarely meet at fruit apex. Fl. Mar–Apr, fr. Dec–May.

**Dense broad-leaved forests, seepage areas on hillsides, 1300–1800 m. Yunnan.**
Shrubs 1–2(–4) m tall. Branchlets terete, slender, glabrous; pith hollow. Petiole canaliculate, 6–10 mm; leaf blade lanceolate or broadly so, 9–17 × 2–5 cm, papery, glabrous, inconspicuously pellucid punctate, glossy adaxially, dull abaxially, base obtuse or subrounded, margin entire to obscurely undulate, apex acuminate or caudate-acuminate; lateral veins 4–6 on each side of midrib, curved ascending. Inflorescences terminal or subterminal, paniculate, pyramidal, 5–8 cm; lower branches glabrous, glossy, up to 4 cm; bracteoles minute, lanceolate, near or at apex of pedicel. Flowers ca. 3 mm. Pedicel slender, 4–5 mm. Calyx lobes ovate, obtuse or acute, ca. 0.5 mm. Corolla lobes ovate, ca. as long as tube, irregularly crenulate at apex. Stamens reduced in pistillate flowers. Pistil included. Stigma scarcely lobed. Fruit globose or subovoid, ca. 3 mm in diam., enclosed by persistent calyx lobes or apex exposed, base ± conical. Fl. Jan–Feb, fr. Nov–Dec.

Evergreen broad-leaved forests, mountain slopes, stream banks, damp places; 100–600 m. Guangxi, Hainan, SE Yunnan [Vietnam].


Shrubs ca. 2 m tall. Branchlets terete, glandular granulose, early glabrescent, longitudinally striate; pith solid. Petiole deeply canaliculate, 5–12 mm, rugose; leaf blade narrowly linear-lanceolate, 10–20 × 1.5–2 cm, leathery, rugose, subbullate, inconspicuously pellucid punctate, base obtuse, margin entire, revolute, apex acute or acuminate; lateral veins 5–7 on each side of midrib. Inflorescences axillary, racemose or paniculate, 1.5–2 cm; bracteoles broadly ovate, apex obtuse or acute. Flowers white or yellowish, 3–4 mm. Pedicel 2.5–3.5 mm, glandular granulose, early glabrescent. Calyx lobes ovate to suborbicular, ca. 1 mm, punctate, margin sparsely ciliate, apex obtuse or rounded. Corolla tubular or tubular-campanulate; tube 3–4 mm, punctate-lineate; lobes broadly ovate, margin crenulate, apex rounded. Stamens of staminate flowers included, attached at or above middle of corolla tube, reduced in pistillate flowers; anthers oblong-ovate, ca. as long as filaments. Pistil included. Style persistent; stigma dilated or 3- or 4-lobed. Fruit reddish, globose or subovoid, ca. 4 mm in diam., punctate-lineate, wrinkled; persistent calyx lobes nearly meeting style. Fl. Jan–Feb, fr. Sep–Nov.

* Sparse mixed forest, limestone mountains, damp places; 100–600 m. Guangdong.


Shrubs erect, sometimes decumbent or scandent, 1–3(–5) m tall. Branchlets terete, apex glandular granulose, early glabrescent; pith solid. Petiole canaliculate, 5–13 mm; leaf blade elliptic, lanceolate, to obovate, 5–16 × 2–5 cm, leathery, inconspicuously pellucid punctate, base cuneate or obtuse to rounded, smooth adaxially, margin entire toward base and subentire to serrate distally with mucronate teeth, apex acuminate to acute or obtuse; lateral veins 5–8 on each side of midrib. Inflorescences axillary, racemose or paniculate, 1–3(–4) mm, glabrous; bracteoles broadly ovate or reniform, to 1 mm, dark punctate-lineate, ciliate, encircling pedicel. Flowers white, 3.5–5 mm. Pedicel 2.5–3.5 mm, glandular granulose, glabrescent. Calyx ca. 2 mm; lobes ca. 1 mm, ovate to orbicular, punctate-lineate, margin entire, ciliate, apex obtuse or rounded. Corolla white, tubular-campanulate; tube 3–4 mm, prominently punctate-lineate; lobes reniform or ovate, ca. 1 mm, apex rounded or obtuse. Stamens included; anthers ovate, as long as filaments, glandular on back. Pistil included. Style slender, persistent, conical at base in fruit; stigma lobed. Fruit globose or ovoid, 4.5–(6) mm in diam., fleshy, punctate-lineate. Fl. Jan–Mar, fr. Oct–May.

Mixed forests, hillsides, limestone mountains; 300–2000 m. Anhui, Fujian, Guandong, Guangxi, Guizhou, Hubei, Hunan, Jiangxi, Sichuan, Taiwan, Yunnan, Zhejiang [Japan, N Vietnam].


Shrubs 1–2(–4) m tall, glandular granulose, early glabrescent; pith hollow. Petiole canaliculate, 5–10 mm, glabrous; leaf blade lanceolate or oblong, rarely ovate, 10–15(–21) × 2–4(–4.5) cm, papery, prominently black punctate-lineate, base rounded or sometimes obtuse or broadly cuneate, margin entire or sinuate-dentate to rarely shallowly serrate, apex acuminate or rarely acute; lateral veins 8–10 on each side of midrib, not united into marginal vein. Inflorescences axillary, 4–8(–10) cm, racemose; bracts subulate; bracteoles minute, ovate, orange punctate-lineate. Flowers white, 3–4 mm. Pedicel 3–4 mm. Calyx lobes broadly ovate, ca. 1.5 mm, glabrous, margin entire, apex acute, densely orange punctate-lineate. Corolla 3–4 mm, densely orange punctate-lineate; lobes broadly ovate, subrounded, as long as tube. Stamens included; anthers ovate. Pistil included. Style conical, persistent, as long as ovary; stigma slightly 4-lobed. Fruit white or yellowish, globose or subovoid, ca. 5 mm in diam., orange punctate-lineate; persistent calyx lobes closed at fruit apex. Fl. May–Jun, fr. Oct–Dec.

M. striata Mez var. opaca Pitard.

Shrubs 1–2(–4) m tall. Branchlets terete, slender, glabrous; pith hollow. Petiole canaliculate, 6–10 mm; leaf blade lanceolate or broadly so, 9–17 × 2–5 cm, papery, glabrous, inconspicuously pellucid punctate, glossy adaxially, dull abaxially, base obtuse or subrounded, margin entire to obscurely undulate, apex acuminate or caudate-acuminate; lateral veins 4–6 on each side of midrib, curved ascending. Inflorescences terminal or subterminal, paniculate, pyramidal, 5–8 cm; lower branches glabrous, glossy, up to 4 cm; bracteoles minute, lanceolate, near or at apex of pedicel. Flowers ca. 3 mm. Pedicel slender, 4–5 mm. Calyx lobes ovate, obtuse or acute, ca. 0.5 mm. Corolla lobes ovate, ca. as long as tube, irregularly crenulate at apex. Stamens reduced in pistillate flowers. Pistil included. Stigma scarcely lobed. Fruit globose or subovoid, ca. 3 mm in diam., enclosed by persistent calyx lobes or apex exposed, base ± conical. Fl. Jan–Feb, fr. Nov–Dec.

Evergreen broad-leaved forests, mountain slopes, stream banks, damp places; 100–600 m. Guangxi, Hainan, SE Yunnan [Vietnam].


Shrubs ca. 2 m tall. Branchlets terete, glandular granulose, early glabrescent, longitudinally striate; pith solid. Petiole deeply canaliculate, 5–12 mm, rugose; leaf blade narrowly linear-lanceolate, 10–20 × 1.5–2 cm, leathery, rugose, subbullate, inconspicuously pellucid punctate, base obtuse, margin entire, revolute, apex acute or acuminate; lateral veins 5–7 on each side of midrib. Inflorescences axillary, racemose or paniculate, 1.5–2 cm; bracteoles broadly ovate, apex obtuse or acute. Flowers white or yellowish, 3–4 mm. Pedicel 2.5–3.5 mm, glandular granulose, early glabrescent. Calyx lobes ovate to suborbicular, ca. 1 mm, punctate, margin sparsely ciliate, apex obtuse or rounded. Corolla tubular or tubular-campanulate; tube 3–4 mm, punctate-lineate; lobes broadly ovate, margin crenulate, apex rounded. Stamens of staminate flowers included, attached at or above middle of corolla tube, reduced in pistillate flowers; anthers oblong-ovate, ca. as long as filaments. Pistil included. Style persistent; stigma dilated or 3- or 4-lobed. Fruit reddish, globose or subovoid, ca. 4 mm in diam., punctate-lineate, wrinkled; persistent calyx lobes nearly meeting style. Fl. Jan–Feb, fr. Sep–Nov.

* Sparse mixed forest, limestone mountains, damp places; 100–600 m. Guangdong.


Shrubs 1–2(–4) m tall, glandular granulose, early glabrescent; pith hollow. Petiole canaliculate, 5–10 mm, glabrous; leaf blade lanceolate or oblong, rarely ovate, 10–15(–21) × 2–4(–4.5) cm, papery, prominently black punctate-lineate, base rounded or sometimes obtuse or broadly cuneate, margin entire or sinuate-dentate to rarely shallowly serrate, apex acuminate or rarely acute; lateral veins 8–10 on each side of midrib, not united into marginal vein. Inflorescences axillary, 4–8(–10) cm, racemose; bracts subulate; bracteoles minute, ovate, orange punctate-lineate. Flowers white, 3–4 mm. Pedicel 3–4 mm. Calyx lobes broadly ovate, ca. 1.5 mm, glabrous, margin entire, apex acute, densely orange punctate-lineate. Corolla 3–4 mm, densely orange punctate-lineate; lobes broadly ovate, subrounded, as long as tube. Stamens included; anthers ovate. Pistil included. Style conical, persistent, as long as ovary; stigma slightly 4-lobed. Fruit white or yellowish, globose or subovoid, ca. 5 mm in diam., orange punctate-lineate; persistent calyx lobes closed at fruit apex. Fl. May–Jun, fr. Oct–Dec.

Shrubs or rarely trees, 1.5–3(–5) m tall. Branchlets angular, glabrous, minutely lenticellate; pith solid. Petiole ca. 1 cm; leaf blade ovate to elliptic-ovate, 8–16 × 2.5–5.5 cm, papery, glabrous, base rounded, obtuse, to broadly cuneate, margin entire or undulate, apex acute or long acuminate; lateral veins 5–8 on each side of midrib, not united into marginal vein. Inflorescences axillary or sometimes subterminal, paniculate, many branched, 4–10 cm, minutely glandular granulose; bracts subulate or ovate; bracteoles broadly ovate or triangular, sparsely ciliate. Flowers white, ca. 2 mm. Pedicel 1–2 mm. Calyx lobes united ca. 1/2 their length, ovate or broadly so, glabrous, ciliate, not punctate, apex obtuse or rounded. Corolla united into a short tube, ca. 1.5 mm, not punctate, glabrous; lobes as long as tube, reniform or orbicular, rounded, margin undulate. Stamens inserted on distal part of corolla tube, included, rudimentary in pistillate flowers; anthers orbicular or reniform. Style very short, thick; stigma minutely 4-lobed. Fruit yellowish, globose, 2–3 mm, orange punctate-lineate or veined. Fl. Jan–Mar, fr. Nov–Dec.

Sparse broad-leaved forests, mountain slopes, stream banks, shady places, along trails; 300–1700 m. Guangxi, Yunnan [Bangladesh, Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Philippines, Vietnam].


**拟杜茎山 ni du jing shan**

Shrubs 1–1.5(–3) m tall. Branchlets terete, apex glandular granulose, early glabrescent, lenticellate; pith solid. Petiole canaliculate, 1–2.5 cm; leaf blade oblong to oblong-ovate, 7–12(–18.5) × 5–6(–8) cm, papery, glabrous, black punctate-lineate abaxially, base subcuneate or obtuse, margin slightly undulate or remotely denticulate, apex acuminate or subacute-acuminate; lateral veins 5–7 on each side of midrib, marginal vein absent. Inflorescences axillary, pyramidal paniculate or sometimes racemose, (1–)4–10 cm, densely and minutely glandular granulose; bracteoles ovate, acute at apex. Flowers white, 2–2.2 mm. Pedicel 2–2.5 mm. Sepals united ca. 1/3 length, ovate, glabrous, margin entire, ciliate, apex broadly acute. Corolla 1–1.4 mm, lobes longer than tube, suborbicular, margin entire, glabrous, apex obtuse. Fruit dark brown, globose, to 3 mm in diam., black punctate-lineate; persistent calyx lobes thin margined, red punctate-lineate, not reaching persistent style. Fl. Feb–Mar, fr. Jul–Sep.

* Sparse mixed forests, stream banks, hillsides; 500–1300 m. Hainan.


**腺叶杜茎山 xian ye du jing shan**

* Maesa subrotunda C. Y. Wu & C. Chen.  

Shrubs 2–5 m tall, glandular granulose, early glabrescent. Branchlets terete, flexuous, not lenticellate; pith solid. Petiole canaliculate, 2.5–3(–4) cm; leaf blade broadly ovate or broadly elliptic, 10–17(–24) × 5–11.5 cm, thin leathery, adaxially glossy, finely orange punctate-lineate, base broadly obtuse, rounded, to truncate, margin serrate-denticulate or with small, punctate teeth, apex caudate-acuminate; lateral veins 6–9(–10) on each side of midrib, ending in teeth, submarginal vein absent. Inflorescences axillary and terminal, paniculate, (2–)7 cm, 4–5-branched, glabrous; bracteoles ovate, acute. Flowers white, ca. 2 mm. Pedicel 0.8–1.5 mm. Calyx lobes broadly ovate, ca. 1 mm in fruit, obtuse or rounded, entire or irregularly crenulate, minutely ciliate or not, orange punctate-lineate. Corolla lobes as long as tube, broadly ovate, rounded at apex, crenulate at margin, orange punctate-lineate. Stamens included, minute, inserted on lower part of corolla tube; filaments shorter than anthers. Pistil included. Style thick; stigma obscurely lobed. Fruit globose, ca. 3 mm in diam., orange punctate-lineate. Fl. Dec–Feb, fr. Aug–Dec.

* Dense mixed forests, hillsides, stream banks, open coastal areas, dump places; 200–1500 m. Guangxi, Hainan, Yunnan [Cambodia, Vietnam].


**包疮叶 bao chuang ye**

* Baeobotrys indica Roxburgh, Fl. Ind. 2: 230. 1824.  

Shrubs 1–3 m tall, scandent, glandular granulose, early glabrescent. Branchlets angular to obtusely ridged, pellucid punctate-lineate, striate, with dense lenticels; pith

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Pedicel 1–2 mm, glandular closed at fruit apex. Fl. Apr–May, fr. Sep–Nov.


隐纹杜茎山 *yin wen du jing shan*

Shrubs 1.2–3 m tall. Branchlets glandular granulose, early glabrescent, shallowly canaliculate when young, cylindrical with ridges at maturity; pith hollow. Pediole slightly canaliculate, (1–)1.8 cm; leaf blade oblong to narrowly lanceolate, 11–21 × 3.5–7–(8) cm, papery, glandular granulose, early glabrescent, inconspicuously orange punctate-lineate, base sub-rounded or obtuse, margin coarsely serrate or serrate-denticulate with punctate and callose teeth, apex acute or short acuminate; lateral veins 9–12 on each side of midrib, ending in teeth, submarginal vein absent. Inflorescences axillary and terminal, paniculate, 2–4 cm, glabrous; bracteoles lanceolate, margin ciliate, apex acute. Flowers 2–3 mm. Calyx lobes ovate, obscurely orange punctate-lineate, margin ciliate, apex acute. Corolla white, campanulate, orange punctate-lineate; lobes ovate, margin minutely crenulate, as long as tube or longer, apex obtuse. Stamens inserted at middle of corolla tube; anthers ovate or reniform, ca. as long as filaments. Pistil included. Style slender, persistent; stigma sometimes 4-lobed. Fruit ovoid, ca. 2.5 mm in diam., slightly ribbed; persistent calyx lobes closed at fruit apex. Fl. Feb–Mar, fr. Oct.

Sparse broad-leaved forests, hillsides, valleys; 1600–2000 m. W Yunnan [Bangladesh, E India].


灰叶杜茎山 *hui ye du jing shan*

Shrubs 1–2 m tall. Branchlets angular, sparsely puberulent when young, glabrescent when mature. Petiole ca. 1.5 cm; leaf blade broadly elliptic to ovate, 7.5–11 × 5–6 cm, membranous, dull adaxially, inconspicuously orange punctate-lineate, base cuneate, margin serrate, teeth not callose, apex ciliate-acuminate; lateral veins 7–10 on each side of midrib, marginal vein absent. Inflorescences axillary, racemose or paniculate, 3–5 cm, glabrous; bracteoles ovate to lanceolate, margin ciliate, apex acute. Flowers 1.5–2 mm. Pedicel 1.5–2 mm, glabrous. Calyx lobes broadly ovate, margin entire, sometimes ciliate, apex acute. Corolla campanulate, twice as long as calyx lobes; lobes broadly ovate, as long as tube, orange punctate-lineate, margin crenulate, apex rounded. Stamens of pistillate flowers reduced, those of male flowers inserted on distal part of corolla tube; filaments longer than anthers; anthers oblong. Pistil and pistillode included. Style persistent; stigma 4-lobed. Fruit globose or subovoid, ca. 3 mm in diam., striate, 1/4–1/3 exposed above attachment of persistent calyx lobes. Fl. Feb, fr. Aug–Sep.

* Open edges of mixed forests; 100–600 m. C and S Guangdong.


蜡烛果属 *la zhu guo shu*

Shrubs or small trees. Leaves alternate or subopposite. Inflorescences terminal or rarely axillary, umbellate. Flowers bisexual, 5-merous. Corolla campanulate, united into a tube; lobes ovate or ovate-lanceolate, imbricate, overlapping to right in bud, recurved or reflexed at anthesis, not glandular. Basal part of filaments united into a tube as long as corolla tube, distal part free, exserted; anthers ovate, 2-celled, dehiscing longitudinally, transversely sepalate. Ovary superior; ovules numerous, within a globose placenta. Style elongated; stigma apiculate. Fruit elongated, terete, curved, 1-seeded capsules; exocarp dry, crustaceous, dehiscing by a
longitudinal fissure or separating into 2 fragments along back and front; endocarp somewhat fleshy; persistent calyx compactly enclosing fruit base. Seeds occupying whole cavity; embryo terete, curved.

Two species: India, Malaysia, Philippines, Sri Lanka, Vietnam, and Australia; one species in China.

1. Aegiceras corniculatum (Linnaeus) Blanco, Fl. Filip. 79. 1837.

蜡烛果 la zhu guo

Rhizophora corniculata Linnaeus, Amoen. Acad. 4: 123. 1759; Aegiceras majus Gaertner; Umbraculum corniculatum (Linnaeus) Kuntze.

Plants ca. 1.5 m tall. Branchlets reddish or blackish brown, glabrous. Petiole 5–10 mm; leaf blade elliptic or broadly obovate, 3–8 cm × 2–4.5 cm, leathery, base cuneate, margin entire, revolute, apex rounded or emarginate; lateral veins 7–11 on each side of midrib, densely puberulent abaxially. Inflorescences terminal, subsessile, ca. 10-flowered; bracts oblong-lanceolate, white, ca. 9 mm; lobes ovate, ca. 5 mm, asymmetric, acuminate, reflexed; tube 3–4 mm, villous inside. Stamens longer than corolla tube; filaments villous basally on outside, glabrous inside; anthers ca. 3 mm. Style black glandular basally. Fruit 6–8 cm, 5–6 mm in diam., glabrous, base clasped by twisted persistent sepals. Fl. Dec–Feb, fr. Oct–Dec.

Mangrove, muddy flats, coast. Fujian, Guangdong, Guangxi, Hainan, Nanhai Zhudao [India, Malaysia, Philippines, Sri Lanka, Vietnam; Australia].


紫金牛属 zi jin niu shu

Trees, shrubs, suffrutescent [or rarely herbs]. Leaves alternate or pseudoverticillate, usually punctate or punctate-lineate. Inflorescences paniculate, cymose, or umbellate, rarely racemose. Flowers bisexual, often punctate, 5- or rarely 4-merous. Calyx campanulate or cupular; sepals free or barely united at base, imbricate or quincuncial, usually punctate or punctate-lineate. Corolla campanulate, often punctate; lobes united at base, overlapping to right or very rarely to left, imbricate, or quincuncial, often conical in bud. Stamens attached at base or middle of corolla tube; filaments very short, broad at base; anthers dehiscing longitudinally or by apical pores. Ovary ovoid or subglobose, as long as or longer than petals; ovules 3 to many. Style base persistent; stigma minute, apiculate. Fruit drupaceous, 1-seeded, punctate, sometimes longitudinally ribbed, with somewhat fleshy exocarp and crusty or slightly bony endocarp. Seeds covered by membranous remnants of placenta.

About 400–500 species: primarily tropical E and SE Asia, Americas, Australia, and Pacific Islands; 65 species in China.

1a. Suffrutescent herbs or subwoody shrubs, if woody then mostly less than 1.5 tall, with creeping rhizomes, stolons, or tubers.

2a. Leaf blade margin serrate or pectinate-dentate.

3a. Leaf blade margin pectinate-dentate.

4a. Leaf blade papery, ovate or elliptic, 6–16 cm, base broadly rounded to subcordate, slightly asymmetric.

5a. Leaf blade bullate abaxially, veins densely villous-tomentose abaxially; inflorescences ca. 3 cm .......................................................... 36. A. pubivenula

5b. Leaf blade smooth adaxially, veins minutely villous abaxially; inflorescences 5–7 cm .......... 37. A. replicata

4b. Leaf blade membranous 16–50 cm, base cuneate or truncate, symmetric.

6a. Cataphylls absent; leaf secondary veins perpendicular from midrib to margin.

7a. Leaf blade oblanceolate, tomentose abaxially along veins, base truncate; petiole 4–6 cm .......................................................... 38. A. scalarinervis

7b. Leaf blade broadly elliptic, tomentose abaxially throughout, base broadly rounded; petiole (6–)6.5–8.5 cm .......................................................... 39. A. pingbienensis

6b. Cataphylls present; leaf secondary veins arcuate, curving distally from midrib to margin.

