
海桐花属  hai tong hua shu

*Tobira* Adanson, nom. rej.

Trees, shrubs, or sometimes subshrubs, evergreen, pubescent or glabrous. Leaves alternate, appearing opposite or pseudoverticillate, usually clustered at branchlet apex; leaf blade leathery or sometimes membranous, margin entire, undulate-dentate, or rugose. Inflorescences terminal or axillary, umbellate, corymbose, paniculate, or a solitary flower. Flowers bisexual, rarely polygamous. Sepals 5, free, usually short and small. Petals 5, free or partly connate. Stamens 5; filament glabrous; anther dorsifixed, ± sagittate, longitudinally dehiscent. Ovary superior, usually stipitate, of 2 or 3(–5)carpels, 1-loculed or incompletely 2–5-loculed, pubescent or glabrous; ovules usually numerous, sometimes 1–4; placentas parietal and equal in number to carpels, or basilar owing to reduction of ovules. Style short, simple or 2–5-lobed, usually persistent. Capsule ellipsoid or globose, sometimes compressed, dehiscing by 2–5 valves; pericarp woody or leathery, usually with horizontal striae adaxially. Seeds usually surrounded by glutinous or greasy material.

About 150 species: Bangladesh, Bhutan, China, India, Indonesia, Japan, Korea, Laos, Malaysia, Myanmar, Nepal, Pakistan, Papua New Guinea, Philippines, Sikkim, Singapore, Sri Lanka, Thailand, Vietnam; tropical and S Africa (including Madagascar), SW Asia (Yemen), Atlantic Islands (Madeira), Australia, Indian Ocean Islands (Mascarenes, Seychelles), Pacific Islands; 46 species (33 endemic) in China.

**Pittosporopsis nervosa** Gagnepain (Notul. Syst. (Paris) 13: 136. 1947) was transferred to *Pittosporum* by Gowda, as *P. nervosum* (Gagnepain) Gowda (J. Arnold Arbor. 32: 327. 1951). As well as the type specimen from Vietnam, Poilane 25530 (holotype, P), Gowda cited a collection from S Yunnan (Simao Xian), Henry 11778B (NY). However, Chang and Yan (Acta Sci. Nat. Univ. Sunyatseni 1974(2): 43. 1974) demonstrated that Gagnepain’s protologue, as well as the collection Henry 11778 (BSC), also from Simao Xian, clearly belongs to *Pittosporopsis* in the Icacinaceae.


1a. Placentas (2 or)3–5, in middle part of capsule valves; capsule dehiscing by (2 or)3–5 valves; inflorescences umbellate.

2a. Placentas 2; capsule usually dehiscing by 2( or) 3 valves.

3a. Ovary and capsule pubescent.

4a. Young branchlets glabrous ............................................................................................................ 15. *P. elevaticostatum*

4b. Young branchlets pubescent.

5a. Sepals erect, 3–4 mm; petals free, ca. 8 mm; leaf blade 3–5 × 1–1.7 cm ................................. 16. *P. parvilimbum*

5b. Sepals reflexed, ca. 2 mm; petals united below middle, ca. 10 mm; leaf blade 3–7 × 1.5–2.5 cm ................................................................................................................................ 17. *P. reflexisepalum*

3b. Ovary and capsule glabrous.

6a. Capsule valves ca. 1 mm thick .................................................................................................. 20. *P. perglabratum*

6b. Capsule valves ca. 0.4 mm thick.
7a. Funicles 6–8 on each capsule valve, in pairs along middle of placenta, creamy yellow, slender, flat, 1–2 mm; capsule cylindric, 1.4–1.5 cm; leaf blade narrowly lanceolate or narrowly oblong, 7.2–15 × 2.5–2.5 cm ................................................................. 18. *P. henryi*

7b. Funicles 2 on each capsule valve, dark brown, short, knoblike; capsule ellipsoid, 1–1.2 cm; leaf blade broadly elliptic or ovate-elliptic, 6–10 × 2.5–4 cm ............................................................... 19. *P. merrillianum*

2b. Placentas 3–5; capsule dehiscing by 3–5 valves.