8a. Inflorescences racemose panicles; flowers umbellate; branchlets and midrib tomentose with simple, stramineous trichomes .................................................. 42. A. ramondiaeformis

8b. Inflorescences bipinnate panicles; flowers corymbose; branchlets and midrib tomentose with reddish, elongated, 2-celled capitulate trichomes.

9a. Plant subsucculent; leaf blade margin somewhat revolute; inflorescences columnar, not pyramidal .......................................................... 40. A. dasyrhizomatica

9b. Plant woody; leaf blade margin flat; inflorescences pyramidal ........................................ 41. A. gigantifolia

3b. Leaf blade margin roughly to finely serrate.

10a. Inflorescences paniculate; petiole winged .......................................................... 43. A. balansana

10b. Inflorescences umbellate; petiole not winged.

11a. Leaf blade 15–22 cm .......................................................... 44. A. purpureovillosa

11b. Leaf blade 2.5–10 cm.
12a. Leaves alternate, base of blade cordate ...................................................... 49. A. maclurei
12b. Leaves opposite, whorled, or nearly so; base of blade cuneate, obtuse, or rounded.
  13a. Sepals ovate or triangular-ovate, puberulent, tomentose, or ciliate; bracts
       1–2 mm.  
       14a. Pedicel puberulent, ca. 5 mm; petiole canaliculate, 10–20 mm ............. 45. A. ordinata
       14b. Pedicel strigose, 7–10 mm; petiole not canaliculate, 6–10 mm ............... 46. A. japonica
  13b. Sepals linear- to subulate-lanceolate, villous or pilose; bracts 3–5 mm.
       15a. Leaf blade elliptic or obovate, 2.5–6 cm; pedicel ca. 6 mm; flowers
            (3–)4 mm; fruit punctate ................................................................. 47. A. pusilla
       15b. Leaf blade ovate to lanceolate-elliptic or oblanceolate, 5–10 cm; pedicel
            7–10 mm; flowers 4–5(–6) mm; fruit not punctate ......................... 48. A. faberi

2b. Leaf blade margin entire, crenate, or undulate.

16a. Leaves and branchlets glandular villous-tomentose or glandular puberulent.

17a. Shrubs; leaf blade apex subacuminate to long acuminate, margin glabrous.
  18a. Leaf blade margin crenate; branchlets long glandular villous .......................... 50. A. villosa
  18b. Leaf blade margin entire; branchlets reddish glandular puberulent .......................... 51. A. brevicaulis
  17b. Herbs; leaf blade apex rounded to acute; margin long glandular villous-tomentose.
  19a. Petiole 0.2–0.4 cm; sepals glabrous; leaf blade apex rounded.
       20a. Calyx lobe margin glandular ciliate ................................................... 52. A. primulifolia
       20b. Calyx lobe margin glabrous ....................................................................... 53. A. omissa
  19b. Petiole 2–4 cm; sepals long glandular villous; leaf blade apex acute.
       21a. Leaf blade base truncate to broadly rounded, adaxial surface hispid .............. 54. A. verbascifolia
       21b. Leaf blade base acute, adaxial surface strigose and mamillate ..................... 55. A. mamillata

16b. Leaves and branchlets glandular papillose, scaly, or glabrous.

22a. Leaf blade 2–6 cm.
  23a. Leaf blade margin crenulate.
       24a. Leaf blade lanceolate, glossy above; branchlets and petioles densely and
            minutely reddish glandular papillose .................................................. 56. A. alyxiifolia
       24b. Leaf blade obovate, dull above; branchlets and petioles reddish brown scaly ...... 57. A. chinensis
  23b. Leaf blade margin minutely serrulate or entire.
       25a. Leaf blade margin entire; branchlets brown scaly apically ....................... 58. A. fordii
       25b. Leaf blade margin minutely serrulate; branchlets minutely reddish puberulent.
            26a. Leaf blade base truncate to subcordate ............................................. 59. A. violacea
            26b. Leaf blade base cuneate ...................................................................... 60. A. sinoaustralis

22b. Leaf blade 6.5–20 cm.
  27a. Branchlets reddish brown scaly; leaf blade margin without marginal nitrogen-fixing
       nodules ........................................................................................................ 61. A. argenticaulis
  27b. Branchlets glandular papillate; leaf blade margin with conspicuous black nitrogen
       fixing nodules.
  28a. Leaf blade apex caudate; branchlets reddish glandular papillose; petiole
       0.3–0.6 cm.  
  29a. Leaf blade membranous, base obtuse to rounded, abaxially glaucous,
       inconspicuously pellucid punctate, sparsely reddish puberulent .................... 62. A. caudata
  29b. Leaf blade papery, base acutish to attenuate, abaxially dull, densely black
       punctate, sparsely reddish papillose ...................................................... 63. A. pedalis
  28b. Leaf blade apex acute to acuminate; branchlets minutely rusty glandular papillose;
       petiole 0.8–2 cm.
  30a. Leaf blade membranous; petals 4–5 mm, apex acute; plants with creeping
       rhizomes ...................................................................................................... 64. A. crispa
  30b. Leaf blade papery to subleathery; petals 7–8 mm, apex acuminate; plants
       with tubers ................................................................................................. 65. A. carnosicaulis

1b. Shrubs or trees, mostly over 1 m, without creeping rhizomes or stolons.

31a. Inflorescences strictly axillary or axillary and terminal.
  32a. Branchlets and inflorescence rachis reddish tomentose or puberulent.
  33a. Inflorescences cymose, ca. 1 cm; branchlets reddish puberulent .......................... 3. A. aberrans
  33b. Inflorescences paniculate, 7–10 cm; branchlets reddish tomentose.
       34a. Inflorescence branches umbellate, rarely cymose; leaf blade margin entire; petiole
            0.3–0.5 cm ......................................................................................... 1. A. nigropilosa
34b. Inflorescence branches racemose; leaf blade margin subentire to crenulate; petiole 1.5–2.5 cm .......................................................... 2. A. baotingensis

32b. Branchlets and inflorescence rachis glabrous, minutely red papillate, or sparsely brown scaly.

35a. Branchlets and inflorescence rachis scaly.

36a. Leaf blade membranous; perianth membranous ............................................. 6. A. quinquegona
36b. Leaf blade leathery; perianth papery.

37a. Leaf blade glossy adaxially, apex long acuminate, acumen 1–2 cm; secondary veins numerous, fine; calyx lobes broadly ovate to suborbicular .................. 4. A. waitakii
37b. Leaf blade dull adaxially, apex acute; secondary veins 14–25 pairs; calyx lobes narrowly triangular ............................................................ 5. A. sieboldii

35b. Branchlets and inflorescence rachis glabrous or sparsely and minutely red glandular papillate.

38a. Petiole canaliculate; flowers in corymb or racemes.

39a. Leaf blade elliptic or oblanceolate, conspicuously black punctate-lineate abaxially, not prominently black punctate adaxially .................................. 10. A. solanacea
39b. Leaf blade linear or narrowly lanceolate, black punctate abaxially, prominently black punctate adaxially ........................................ 11. A. filiformis

38b. Petiole marginate; flowers in umbels.

40a. Sepals rugose basally; leaf blade margin revolute ........................................... 7. A. elliptica
40b. Sepals smooth or verruculose basally; leaf blade margin flat.

41a. Sepals verruculose basally, margin hyaline, apex rounded to emarginate; leaf blade base acute; petals glabrous at base ....................................... 8. A. garrettii
41b. Sepals smooth basally, margin opaque, apex broadly acute; leaf blade base cuneate; petals red glandular papillate adaxially at base ............ 9. A. brunnescens

31b. Inflorescences terminal or subterminal.

42a. Leaf blade margin crenulate, serrate, or dentate, if subentire then with large vascularized nodules.

43a. Branchlets, abaxial leaf surface, and inflorescence rachis glabrous or rusty scaly.

44a. Branchlets, abaxial leaf surface, and inflorescence rachis rusty scaly; leaf blade membranous or papery, densely black punctate and punctate-lineate or inconspicuously pellucid punctate.

45a. Leaf blade membranous, densely and prominently black punctate and punctate-lineate; tertiary veins not conspicuous ........................................ 32. A. shweliensis
45b. Leaf blade papery, inconspicuously pellucid punctate; tertiary veins prominently raised abaxially ...................................................... 33. A. malipoensis

44b. Branchlets, abaxial leaf surface, and inflorescences glabrous; leaf blade leathery, not punctate.

46a. Inflorescences corymbose panicles of umbels; sepals lanceolate; petiole 10–13 mm ................................................................. 34. A. hanceana
46b. Inflorescences simple or compound umbels; sepals broadly ovate to suborbicular; petiole 0.3–0.5 mm .................................................. 35. A. crassinervosa

43b. Branchlets and inflorescence rachis sparsely glandular papillose-puberulent and early glabrescent, or strigose.

47a. Inflorescences simple umbels.

48a. Leaf blade margin sharply serrate; sepals as wide as or wider than long; petals glabrous within ....................................................... 24. A. cornudentata
48b. Leaf blade margin undulate, or crenulate, rarely distantly serrulate; sepals longer than wide; petals yellow glandular granulose adaxially at base.

49a. Abaxial leaf surface, branchlets, and inflorescence rachis densely and minutely reddish puberulent; sepals papery, margin sparsely glandular ciliolate ......................................................... 25. A. lindleyana
49b. Abaxial leaf surface glabrous, branchlet and inflorescences rachis minutely reddish glandular papillate, early glabrescent; sepals membranous, margin glabrous ........................................ 26. A. crenata

47b. Inflorescences panicles of corymb, umbels, or cymes.

50a. Panicles cymose or compound umbels; leaf blade apex acute or subacuminate.

51a. Leaf blade papery, dull, densely black punctate, sparsely glandular papillate abaxially; inflorescences compound umbels ................................ 30. A. virens
51b. Leaf blade leathery, glossy, inconspicuously pellucid punctate, with reddish bifurcate trichomes abaxially; inflorescences compound cymes .... 31. A. alutacea
50b. Panicles corymbose; leaf blade apex caudate-acuminate.
52a. Leaf blade membranous; inflorescences compound corymbs .................. 27. A. conspersa
52b. Leaf blade subleathery to leathery; inflorescences corymbs of umbels.
53a. Perianth membranous, hyaline, essentially epunctate; sepals and petals long attenuate ................................................................. 28. A. merrillii
53b. Perianth papery, densely black punctate; sepals obtuse, petals acute ............................................................ 29. A. corymbifera
42b. Leaf blade margin subentire, undulate, or entire, without vascularized nodules.
54a. Inflorescences umbellate, terminal on modified lateral branchlets.
55a. Leaf blade linear or linear-lanceolate; branchlets 1.5–2.5(3.5) mm in diam.
56a. Leaf blade leathery, densely and prominently black punctate and punctate-lineate; sepals elliptic ................................................................. 22. A. ensifolia
56b. Leaf blade papery, inconspicuously red punctate; sepals deltate ............. 23. A. hypargyrea
55b. Leaf blade elliptic, broadly oblanceolate or obovate; branchlets (3.5–) 4–5 mm in diam.
57a. Branchlets red puberulent; petiole up to 1 cm, leaf blade leathery or subleathery, dull adaxially, pale abaxially.
58a. Leaf blade obscurely pellucid punctate; sepals ovate, acute apically, 1.5–2 mm, inconspicuously red punctate medially, margin opaque, erose, densely red glandular ciliate; peduncle 0.5–1.2 cm ...................... 18. A. porifera
58b. Leaf blade prominently black punctate; sepals suborbicular, broadly rounded and notched apically, 4–6 mm, densely black punctate medially, margin hyaline, irregular, with a few translucent glandular cilia; peduncle 1.3–2.5 cm ........................................ 19. A. perreticulata
57b. Branchlets glabrous; petiole 1–4 cm; leaf blade membranous, glossy adaxially.
59a. Leaf blade densely and prominently red punctate, margin entire; petiole 1–2 cm .......................................................................................... 20. A. olivacea
59b. Leaf blade densely and prominently black punctate and punctate-lineate, margin roughly crenate; petiole 3–4 cm ........................................... 21. A. hokouensis
54b. Inflorescences pyramidal paniculate, terminal and/or subterminal on main branchlet axis.
60a. Leaf blade leathery, thin leathery, or cartilagineous; branchlets 5–7 mm in diam.
61a. Leaf blade thin leathery, smooth; sepals ovate .............................................. 14. A. obtusa
61b. Leaf blade cartilagineous or leathery, scrobiculate; sepals lanceolate.
62a. Leaf blade cartilagineous; inflorescences and branchlets minutely scaly ................................................................. 12. A. densilepidotula
62b. Leaf blade leathery; inflorescences and branchlets glabrous ..................... 13. A. racemosa
60b. Leaves membranous to papery; branchlets 2–3 mm in diam.
63a. Flowers in corymbs; pedicel erect; inflorescence rachis straight ............. 5. A. thyrsiflora
63b. Flowers in umbels; pedicel recurved; inflorescence rachis geniculate.
64a. Leaf blade bullate, elliptic to lanceolate; inflorescence rachis and branchlets reddish scaly and glandular papillate ........................................... 16. A. retroflexa
64b. Leaf blade smooth, obovate to oblanceolate; inflorescence rachis and branchlets reddish stellate and dendroid tomentose .......................... 17. A. curvula

1. Ardisia nigropilosa Pitard in Lecomte, Fl. Indo-Chine 3: 810. 1930.  星毛紫金牛 xing mao zi jin niu  

Ardisia stellata E. Walker.  

Shrubs ca. 3 m tall, densely reddish stellate tomentose throughout; stellate hairs stipitate. Branchlets terete, 2.5–3.5 mm in diam., strongly longitudinally ridged. Petiole canaliculate, 3–5 mm; leaf blade oblanceolate, 12–24 × 3.5–7 cm, papery, dull and glabrescent adaxially except for midrib, base subauriculate, margin flat, entire or obscurely undulate, apex acute or acuminate; lateral veins 15–20 on each side of midrib, prominent, raised, marginal vein absent. Inflorescences terminal or sublateral, paniculate, branches umbellate or cymose, 7–10 cm. Flowers papery, pink, ca. 3 mm. Pedicel (5–) 7–10 mm. Sepals triangular lanceolate, 1.2–1.5 mm, densely tomentose, punctate, margin entire and glabrous, apex acute. Petals nearly free, broadly ovate, epunctate or sparsely punctate, sparsely pubescent abaxially, glabrescent, margin entire, apex obtuse or subacute. Stamens ca. 2/3 as long as petals; filaments obsolete; anthers ovate, punctate dorsally, dehiscent by longitudinal slits, apex caudate. Pistil ca. as long as petals; ovary globose, glabrous, punctate; ovules numerous, multiseriate. Stigma punctiform. Fruit globose, dull red or reddish black, 4–5 mm in diam., stellate tomentose. Fl. May, fr. Oct.  

Evergreen broad-leaved forests, mountains, stream sides, damp places; ca. 500 m. S Yunnan [Vietnam].

**保亭紫金牛 bao ting zi jin niu**

Shrubs 2–3 m tall, reddish brown scaly on branchlets, petioles, and inflorescence rachis. Branchlets slightly angular to obliquely 4-angled, 3–5 mm in diam. Petiole canaliculate, 1.5–2.5 cm; leaf blade oblong or elliptic, 14–25 × 4–8.5 cm, papery, or thin leathery, base broadly cuneate, margin flat, entire to suberect, apex acute to slightly acuminate, acumen to 5 mm, without a macro; lateral veins numerous, prominently raised on both surfaces, marginal vein evident. Inflorescences axillary on long peduncles, paniculate, branches umbrulate, racis straight, glabrous. Flowers papery, pink, ca. 5 mm. Pedicel recurved, 0.8–1.5 cm. Sepals triangular, 0.8–1 mm, minutely punctate, margin entire, ciliate, apex acute. Petals united ca. 1/2 way to base; lobes broadly ovate, glabrous, apex acute. Stamens subequal to petals; filaments short; anthers ovate, ca. 2 mm, apparently epunculate, apiculate. Pistil ca. as long as petals; ovary subglobose, glabrous; ovules numerous, multiseriate. Fruit subglobose, 6–7 mm in diam., longitudinally striate. Fl. Feb–Apr, fr. Oct–Nov.

* Dense broad-leaved forests, mountains. Hainan.


**狗骨头 gou gu tou**


Shrubs 1.2–2 m tall. Branchlets terete, 2–3 mm in diam., reddish puberulent, glabrescent. Petiole canaliculate, 6–10 mm; leaf blade narrowly elliptic or oblong-acuminate, 17–23 × 5–9 cm, papery, dull and glabrous adaxially, minutely puberulent and punctate abaxially, base cuneate or obtuse or sometimes rounded, margin flat, entire, apex acuminate; lateral veins 18–23 on each side of midrib, prominently raised adaxially, marginal vein present. Inflorescences axillary, cymose, ca. 1 cm, puberulent, usually pendulous. Flowers papery, ca. 3 mm. Pedicel 2–3 mm, puberulent. Sepals ovate, ca. 1 mm, minutely puberulent, red punctate, margin ciliate, apex acute. Petals united ca. 1/2 way to base; lobes broadly ovate, glabrous, minutely punctate, base auriculate, margin entire, apex obtuse. Stamens slightly shorter than petals; filaments subobsolete; anthers ovate or broadly lanceolate, punctate dorsally, dehiscent by longitudinal slits, apex acute. Pistil ca. as long as petals, glabrous; ovary conical; ovules numerous, in 3 series. Stigma punctiform. Fruit globose, ca. 5 mm in diam., punctate. Fl. Apr–May, fr. Oct.

* Evergreen broad-leaved forests, stream sides; 500–800 m. Guangdong, Guangxi, Hainan [Vietnam].

Plants reported in FRPS as *Ardisia oxyphilla* Wallich ex A. de Candolle var. *cochinchinensis* Pitard are misidentifications of *A. waitakii*. The former taxon is a synonym of *A. amherstiana* A. de Candolle, a species that does not occur in China.


**越南紫金牛 yue nan zi jin niu**

Shrubs or trees to 4 m tall. Branchlets terete, 3–3.5 mm in diam., brown scaly, glabrescent. Petiole canaliculate, 7–12 mm; leaf blade oblong or narrowly oblong-acuminate, 9–20 × 2.5–5.5 cm, leathery, densely pubelluculent punctate, glossy, and glabrous adaxially, pale and densely minute brown scaly abaxially, base cuneate, margin flat, entire, apex long acuminate or attenuate, acumen 1–2 cm; lateral veins numerous, marginal vein present. Inflorescences axillary or subterminal, corymbose. Flowers papery, white or pink, 3.5–4 mm. Pedicel 5–10 mm. Sepals broadly ovate to suborbicular, 1.5–1.8 mm, keeled and orange punctate mediately, sparingly brown scaly basally, margin erose toward apex and ciliate, apex obtuse to rounded. Petals united 0.3–0.4 mm from base; lobes ovate, sparingly pubelluculent punctate, rusty papillate adaxially at base, margin entire, apex obtuse to acutish. Stamens subequalling petals; filaments ca. 0.5 mm; anthers narrowly ovate, ca. 2.5 mm, epunculate dorsally, dehiscing by subterminal pores opening into longitudinal slits, apex cuspidate. Pistil equaling petals; ovary ovoid, densely punctate; ovules numerous, multiseriate. Fruit globose, 5.5–6 mm in diam., pubelluculent. Fl. Apr–May, fr. Oct.

* Mixed forests, thickets, mountains, hillsides; 100–600 m. Fujian, Taiwan, Zhejiang [S Japan].


**多枝紫金牛 duo zhi zi jin niu**

* Ardisia formosana Rolfe; Bladhia sieboldii (Miquel) Nakai; Tinus sieboldii (Miquel) Kuntze.

Shrubs or rarely small trees to 10 m tall. Branchlets terete 2–3 mm in diam., sparingly brown scaly when young, finely wrinkled. Petiole marginate, 5–10 mm; leaf blade ovate to oblong-acuminate, 7–14 × 2–4 cm, leathery, dull adaxially, glabrous or sometimes minutely brown scaly abaxially, base cuneate, margin entire, usually revolute, apex broadly to narrowly acute; lateral veins 14–25 on each side of midrib, inconspicuous, marginal vein obscure. Inflorescences axillary, near ends of branches, paniculate, branches subumbellate or cymose, 3–4(–7) cm, glabrous. Flowers membranous, white, ca. 3 mm. Pedicel ca. 5 mm, brown scaly. Sepals ovate, 1–1.5 mm, sparingly punctate, margin entire, ciliate, apex acute. Petals nearly free, broadly ovate, inconspicuously punctate, glabrous, apex acute. Stamens ca. 3/4 as long as petals; filaments equal to anther length; anthers ovate, prominently black or inconspicuous, pollelluculent, dehiscing by pores opening into large longitudinal slits, apex apiculate. Pistil ca. as long as petals; ovary glabrous, punctate; ovules numerous, multiseriate. Fruit globose, red to blackish, ca. 7 mm in diam., somewhat fleshy. Fl. Mar–Jun, fr. Jan–Apr. 2n = 48.

6. **Ardisia quinquegona** Blume, Bijdr. 689. 1826.
Ardisia elliptisepala E. Walker; A. jinyunensis Z. V. Zhu; A. pauciflora Heyne; A. pentagona A. de Candolle; A. quinquegona var. hainanensis E. Walker; A. quinquegona var. oblonga E. Walker; Bladghia pseudoquinquegona Masamune; B. quinquegona (Blume) Nakai.

Shrubs 2–6 m tall, rarely rhizomatous. Branchlets angular, 2–3 mm in diam., brown scaly, glabrescent, longitudinally ridged. Petiole canaliculate, 3–5–10 mm, brown scaly, glabrescent; leaf blade oblong, or oblongate, 16–16 × 2–2 cm, membranous, dull and glabrous adaxially, inconspicuously punctate and scaly abaxially, base cuneate, margin flat, entire, apex narrowly acute to acuminate, acumen to 1 cm; lateral veins numerous, inconspicuous, marginal vein inconspicuous. Inflorescences axillary, paniculate, cymose, or subumbellate, ca. (1–)3–5(–8) cm, scaly. Flowers membranous, white or pink, to 3 mm. Pedicel 5–8 mm, scaly. Sepals ovate to lanceolate, ca. 1 mm, punctate, glabrous, margin sparsely and minutely ciliate, apex acute to obtuse. Petals nearly free, broadly elliptic, to 3 mm, punctate, glabrous except puberulent at base adaxially, apex acute or obtuse. Stamens subequalling petals; filaments obsolete; anthers ovate, glabrous; ovules numerous, multiseriate. Stigma punctiform. Fruit depressed, obtusely 5-angled, inconspicuously punctate. Fl. Mar–Jul, fr. Aug–Feb.

Damp seepage in mixed forests, valleys, stream banks, hillsides, damp places; 200–1300 m. Fujian, Guangdong, Guangxi, Hainan, Sichuan, Taiwan, Yunnan [India, Indonesia, Japan (Ryukyu Islands), Malaysia, Vietnam].


Eastern Ardisia

Ardisia kotoensis Hayata; A. squamulosa Presl; Bladghia kotoensis (Hayata) Nakai; Tinus squamulosa (Presl) Kuntze.

Shrubs 1–2 m tall, glabrous. Branchlets angular, 3–4.5 mm in diam., glabrous, conspicuously black punctate-lineate, longitudinally ridged. Petiole marginate, 5–10 mm; leaf blade oblongate or obovate, 6–12–16) × 3–5(–7) cm, subleathery, dull and densely punctate abaxially, especially along margin, base cuneate, margin revolute, entire, apex obtuse or acute; lateral veins 12–34 on each side of midrib, marginal vein present. Inflorescences axillary or terminal on basally thickened lateral branches, subumbellate or umbellate. Flowers leathery, pink or white, 6–8 mm. Pedicel ca. 1–2 cm, minutely and densely white verrucose, densely punctate. Sepals broadly ovate, ca. 1 mm, densely black punctate, base rugose and subdark, margin subentire, scarious, minutely ciliate, apex rounded. Petals almost free, broadly ovate, densely punctate, glabrous, margin hyaline, scarious, entire, apex long attenuate. Stamens subequalling petals; anthers linear–lanceolate, punctate dorsally, longitudinally dehiscent, transversely sepalet-lobed, apex apiculate. Pistil as long as petals; ovary glabrous, pellucid punctate; ovules numerous, multiseriate. Fruit subglobose, red or purplish black, ca. 8 mm in diam., minutely punctate, fleshy. Fl. Feb–Apr, fr. Sep–Nov. 2n = 48*

Roadsides, scrub, near villages, edges of fields, along coasts. Taiwan [India, Indonesia, Japan (Ryukyu Islands), Malaysia, Philippines, Sri Lanka, Vietnam; cultivated and naturalized throughout tropics].


Shrubs or trees 2–5(–8) m tall, glabrous. Branchlets terete, 3–4 mm in diam., minutely glandular papillate, early glabrescent. Petiole marginate, 5–10 mm; leaf blade narrowly oblongate, 9–19 × 2–5 cm, papery, inconspicuously punctate, base acute, margin flat, entire, apex acuminate, acumen 1–1.5 cm; lateral veins 14–20 on each side of midrib, inconspicuous adaxially, slightly raised abaxially, marginal vein absent. Inflorescences axillary, paniculate, branches umbellate or subumbellate, rarely cymose, 4–10 cm. Flowers papery, white, rarely red or pink, 5–7 mm. Pedicel 1.2–1.9 cm. Sepals broadly ovate, ca. 2 mm, reflexed in fruit, punctate, base subauriculate, verrucose, margin hyaline, ciliate, apex rounded or emarginate. Petals nearly free, broadly ovate, 5–7 mm, glabrous, purplish red punctate, apex acute. Stamens shorter than petals; anthers lanceolate, black punctate dorsally, dehiscent by longitudinal pores, apex acute or minutely apiculate. Pistil as long as petals; ovary glabrous; ovules numerous, in 3 or 4 series. Fruit reddish purple or blackish, oblate, ca. 7 mm in diam., densely punctate. Fl. Feb–Apr, fr. Sep–Nov.

Mixed forests, limestone hillsides, shrubby areas, mountains; 400–1400 m. Guizhou, Xizang, Yunnan [Myanmar, Thailand, Vietnam].

The species was reported in FRPS as Ardisia arborescens.


Brown Ardisia

Ardisia glauca Pitard (1930), not Mez (1920).

Shrubs 0.5–1(–3) m tall, glabrous. Branchlets somewhat angled, 2.5–3.5 mm in diam., glabrous. Petiole marginate, (5–) 7–12 mm; leaf blade elliptic, 8–14 × 3.5–6 cm, papery, base broadly cuneate, margin entire, apex acute or broadly acuminate; lateral veins 10–15 on each side of midrib, marginal vein undulate, interrupted. Inflorescences subterminal, paniculate, on specialized lateral branches 5–9 cm, with 1 or 2 reduced apical leaves, branches umbellate. Flowers papery, pink, ca. 4 mm. Pedicel subclavate, ca. 1 cm, slender. Sepals ovate, ca. 1.5 mm, punctate, sometimes sparsely scaly, base smooth, margin opaque, minutely ciliate, apex broadly acute. Petals ovate, ca. 4 mm, united at base; lobes densely and finely punctate, glabrous abaxially, minutely red glandular papillate near base adaxially, margin entire, opaque, apex acute.

凹脉紫金牛 ao mai zi jin niu

Ardisia glauca Pitard (1930), not Mez (1920).

Shrubs 0.5–1(–3) m tall, glabrous. Branchlets somewhat angled, 2.5–3.5 mm in diam., glabrous. Petiole marginate, (5–) 7–12 mm; leaf blade elliptic, 8–14 × 3.5–6 cm, papery, base broadly cuneate, margin entire, apex acute or broadly acuminate; lateral veins 10–15 on each side of midrib, marginal vein undulate, interrupted. Inflorescences subterminal, paniculate, on specialized lateral branches 5–9 cm, with 1 or 2 reduced apical leaves, branches umbellate. Flowers papery, pink, ca. 4 mm. Pedicel subclavate, ca. 1 cm, slender. Sepals ovate, ca. 1.5 mm, punctate, sometimes sparsely scaly, base smooth, margin opaque, minutely ciliate, apex broadly acute. Petals ovate, ca. 4 mm, united at base; lobes densely and finely punctate, glabrous abaxially, minutely red glandular papillate near base adaxially, margin entire, opaque, apex acute.
Stamens shorter than petals; filaments extremely short; anthers ovate, punctate or darkened dorsally, dehiscent by longitudinal slits, apex apiculate. Pistil as long as petals; ovary ovoid, glabrous; ovules numerous, multiseriate. Fruit dark reddish, globose, 6–7 mm in diam., pellucid punctate. Fl. Apr, fr. Oct–Jan.

Mixed forests, thickets, valleys, hillsides. Guangdong, Guangxi [Vietnam].

10. Ardisia solanacea Roxburgh, Pl. Coromandel 1: 27. 1795.

酸台菜 suan tai cai

Shrubs or trees to 6 m tall, glabrous. Branchlets prominently angular, 5–7 mm in diam. Petiole canaliculate, 1–2 cm; leaf blade elliptic or oblanceolate, 12–20 × 4–7 cm, papery, conspicuously black punctate and punctate-lineate abaxially, not prominently punctate adaxially, base cuneate or narrowly decurrent on petiole, margin subrevolute, entire, apex acute; lateral veins ca. 20 on each side of midrib, raised on both surfaces, marginal vein absent. Inflorescences at bases of new shoots, paniculate with racemose or rarely corymbose branches, 3–8 cm. Flowers leathery, pink, ca. 1 cm. Sepals broadly ovate to reniform, ca. 3 mm, densely black punctate, base subauriculate, margin subentire or crenulate, ciliate, scarious, apex rounded. Petals nearly free; lobes broadly ovate, ca. 9 mm, punctate, margin entire, hyaline, apex obtuse or acute. Stamens subequalling petals; filaments ca. 1/4 anther length; anthers oblong-lanceolate, dehiscent, apex acute. Pistil equaling petals; ovary globose, densely punctate; ovules numerous, multiseriate. Fruit purplish red or blackish, globose, 6–7 mm in diam., densely black punctate. Fl. Mar–Apr, fr. Nov–Dec.

* Dense mixed forests, hillside, 200–1000 m. Guangxi.


密鳞紫金牛 mi lin zi jin niu

Trees 3–8(–15) m tall, densely reddish brown scaly on branchlets, petioles and inflorescence rachis. Branchlets angular, 5–7 mm in diam. Petiole narrowly marginate, deeply canaliculate, ca. 1 cm; leaf blade obovate or broadly oblanceolate, 11–17(–24) × 4–6(–10) cm, cartilaginous, inconspicuously punctate, scrobiculate, base cuneate and narrowly decurrent, margin entire, revolute, apex broadly acute; lateral veins numerous, raised on both surfaces, marginal vein present. Inflorescences terminal or subterminal, pyramidal paniculate, branches subumbellate, 10–14 cm. Flowers leathery, pink or purplish red, ca. 3 mm. Pedicel 3–8 mm. Sepals lanceolate, 1–1.5 mm, inconspicuously pellucid punctate, glabrous, margin ciliate, apex acute. Petals nearly free, ovate, inconspicuously pellucid punctate, glabrous, margin entire, apex obtuse. Stamens subequalling petals; filaments to 1 mm; anthers ovate, not punctate dorsally, apiculate. Pistil as long as or longer than petals in bud; ovary ovoid, glabrous; ovules ca. 14, in 2 or at least 3 series. Fruit purplish red to black, globose, ca. 6 mm in diam., inconspicuously pellucid punctate. Fl. Jun–Aug, fr. Oct–Nov.

* Dense broad-leaved forests, valleys, hillside, 300–2000 m. Hainan.


矮紫金牛 ai zi jin niu

Ardisia hainanensis Mez; A. pyrgina Saint Lager; A. pyrgus Roemer & Schultes; Tinus humilis (Vahl) Kunze.

Shrubs 1–2(–5) m tall, glabrous. Branchlets terete, 5–7 mm in diam., glabrous. Petiole canaliculate, 6–10 mm; leaf blade obovate, elliptic, or rarely oblanceolate, 15–18 × 5–7 cm, leathery, glabrous, inconspicuously pellucid punctate, scrobiculate, base cuneate and minutely decurrent, margin entire, apex broadly acute to obtuse; lateral veins ca. 12 on each side of midrib, marginal vein absent. Inflorescences terminal, rarely terminating lateral branchlets, subumbellate or cymose in pyramidal panicles, 8–17(–20) cm. Flowers leathery, pink or purplish red, 5–6 mm. Pedicel 6–10 mm, ca. 1.5 cm in fruit. Sepals broadly ovate, 1–2 mm, glabrous, punctate, base subauriculate, margin entire, apex acute. Petals nearly free, broadly ovate or ovate, glabrous, inconspicuously pellucid or orange punctate, glabrous. Stamens subequalling petals; filaments ca. 1/2 anther length; anthers oblong-lanceolate, punctate dorsally, apiculate. Pistil equaling petals; ovary punctate, glabrous; ovules numerous, in 3 series. Fruit dull red or purplish black, globose, ca. 6 mm in diam., densely punctate. Fl. Mar–Apr, fr. Nov–Dec.

* Dense mixed forests, hillside, 200–1000 m. Guangxi.
Mixed forests, hillsides, open fields; 0–1100 m. Guangdong, Hainan [Philippines, Vietnam].


铜盆花 tong pen hua

Shrubs or trees to 7 m tall, densely and minutely brown scaly on branchlets, petioles, and inflorescences. Branchlets terete, 4–5(–6) mm in diam. Petiole marginate, canaliculate, 5–10 mm; leaf blade oblongate to oblanceolate, 5–9 × 1.4–2.3 cm. Flowers white to pinkish, 2–2.5 mm. Pedicel 2–5 mm, slender. Sepals elliptic to narrowly oblanceolate, 5–9 × 1.4–2.3 cm, thin leathery, glabrous, base cuneate, margin entire or obscurely serrate, apex broadly acute, acuminate, or obtuse; lateral veins 8–15 on each side of midrib, obscure, marginal vein inconspicuous. Inflorescences terminal or subterminal, paniculate, branches corymbose or subumbellate, rarely racemose, 5–8 × 7–13 cm. Flowers papery, white to pink or lavender, 2–5(–6) mm. Pedicel 2–10(–17) mm, slender. Sepals ovate, 0.8–1.5 mm, pellucid or orange punctate, margin entire, minutely ciliate, apex acute. Petals nearly free, broadly ovate or ovate, 2–4(–6) mm, densely and minutely orange punctate, or inconspicuously pellucid punctate, margin entire, apex obtuse to acute. Stamens equaling petals; filaments short; anthers punctate dorsally, apex apiculate. Pistil as long as petals; ovary glabrous; ovules 15 to numerous, in 3 series. Fruit black, 4 (–8) mm in diam., pellucid punctate, obscurely longitudinally ribbed.

Two subspecies: Guangdong, Guangxi, Hainan [Vietnam].

14a. Ardisia obtusa subsp. obtusa

铜盆花 (原亚种) tong pen hua (yuán yà zhòng)

Shrubs or trees to 7 m tall, densely and minutely brown scaly on branchlets, petioles, and inflorescences. Branchlets terete, 4–5(–6) mm in diam. Petiole marginate, 12–15 mm; petiole broadly marginate, 1.2–1.5 cm; leaf blade oblongate to oblanceolate, 6–10(–17.5) × 2–4(–5) cm. Flowers papery, white to pink or lavender, 2–5(–6) mm. Pedicel 5–10(–17) mm, slender. Sepals ovate, 0.8–1.5 mm, pellucid or orange punctate, margin entire, minutely ciliate, apex acute. Petals nearly free, broadly ovate or ovate, 2–4(–6) mm, densely and minutely orange punctate, or inconspicuously pellucid punctate, margin entire, apex obtuse to acute. Stamens equaling petals; filaments short; anthers punctate dorsally, apex apiculate. Pistil as long as petals; ovary glabrous; ovules 15 to numerous, in 3 series. Fruit black, 4 (–8) mm in diam., pellucid punctate, obscurely longitudinally ribbed.

Two subspecies: Guangdong, Guangxi, Hainan [Vietnam].

14b. Ardisia obtusa subsp. pachyphylla

铜盆花 (厚叶种) tong pen hua (hòu yè zhòng)

Petiole broadly marginate, 1.2–1.5 cm; leaf blade oblanceolate to obovate, 6–10(–17.5) × 2–4(–5) cm. Flowers lavender or pink, 4–5(–6) mm. Pedicel 5–10(–17) mm. Sepals 1.2–1.5 mm. Petals 3–6 mm, pellucid punctate. Ovules ca. 15. Fruit black, 4(–8) mm in diam., obscurely longitudinally ribbed. Fl. Feb–Apr, fr. Apr–Jul.

* Bushes, broad-leaved forests, valleys, hilly areas, water edges; 0–100 m. Guangdong, Hainan.


南方紫金牛 nan fang zi jin niu

Adidasia austrasiatica E. Walker; A. depressa C. B. Clarke; A. floribunda Wallich (1824), not Roemer & Schultes (1819); A. mezziana H. Léveillé (1912), not King & Gamble (1906); A. nerifolia Wallich; A. tenera Mez; A. yunnanensis Mez; Tinus depressa (C. B. Clarke) Kuntze; T. thyrsiflora (D. Don) Kuntze.

Shrubs or small trees 1.5–5(–9) m tall, densely brown scaly on branchlets, petioles, and inflorescences. Branchlets terete, 2–3 mm in diam. Petiole canaliculate, ca. 1 cm; leaf blade narrowly elliptic to obovate, 12–20(–22) × 2–4.5(–6) cm, papery, glossy, densely and minutely scrobiculate adaxially, glabrous or minutely rusty brown scaly abaxially glabrescent, pellucid punctate, base cuneate or narrowly decurrent, margin entire, apex long acuminate, acumen 1.5–2 cm; lateral veins numerous, obscure abaxially, marginal vein absent. Inflorescences terminal or subterminal, paniculate, branches corymbose, 10–20 cm. Flowers papery, pink or purplish red, ca. 4 mm. Pedicel erect, ca. 5 mm. Sepals ovate to elliptic, 1.3–1.5 mm, orange punctate, brown scaly abaxially, pubescent adaxially, margin ciliate, apex acute. Petals nearly free, ovate, 3.8–4 mm, sparsely orange punctate, glabrous, margin entire, apex acute. Stamens subequal to petals; filaments ca. 1.5 mm; anthers ovate to lanceolate, ca. 1.5 mm, punctate dorsally, apiculate. Ovary glabrous; ovules numerous, multiseriate. Fruit purplish red, globose, often 5-angled, ca. 4 mm in diam., minutely punctate. Fl. Jan–May, fr. Apr–Dec.

Broad-leaved forests, woody hillsides, valleys, damp places, thickets; 200–1500 m. Guangxi, Guizhou, Hainan, Sichuan, Xizang, Yunnan [India, Myanmar, Nepal, Vietnam].


弯梗紫金牛 wan geng zi jin niu

Shrubs 1–2 m tall. Branchlets slightly angular, 1.5–2 mm in diam., densely and minutely reddish brown scaly, glundar papilulate, glabrescent. Petiole canaliculate, 4–12 mm; leaf blade elliptic, or lanceolate, 8–15 × 2–4 cm, papery, glabrous, bullate, base cuneate, margin revolute, entire, apex acute or acuminate; lateral veins 15–18 on each side of midrib, slightly raised abaxially, marginal vein present. Inflorescences terminal, 10–12 cm, paniculate, branches umbellate, rachis strongly flexuous to geniculate. Flowers papery, white, ca. 2 mm. Pedicel 3–6(–10) mm, recurved. Sepals ovate, 0.8–1 mm, glabrous, pellucid punctate, margin crenulate, ciliate, apex acute. Petals nearly free, ovate, glabrous, not punctate, apex acute. Stamens subequal to petals; anthers ovate, punctate dorsally, apex acute to subapiculate. Pistil as long as petals. Style as long as globose ovary, glabrous. Fruit red, globose, ca. 5 mm in diam., distinctly longitudinally ribbed, sparsely punctate. Fl. Apr, fr. Aug.

* Broad-leaved forests, damp places. Hainan.

折梗紫金牛  zhe geng zi jin niu

Shrubs or small trees, reddish stellate and dendroid tomentose on branchlets, petioles, and inflorescence rachis. Branchlets angular, densely villous when young, glabrescent. Petiole canalicate, 0.8–1 cm; leaf blade ovobovate to oblong-ceolate, 12–19 × 4.5–5.5 cm, papery, smooth, glabrous adaxially, reddish stellate abaxially, inconspicuously pellucid punctate, base cuneate, margin entire and revolute at least basally, apex short acuminate, acumen 5–10 mm; lateral veins 15–20 on each side of midrib, marginal vein present. Inflorescences terminal on specialized lateral branches, paniculate, 6–7 cm, branches umbellate, rachis flexuous. Flowers unknown. Pedicel 3–5 cm, recurved, minutely stellate or puberulent. Fruiting calyx somewhat united at base, glabrescent, lobes broadly ovate, to 1 mm, puberulent inside, margin ciliate, apex acute. Fruit (immature) globose, glabrous; ovules numerous, multiseriate. Fl. Apr.

* Evergreen broad-leaved forests, hillsides; 200–300 m. Yunnan.

18. **Ardisia porifera** E. Walker, Philipp. J. Sci. 73: 70. 1940.

细孔紫金牛  xi cong zi jin niu

Subshrubs 20–30 cm tall, sometimes stoloniferous but without creeping rhizomes, glabrous. Branchlets terete, (3.5–)4–5 mm in diam., red puberulent. Petiole marginate, 5–10 mm; leaf blade elliptic to obovate, 8–13 × 3–5.5 cm, leathery, dull adaxially, pale and obscurely pellucid punctate abaxially, base cuneate, margin entire, subrevolute, apex broadly acute or obtuse; lateral veins ca. 8 on each side of midrib, slightly raised on both surfaces, marginal vein absent. Inflorescences racemose or subumbellate, at tips of specialized lateral branches 3–7.5 cm and with 1(–3) reduced leaves. Flowers unknown. Pedicel ca. 1 cm. Fruiting sepals ovate, 1.5–2 mm, puberulent, inconspicuously red punctate, margin opaque, erose, densely red glandular ciliate, apex acute. Pistil obturinate; ovary puberulent; ovules numerous, multiseriate. Fruit purple or black, globose, ca. 5 mm in diam., longitudinally punctate-lineate. Fl. Aug–Oct.

* Dense mixed forests. Hainan.


花脉紫金牛  hua mai zi jin niu

**Ardisia punctata** Lindley var. latifolia E. Walker.

Shrubs to 1 m tall, without creeping rhizomes. Branchlets subterete, (3.5–)3–4.5 mm in diam., succulent, densely reddish papillose-tomentose, glabrescent. Petiole canalicate, 5–7(–10) mm, densely black punctate; leaf blade oblong-ceolate to obovate, (7–)9–14 × 2–5.5 cm, leathery, dull adaxially, pale abaxially, glabrous, densely black punctate, base broadly cuneate, margin flat, entire, apex acuminate or acute, acumen to 0.5 mm, mucronate, lateral veins 7–15 on each side of midrib, marginal vein absent. Inflorescences umbellate, terminal on modified lateral branchlets; 3–6 cm. Flowers unknown. Pedicel erect, 5–10 mm, accrescent in fruit to 20 mm. Sepals suborbicular, 4–6 mm, densely black punctate, margin hyaline, irregular, with a few translucent glandular cilia, apex rounded and notched. Fruit depressed globose, 5–6 mm in diam., densely black punctate and punctate-lineate. Fl. Jun–Jul, fr. Dec–Feb.

* Mixed forests. Guangdong, Guangxi.


榄色紫金牛  lan se zi jin niu

Shrubs ca. 1 m tall. Branchlets angular, 2.5–3.5 mm in diam., glabrous. Petiole canalicate, 1–2 cm; leaf blade oblong-ceolate or oblong-oblate, 13–24 × 4–7 cm, membranous, densely red punctate, base cuneate, margin entire, apex acute to acuminate; lateral veins 10–12 on each side of midrib, sometimes ending in glands, marginal vein absent. Inflorescences simple, subumbellate, on curved ends of slender, leafless, brown scaly or minutely puberulent specialized lateral branches 5–9.5 cm. Flowers unknown. Pedicel slender, 1–1.5 cm, brown scaly or puberulent. Fruiting sepals broadly ovate, 1–1.5 mm, glabrous, densely black punctate, margin entire, glabrous, apex obtuse or broadly rounded. Fruit red, globose, ca. 6 mm in diam., inconspicuously pellucid punctate. Fr. Nov–Dec.


粗梗紫金牛  cu geng zi jin niu


Shrubs or subshrubs ca. 1 m tall, without creeping rhizomes. Branchlets somewhat angular, 5–7 mm in diam., succulent, reddish glandular papillate, glabrescent. Petiole marginate, 3–4 cm; leaf blade oblong-obovate, ca. 28 × 10 cm, membranous, glabrous, densely black punctate-lineate and punctate, base cuneate, somewhat decurrent, margin repand-crenate distally and entire near base, apex acuminate; lateral veins ca. 21 on each side of midrib, raised on both surfaces, marginal vein evident. Inflorescences racemose, simple, to 10-flowered, lateral or axillary, glabrous. Flowers membranous, pinkish, ca. 9 mm. Pedicel ca. 3 cm, glabrous, thickened at apex. Sepals ovate or broadly ovate, densely punctate, margin entire, glabrous, apex rounded. Petals nearly free, broadly ovate, ca. 9 × 6 mm, inconspicuously pellucid, margin entire, apex abruptly acuminate. Stamens shorter than petals; filaments shorter than anthers; anthers broadly ovate, longitudinally dehiscent, not punctate dorsally, apex acute. Pistil as long as petals, glabrous; ovary glabrous; ovules ca. 5, uniseriate. Fruit unknown. Fl. Apr.

* Hillsides, roadsides; 500 m. Yunnan (Hekou).
**Ardisia kokouensis** is very closely related to *A. rabilis* H. R. Fletcher and *A. translucida* H. R. Fletcher, and may prove to be conspecific upon further study.


### 剑叶紫金牛 liu ye zi jin niu

**Ardisia linearifolia** X. W. Wei & M. Y. Xiao.

Shrubs ca. 1 m tall, without creeping rhizomes. Branchlets 1.5–2.5 mm in diam., glabrous, wrinkled. Petiole canaliculate, 3–8 mm; leaf blade linear or linear-lanceolate, 10–12–(20) × 1(–2.5) cm, leathery, glabrous, densely black punctate and punctate-lineate, base cuneate, margin subentire, subrevolute, apex acuminate; lateral veins numerous, inconspicuous, marginal vein obscure. Inflorescences simple, subumbellate, on curved ends of specialized, leafless lateral branches 2–7 cm. Flowers papery, red, ca. 6 mm. Pedicel 1(–2) cm, sparsely brown scaly or minutely puberulent. Sepals elliptic, 2–3(–4) mm, densely punctate, glabrous, margin entire, apex obtuse. Petals nearly free, oblong-ovate, densely punctate, margin entire, apex obtuse. Stamens subequaling petals; filaments shorter than anthers; anthers linear-lanceolate, apex obtuse; lateral veins up to 18 on each side of midrib, prominent, marginal vein evident. Inflorescences terminal umbels, on specialized lateral branches. Flowers papery, white, 4–5 mm. Pedicel 1–1.5 cm, usually densely pubescent. Sepals broadly ovate to suborbicular, ca. 1.5 mm, densely punctate, margin entire, ciliate, apex rounded. Petals nearly free, ovate, 4–5 mm, glabrous, margin entire, apex acute. Stamens subequaling petals; filaments shorter than anthers; anthers narrowly lanceolate, longitudinally dehiscent, punctate dorsally, apex acute. Pistil equaling petals; ovary glabrous, punctate; ovules numerous, multiseriate. Fruit red, becoming black, globose, 6–8 mm in diam., papery. Fl. May–Aug., fr. Aug–Mar.

* Evergreen broad-leaved forests, hilly areas, deeply shaded damp places; ca. 700 m. Guangxi, Yunnan.


### 柳叶紫金牛 liu ye zi jin niu

**Ardisia quinquegona** Blume var. *linearifolia* Pitard; *A. salicifolia* E. Walker (1939), not A. de Candolle (1844).

Shrubs ca. 1 m tall, without creeping rhizomes. Branchlets terete, 2.5–3.5 mm in diam., brown scaly when young, glabrescent. Petiole marginate, 5–7 mm; leaf blade narrowly lanceolate, 6–8(–10) × 1.2(–1.5) cm, papery, glabrous, reddish brown scaly abaxially, inconspicuously red punctate, base cuneate, margin entire, subrevolute, apex long acuminate, acumen 1–2 cm; lateral veins numerous, obscure, marginal vein obscure. Inflorescences axillary or subterminal on specialized lateral branches 4–13 cm, subumbellate or cymose. Flowers papery, pink or purple-red, ca. 3 mm. Pedicel slender, ca. 1 cm, accrescent to 2.5 cm in fruit, minutely puberulent or brown scaly when young, glabrescent. Sepals deltate, to 1 mm, sparsely red punctate, brown scaly, margin entire, ciliate, apex acute. Petals nearly free, ovate, obscurely punctate, glabrous, margin entire, apex acute. Stamens ca. 3/4 as long as petals; filaments shorter than anthers; anthers ovate, not punctate dorsally, apex abruptly acute to apiculate. Pistil as long as or longer than petals. Fruit reddish, globose, ca. 4 mm in diam., punctate, obscurely longitudinally ribbed. Fl. May, fr. Nov–Dec.

Mixed forests, hillside, valleys, along streams, dark damp places; 700–1600 m. Guangxi, SE Yunnan [Vietnam].

24. **Ardisia cornudentata** Mez in Engler, Pflanzenr. IV. 236(Heft 9): 144. 1902.

**Ardisia morrisonensis** Hayata; *A. remotisserrata* Hayata; *A. stenosepala* Hayata; *A. suishaensis* Hayata; *Bladhia cornudentata* (Mez) Nakai; *B. morrisonensis* (Hayata) Nakai; *B. stenosepala* (Hayata) Nakai.

Shrubs ca. 2 m tall, sparsely glandular papillose-puberulent on branchlets, petals, and inflorescence rachis. Branchlets terete, 3–5 mm in diam. Petiole canaliculate, marginate, 5–7 mm; leaf blade elliptic-lanceolate or oblanceolate, 7–14(–20) × 2–3.5(–5.5) cm, papery, pelliculate punctate, minutely brown scaly abaxially, base cuneate, decurrent, margin serrulate, punctate and with vascularized marginal nodules on teeth, apex acuminate or acute; lateral veins up to 18 on each side of midrib, prominent, marginal vein evident. Inflorescences terminal umbels, on specialized lateral branches. Flowers papery, white, 4–5 mm. Pedicel 1–1.5 cm, usually densely pubescent. Sepals broadly ovate to suborbicular, ca. 1.5 mm, densely punctate, margin entire, ciliate, apex rounded. Petals nearly free, ovate, 4–5 mm, glabrous, margin entire, apex acute. Stamens subequaling petals; filaments shorter than anthers; anthers narrowly lanceolate, longitudinally dehiscent, punctate dorsally, apex acute. Pistil equaling petals; ovary glabrous, punctate; ovules numerous, multiseriate. Fruit red, becoming black, globose, 6–8 mm in diam., papery. Fl. Jan–Aug., fr. Aug–Mar.

* Mixed forests, hilly areas; 0–1700 m. Taiwan.


**Ardisia adenopex** Miau; *A. kwangtungensis* E. Walker; *A. punctata* Lindley (Sep 1824), not Jack ex Wallich (Mar-Jun 1824); *A. tsangii* E. Walker; *Bladhia punctata* (Lindley) Nakai; *Tinus punctata* (Lindley) Kunze.

Shrubs 1–2 m tall, without creeping rhizomes; densely and minutely reddish puberulent on branchlets, petioles, abaxial leaf surface, and inflorescence rachis. Branchlets terete, ca. 2.5 mm in diam. Petiole narrowly marginate, 1–1.5 cm; leaf blade oblong to lanceolate or oblanceolate, (7–)10–12(–18) × (1.5–)2–3.5(–4) cm, leathery or papery, glabrous, base cuneate, margin subentire or undulate, rarely serrate, slightly revolute, prominently punctate, with large vascularized marginal nodules, apex acute or acuminate, rarely obtuse; lateral veins 8–13 on each side of midrib, slightly raised adaxially, marginal vein conspicuous. Umbels on curved ends of specialized lateral branches 3–11 cm. Flowers papery, white, rarely pink, 5–6 mm. Pedicel 0.8–1.2 cm, to 2.5 cm in fruit. Sepals oblong to lanceolate or narrowly ovate, 2–3 mm, punctate, puberulent, margin entire, usually ciliate, apex broadly acute to obtuse. Petals nearly free, elliptic or ovate, punctate, glabrous abaxially, yellow
Ardisia pseudocrispa, which occurs in Guangxi and Vietnam, has subentire leaves without a marginal vein.

26. Ardisia crenata

Ardisia bicolor E. Walker; A. crenata var. bicolor (E. Walker) C. Y. Wu & C. Chen; Ardisia crenata var. taquetii H. Léveillé; A. konishii Hayata; A. kasukusensis Hayata; A. labordei H. Léveillé; A. lentiginosa Ker Gawler; A. linangensis C. M. Hu; A. miaoalensis S. Y. Lu; Bladhia crenata (Sims) H. Hara; B. crispa Thunberg var. taquetii (H. Léveillé) Nakai; B. lentiginosa (Ker Gawler) Nakai var. lanceolata Masamune.

Shrubs 1–1.5(–3) m tall, without creeping rhizomes, minutely reddish glandular papillate on branchlets, abaxial leaf surface, and inflorescence rachis, early glabrescent. Branchlets terete, 3–4 mm in diam. Petiole narrowly marginate, 6–10 mm, glabrous; leaf blade elliptic, narrowly lanceolate, or oblanceolate, 7–15 × 2–4 cm, leathery or papyry, prominently punctate, base cuneate, margin subrevolute, crenate, or undulate, with large vascularized marginal nodules, apex acute or acuminate; lateral veins 12–18 on each side of midrib, marginal vein often hidden by reflexed margin. Inflorescences terminal, umbellate or cymose, on specialized, 2- or 3-leaved lateral branches 4–16(–40) cm. Flowers membranous, white or rarely pinkish, 4–6 mm. Pedicel 7–10 cm. Sepals oblong-ovate, 1–1.5(–2.5) mm, glabrous, punctate, margin entire, apex rounded or obtuse. Petals nearly free, ovate, punctate, glabrous or subglabrous adaxially near base, apex acute. Stamens shorter than petals; filaments nearly obsolete; anthers triangular-lanceolate, punctate dorsally, longitudinally dehiscent, acute. Pistil subequaling petals; ovary glabrous; ovules ca. 5, uniseriate. Fruit red, globose, 6–8 mm in diam., sparsely punctate, somewhat fleshy. Fl. May–Jul, fr. Oct–Dec.

Dense mixed forests, hills, valleys, along streams, dark damp places; 300–1200 m. Fujian, Guangdong, Guanxi, Hunan, Jiangxi, Zhejiang [N Vietnam].

28. Ardisia merrillii

Ardisia undulata Mez (1902), not C. B. Clarke (1882).

Shrubs 2(–5) m tall, strigose on branchlets, abaxial leaf surface, and inflorescence branches. Branchlets terete, 3–4 mm in diam. Petiole marginate, 5–8 mm; leaf blade oblanceolate to narrowly oblanceolic or elliptic-lanceolate, 7–11 × 2–3 cm, membranous, sparsely punctate, base cuneate, margin entire or subcrenate, with vascularized marginal nodules, apex cuneate-acuminate, acumen 1–2 cm; lateral veins ca. 15 on each side of midrib, inconspicuous, marginal vein absent. Inflorescences terminal panicles of corymbbs on specialized lateral branches 30–50 cm. Flowers papery, pink, ca. 6 mm. Pedicel 1–1.5 cm. Sepals oblong-ovate, 2.5–3 mm, epunicate, somewhat puberulent at base, margin entire, apex acute or obtuse. Petals nearly free, oblong or ovate, epinicate, densely glandular papillose adaxially at base, margin entire, apex acute. Stamens ca. 2/3 as long as petals; filaments shorter than anthers; anthers lanceolate, longitudinally dehiscent, punctate dorsally, apex acute. Pistil subequaling petals; ovary glabrous; ovules 4 or 5, uniseriate. Fruit red, globose, ca. 6 mm in diam., glabrous, punctate.

Evergreen broad-leaved forests, dark damp places; valleys; 900–1400 m. Guangxi, Yunnan [Vietnam].
Ardisia virens is extremely closely related to A. hanceana Mez. The separation of groups based on presence or absence of papillae on the inflorescence rachis and branchlets is tentative pending further study. Ardisia maculosa differs from A. virens only by minor quantitative characters.

31. Ardisia alutacea


显脉紫金牛 xian mai zi jin niu

Shrubs 0.4–1.5 m tall. Branchlets terete, 1–2 mm in diam., very sparsely bifurcate glandular puberulent, early glabrescent. Petiole canaliculate, 8–10 mm; leaf blade elliptic, lanceolate, or obovate, 8–12.5 × 3–4.5 cm, leathery, glabrous, base cuneate, margin shallowly crenate, with vascularized nodules, abaxially with reddish bifurcate glandular trichomes, pellucid punctate, apex acute; lateral veins 7–9 on each side of midrib, prominent, marginal vein evident. Inflorescences compound cymose, at tips of specialized lateral branches 5–11 cm, subglabrous. Flowers papery, purplish red, 7–9 mm. Pedicel 1.5–2 cm, somewhat dilated at apex, punctate. Sepals broadly ovate, 1.3–1.5 mm, densely black punctate, margin entire, glabrous, apex obtuse. Petals nearly free, subdeltate, 8–9 mm, glabrous, densely black punctate, margin entire, apex acuminate. Stamens shorter than petals; filaments obsolete; anthers lanceolate-ovate, punctate especially dorsally. Pistil as long as petals, glabrous; ovary punctate; ovules ca. 6, uniseriate. Fruit purplish red, globose, ca. 8 mm in diam., sparsely punctate; persistent sepals covering base of fruit. Fl. May–Jun, fr. Dec.

* Dense mixed forests, valleys, dark damp places; 800–1700 m. SE Yunnan.

32. Ardisia shweliensis


瑞丽紫金牛 rui li zi jin niu

Shrubs 1–2 m tall, without creeping rhizomes, rusty scaly on branchlets, abaxial leaf surface and inflorescence rachis. Branchlets semiterete, 5–7 mm in diam. Petiole canaliculate, 1–1.5 cm; leaf blade oblong or elliptic, 8–15 × 4–5 cm, membranous, densely black punctate and punctate-lineate, especially abaxially, base cuneate, margin undulate-crisp or subdentil, punctate, with a few vascularized marginal nodules, apex acuminate; lateral veins ca. 15 on each side of midrib, marginal vein absent. Inflorescences terminal, paniculate, branches cymose, on specialized, 2- or 3-leaved lateral branches 7–11(–14) cm. Flowers membranous, white, ca. 7 mm. Pedicel 1–1.3 cm, clavate, glabrous. Sepals ovate or elliptic, 1.2–2 mm, punctate, margin entire, glabrous, apex broadly obtuse or rounded. Petals nearly free, ovate or narrowly ovate, margin entire, inconspicuously punctate, apex acute. Stamens ca. 3/4 as long as petals; filaments much shorter than anthers; anthers lanceolate, longitudinally dehiscent, not punctate dorsally, apex apiculate. Pistil subequalling petals; ovary glabrous; ovules ca. 6, uniseriate. Fruit red, globose, ca. 7 mm in diam., pellucid punctate. Fl. May–Jun, fr. Nov–Dec.

Mixed forests, hillsides, damp places; 1700–2300 m. SW Yunnan [India].

11–13 × 2–3 cm, papery, densely punctate, glabrous or puberulent to crisped, strigose abaxially, base broadly cuneate, margin entire to crisped or rarely crenate and punctate, with vascularized nodules, apex acuminate; lateral veins ca. 15 on each side of midrib, obscure, marginal vein absent. Inflorescences terminal panicles of corymbs, papillate, on specialized lateral branches 20–40(–50) cm. Flowers papery, white or pinkish to red, 6–8 mm. Pedicel 1–1.5 cm, papillate, glabrescent. Sepals ovate to elliptic, 2.5–3 mm, sparsely glandular papillate abaxially, glabrescent, densely black punctate, margin entire, glabrous, apex obtuse. Petals nearly free, broadly ovate, densely black punctate, sparsely glandular granulose adaxially at base, margin entire, apex acute. Stamens ca. 2/3 as long as petals; filaments shorter than anthers; anthers ovate or broadly lanceolate, longitudinally dehiscent, densely punctate dorsally, apex acute. Pistil subequaled to petals; ovary punctate, glabrous; ovules ca. 5, uniseriate. Fruit reddish, globose, ca. 8 mm in diam., minutely punctate. Fl. Apr–May, fr. Nov–Jan.

Evergreen broad-leaf and mixed forests, hillsides and scrub; 300–1800 m. Guangxi, Yunnan [Vietnam].


钮子果 nuizi guo

Ardisia flaviflora C. Chen & D. Fang; A. maculosa Mez; A. maculosa var. symlocifolia C. Chen; A. olidhamii Mez; A. patens Mez; A. radians Hemsley & Mez; A. rectangularis Hayata; A. stellifera Pitard; A. tonkinensis Aug. de Candolle; A. virens var. annamensis Pitard; Blahdia oldhamii (Mez) Masamune; B. radians (Hemsley & Mez) Masamune; Tinus virens (Kurz) Kuntze.

Shrubs or small trees, 1–3 m tall. Branchlets subterete, 1–2 mm in diam., sparsely glandular papillate, early glabrescent. Petiole canaliculate, 1(–1.5) cm; leaf blade elliptic, lanceolate, or obovate, 9–26 × 2.5–5(–7) cm, papery, dull, glabrous or sometimes sparsely and minutely glandular papillate abaxially, base cuneate, margin crisped or undulate, with vascularized nodules, densely black punctate, apex acute to subacuminate; lateral veins 15–30 on each side of midrib, marginal vein evident. Inflorescences terminal compound umbels, glabrous, on specialized lateral branches (15–)30–50 cm. Flowers papery, white or pink, 7–8 mm. Pedicel 1.5–3.5 cm, sparsely glandular papillate in bud, early glabrescent. Sepals ovate to elliptic, subrounded, 2.5–3.5 mm, together with petals densely black punctate, glabrous abaxially, sparsely glandular granulose adaxially at base. Petals nearly free, ovate or broadly ovate, apex acute. Stamens subequalling petals; filaments shorter than anthers; anthers lanceolate or subovate, longitudinally dehiscent, punctate dorsally, apex apiculate. Pistil subequalling petals; ovary punctate, glabrous; ovules ca. 5, multiseriate. Fruit red or blackish red, globose, 7–9(–10) mm in diam., densely black punctate. Fl. May–Jul, fr. Oct–Mar.

Dense evergreen broad-leaved forests, hillsides, dark damp places, valleys, humus-rich soils; 300–2700 m. Guangxi, Guizhou, Hainan, Taiwan, Yunnan [India, Indonesia, Myanmar, Thailand, Vietnam].

麻栗坡罗伞 ma li po luo san

Shrubs ca. 40 cm, densely and minutely rusty scaly on branchlets, petioles, abaxial leaf surface, and inflorescence rachis. Branchlets subterete, 1–2 mm in diam. Petiole marginate, 5–8 mm; leaf blade elliptic or oblanceolate, 6–11 × 2.5–4 cm, papery, inconspicuously papillose punctate, base cuneate, margin glabrous, crenulate to subentire, with vascularized nodules, apex acuminate, acumen to 0.6 cm; lateral veins 5–8 on each side of midrib, marginal vein prominently raised. Inflorescences cymose panicles of umbels, 3.5–6 cm, on 2- or 3-leaved lateral branches. Flowers papery, pinkish purple, 8–10 mm. Pedicel 5–9 mm. Sepals ovate or elliptic, 3.5–4 mm, densely black punctate, margin entire, opaque, glabrous, apex rounded. Petals nearly free, ovate, densely black punctate, glabrous, margin entire, opaque, glabrous, apex obtuse or rounded. Stamens ca. 2/3 as long as petals; filaments subobnate; stamens lanceolate, 1.8–2 mm, longitudinally dehiscent, dorsally punctate, apex attenuate. Pistil subequalling petals; ovary ovoid, glabrous; ovules 6–8, uniseriate. Fruit globose, 4–6 mm in diam. Fl. May, fr. Dec.

* Mixed forests, hillsides; 1500–1700 m. SE Yunnan.

34. Ardisia hanceana Mez in Engler, Pflanzenr. IV 236(Heft 9): 149. 1902.

大罗伞树 da luo san shu


Shrubs 1–3 m tall, glabrous. Branchlets terete, 3–5 mm in diam. Petiole canaliculate, narrowly winged, 1–1.3 cm; leaf blade elliptic, oblanceolate, or rarely ovate, 9–12(–15) × 2.5–4 cm, leathery, punctate, sometimes sparsely pitted abaxially, base cuneate and decurrent, margin crenulate or subentire, with vascularized nodules, punctate, apex acute or acuminate; lateral veins 12–15 on each side of midrib, marginal vein obscure. Inflorescences terminal corymbose panicles of umbels, on specialized lateral branches 30–50 cm. Flowers membranous, pink, rarely red or white, (5–)6–7–(8–) mm. Pedicel 1–2 cm, glabrous. Sepals lanceolate, 2.3–2.5 mm, punctate, margin glabrous, entire, apex acute or obtuse. Petals united at base, broadly ovate, punctate, sparsely glandular granulose adaxially near base, margin entire, glabrous, apex acute or obtuse. Stamens ca. 2/3 as long as petals; filaments much shorter than anthers; anthers lanceolate, longitudinally dehiscent, not punctate, apex acute. Pistil subequalling petals; ovary glabrous; ovules ca. 5, uniseriate. Fruit dull red or black, globose, 8–10(–12) mm in diam., papillose punctate. Fl. Jun–Jul, fr. Dec–Apr.

Mixed forests, hillsides, valleys, along streams, dark damp places; ca. 1300 m. Anhui, Fujian, Guangdong, Guangxi, Hunan, Jiangxi, Zhejiang [Vietnam].

35. Ardisia crassinervosa E. Walker, Philipp. J. Sci. 73: 86. 1940.

粗脉紫金牛 cu mai zi jin niu


Shrubs ca. 2 m tall, glabrous. Branchlets angular, 1–1.5 mm in diam., reddish glandular papillate. Petiole canaliculate, 3–5 mm; leaf blade elliptic, oblanceolate, or rarely obovate, 10–17 × 3–6 cm, leathery, glabrous, base cuneate, margin somewhat undulate with vascularized nodules, apex acute or subacuminate; lateral veins numerous, raised on both surfaces, marginal vein conspicuous. Inflorescences terminal, simple or compound subumbellate, on specialized lateral branches 8–20 cm and with 2 or 3 subapical leaves. Flowers papery, pink, purplish, or white, 5–6 mm. Pedicel ca. 1 mm, punctate at least when young. Sepals broadly ovate to suborbicular, 3.8–4 mm, densely orange punctate, glabrous, base auriculate, margin entire, scarious, apex rounded or obtuse. Petals nearly free, ovate, densely punctate, densely glandular granulose adaxially, glabrous abaxially, margin entire, opaque, apex obtuse. Stamens subequalling petals; filaments much shorter than anthers; anthers lanceolate, longitudinally dehiscent, epunciately or inconspicornously punctate dorsally, apex apiculate. Pistil subequalling petals; ovary glabrous, punctate; ovules ca. 9, uniseriate. Fruit red, globose, 9 mm in diam., densely punctate. Fl. Jan–Jul, fr. Jul–Jan.

* Dense broad-leaved forests, hillsides, scrub, open fields, valleys, damp places, along streams; 100–1800 m. Hainan.


毛脉紫金牛 mao mai zi jin niu

Subshrubs to 0.5 m, stoloniferous. Stems terete, 3–5 mm in diam., reddish villous-tomentose. Petiole canaliculate, 4–10 cm, densely reddish villous or villous-tomentose; leaf blade broadly ovate or elliptic, (6–)10–15 × 3–7.5 cm, papery, densely villous-tomentose abaxially, glabrescent, bullate adaxially, base broadly rounded or subcordate, margin finely serrate with apiculate reflexed teeth, apex broadly acute; lateral veins 8–12 on each side of midrib, at acute angles to midrib, marginal vein absent. Inflorescences terminal, in axils of bracts, racemose, ca. 3 cm, puberulent. Flowers unknown. Pedicel ca. 8 mm, slender, puberulent. Fruiting sepals broadly ovate, ca. 1.5 mm, puberulent, obscurely punctate, margin ciliate, apex obtuse. Fruit red, globose, 6–7 mm in diam., minutely puberulent, punctate. Fr. Dec–Feb.

* Broad-leaved forests, hillsides, moist places, along streams; ca. 800 m. Guangxi, Hainan.


卷边紫金牛 juan bian zi jin niu

Shrubs 20(–100) cm tall, stoloniferous. Stems terete, 3–4 mm in diam., densely reddish villous or villous-tomentose. Petiole canaliculate, 2–6 cm, densely villous; leaf blade ovate to elliptic, 10–16 × 5–8 cm, minutely rusty puberulent especially on veins when young, glabrescent adaxially, base rounded,
margin serrulate with apiculate teeth reflexed when dry, apex broadly acute; midrib blackish villous or pubescent abaxially; lateral veins 8–13(–15) on each side of midrib, marginal vein evident. Inflorescences subumbellate, grouped in racemes or panicles 5–7 cm; peduncle rusty pubescent; bracts subulate, ca. 8 mm. Flowers pinkish, ca. 4 mm. Pedicel ca. 6 mm. Sepals elliptic-ovate or ovate, 1–1.5 mm, ± punctate, glabrous or puberulent, margin ciliate, apex acute or obtuse. Petals ovate, glabrous, punctate, apex acute or obtuse. Stamens ca. 2/3 as long as petals; anthers lanceolate, apiculate, not punctate dorsally. Ovary pubescent. Fruit dull reddish, globose, ca. 6 mm in diam., without glands or obscurely punctate, pubescent. Fl. Jun–Jul.

Dense broad-leaved forests, hilly areas, shady damp places; 700–1400 m. SE Yunnan [Vietnam].


粗茎紫金牛 cu jing zi jin niu

Subshrubs stoloniferous, to 0.5 m. Stems decumbent; branchlets terete, 5–7 mm in diam., densely rusty villous, glabrescent. Petiole canaliculate, broadly marginate, 3.5–7.5 cm, densely rusty villous; leaf blade broadly elliptic, 15–18 × 7.5–8.5 cm, papery, glabrous or midrib hairy adaxially, densely rusty-villous, especially on veins abaxially, base broadly cuneate or subrounded, margin pectinate-dentate, teeth apiculate, punctate, apex acuminate; lateral veins ca. 28 on each side of midrib, usually at right angles to midrib, marginal vein obscure. Inflorescences axillary near stem apex, subumbellate in panicles, 5.5–7.5 cm. Flowers pink, ca. 4 mm, pink. Pedicel 3–8 mm, rusty pubescent. Sepals ovate, ca. 2 mm, sparsely rusty puberulent, punctate, margin sparsely ciliate, apex acute. Petals broadly ovate, glabrous, all densely punctate, apex obtuse. Stamens shorter than petals; anthers ovate or broadly lanceolate, with or without glands dorsally. Ovary densely puberulent; ovules ca. 6, uniseriate. Fruit unknown. Fl. May.

* Broad-leaved forests, valleys; 900–1000 m. SE Yunnan.


粗茎紫金牛 cu jing zi jin niu

Shrubs subsucculent, ca. 50 cm tall, stoloniferous, glabrous. Stems terete, 7–10 mm in diam., minutely glandular granulose, early glabrescent. Leaves pseudoverticillate; cataphylls present, 1.6–2.5 cm; petiole deeply marginate, ca. 2 cm, crisp winged; leaf blade broadly elliptic-obovate or obovate, 23–35 × 11–16 cm, membranous, minutely puberulent, sparsely punctate, base cuneate, decurrent, margin subrevolute, pectinate-dentate, teeth apiculate, apex obtuse; lateral veins ca. 15 on each side of midrib, arcuate, curving distally from midrib to margin, marginal vein inconspicuous. Inflorescences axillary, racemes or panicles of umbels, 8–9 cm. Flowers 3–4 mm. Pedicel 1 cm or longer, puberulent. Sepals ovate, ca. 1.5 mm, united 1/3 their length or less, glabrescent, ± punctate, margin sparsely ciliate, apex acute or obtuse. Petals nearly free, broadly elliptic or ovate, prominently black punctate, margin entire, apex obtuse or subrounded. Stamens shorter than petals; filaments obsolete; anthers lanceolate or ovate, minutely punctate, apex acute. Pistil slightly shorter than petals; ovary puberulent; ovules numerous, in 3 series. Fruit unknown. Fl. Apr–May.

* Dense evergreen broad-leaved forests; ca. 100 m. SE Yunnan (Hekou).


走马胎 zou ma tai

Ardisia, perpendiculatis E. Walker; A. pseudoverticillata Merrill; Chloranthus kiangsiensis Metcalf.

Shrubs or subshrubs stoloniferous, 1–1.5(--3) m tall. Branchlets angular, ca. 5 mm in diam., papillose puberulent when young, glabrescent. Leaves pseudoverticillate; petiole 2–4 cm, with narrow crisp wing; leaf blade elliptic to obovate or obovulate, 25–48 × 5–19 cm, membranous, prominently punctate, glabrous or minutely puberulent along veins abaxially, base cuneate, margin flat, pectinate-dentate, teeth apiculate, apex obtuse to subacuminate; lateral veins 15–20 on each side of midrib, marginal vein absent. Inflorescences terminal or rarely axillary, pyramidal, racemose-paniculate group of subumbels 20–35 × ca. 10 cm, glabrous or minutely puberulent. Flowers papery, white or pinkish, 4–5 mm. Pedicel 1–1.5 cm, slender. Sepals subdeltate or ovate, 1.5–2 mm, sparsely puberulent, prominently punctate, margin entire, glabrous, apex acute. Petals nearly free, ovate, sparsely punctate, margin entire, glabrous, apex acute. Stamens ca. 2/3 as long as petals; filaments obsolete; anthers...

Broad-leaved forests, hillsides, valleys, moist ravines, stream banks, shady damp places; 1000–1500 m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Jiangxi, Yunnan [Indonesia, Malaysia, Thailand, Vietnam].

_Ardisia maingayi_ may belong here. While its type has smaller leaves, inflorescences, and petals, no qualitative feature has been found to separate it from _A. gigantifolia_. It is possible that the type represents diminutive forms or individuals flowering precociously.

42. **Ardisia ramondiiformis** Pitard in Lecomte, Fl. Indo-Chine 3: 812. 1930.

紫脉紫金牛 zi mai zi jin niu

Subshrubs to shrubs, stoloniferous, 50–70 cm. Branchlets terete, succulent, 7–10 mm in diam., hirsute tomentose with simple stramineous hairs. Leaves pseudoverticillate; petiole deeply canaliculate, broadly winged by decurrent blade, up to 2 cm; leaf blade oblancoeolate or obovate, rarely elliptic, 20–40 × 6–12.6 cm, papery, base attenuate or cuneate, margin pectinate-dentate, teeth apiculate, or obovate, rarely elliptic, 20–40 × 6–12.6 cm, papery, base winged by decurrent blade, up to 2 cm; leaf blade oblanceolate pseudoverticillate simple stramineous hairs. Leaves terete, succulent, 7–10 mm in diam., hirsute-tomentose.

Subshrubs 25–50(–100) cm, long stoloniferous. Stems glabrous, margin entire, apex oblong or rounded. Pedicel ca. 15–20 mm, reddish hirsute. Sepals ovate, 1.3–1.5 mm, puberulent, punctate, margin ciliate, apex acute. Petals nearly free, broadly elliptic or ovate, black punctate, glabrous, margin acute, apex obtuse or rounded. Stamens subequalling petals; filaments obsolete; anthers ovate, not punctate dorsally, apex acute. Pistil subequalling petals; ovary puberulent; ovules 4–5(–7), uniseriate. Fruit red, globose, 7–8 mm in diam., pubescent, pellucid punctate. Fl. Apr, fr. Dec.

Dense broad-leaved forests, hillsides, valleys, dark damp places, along streams, rock crevices. Hainan [Vietnam].

Yang & Dwyer (Taiwania 34: 281. 1989) reported that _Ardisia silvestris_ Pitard occurs in China, based on how 72037. An examination of type material of _A. ramondiiformis_ and _A. silvestris_ reveals that the entity in China belongs to the former species.


束花紫金牛 shu hua zi jin niu

Subshrubs 25–50(–100) cm, long stoloniferous. Stems glabrous or puberulent. Leaves alternate or pseudoverticillate; petiole canaliculate, narrowly winged, 8–10 mm; leaf blade broadly elliptic to narrowly lanceolate, 8–11(–20) × 4–5.5 (–7) cm, papery, obscurely pellucid punctate, glabrous axially, sparsely minutely puberulent or reddish glandular papillate axially especially along midrib and lateral veins, base cuneate, decurrent, margin finely serrate, teeth apiculate, apex acute to subacuminate apicately; lateral veins 8–13 on each side of midrib, marginal vein obscure. Inflorescences axillary, paniculate, branches cymose, 5(–11) cm. Flowers papery, white, becoming pinkish, 4–5 mm. Pedicel 3–5 mm, to 1 cm in fruit, puberulent. Sepals ovate, 1.6–2 mm, minutely puberulent axially near base, prominently punctate, margin entire, glabrous, apex broadly acute to obtuse. Stamens subequalling petals; filaments obsolete; anthers lanceolate, punctate dorsally, apex aciculate. Pistil shorter than petals; ovary puberulent; ovules 4 or 5, uniseriate. Fruit red, globose, 4–8 mm in diam., long punctate, puberulent, glabrescent.

Dense evergreen broad-leaved forests, moist ravines, stream banks; 1000–1500 m. SE Yunnan [Vietnam].


紫脉紫金牛 zi mai zi jin niu

Shrubs 0.5–2 m tall. Branchlets angular, 3.5–3.5 cm in diam., subsessile, densely crisped reddish hirtellous-tomentose, glandular trichomes uniseriate, multicellular. Leaves pseudoverticillate; petiole marginate, 1–1.5 cm, not winged; leaf blade lanceolate or elliptic-lanceolate, rarely obovate, 15–22 (–25) 3.8–5 (–8) cm, membranous, glossy adaxially, densely red punctate in areoles, subglabrous or sparsely puberulent especially axially, base cuneate, decurrent, margin serrate, apex acuminate; lateral veins ca. 18 on each side of midrib, marginal vein obscure. Inflorescences compound umbellate, densely tomentose, terminal on lateral branches 6–10(–12) cm and with 2 or 3 small lanceolate leaves. Flowers papery, pinkish or reddish purple, 5–7 mm. Pedicel 7–12 mm, densely tomentose. Sepals lanceolate, 2.3–2.5 mm, densely tomentose axially, glabrous adaxially, red punctate, margin entire, long ciliate. Petals nearly free, broadly ovate, minutely punctate, margin entire, glabrous, apex acute or obtuse. Stamens somewhat shorter than petals; filaments obsolete; anthers broadly ovate, longitudinally dehiscent, not punctate dorsally, apex aciculate. Pistil subequalling petals; ovary glabrous or puberulent; ovules 8–12, biseriate. Fruit globose, ca. 6 mm in diam., tomentose, glabrescent, punctate. Fl. Apr–May, fr. Sep–Nov.

* Evergreen broad-leaved forests, limestone hillsides, valleys, moist places; 600–1800 m. Guangxi, Hainan, Yunnan.


轮叶紫金牛 lun ye zi jin niu

Subshrubs to 50 cm, with creeping rhizome, appressed rusty tomentose on branchlets, petioles, leaf veins, sepals, and pedicels. Branchlets terete, 2–3 mm in diam. Leaves pseudoverticillate; petiole canaliculate, 1–2 cm; leaf blade papery, 6–9 × 2.5–4.5 cm, base obtuse to rounded, progressively less tomentose from midrib to tertiaries, conspicuously punctate, dull axially, margin finely serrate, aciculate. Inflorescences lateral on internodes, subumbellate, few flowered, 0.8–2 cm, rusty strigose; bracts lanceolate to linear, 1–2 mm. Flowers unknown. Pedicel ca. 5 mm, strigose. Fruitin sepal ovate, ca.
1.5 mm, ciliate, punctate, apex acute. Immature fruit purple or reddish, puberulent. Fl. Jun, fr. Feb.

* Dense woods. Hainan (Loktung).

46. Ardisia japonica (Thunberg) Blume, Bijdr. 690. 1826.

紫金牛  zì jīn niú


Subshrubs stoloniferous. Stems 20–30(–40) cm, minutely puberulent when young, glabrescent. Leaves opposite or subwhorled; petiole 6–10 mm, minutely puberulent; leaf blade elliptic to elliptic-obovate, or elliptic-lanceolate, 4–7 × 1.5–4 cm, papery to subleathery, base cuneate, margin serrulate, ± punctate, apex acute; lateral veins 5–8 on each side of midrib, veins prominently reticulate. Inflorescences axillary or subterminal, subumbellate, 3–5-flowered, puberulent; peduncle ca. 5 mm, slender; bracts lanceolate, ca. 1 mm, puberulent or ciliate. Flowers pink or white, 5(–6)-merous, 4(–5) mm. Pedicel 7–10 mm, usually curved, puberulent. Sepals ovate, to 1.5 mm, sometimes punctate, glabrous, margin ciliolate, apex obtuse or acute to acuminate. Petals broadly ovate, 4(–5) mm, densely pubescent, apex acute. Stamens shorter than petals; anthers lanceolate-ovate or ovate, punctate dorsally, apex acute. Ovary glabrous; ovules ca. 15, in 3 series. Fruit red becoming blackish, globose, 5–6 mm in diam., ± punctate, glabrous, smooth. Fl. Apr–Jun, fr. Nov–Jan.

Mixed forests or bamboo woods, hillsides, dark damp places; to 1200 m. Anhui, Fujian, Guangxi, Guizhou, Hunan, Jiangsu, Jiangxi, Shaanxi, Sichuan, Taiwan, Yunnan, Zhejiang [Japan, Korea].


九节龙  jiǔ jié lóng

Subshrubs or shrubs, stoloniferous. Stems 15–40 cm, 1.5–2(–3) mm in diam. Leaves opposite or whorled; petiole 3–8 mm, pubescent; leaf blade elliptic or obovate, 2.5–6 cm, papery, sparsely pubescent, strigose adaxially, pubescent and villous abaxially, base cuneate or subrounded, margin serrate or denticulate, apex acuminate, acute, or obtuse; lateral veins 5–9 on each side of midrib, prominent, ending in teeth. Inflorescences subterminal, 1 or 2, subumbellate, 1–4-flowered; peduncle 1.3–4 cm; bracts linear to narrowly lanceolate, 3–5 mm, ciliate or pilose. Flowers purplish or reddish, ca. 4 mm. Pedicel slender, 3–6 mm. Sepals lanceolate, as long as petals, rustily villous, not punctate, margin ciliolate, apex acuminate. Petals ovate, glabrous, not punctate, apex acuminate. Stamens slightly shorter than petals; anthers ovate, not punctate dorsally, apex acute. Ovary glabrous; ovules 8–10, in 2 series. Fruit dark reddish, globose, ca. 6 mm in diam., not punctate, glabrous. Fl. May–Jun, fr. Dec–Mar.

* Dense mixed forests, hilly areas, roadsides, along streams, shady damp places, rock crevices; 200–700 m. Fujian, Guangdong, Guangxi, Guizhou, Hunan, Jiangxi, Sichuan, Taiwan [Japan, Korea, Malaysia, Philippines].


月月红  yuè yuè hóng

Ardisia castaneifolia H. Léveillé (1911), not Mez (1902); A. cavaleriei H. Léveillé; A. faberi var. ob lanceifolia C. Chen; Tinus faberi (Hemsley) Kuntze.

Subshrubs or shrubs, stoloniferous. Stems 15–30 cm, densely rusty crisped villous. Leaves opposite or whorled; petiole 3–8 mm, densely crisped villous; leaf blade ovate- to lanceolate-elliptic or obovate, 5–10 × 1.8–4 cm, papery, not glandular, crisped villous, base cuneate, margin coarsely serrate, apex acute or acuminate; lateral veins 5–9 on each side; marginal veins absent. Inflorescences in axils of whorled leaves or alternate subulate bracts, subumbellate, few flowered, hirsute; peduncle 1.5–2.5 cm. Pedicel 7–10 mm, crisped villous. Flowers white to pinkish, 4–5(–6) mm. Sepals linear-lanceolate, ca. 5 mm, densely villous. Petals broadly ovate, ± glandular, glabrous, apex acute or obtuse. Stamens ca. 2/3 length of petals; anthers ovate, apiculate, not glandular on back. Ovary glabrous; ovules 5, in 1 series. Fruit red, globose, ca. 6 mm in diam., not punctate, glabrous or puberulent. Fl. May–Jul, fr. Nov–Jan.

* Mixed forests, valleys, along streams, roadsides, rock crevices, dark damp places; 1000–1300 m. Guangdong, Guangxi, Guizhou, Hainan, Hubei, Hunan, Sichuan, Yunnan.


心叶紫金牛  xīn yè zǐ jīn niú

Ardisia sciophila T. Suzuki; Bladhia sciophila (T. Suzuki) Nakai.

Subshrubs stoloniferous. Stems 4–15 cm, densely rusty crisped villous when young, glabrescent. Leaves alternate, rarely almost whorled; petiole 0.5–2.5 cm, rusty pilose; leaf blade ovate- or oblance-elliptic, 4–6 × 2.5–4 cm, papery, densely pilose, base cordate, margin irregularly serrate, ciliolate, apex acute to obtuse; lateral veins ca. 6 on each side of midrib, prominent, ending in teeth. Inflorescences subterminal, 1 or 2, subumbellate, rusty-villous, 4–6-flowered; peduncle 1.3–4 cm; bracts linear to narrowly lanceolate, 3–5 mm, ciliate or pilose. Flowers purplish or reddish, ca. 4 mm. Pedicel slender, 3–6 mm. Sepals lanceolate, as long as petals, rustily villous, not punctate, margin ciliolate, apex acuminate. Petals ovate, glabrous, not punctate, apex acuminate. Stamens slightly shorter than petals; anthers ovate, not punctate dorsally, apex acute. Ovary glabrous; ovules 8–10, in 2 series. Fruit dark reddish, globose, ca. 6 mm in diam., not punctate, glabrous. Fl. May–Jun, fr. Dec–Mar.

* Dense broad-leaved forests, hillsides, valleys, along streams, rock crevices, dark damp places; 200–900 m. Guangdong, Guangxi, Guizhou, Hainan, Taiwan.

50. Ardisia villosa Roxburgh, Fl. Ind. 2: 274. 1824.

雪下红  xuě xià hóng
**Ardisia dametosa** Tutcher; **A. trichocarpa** Merrill; **A. villosa var. ambovestita** E. Walker; **A. villosa var. latifolia** E. Walker; **A. villosa var. oblaceolata** E. Walker.

Shrubs 1(–3) m tall, stoloniferous, blackish or rusty villous or hirsute almost throughout, glabrescent. Petiole 5–10 mm; leaf blade elliptic-lanceolate to ovate or ob lanceolate, 5–15 × 1.2–5 cm, papery, densely punctate especially abaxially, base cuneate, decurrent, margin subentire, undulate, crenate, or serrate, apex acute or acuminate; lateral veins ca. 15 on each side of midrib, raised on both sides, marginal vein interrupted. Inflores cences simple or compound umbellate, rusty villous, on leafy or leafless specialized branches 2–15 (~20) cm. Flowers lavender or pink, rarely white, to 8 mm. Pedicel 5–10 mm. Sepals oblong-lanceolate or ligulate, densely punctate, densely villous outside, pubescent inside, apex obtuse. Petals ovate to broadly lanceolate, glabrous, punctate, apex acute. Stamens nearly as long as petals; anthers lanceolate, glabrous, punctate, apex obtuse. Ovary glabrescent or puberulent.

**Ardisia bodinieri** H. Léveillé; **A. trichocarpa** Hayata; **Bladhia brevicaulis** (Diels) Migo; **B. citrifolia** (Hayata) Nakai.

Subshrubs stoloniferous. Stems 10–15 cm, puberulent when young. Petiole 1–1.5(–2) cm, puberulent; leaf blade narrowly ovate to elliptic or suboblong, 7–14(–18) × 2.5–4.8(–6) cm, papery, glabrous adaxially, puberulent abaxially, base cuneate, margin entire, reflexed, obscurely punctate, apex obtuse to rounded; lateral veins (7–)10–13 on each side of midrib, at almost right angles to midrib, marginal vein evident. Inflorescences terminal, umbellate, simple, on curved ends of specialized, puberulent, 1- or 2-leaved lateral branches 2–5 cm. Flowers pink, 4–5 mm. Pedicel 1–1.5 cm. Sepals lanceolate or ovate, ca. 2 mm, sometimes puberulent outside, ciliate, punctate. Petals ovate, ca. 5(–7) mm, glabrous, sparsely and minutely puberulent inside, prominently punctate, apex acute. Stamens shorter than petals; anthers lanceolate, acute or apiculate, punctate dorsally. Ovary glabrous, punctate; ovules ca. 6, uniseriate. Fruit red, globose, ca. 6 mm in diam., hirsute or villous, punctate. Fl. Apr–Jul, fr. Feb–Jul.

Evergreen broad-leaved forests, mountain slopes, roadsides, rock crevices, damp places; 500–1500 m. Guangdong, Guangxi, Hainan, Taiwan, Yunnan [Malaysia].

**Ardisia villosoides** var. ambovestita Tutcher; **A. ambovestita** E. Walker; **A. villosa var. latifolia** E. Walker; **A. villosa var. oblaceolata** E. Walker.

Subshrubs, rusty pilose throughout, with woody rhizomes. Leaves 4 or 5, alternate or forming a rosette; petiole 5–10 mm, densely pilose; leaf blade elliptic or oblong-obovate, 6–12(–17) × 3–5(–10) cm, papery, long ciliate, minutely punctate, base rounded, margin sparsely and obscurely crenate, apex broadly acute or obtuse; lateral veins ca. 6 on each side of midrib, conspicuous, ending in marginal glands. Inflorescences 1 or 2 in center of rosette, subumbellate or cymose, densely pilose; peduncle 3–5, 5(–19) cm. Flowers reddish, 4–6 mm. Pedicel 6–8 cm, densely rusty pilose. Sepals oblong-lanceolate, subequalling petals, punctate, sparsely covered with long crisp hairs outside, glabrous within, margin ciliate, apex acute. Petals broadly ovate, sparsely punctate, glabrous. Stamens shorter than petals; anthers lanceolate, acute, sparsely punctate dorsally. Ovary sparsely puberulent; ovules 3 or 4, uniseriate. Fruit red, 4–6 mm in diam., somewhat fleshy, punctate, pubescent or glabrescent. Fl. Jun–Jul, fr. Nov–May.

Dense mixed forests, hillside, dark damp places; 600–1400 m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Jiangxi, Yunnan [Vietnam].


**Ardisia ambovestita** Tutcher; **A. ambovestita** E. Walker; **A. villosa var. ambovestita** E. Walker; **A. villosa var. oblaceolata** E. Walker.

Subshrubs, stoloniferous. Stems often simple, 1.5–6(–10) cm, glabrous. Leaves spirally arranged, subsulate; petiole 3–4 mm, pubescent; leaf blade oblong-elliptic, rarely obovate-elliptic, 6–8–16.5 × 2.5–6 cm, papery, with appressed hairs ca. 0.6 mm chiefly near margin, base broadly cuneate to obtuse, margin sparsely crenate, glandular, apex obtuse to subrounded; lateral veins 6–10 per side, prominent abaxially, at ca. 60° to midrib. Inflorescences axillary, subumbellate, 2–4-flowered; peduncle scapelike, 2–4(–5) cm, rusty pubescent; bracts oblong, 5–6 mm, pubescent near base, obtuse to ± acute; bracteoles 1–2(–3) mm, red punctate. Calyx ca. 3 mm, divided to base; lobes oblong-lanceolate, glabrous, red punctate, apex obtuse. Corolla rose, tube ca. 0.6 mm; lobes narrowly ovate, ca. 4 × 1.6–2 mm, sparsely punctate. Filaments ca. 0.4 mm; anthers lanceolate, 3 mm, apiculate. Ovary glabrous; ovules uniseriate, 4 or 5 per placenta. Style ca. 3 mm. Drupe globose, 4–5 mm in diam., red becoming black. Fl. Jul, fr. Nov–Apr.

* Thick forests near water; 200–700 m. Guangdong, Guangxi.

**Ardisia verbascifolia** Mez in Engler, Pflanzenr. IV. 236(Heft 9): 153. 1902.

**Ardisia villosoides** E. Walker.

Subshrubs, 15–30 cm tall, villous almost throughout. Rhizome creeping. Stems densely villous and tomentose when young. Petiole 1.5–3.5 cm, villous and tomentose; leaf blade broadly elliptic to broadly elliptic-ovate, 12–15(–22) × 5–8(–10) cm, papery, densely punctate, base obtuse to rounded, margin crenate, apex acute or acuminate; lateral veins ca. 15 on each side of midrib, ending in
marginal glands, or marginal vein present. Inflorescences, terminal, axillary, or lateral, compound subumbellate or cymose bracts ca. 3 mm. Flowers pink, ca. 6 mm. Pedicel 6–10 mm. Sepals oblong-lanceolate to ligulate, ca. 6 mm, punctate and villous on both sides, apex acute. Petals ovate, punctate, glabrous, apex acute. Stamens somewhat shorter than petals; anthers narrowly lanceolate, punctate dorsally, apiculate. Pistil as long as or longer than petals; ovary glabrous; ovules ca. 5, uniseriate. Fruit red, ca. 6 mm in diam., glabrous, punctate. Fl. Jun–Jul, fr. Nov–Jan.

Dense evergreen broad-leaved forests, edges of forests, along streams, moist places, roadsides, bamboo woods. Hainan, Yunnan [Vietnam].


虎舌红  hu she hong

Tinus mamillata (Hance) Kuntze.

Subshrubs to 15 cm tall, with creeping woody rhizomes. Stems densely rusty crisped-pilose when young, glabrescent. Petiole 0.5–1.5 cm; leaf blade oblong-ob lanceolate to obovate, 7–14 × 3–(4–5) cm, papery, punctate, rusty strikose and mamillate adaxially, crisped hairy abaxially, base obtuse or rounded, margin obscurely crenate with marginal glands hidden by hairs, apex acute or obtuse; lateral veins 6–8 on each side of midrib, marginal vein absent. Inflorescences simple, umbellate, 10–15-flowered, densely pilose, on curved ends of petiole, specialized branches 3–9 cm, with 1 or 2(–4) reduced subsapical leaves. Flowers pinkish or rarely whitish, 5–7 mm. Pedicel 4–8 mm; pilose. Sepals narrowly oblong-lanceolate or lanceolate, as long as or shorter than petals, punctate, pilose on both surfaces or glabrescent inside, apex acuminate. Petals ovate, punctate, apex acute. Stamens subequaling petals; anthers lanceolate, punctate dorsally, acute. Ovary glabrous; ovules ca. 5, uniseriate. Fruit reddish, ca. 6 mm in diam., slightly fleshy, ± punctate, pilose or glabrescent. Fl. Jun–Jul, fr. Nov–Jan.

Dense evergreen broad-leaved forests, valleys, shady damp places; 500–1600 m. Fujian, Guangdong, Guangxi, Hunan, Jiangxi, Sichuan, Taiwan, Zhejiang [Japan, Malaysia, Vietnam].


少年红  shao nian hong

Ardisia alyxiifolia Z. Y. Zhu

Shrubs ca. 50 cm tall, possibly stoloniferous. Branchlets terete, 1–2 mm in diam., reddish glandular papillate, glabrescent. Petiole canaliculate, 5–8 mm; leaf blade obovate, lanceolate to oblong-lanceolate, 3.5–(6–9.5) × 1.5–2.3(–3.2) cm, thick papery to leathery, sparsely puberulent or minutely brown scaly especially on midrib abaxially, punctate, base obtuse to rounded, margin crenulate, apex acuminate; lateral veins inconspicuous, sparsely glandular, marginal vein absent. Inflorescences simple, subumbellate or corymbose, sometimes compound, lateral or rarely axillary, densely puberulent; peduncle 1–3(–6) cm. Flowers white or rarely pinkish, ca. 4 mm. Pedicel 6–10 mm. Sepals triangular-ovate, 1–1.5 mm, minutely puberulent on tube, punctate, apex obtuse or acute. Petals ovate or ovate-lanceolate, ca. 4 mm, glabrous, ± papillate below middle inside, sparsely punctate. Stamens shorter than petals; anthers lanceolate, ± punctate dorsally. Ovary glabrous; ovules ca. 5, uniseriate. Fruit red, globose, ca. 5 mm in diam., somewhat fleshy, punctate. Fl. Jun–Jul, fr. Oct–Dec.

* Mixed forests, hillsides, valleys: 600–1200 m. Fujian, Guangdong, Guangxi, Hainan, Hunan, Jiangxi, Sichuan.

57. Ardisia chinensis Bentham, Fl. Hongk. 207. 1861.

少年红  shao nian hong

Ardisia chinensis Z. Y. Zhu; A. triflora Hemsley; Bladhia chinensis (Bentham) Nakai; B. chinensis var. minor Nakai; Tinus chinensis (Bentham) Kuntze; T. triflora (Hemsley) Kuntze.

Shrubs or subshrubs with creeping rhizomes. Stems to 45 cm, minutely blackish brown scaly when young, glabrescent. Petiole 3–8(–10) mm, brown scaly; leaf blade obovate or elliptic, 3–8 1.5–3 cm, papery, glabrous adaxially, brown scaly abaxially, base cuneate, margin undulate or repand to subentire, slightly revolute, apex obtuse to acute; lateral veins numerous, marginal vein present. Inflorescences axillary, simple, subumbellate, 3–10-flowered; peduncle 1–3 cm. Flowers white or sometimes pinkish, ca. 3 mm. Pedicel 5–8 mm, slender, blackish brown scaly. Sepals triangular-ovate, ca. 1 mm, brown scaly, punctate or not, margin ciliate, apex acute. Petals free or nearly so, ovate, glabrous, not punctate, apex acute or acuminate. Stamens ca. 2/3 as long as petals; anthers ovate, punctate or not dorsally, apex acute, apiculate. Ovary glabrous, ovules 5 or 6, uniseriate. Fruit red becoming blackish, globose, ca. 5 mm in diam., not punctate, glabrescent. Fl. Apr–Jun, fr. Oct–Dec.

Mixed forests, hillsides, valleys, along streams, dark damp places; 300–800 m. Fujian, Guangdong, Guangxi, Hainan, Jiangxi, Sichuan, Taiwan, Zhejiang [Japan, Malaysia, Vietnam].


灰色紫金牛  hui she zi jin niu

Embelia fordii (Hemsley) Mez.

Shrubs 30–60 cm tall, stoloniferous. Stems rusty scaly and puberulent when young. Petiole ca. 3 mm; leaf blade elliptic-lanceolate or oblong-lanceolate, 2.4–5.5×1–1.6 cm, papery, glabrous, rusty scaly abaxially, base cuneate to subrounded, margin entire, apex obtuse or acuminate; lateral veins numerous, marginal vein evident. Inflorescences terminal on specialized lateral branches 6–9 cm, umbellate, few flowered, rusty scaly; bracts 2, lanceolate, minute, inserted at base of pedicel. Flowers pink, ca. 4 mm. Pedicel slender, ca. 7 mm. Sepals ovate, ca. 1.5 mm, punctate, ± minutely scaly, margin ciliate, apex acute or subrounded. Petals broadly ovate, ca. 4 mm, glabrous, punctate, apex acute. Stamens ca. 1.5 mm; anthers ovate, acute, apiculate, not punctate on back. Pistil shorter than petals; ovary glabrous, punctate; ovules ca. 5, uniseriate. Fruit dark red, globose, ca. 5–7(–9) mm in diam.,

* Evergreen broad-leaved forests, hillsides, valleys, along streams, damp and dark places; 100–800 m. Guangdong, Guangxi.

It is possible that specimens of *A. fordii* actually represent seedlings of *A. quinquegona* with precocious flowers, but because no field data are available, they are treated as distinct pending further studies.


锦花紫金牛  jin hua zi jin niu


Subshrubs, with long creeping rhizomes. Stems 10–30 cm, minutely puberulent. Petiole 2–3 mm, ± minutely puberulent or brown scaly; leaf blade ovate- or oblong-lanceolate, rarely lanceolate, 2–6.5 × 0.6–1.9 cm; papery, glabrous, minutely punctate abaxially, base rounded or subcordate, margin irregularly serrate, reflexed, apex acute or obtuse; lateral veins slightly raised adaxially, 3–5(–8) on each side of and at right angles to midrib, marginal vein evident. Infructescences axillary or subapical, umbellate, simple, on curved ends of specialized lateral branches 2–13 cm, 8 on each side of midrib, marginal vein absent. Inflorescences axillary, subumbellate, 8–12-flowered, to 4 cm, rusty brown scaly throughout at least when young; peduncle ca. 3 cm, slender. Flowers white, ca. 3 mm. Pedicel ca. 1 mm, slender. Sepals triangular-ovate, ca. 2 mm, obscurely punctate, base rusty brown scaly, margin ciliate, apex acute. Petals ovate, ca. 3 mm, glabrous, sparsely punctate, apex acute. Stamens ca. 3 mm; anthers lanceolate-ovate, not punctate dorsally, apex acute or acuminate. Ovary glabrous; ovules ca. 12, in 2 series. Fruit ovoid, 5–7 mm in diam., not punctate, glabrous. Fl. May.

* Dense broad-leaved forests, bamboo woods, dense broad-leaved forests, along streams, shady places, hilly area. Guangdong.


尾叶紫金牛  wei ye zi jin niu

*Tinus caudata* (Hemsley) Kuntze.

Shrubs 50–100 cm tall. Branchlets puberulent when young. Petiole 5–8 mm, puberulent; leaf blade oblong- or elliptic-lanceolate, rarely elliptic, 6–13 × 2–3(–4.5) cm, membranous, glabrous, sparsely brown scaly abaxially, not punctate, base rounded or obtuse, margin crisped-undulate or crenate, apex acuminate to caudate-acuminate; lateral veins ca. 8 on each side of midrib, marginal vein absent. Inflorescences terminal, compound subcorymbose or umbellate, many flowered, puberulent, on specialized, slender, 3- or 4-leaved lateral branches 5–20 cm; primary rays to 1.5 cm. Flowers pinkish, 6(–8) mm. Pedicel 7–12 mm, to 2 cm in fruit, slender, puberulent. Sepals ovate, 3–4 mm, punctate, glabrous except for base, apex acute. Petals broadly ovate, sparsely punctate, minutely puberulent inside near base or glabrous, apex acute. Stamens ca. 2/3 as long as petals; anthers ovate, sparsely punctate dorsally. Ovary glabrous; ovules ca. 5, uniseriate. Fruit reddish, ca. 6 mm in diam., with small glands. Fl. May–Nov, fr. Nov–Dec.

* Mixed forests, limestone hillsides, roadside, along streams, dark damp places; 1000–2200 m. Guangdong, Guangxi, Sichuan, Yunnan.
Subshrubs to 50 cm tall, stoloniferous. Branchlets angular, 1–2 mm in diam., densely and minutely reddish papilllose-tomentose, glabrescent. Petiole canalicate, 0.8–1.5 cm, puberulent; leaf blade elliptic, oblancoate, or obovate, 8–13 (–14) × 3.5–5.5 (–7) cm, papery, puberulent especially on veins abaxially, densely punctate, base cuneate, decurrent, margin subentire to sparsely and shallowly crenate, apex acuminate or acute; lateral veins ca. 12 on each side of midrib, marginal vein absent. Inflorescences subumbellate, simple, axillary or lateral, densely puberulent; peduncle ca. 1 cm, 2 cm in fruit. Flowers white or red, 5–6 mm. Pedicel ca. 1 cm, puberulent or glabrescent. Sepals ovate or oblong-ovate, 1.5 mm, sparsely puberulent or glabrescent, punctate, margin entire or ciliate, apex obtuse or acute. Petals narrowly ovate, 5–6 mm, densely punctate, glabrous, apex subobtuse. Stamens shorter than petals; anthers lanceolate, punctate or not dorsally. Ovary glabrous; ovules ca. 7, uniseriate. Fruit red, globose, 8–10 mm in diam., punctate, sparsely fleshy.

Dense broad-leaved forests, hilly areas, rocky crevices, shady places, along streams; 100–1000 m. Guangxi [Vietnam].


百两金 bai liang jin

Bladidia crispa Thunberg, Fl. Jap. 97. 1784; Ardisia crispa var. amplifolia E. Walker; A. crispa var. dielsii (H. Léveillé) E. Walker; A. hortorum Maximowicz ex Regel; A. hortorum var. brachysepala Handel-Mazzetti; A. multicaulis Z. Y. Zhu; A. penduliflora Mez; A. simplicicaulis Hayata; Bladidia crispa var. dielsii (H. Léveillé) Nakai; Tinus crispa (Thunberg) Kuntze; T. henryi (Hemsley) Kuntze.

 Shrubs or subshrubs 0.6–1.5 m tall, with creeping rhizomes. Stems usually minutely puberulent or sparsely brown ormentose when young. Petiole 5–8 mm; leaf blade elliptic-lanceolate to narrowly lanceolate, 7–25 × 1.5–5.8 cm, membranous or subpapery, glabrous adaxially, usually ± finely brown ormentose abaxially, base cuneate, margin entire or shallowly crenulate, rarely puberulent.

4. EMBELIA N. L. Burman, Fl. Ind. 62. pl. 23. 1768.

酸藤子属 suan teng zi shu

Shrubs, becoming lianous at maturity, or lianas. Leaves alternate, distichous, or pseudovorticillate. Inflorescences racemose, paniculate, umbellate or corymbose, bracteate at base. Pedicel subtended by one persistent floral bract. Flowers 4- to 5-merous, bisexual or functionally unisexual and plants dioecious, polygamous, or monoecious. Sepals united at base. Petals free or united at base, glandular granulose inside and often along margin. Stamens adnate to base of petals, rarely free, normally exerted in staminate flowers, reduced in pistillate ones; filaments free; anthers dehiscing longitudinally, connectives usually punctate abaxially. Pistilode reduced and style included in staminate flowers; ovary globose or ovoid; ovules ca. 4, uniseriate. Style exserted; stigma discoid or capitulate, sometimes slightly lobed. Fruit drupes, prominently punctate, 1-seeded; endocarp crusty or rarely bony. Seeds subglobose, covered by membranous remnants of placenta; endosperm ruminate; embryo terete, transverse.

About 140 species: Africa, SE Asia, Australia, Pacific Islands; 14 species in China.

1a. Inflorescences pendent, corymbose umbellate.

2a. Leaf margin entire.

3a. Leaf blade obovulate or obovate, base cuneate; petiole 5–7 mm

*Evergreen broad-leaved forests, hillsides, valleys, dark damd crenulate places; 400 m. Guangxi.
3b. Leaf blade broadly ovate or ovate, base truncate or subcordate; petiole 0.5–1 mm

2b. Leaf margin sharply serrate or crenate, with spiny or acute to obtuse teeth.

4a. Leaf apex mucronate, obtuse or acute.

5a. Leaf blade glossy, base cordate; petiole suberetee, (2–)2.5–3.5(–5) mm

b. Leaf blade dull, base obtuse or acute; petiole deeply canaliculate, 4–5 mm

4b. Leaf apex not mucronate, caudate to acuminate.

6a. Branchlets glandular papilllose-tomentose; leaf blade teeth spinose; perianth leathery; sepals

6b. Branchlets glandular puberulent; leaf blade teeth acute to obtuse; perianth papery; sepals

broadly ovate, apex acute or obtuse; petals involute, margin glabrous

3. E. pauciflora

b. Branchlets glandular puberulent; leaf blade obtuse to acute; perianth papery; sepals

narrowly ovate, apex acuminate or attenuate; petals flat, margin glandular granulose

4. E. henryi

1b. Inflorescences erect, racemose or paniculate.

7a. Inflorescences paniculate; petiole marginate.

8a. Branchlets and inflorescence rachis reddish glandular papilllose-puberulent, early glabrescent; sepals

prominently black punctate, margin glabrous, acute to obtuse; petals prominently pellucid punctate-

lineate, margin glandular granulose

9. E. floribunda

8b. Branchlets and inflorescence rachis tawny papilllose-tomentose; perianth inconspicuously

pellucid punctate, margin long glandular papilllose; sepals acuminatet.

9a. Inflorescence branches spicate; leaf margin prominently black punctate

7. E. sessiliflora

9b. Inflorescence branches racemose; leaf margin punctate

8. E. ribes

7b. Inflorescences racemose; petiole canalicate.

10a. Branchlets 5–7 mm in diam.; leaf blade leathery to cartilaginous, margin entire.

11a. Branchlets and leaf midrib rusty stellate tomentose; abaxial leaf surface with numerous small

reddish scales, prominently red and black punctate

13. E. gamblei

11b. Branchlets and leaf midrib glabrous; abaxial leaf surface glabrous, sparsely and

inconspicuously black punctate

14. E. carnosisperma

10b. Branchlets 2–4.5 mm in diam.; leaf blade papery to subleathery, margin serrate or subentire.

12a. Leaf blade glossy, margin regular, serrate or serrulate throughout; sepals erose,
inconspicuously pellucid or brown punctate, apex obtuse to acutish

10. E. vestita

12b. Leaf blade dull; margin irregular, subentire or roughly serrulate-dentate distally; sepals

entire, prominently black punctate, apex acuminatet.

13a. Branchlets glabrous; leaf base cuneate; fruit longitudinally ribbed, 1–1.5 cm in diam.

11. E. undulata

13b. Branchlets minutely reddish papilllose-puberulent; leaf base obtuse to rounded; fruit

smooth, 0.3–0.5 cm in diam.

12. E. scandens


**龍骨酸藤子 long gu suan teng zi**

Vines or shrubs, reddish hirtellous-tomentose on branchlets, petioles, and inflorescences. Branchlets terete, 2–3 mm in diam. Petiole suberetee, somewhat canaliculate at blade, (2–)2.5–3.5(–5) mm; leaf blade oblong or lanceolate, (1.2–)2–3.5(–4.4) × (0.8–)1–1.2(–1.8) cm, membranous, glossy, sparsely glandular papilllose and red-black punctate toward apex, base subcordate or truncate, margin crenate with spinose teeth, apex mucronate, acute to acuminate, sometimes emarginate; midrib prominent at both surfaces, reddish hirsute; lateral veins below, (12–)14–20 on each side of midrib, submarginal vein present. Inflorescences axillary, umbellate, subsessile, 8–10 mm, 1–3 flowered, pendulous; bracts oblong, 0.8–1 × 0.3–0.5 mm, margin entire, regular, glandular ciliate. Flowers pink, 5-merous, stamine and bi-sexual, 3–4 mm, pistillate unknown. Pedicel 1–2.5 mm. Sepals triangular-ovate or ovate, red and black punctate, glabrous, margin entire, glandular ciliate, apex acute. Petals free, oblong or oblanceolate, papery, glabrous outside, densely yellow glandular granulose inside except near filaments, black punctate and punctate-lineate, margin entire, glandular ciliate, apex rounded or obtuse. Stamens slightly longer than petals in stamine flowers, subequal to petals in bisexual; anthers in stamine lanceolate, in bisexual ovate, base deeply cordate, apex apiculate, black punctate. Style glabrous; stigma punctiform. Fruit red, globose, 3–5 mm in diam., densely red and black punctate. Fl. Dec–Feb, fr. Jan–Mar.

Mixed forests, hillsides, valleys; 1000–2400 m. Guangxi, Yunnan [Vietnam].

2. Embelia procumbens Hemsley in Hooker, Icon. Pl. 28: t. 2724. 1901.

**葡萄酸藤子 pu fu suan teng zi**

*Embelia saxatilis* Hemsley.

Vines, reddish glandular villous-tomentose on branchlets and petioles, glandular granulose on leaf blades, peduncles, pedicels, and perianth. Branchlets terete, 1–2 mm in diam., glabrescent. Petiole deeply canaliculate, 4–5 mm; leaf blade elliptic, ovate, or obovate, 1.3–3 × 0.5–12(–1.7) cm, membranous, dull, sparsely red and black punctate and punctate-lineate, base cuneate or obtuse, margin crenate-serrate with spinose teeth, densely red punctate, apex mucronate, acute or obtuse; midrib flat or slightly raised and glabrous adaxially, prominent abaxially; lateral veins 4–8 on each side of midrib, submarginal vein present. Inflorescences
outside, yellow

Sepals broadly ovate, densely red and black punctate, rugose pendulous; bracts lanceolate, 0.8–1 × 0.2–0.3 mm, prominently axillary, subumbellate, 8–10-flowered, pendulous; peduncle 4–10 mm, red punctate; bracts linear or rarely subulate, 1–1.5 mm, apex attenuate, glandular ciliate. Flowers unisexual or bisexual, white or greenish, 5-merous, staminate 4.5–5 mm, pistillate 2.5–3 mm, bisexual 3–3.5 mm. Pedicel 3–6 mm, minutely glandular granulose. Sepals lanceolate or narrowly ovate, densely red or black punctate medially, margin erose-fimbriate, glandular ciliate, apex acuminate. Petals oblong or ovate, free or united to ca. 1/2 length, papery, glabrous inside, red punctate apically, margin entire, apex obtuse to acute. Stamens exerted 1–2 mm in staminate flowers, ca. 2/3 petal length in bisexual, ca. 1/2 petal length in pistillate; anthers narrowly lanceolate in staminate, ovate in bisexual, deltate in pistillate, base truncate, apex acutely rounded, connective glandular punctate. Style sparsely red punctate-lineate; stigma subcapitate; petals free, oblong or lanceolate, 3–5 mm in diam., densely red punctate. Fl. Oct–Jan, fr. Dec–Apr.

* Dense broad-leaved forests, bamboo woods, hillsides; 1300–2600 m. Sichuan, Yunnan.


Shrubs scandent, reddish glandular puberulent on branchlets, petioles, and inflorescences. Branchlets straight, terete, 1–1.5 mm in diam., glabrescent. Petiole deeply canaliculate, 3–5 mm; leaf blade ovate or lanceolate, 1.5–3 × 1–3 cm, membranous, glabrous and glossy, sparsely red punctate and punctate-lineate, base broadly rounded and often slightly asymmetrical, margin flat, crenate-serrate with obtuse to acute teeth, apex acuminate or caudate; midrib impressed and minutely red puberulent adaxially; lateral veins numerous, conspicuous. Inflorescences axillary, subcorymbose, 0.5–1.9 cm, 2–5(–9)-flowered, pendulous; peduncle 0.5–2 mm; bracts linear, 0.6–1 × 0.1–0.2 mm, black punctate, margin entire, glandular ciliate. Flowers unisexual, 5-merous, staminate unknown, pistillate 1.4–1.9 mm. Pedicel 2–3 mm, densely glandular puberulent. Sepals narrowly ovate, densely black punctate, rugose basally, essentially glabrous, margin entire, glandular ciliate, apex acuminate or attenuate. Petals free, oblong or ovate, papery, glabrous outside, densely yellow glandular granulose inside, densely black punctate, margin regular, apex obtuse to acute. Stamens unknown; staminodes subequaling base of style; anthers ovate, base truncate, apex apiculate, connective black punctate dorsally. Ovary densely glandular granulose. Style slender, exerted; stigma subcapitate. Fruit purple, globose, 3–4 mm in diam., ribbed and black punctate-lineate. Fl. Nov–Feb, fr. Sep–Dec.

Mixed forests, hillsides; 800–1700 m. Guangxi, Yunnan [Vietnam].


Shrubs scandent, reddish glandular puberulent on branchlets, petioles, and inflorescences. Branchlets straight, terete, 1–1.5 mm in diam., glabrescent. Petiole deeply canaliculate, 3–5 mm; leaf blade ovate or lanceolate, 1.5–3 × 1–3 cm, membranous, glabrous and glossy, sparsely red punctate and punctate-lineate, base broadly rounded and often slightly asymmetrical, margin flat, crenate-serrate with obtuse to acute teeth, apex acuminate or caudate; midrib impressed and minutely red puberulent adaxially; lateral veins numerous, conspicuous. Inflorescences axillary, subcorymbose, 0.5–1.9 cm, 2–5(–9)-flowered, pendulous; peduncle 0.5–2 mm; bracts linear, 0.6–1 × 0.1–0.2 mm, black punctate, margin entire, glandular ciliate. Flowers unisexual, 5-merous, staminate unknown, pistillate 1.4–1.9 mm. Pedicel 2–3 mm, densely glandular puberulent. Sepals narrowly ovate, densely black punctate, rugose basally, essentially glabrous, margin entire, glandular ciliate, apex acuminate or attenuate. Petals free, oblong or ovate, papery, glabrous outside, densely yellow glandular granulose inside, densely black punctate, margin regular, apex obtuse to acute. Stamens unknown; staminodes subequaling base of style; anthers ovate, base truncate, apex apiculate, connective black punctate dorsally. Ovary densely glandular granulose. Style slender, exerted; stigma subcapitate. Fruit purple, globose, 3–4 mm in diam., ribbed and black punctate-lineate. Fl. Nov–Feb, fr. Sep–Dec.

Mixed forests, hillsides; 800–1700 m. Guangxi, Yunnan [Vietnam].


酸藤子 suan teng zi

Shrubs scandent. Branchlets straight, flexuous, or geniculate, terete, 1.5–2 mm in diam., glabrous or densely reddish glandular papillos-tomentose. Petiole canaliculate and marginate, 5–9 mm, indument as in branchlets; leaf blade ovate or oblongate, (1.7–)3–6(–7.5) × (0.6–)1.5–2(–3) cm, papery, dull, glabrous, base cuneate, margin flat or revolute, entire, apex acute or rounded to obtuse, usually minutely emarginate; midrib impressed adaxially; lateral veins inconspicuous, 6–10 on each side of midrib. Inflorescences axillary, subcorymbose subumbellate, to puberulent, 3–15-flowered, with 1 or 2 series of scales at base; bracts ovate, cucullate, subulate or oblong, 1.1–3 mm, sparsely glandular granulose, margin entire, glandular ciliate, apex obtuse. Flowers white or yellowish, 4-merous, staminate 2–2.5(–3) mm, pistillate 1.5–2 mm. Pedicel 2–4 mm in staminate, 1.5–2 in pistillate, glabrous or glandular puberulent. Sepals ovate or triangular, glabrous or glandular puberulent, red punctate, margin subtentire, apex acute. Petals free, ovate or oblong, membranous, glabrous outside, densely glandular granulose inside, entire, glandular ciliate, apex obtuse or rounded.
Stamens exerted 1–1.5 mm in staminate flowers, ca. 1/3 petal length in pistillate; anthers broadly cordate, apex acute. Ovary glabrous. Style straight, punctate; stigma subcapitate, 2- or 3-lobed. Fruit globose, 5–8 mm in diam., densely pellucid punctate.

Two subspecies: 100–2000–3000 m. Fujian, Guangdong, Guangxi, Hainan, Jiangxi, Taiwan, Yunnan [Cambodia, Laos, Thailand, Vietnam].

1a. Branchlets straight to somewhat flexuous, glabrous; pedicels and calyx glabrous; petals glandular ciliate along margin .... 5a. subsp. laeta

1b. Branchlets geniculate, minutely and densely reddish glandular papillose-tomentose; pedicel and calyx glandular puberulent; petals glabrous along margin ................................ 5b. subsp. papilligera

5a. Embelia laeta subsp. laeta

酸藤子 (原亚种) suan teng zi (yuan ya zhong)

*Margins of mixed forests and swamps; 800–2000(–3000) m. Fujian, Guangdong, Guangxi, Hainan, Jiangxi, Taiwan, Yunnan [Cambodia, Laos, Thailand, Vietnam].

Branchlets straight to somewhat flexuous, glandular puberulent. Petals, and in having hirsute leaf midrib. It might represent an infraspecific taxon of E. parviflora. It differs in being red punctate and hairy on the petals, ovary, and fruit, and in having hirsute leaf midrib. It might represent an infraspecific taxon of E. parviflora.


当归藤 dang gui teng

Embelia myrtifolia Hemsley & Mez; Embelia pulchella Mez; Ribesiodes parviflorum (Wall. ex A. de Candolle) Kuntze; Samara parviflora (Wall. ex A. de Candolle) Kurz.

Shrubs scandent, villos-tomentose on branchlets, petioles, pedicels, and inflorescences, otherwise villous. Branchlets terete, 2.5–3 mm in diam., sparsely lenticellate, glandular. Petiole canaliculate, 0.5–1 mm; leaf blade ovate or broadly so, 1–1.5(–2.5) × 0.6–1(–1.3) cm, papery, glossy, glabrous, sparingly puberulent. Notobasal glandular puberulent; pedicel and calyx glandular puberulent; petals glabrous along margin. Fruit dull red, globose, 3–5 mm in diam., red punctate-lineate. Fl. Dec–May, fr. Jan–Nov.


短梗酸藤子 duan geng suan teng zi

Embelia stricta Craib; Ribesiodes sessiliflorum (Kurz) Kuntze; Samara sessiliflora (Kurz) Kurz.

Shrubs scandent, glandular papillose-tomentose on branchlets, inflorescences, and petals. Branchlets angled, longitudinally sharply ridged, 2–3(–4) mm in diam. Petiole 5–10 mm, narrowly marginate, glabrous; leaf blade elliptic or oblong, 5–12 × 2.2–4.5 cm, papery, glabrous, inconspicuously pellucid punctate below, base rounded and decurrent on petiole, margin entire, apex sub acuminate, rarely acute; midrib impressed adaxially, red punctate-lineate abaxially; lateral veins 18–27 on each side of midrib, inconspicuous. Inflorescences terminal, pinnately cymose, 5–15(–30) cm, branches spicate; peduncle 1.3–2.5 cm; bracts ovate to subulate, 0.8–1.2 mm, sparingly papillose-puberulent abaxially, margin entire, ciliolate, apex acute or attenuate. Flowers greenish or white, (4 or)5-merous, papery, staminate 2.7–3.5 mm, pistillate 1.5–2 mm. Pedicel obsolete or conic to 0.5 mm. Sepals deltate, prominently black punctate, moderately papillose puberulent, margin long glandular papillose, apex acuminate. Petals free, elliptic or oblong, papery, pellucid punctate-lineate medially,

Shrubs scandent. Branchlets angled, longitudinally ridged, densely tawny or rusty papillose-tomentose. Petiole 5–10 mm, marginate to base; leaf blade elliptic, oblong, or narrowly obovate, (3.5–)5–8(–10) × (1.5–)3–3.5 cm, papery, leathery or rarely cartilaginous, glabrous, pellucid or black punctate, base cuneate or rounded, margin revolute, entire, apex acuminate, rarely subacute; lateral veins inconspicuous. Inflorescences terminal, pinnately pyramidal paniculate, (6–)10–15(–30) cm; bracts subulate or lanceolate, 1–1.5 mm, sparsely puberulent abaxially, black punctate-lineate, margin entire, sparsely glandular puberulent, apex subulate. Flowers greenish or white, (4 or)5-merous, papery, staminate ca. 3/4 petal length in pistillate; anthers ovate, base thickened margin, apex acute. Stamens exserted ca. 0.5 mm in pistillate, staminate, ca. 3/4 petal length in pistillate; anthers wider than long. Fruit 3–4(–5) mm in diam. Fl. Jan–Jul, fr. May–Dec.

Mixed forests, bushes, roadsides, scrub, on well-drained soils, sand, sandy loam; below 100–2000 m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Xizang, Yunnan [Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, New Guinea, Sri Lanka, Thailand, Vietnam].


Sparse or dense forests, shrubby areas, in poorly drained areas, swamps, clay soils; 700–1800 m. Guangdong, Guangxi, Hainan, Yunnan [Indonesia, Philippines, Vietnam].


Rhibesiodes floribundum (Wallich) Kuntze; Samara floribunda (Wallich) Kurz.

Shrubs scandent, glabrous. Branchlets slightly flexuous, terete, 2–3 mm in diam., lenticellate. Petiole (0.3–)1–1.2 (–1.5) cm, narrowly marginate; leaf blade lanceolate or oblong, (6–)7–13(–17) × 2–3.5(–5) cm, papery to subleathery, black punctate-lineate abaxially, glossy adaxially, dull below, base rounded, margin entire, slightly revolute and black punctate, apex long acuminate; lateral veins numerous, inconspicuous. Inflorescences axillary or rarely terminal, pinnately pyramidal paniculate, (6–)7–11(–18) cm; bracts subulate, 0.8–1 mm, black punctate mediately, margin erose, apex long acuminate. Flowers green or greenish yellow, 5-merous, staminate 2.7–3.2 mm, pistillate 2–2.5 mm. Pedicel ca. 1.5–3(–4) mm, black punctate-lineate, sparsely puberulent, glabrescent. Sepals delate to subdelate, rugose basally, black punctate medi ally, margin erose, glandular ciliate, apex acute. Petals free, papery, lanceolate or obblanceolate, pellucid punctate-lineate, densely glandular granulose inside and along thickened margin, apex acute. Stamens exserted ca. 0.5 mm in staminate, ca. 3/4 petal length in pistillate; anthers ovate, base deeply cordate, apex truncate to emarginate. Stigma subcapitate to capitate, sometimes 2-lobed. Fruit red, globose, 4–5 mm in diam., somewhat fleshy, reticulate-wrinkled when dry, pellucid-punctate. Fl. Feb–Mar, fr. Oct–Dec.

Broad-leaved forests, shrubby areas, hillsides, roadsides; 1500–2800 m. Xizang, Yunnan [Butan, India, Myanmar, Nepal].

abaxially; lateral veins numerous, prominent. Inflorescences prominent at both surfaces, black and red punctate-lineate punctate-lineate, base acute or cuneate, decurrent on petiole, (1.8–) 3–5(–8) cm, papery to subleathery, black blade elliptic, oblong, or reliably obovate (4–)7.5–11.5(–18) × (0.8–) 1–1.5(–2) cm, deeply canaliculate, black punctate; leaf twisted, terete, 2–4.5 cm in diam., lenticellate. Petiole often var.

Taiwan, Xizang, Yunnan, Zhejiang [India, Myanmar, Nepal, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Sichuan, Kurz.

lenticellata

Samara longifolia

1824;

平叶酸藤子

ping ye suan teng zi


皱皮孔酸藤子

liu pi kong suan teng zi

Calispermum scandens Loureiro, Fl. Cochinch. 1: 156. 1790; Embelia hainanensis Merrill.

shrub scandent. Branchlets terete, 1.5–3 mm in diam., puberulent, glabrescent. Petiole deeply canaliculate, (5–)7–9 mm, glabrous; leaf blade elliptic or ovate, (4–)5–9(–12) × 2.5–4(–5) cm, papery to subleathery, pellucid punctate, base obtuse to rounded, margin entire or obscurely serrate distally, apex rounded, obtuse, or rarely acute; midrib impressed adaxially, red punctate-lineate abaxially; lateral veins 7–9 on each side of midrib, slightly raised on both surfaces. Inflorescences axillary, racemose, 1–3(–5) cm, reddish glandular puberulent; bracts subulate, 1.5–2 mm, pistillate ca. 1 mm. Pedicel 1.5–2.5 mm in staminate flowers, 0.8–1.2 mm, puberulent abaxially, margin entire, densely glandular ciliate, apex subulate. Flowers white or greenish, (4 or)5-merous, staminate 1.5–2 mm, pistillate 0.8–1.2 mm, puberulent abaxially, margin entire, densely glandular ciliate, apex subulate. Flowers white or greenish, 4–merous, staminate 2.5–3; pistillate 1–1.5 mm. Pedicel 1.5–3 mm, puberulent. Sepals subdeltate, glandular granulose, black punctate-lineate, margin entire, glandular ciliate, apex acute. Petals free, elliptic to ovate, red punctate outside, glandular granulose inside, margin entire, reflexed at anthesis, apex obtuse or acute. Stamens exerted up to 1 mm, staminodes ca. 2/3 petal length; anthers narrowly oblong, ca. 1 mm, base subcordate, apex truncate, connective black punctate. Ovary globose, glabrous. Style straight, epunctate; stigma capitate. Fruit globose or subglobose, (8–)1–1.5 cm in diam., longitudinally ribbed, black punctate. Fl. Apr–Aug, fr. Nov–Jan.

Shrubs scandent, glabrous. Branchlets straight, often twisted, terete, 2–4.5 cm in diam., lenticellate. Petiole (0.8–) 1–1.5(–2) cm, deeply canaliculate, black punctate; leaf blade elliptic, oblong, or rarely obovate (4–)7.5–11.5(–18) × (1.8–) 3–5(–8) cm, papery to subleathery, black punctate-lineate, base acute or cuneate, decurrent on petiole, margin entire, apex acute or acuminate, rarely rounded; midrib prominent at both surfaces, black and red punctate-lineate abaxially; lateral veins numerous, prominent. Inflorescences lateral or axillary racemes 1–2(–6) cm, black punctate-lineate, glabrous; bracts deltate, 0.8–1.1 mm, sparsely glandular ciliate, apex acute. Flowers yellowish or greenish, 4-merous, staminate 2.5–3; pistillate 1–1.5 mm. Pedicel 1.5–3 mm, puberulent. Sepals subdeltate, glandular granulose, black punctate-lineate, margin entire, glandular ciliate, apex acute. Petals free, elliptic to ovate, red punctate outside, glandular granulose inside, margin entire, reflexed at anthesis, apex obtuse or acute. Stamens exerted up to 1 mm, staminodes ca. 2/3 petal length; anthers narrowly oblong, ca. 1 mm, base subcordate, apex truncate, connective black punctate. Ovary globose, glabrous. Style straight, epunctate; stigma capitate. Fruit globose or subglobose, (8–)1–1.5 cm in diam., longitudinally ribbed, black punctate. Fl. Apr–Aug, fr. Nov–Jan.

Shrubs scandent, glabrous. Branchlets straight, often twisted, terete, 2–4.5 cm in diam., lenticellate. Petiole (0.8–) 1.5–2(–4) cm, deeply canaliculate, black punctate; leaf blade elliptic, oblong, or rarely obovate (4–)7.5–11.5(–18) × (1.8–) 3–5(–8) cm, papery to subleathery, black punctate-lineate, base acute or cuneate, decurrent on petiole, margin entire, apex acute or acuminate, rarely rounded; midrib prominent at both surfaces, black and red punctate-lineate abaxially; lateral veins numerous, prominent. Inflorescences lateral or axillary racemes 1–2(–6) cm, black punctate-lineate, glabrous; bracts deltate, 0.8–1.1 mm, sparsely glandular ciliate, apex acute. Flowers yellowish or greenish, 4-merous, staminate 2.5–3; pistillate 1–1.5 mm. Pedicel 1.5–3 mm, puberulent. Sepals subdeltate, glandular granulose, black punctate-lineate, margin entire, glandular ciliate, apex acute. Petals free, elliptic to ovate, red punctate outside, glandular granulose inside, margin entire, reflexed at anthesis, apex obtuse or acute. Stamens exerted up to 1 mm, staminodes ca. 2/3 petal length; anthers narrowly oblong, ca. 1 mm, base subcordate, apex truncate, connective black punctate. Ovary globose, glabrous. Style straight, epunctate; stigma capitate. Fruit globose or subglobose, (8–)1–1.5 cm in diam., longitudinally ribbed, black punctate. Fl. Apr–Aug, fr. Nov–Jan.

Mixed forests, evergreen, broad-leaved forests, shrubby areas, limestone hillsides; 200–1900(–2300) m. Fujian, Guangdong, Guangxi, Hainan, Hunan, Jiangxi, Sichuan, Yunnan [Cambodia, India, Laos, Nepal, Thailand, Vietnam].


Mixed forests, evergreen broad-leaved forests, shrubby areas, limestone hillsides; 200–1900(–2300) m. Fujian, Guangdong, Guangxi, Hainan, Hunan, Jiangxi, Sichuan, Yunnan [Cambodia, India, Laos, Nepal, Thailand, Vietnam].


Ribesiodes gamblei (Kurz ex C. B. Clarke) Kuntze.

Ribesiodes gamblei (Kurz ex C. B. Clarke) Kuntze.
Shrubs scendent, rusty stellate tomentose on branchlets and leaves abaxially. Branchlets angled, 5–7 mm in diam., glabrescent. Petiole deeply canaliculate, (1.5–)2–3 cm, glabrescent; leaf blade elliptic, lanceolate, or obovate, (7–)15–30 × (3–)5.5–9 cm, leathery, black punctate abaxially, glabrescent, base subrounded or obtuse, margin entire, apex acute, rarely acuminate or rounded; lateral veins 15–25 on each side of midrib, impressed adaxially. Inflorescences racemose, (2–)2.5–4(–5) cm, puberulent, glabrescent; bracts narrowly lanceolate, 2–3.5 mm. Flowers dull yellowish green, (4 or)5-merous, staminate 3.5–4 mm, pistillate 2–3 mm. Pedicel (1.8–)2.4(–6) mm, puberulent. Sepals ovate to oblong, glandular, black punctate, margin subentire, minutely ciliolate apically. Petals free, elliptic or obovate, papery, glabrous outside, glandular granulose inside, margin entire, glandular ciliate, apex obtuse to rounded. Stamens exserted to 0.5 mm, staminodes equaling petal length; anthers lanceolate, base sagittate, apiculate. Ovary glabrous. Style curved, pellucid punctate-lineate, persistent; stigma 2- or 3-lobed. Fruit red, globose, 3–4 mm in diam., black punctate and punctate-lineate. Ovary glabrous or glabrescent; ovules few, in 1 series. Fruit a globose or subovoid drupe, with somewhat fleshy exocarp and crusty or leathery endocarp, 1-seeded. Seeds occupying cavity; endosperm horny, ruminate; embryo cylindric, transverse.

About 300 species: pantropical; 11 species in China.

Myrsine and Rapanea have traditionally been regarded as separate genera, especially in regional and local floras. However, when the two genera are examined on worldwide basis, the alleged differences between them do not hold. Myrsine and Rapanea are poorly represented in China, as evidenced by the presence of only 11 out of the approximately 300 species in the entire world. The Chinese species are easily assigned to Myrsine and Rapanea as traditionally circumscribed. For that reason, most Chinese authors prefer to maintain both genera.


肉果酸藤子 rou guo suan teng zi

Shrubs, lianous at maturity. Branchlets terete, straight, 5–6 mm in diam., glabrous. Petiole canaliculate, 1.7–2.8 cm, red punctate, glabrous; leaf blade elliptic to oblancoleate, rarely obovate, 8–10.5(–14) × 3.5–6.3 cm, leathery, glabrous, black punctate-lineate especially toward apex, base cuneate, margin entire, apex short acute; midrib somewhat impressed above; lateral veins 18–28 on each side of midrib, raised at both surfaces. Inflorescences racemose, 2–3 mm, glandular granulose. Flowers 4-merous, staminate ca. 3 mm, pistillate unknown. Pedicel 2–2.5 mm in staminate flowers, to 1 cm and ca. 3 mm thick in fruit. Sepals subdeltate, glabrous, rugose basally, prominently but sparsely black punctate, margin entire, glabrous, apex acute. Fruit subglobose, ca. 2.7 cm in diam. (immature), fleshy, densely black punctate-lineate, glabrous. Fl. May, fr. Jul-Aug.

* Evergreen broad-leaved forests, valleys, shady damp places; 1200–1400 m. SE Yunnan.


铁仔属 tie zai shu

Rapanea Aublet.

Shrubs or small trees. Inflorescences axillary, umbellate or fascicled, on short scaly branchlets or spurs, bracteate. Flowers bisexual or unisexual and plants monoecious, dioecious, or polygamous, 4- or 5(or 6)-merous. Sepals nearly free or united to 1/2 length, imbricate, usually ciliate, punctate, persistent. Petals nearly free or rarely united to 1/2 their length, usually ciliate, glandular granulose, punctate. Filaments free or united at base, adnate to corolla, with apical free portions minute or absent; anthers ovate or reniform, rarely sagittate, 2-celled, dehiscing by longitudinal slits. Ovary glabrous or glabrescent; ovules few, in 1 series. Fruit a globose or subovoid drupe, with somewhat fleshy exocarp and crusty or leathery endocarp, 1-seeded. Seeds occupying cavity; endosperm horny, ruminate; embryo cylindric, transverse.

About 300 species: pantropical; 11 species in China.
veins conspicuous abaxially; calyx lobes not ciliate ......................................................  9. *M. kwangsiensis*

7b. Terminal bud reddish puberulent, early glabrescent; petiole 0.9–1.5 cm; leaf blade narrowly
linear-lanceolate or elliptic, secondary veins inconspicuous abaxially; calyx lobes ciliate ........ 10. *M. sequinii*

5b. Branchlets 1.5–2.5 mm in diam.

8a. Leaf blade margin subentire to sharply toothed.

9a. Calyx cupular, lobes ovate, keeled, apex acuminate; leaf blade slightly asymmetric, glossy on
both sides .............................................................. 5. *M. semiserrata*

9b. Calyx disc-shaped, lobes oblong, flat, apex obtuse; leaf blade symmetric, glossy adaxially .... 6. *M. stolonifera*

8b. Leaf blade margin entire.

10a. Leaf blade very narrowly lanceolate or oblanceolate, apex caudate or long acuminate, base
cuneate, margin flat; calyx papery, lobes ovate ................................................................. 7. *M. faberi*

10b. Leaf blade oblong or elliptic, apex abruptly short acuminate, base obtuse, margin revolute;
calyx leathery, lobes linear-oblong .......................................................... 8. *M. elliptica*

多痕密花树 duo hen mi hua shu


Shrubs ca. 2 m tall. Branchlets angular, 2–3 mm in diam., smooth, reddish glandular granulose apically, without lenticels. Petiole marginate, 3–5 mm; leaf blade obovate, 1–2.5 cm × 7–9 mm, leathery, glabrous, punctate in areoles, base cuneate, decurrent, margin scarious, entire, apex obtuse and emarginate; midrib impressed; lateral veins and veinlets inconspicuous adaxially, raised abaxially, marginal vein evident. Bracts ovate or broadly so, ciliate. Flowers (3–)5-merous, ca. 2 mm. Pedicel 1–1.5(–2) mm, glabrous. Calyx lobes spreading, nearly free, ovate, 0.8–1 mm, glabrous, flat, margin entire, ciliate, sparsely punctate, apex acute. Corolla lobes oblong to ovate, ca. 2 mm, reflexed, glabrous except for densely glandular granulose margin, apex obtuse. Anthers puberulent at apex, in conspicuously punctate dorsally. Style short conical, obtusely angular; stigma ligulate, apiculate. Fruit globose (immature); persistent sepals united at base. Fl. Dec, fr. Aug–Sep.

Shrubby areas, limestone hillsides; ca. 2000 m. Yunnan [Vietnam].

瘤枝密花树 liu zhi mi hua shu


Shrubs 1–2.5 m tall. Branchlets terete, 3–4 mm in diam., minutely glandular granulose, densely verrucose. Petiole marginate, 2–3 mm; leaf blade obovate, 1–1.5 cm × 5–7 mm, leathery to subleathery, glabrous, sparsely punctate abaxially, base cuneate, margin opaque, entire, apex obtuse to rounded; midrib impressed; lateral veins raised adaxially, inconspicuous abaxially, marginal vein absent. Bracts broadly ovate, ciliate. Flowers unknown. Fruiting pedicel ca. 2 mm, glandular granulose. Persistent calyx 4-merous; lobes spreading, nearly free, ovate, 0.8–1 mm, flat, minutely puberulent, densely red punctate-lineate, margin entire, ciliate, apex acute. Fruit ovate-globose, 3–4 mm in diam. (immature), glabrous, densely punctate. Fr. Oct–Nov.

* Sparse evergreen broad-leaved forests, limestone hillsides; 900–1500 m. Guizhou, Yunnan.

拟密花树 ni mi hua shu

*Rapanea affinis* (A. de Candolle) Mez.

Shrubs or trees 0.8–6 m tall. Branchlets subterete, 4–5 mm in diam., smooth, reddish glandular puberulent, trichomes 2- or 3-fid, glabrescent, lenticellate. Leaves subsessile; petiole marginate, 2–3 mm; leaf blade linear or narrowly elliptic, base cuneate, margin scarious, entire, apex obtuse and decurrent, margin entire, apex acute to a blunt tip; lateral veins numerous, raised on both surfaces, marginal vein evident. Inflorescences 1–3-flowered; bracts ovate, ciliate. Flowers yellow, 4-merous, ca. 1 mm. Calyx lobes spreading, nearly free, ovate, ca. 0.5 mm, flat, glabrous, sparsely punctate, margin entire, ciliate, apex acute. Petals united at base, elliptic, 0.8–1 mm, glabrous, sparsely punctate, margin densely glandular granulose, apex rounded. Anthers ovate, puberulent. Ovary glabrous. Stigma terete or sausage-shaped. Fruit dull purplish red to black, globose, ca. 5 mm in diam., densely punctate, glabrous. Fl. Feb–Jun, fr. Jan–Feb.

Dense evergreen broad-leaved forests, shrubby areas, limestone hillsides; 1000–1300 m. Hainan, Yunnan [Indonesia].

铁仔 tie zai

*Myrsine africana* var. *acuminata* C. Y. Wu & C. Chen; *M. africana* var. *bifaria* (Wallich) Franchet; *M. africana* var. *glandulosa* J. M. Zhang; *M. africana* var. *retusa* A. de Candolle; *M. bifaria* Wallich; *M. microphylla* Hayata; *M. potama* D. Don; *M. vaccinifolia* Hayata; *Rhamnus myrtillus* H. Lévall.é.

Shrubs 50–100 cm tall. Branchlets terete, 0.5–2 mm in diam., reddish glandular granulose and puberulent, with capitate trichomes, often glabrescent. Petiole marginate, 1–2.5 mm, strongly decurrent; leaf blade obovate, to orbicular,
1–5 × 0.7–1.6 cm, papery or leathery, glabrous, minutely punctate abaxially, base cuneate, margin serrate, apex obtuse, to rounded; lateral veins inconspicuous, marginal vein absent. Inflorescences axillary, subumbellate or fascicled; basal scales in 1 series. Flowers yellowish white, 2–2.5 mm, 4-merous. Pedicel 0.5–1.5 mm, glabrous or glandular puberulent. Calyx lobes spreading, nearly free, broadly ovate to elliptic, 0.3–0.5 mm, flat, glabrous, margin entire, ciliate, apex acute to obtuse. Corolla 0.8–1 mm, united to at least 1/2 length, glabrous outside, puberulent inside; lobes lanceolate, 0.8–1 mm, densely punctate, margin entire, glandular granulose, apex obtuse to acute. Stamens longer than petals; filaments united basally into a tube adnate to corolla tube, puberulent in staminate flowers. Pistil globose. Style short; stigma discoid, margin lobed. Fruit red or purple-black, to at least 1/2 length, glabrous outside, puberulent inside; lobes oblong, 0.8–1 mm, flat, glabrous, prominently punctate, apex acute or obtuse. Petals united into a very short tube, glabrous outside, densely glandular granulose inside except for tube; lobes oblong, punctate, apex obtuse. Stamens ca. 1/2 as long as petals: filaments free, adnate to base of petals; anthers broadly ovate or reniform, apex apiculate. Ovary glabrous, punctate. Stigma apiculate or lobed. Fruit red becoming bluish black, globose, ca. 5 mm in diam., glabrous. Fr. Feb–Jun, fr. Nov–Jan.

Sparse mixed forests, open mountain slopes, sunny dry places, scrub, fields, road sides; 1000–3600 m. Gansu, Guangxi, Guizhou, Hubei, Hunan, Shaanxi, Sichuan, Taiwan, Xizang, Yunnan [India; Azores, Africa, SW Asia].

5. Myrsine semiserrata Wallich in Roxburgh, Fl. Ind. 2: 293. 1824.

针叶铁仔  zhen chi tie zai

_Celastrus carvalieri_ H. Léveillé; _C. seguini_ H. Léveillé; _Myrsine semiserrata_ var. _brachypoda_ Z. Y. Zhu.

Shrubs or trees 3–7 m tall. Branchlets slightly angular, 1.5–2 mm in diam., glabrous. Petiole marginate, 6–8 mm, decurrent at base; leaf blade elliptic to lanceolate, sometimes rhomboid, 5–9(–14) × 2.5–5(–7) cm, papery to subleathery, slightly asymmetric, glossy, glabrous, base cuneate, margin remotely serrulate to middle, teeth callose, apex acute to acuminate; lateral veins slightly raised, sparsely punctate, marginal vein evident. Inflorescences axillary, umbellate or fascicled, sessile; bracts ovate, ciliate, punctate. Flowers white to yellowish, ca. 2 mm, 4-merous. Pedicel ca. 2 mm, glabrous or puberulent, subtended by 1 bract. Calyx cupular; lobes ovate, keeled, sparsely puberulent outside, margin entire, ciliate, punctate, apex acumin ate. Petals free or united to 1/3 length, long elliptic, oblone or ligulate, glabrous, prominently punctate to middle, margin entire, ciliate, apex obtuse. Pistil puberulent. Stigma 2-cleft, fimbriate. Fruit red becoming purple-black, globose, 5–7 mm in diam., densely punctate. Fl. Feb–Apr, fr. Oct–Dec.

Broad-leaved forests, limestone hillsides, mountain slopes, road sides, stream banks, sunny places; 500–2700 m. Guangdong, Guangxi, Guizhou, Hubei, Hunan, Sichuan, Xizang, Yunnan [India, Myanmar, Nepal].


光叶铁仔  guang ye tie zai

_Anamtia stolonifera_ Koidzumi, Bot. Mag. (Tokyo) 37: 40. 1923; _A. marginata_ Masamune; _A. mezii_ Masamune; _Myrsine marginata_ Mez (1902), not Hooker & Arnott (1834); _Rapanea stolonifera_ (Koidzumi) Nakai.

 Shrubs ca. 2 m tall. Branchlets terete, 1–1.5(–2) mm in diam., glabrous. Petiole canaliculate, 5–8 mm; leaf blade elliptic or lanceolate, 6–8(–10) × 1.5–2.5(–3) cm, papery or subleathery, glabrous, base cuneate, margin entire or sometimes with 1 or 2 pairs of teeth beyond middle, punctate, apex acuminate; lateral veins inconspicuous, densely and minutely arcuolate, marginal vein absent. Inflorescences axillary or on leafless branchlets, umbellate or fascicled, sessile, 3–4-flowered; bracts hastate or lanceolate, glabrous. Flowers 5-merous, 1.8–2 mm. Pedicel 2–3 mm, glabrous, subtended by 1 bract. Calyx lobes spreading, nearly free, narrowly elliptic or oblong, 0.8–1 mm, flat, glabrous, prominently punctate, apex acute or obtuse. Petals united into a very short tube, glabrous outside, densely glandular granulose inside except for tube; lobes oblong, punctate, apex obtuse. Stamens ca. 1/2 as long as petals: filaments free, adnate to base of petals; anthers broadly ovate or reniform, apex apiculate. Ovary glabrous, punctate. Stigma apiculate or lobed. Fruit red becoming bluish black, globose, ca. 5 mm in diam., glabrous. Fr. Apr–Jun, fr. Dec–Jan.

Mixed forests, damp places; 300–2100 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Jiangxi, Sichuan, Taiwan, Yunnan, Zhejiang [Japan].


平叶密花树  ping ye mi hua shu

_Rapanea faberi_ Mez in Engler, Pflanzenr. IV. 236(Heft 9): 358. 1902.

Trees 6 m or more. Branchlets terete, 1.5–2 mm in diam., glabrous. Petiole suberete, 7–10 mm; leaf blade elliptic to lanceolate, 7–11 × 1.5–3 cm, papery or subleathery, glabrous, base cuneate, glossy above, pale below, margin entire, apex caudate or long acuminate, acumen 1–2 cm; midrib impressed adaxially; lateral veins inconspicuous, marginal vein obscure. Bracts ovate, glabrous, margin sparsely glandular granulose, apex obtuse. Flowers papery, greenish, 5-merous, ca. 5 mm. Pedicel 1–2 mm, glabrous. Calyx lobes spreading, nearly free, 0.8–1 mm, flat, punctate, margin entire, glandular ciliate, apex obtuse. Petals oblong or ovate, ca. 3 mm, united to 1/3 their length, punctate, glandular granulose inside and along margin. Anthers sometimes puberulent at apex. Ovary glabrous. Stigma elongated, ligulate, apiculate at apex, as long as ovary. Fruit black, globose or ovoid, 5–6 mm in diam., glabrous, somewhat wrinkled when dry, not punctate. Fl. Apr–May, fr. Oct–Dec.

* Evergreen broad-leaved forests, stream banks, moist places; 500–1200 m. Guangdong, Guangxi, Guizhou, Hainan, Sichuan, Yunnan.


广西铁仔  guang xi tie zai

广西密花树 guang xi mi hua shu


Trees 5–6 m tall. Branchlets terete, 5–7 mm in diam., rugose, glabrous. Petiole marginate, 1–2.5 cm; leaf blade obovate or broadly obovate-lanceolate, 14–24 × 3.5–8 cm, leathery, glabrous, base cuneate, margin entire, slightly revolute, apex broadly acute; midrib and lateral veins flattened adaxially, lateral veins raised abaxially, marginal vein obscure. Bracts broadly ovate, glabrous, sparsely ciliate. Flowers 5(–6)-merous, 3.5–4 mm. Pedicel 4–6(–8) mm, glabrous. Calyx lobes spreading, nearly free, ovate 1–2 mm, glabrous, obscurely punctate, margin entire, without cilia, apex acute. Petals obovate or lanceolate, 3.5–4 mm, punctate, glabrous or glandular granulose inside an on margin entire. Staminate flowers unknown. Ovary glabrous. Stigma lobed or subglutulate, usually punctate near apex. Fruit purple or purplish red, globose or ovoid, 4–5 mm in diam., longitudinally ribbed, punctate. Fl. and fr. May.

Evergreen broad-leaved forests, mixed forests, valleys, limestone hillsides; 700–1500 m. Guangxi, Guizhou, Xizang (Linzhi), Yunnan.


密花树 mi hua shu

*Athruphyllum neriifolium* H. Hara; *A. seguini* (H. Léveillé) Nakai; *A. taiwanianum* Nakai; *A. yunnanensis* (Mez) Nakai; *Myrsine neriifolia* Siebold & Zuccarini (1846), not Casaratto (1843); *Rapanea neriifolia* Mez; *R. neriifolia* var. *yunnanensis* (Mez) E. Walker; *R. walkeriana* Handel-Mazzetti; *R. yunnanensis* Mez.

Shrubs or trees 2–7(–12) m tall. Branchlets terete, 3–5 mm in diam., minutely puberulent when young, glabrescent. Petiole canaliculate, 6–8 mm, not decurrent at base; leaf blade broadly elliptic to oblong, 3.5 × 1.5–3 cm, papery or leathery, not punctate, glabrous, base obtuse, margin entire, revolute, apex abruptly short acuminate, apiculate; lateral veins inconspicuous. Inflorescences axillary, umbellate or fascicled, sessile; bracts broadly ovate. Flowers leathery, white, 2.7–3 mm, 5-merous. Pedicel 4–5 mm, glabrous, subtended by a scaly bract. Calyx lobes spreading, nearly free, linear-oblong, 1.5–2 mm, glabrous outside, sparsely puberulent inside, punctate, margin entire, glabrous, apex obtuse or rounded. Petals free or somewhat united, narrowly lanceolate or oblong, 2.8–3.3 mm, glabrous outside, sparsely and minutely glandular granulose inside, punctate, apex obtuse. Stamens shorter than petals; filaments basal 1/3 adnate to petals; anthers small, reniform, not punctate on back. Stigma apiculate. Fruit red, 3–5 mm in diam., usually longitudinally wrinkled, pellucid punctate. Fl. Jun, fr. Nov.

* Dense mixed forests, shrubby areas, limestone hillsides. Guangxi.


* Trees 5–6 m tall. Branchlets terete, 5–7 mm in diam., rugose, glabrous. Petiole marginate, 1–2.5 cm; leaf blade obovate or broadly obovate-lanceolate, 14–24 × 3.5–8 cm, leathery, glabrous, base cuneate, margin entire, slightly revolute, apex broadly acute; midrib and lateral veins flattened adaxially, lateral veins raised abaxially, marginal vein obscure. Bracts broadly ovate, glabrous, sparsely ciliate. Flowers 5(–6)-merous, 3.5–4 mm. Pedicel 4–6(–8) mm, glabrous. Calyx lobes spreading, nearly free, ovate 1–2 mm, glabrous, obscurely punctate, margin entire, without cilia, apex acute. Petals obovate or lanceolate, 3.5–4 mm, punctate, glabrous or glandular granulose inside an on margin entire. Staminate flowers unknown. Ovary glabrous. Stigma lobed or subglutulate, usually punctate near apex. Fruit purple or purplish red, globose or ovoid, 4–5 mm in diam., longitudinally ribbed, punctate. Fl. and fr. May.

Evergreen broad-leaved forests, mixed forests, valleys, limestone hillsides; 700–1500 m. Guangxi, Guizhou, Xizang (Linzihi), Yunnan.


打铁树 da tie shu

*Athruphyllum lineare* Loureiro, Fl. Cochinch. 1: 120. 1790; *M. playfairii* Hemsley; *Rapanea linearis* (Loureiro) S. Moore; *R. playfairii* (Hemsley) Mez.

Shrubs or trees 1–8(–30?) m tall. Branchlets essentially terete, with longitudinal ridges, 2.5–3.4 mm in diam., glandular granulose, glabrescent. Petiole marginate, 6–8 mm; leaf blade obovate spatulate, 3.7–12.2–2.5 cm, leathery to subleathery, glabrous, densely punctate on veins, base cuneate, margin entire, apex rounded or truncate, sometimes retuse; midrib flattened adaxially, lateral veins 8–10 on each side of midrib, marginal vein absent. Bracts broadly ovate, margin sparsely glandular granulose, apex obtuse. Flowers white or greenish, 4(–6)-merous, 2.2–5.5 mm. Pedicel (2–)4 mm, glabrous. Calyx disc-shaped; lobes nearly free, ovate, 0.8–1 mm, pellucid punctate, margin glandular granulose, apex obtuse. Petals united ca. 1/3 their length, elliptic or ovate, 2.2 mm, glandular granulose inside and along margin, sparsely punctate, tube glabrous. Stamens inserted at corolla throat; anthers puberulent at apex. Ovary glabrous. Stigma ligulate or lobed. Fruit purplish black, globose, 3.4 mm in diam., wrinkled, pellucid punctate. Fl. Dec–Jan, fr. Jul–Nov.

* Mixed forests, scrub, hillsides, fields, limestone hillsides. Guangdong, Guangxi, Guizhou, Hainan [Vietnam].