8a. Capsule valves woody, 1–2.5 mm thick; seeds 2–4 mm.

9a. Seeds more than 30; capsule valves 3–5, 2–2.5 mm thick; ovary pubescent ................................................. 1. *P. crispium*

9b. Seeds fewer than 25; capsule valves usually 3, less than 2 mm thick; ovary pubescent or glabrous.

10a. Capsule globose, 1.2–2 cm; ovary pubescent or glabrous.

11a. Capsule 1.5–2 cm in diam., glabrous, apex acute ................................................... 2. *P. rehderianum*

11b. Capsule ca. 1.2 cm in diam., pubescent, apex rounded or obtuse ............................................. 3. *P. tobi*

10b. Capsule ellipsoid or ovoid, less than 1.5 × 1 cm; ovary pubescent.

12a. Capsule valves 1.5–2 mm thick; seeds 4–8; sepals ca. 2.5 mm ....................................... 4. *P. xylocarpum*

12b. Capsule valves ca. 1 mm thick; seeds ca. 15; sepals 4–7 mm.

13a. Leaf blade 6–11 × 2–4 cm; sepals 6–7 mm; capsule ca. 1.2 cm ....................... 5. *P. subulisepalum*

13b. Leaf blade 5–8 × 1.5–2.5 cm; sepals 4–5 mm; capsule 1.3–1.8 cm .................. 6. *P. pauciflorum*

8b. Capsule valves thinly leathery, less than 1 mm thick; seeds 3–7 mm.

14a. Capsule globose or slightly trigonous-globose .............................................................. 14. *P. illicioides*

14b. Capsule ellipsoid, obovoid, or long cylindric.

15a. Ovary glabrous or sparsely puberulent.

16a. Capsule with 3 prominent abaxial sutures .............................................................. 7. *P. perryanum*

16b. Capsule without prominent abaxial sutures.

17a. Ovary slightly puberulous or glabrous; ovules 8–9; seeds 3–4 mm ...................... 8. *P. omiensis*

17b. Ovary glabrous; ovules ca. 18; seeds 5–6 mm ................................................... 9. *P. glabratum*

15b. Ovary densely pubescent.

18a. Capsule 2–3 cm.

19a. Capsule stipe ca. 5 mm; petals 1.5–1.8 cm .................................................................. 10. *P. podocarpum*

19b. Capsule stipe 1–2 mm; petals 1–1.2 cm ................................................................. 11. *P. trigonocarpum*

18b. Capsule less than 1.5 cm.

20a. Leaf blade elliptic or narrowly oblong ..................................................................... 12. *P. kweichowense*

20b. Leaf blade lanceolate or oblanceolate ................................................................ 13. *P. parvicapsulare*

1b. Placentas 2, at base or in proximal part of capsule valves, slightly connate at base; capsule ± compressed, dehiscing by 2 valves; inflorescences umbellate or paniculate, rarely racemose.

21a. Inflorescences compound, corymbose or paniculate.

22a. Inflorescences usually pedunculate, corymbose, appearing paniculate.

23a. Capsule more than 2 cm, valves more than 2 mm thick; leaf blade obtuse at apex ........ 42. *P. viburnifolium*

23b. Capsule less than 1 cm; valves less than 1 mm thick; leaf blade acute .................

24a. Seeds 2–4(or 5); placentas at base of capsule valves.

25a. Leaf blade 4–6 cm wide; inflorescences 6–10 cm; young branchlets glabrous ...

25b. Leaf blade 2–4 cm wide; inflorescences 4–6 cm; young branchlets pubescent .... 44. *P. kerri*

24b. Seeds 5–16; placentas in lower part of capsule valves.

26a. Leaf blade oblong or oblong-lanceolate, 4–8 cm wide; seeds 5–8 .................. 45. *P. napaulense*

26b. Leaf blade obovate or obovate-obovate, 3–5 cm wide; seeds 10–16 ............ 46. *P. pentandrum*

22b. Inflorescences usually not pedunculate, umbellate or corymbose.

27a. Leaf blade oblong or elliptic, 10–20 × 4–8 cm; inflorescences more than 5 cm .......... 37. *P. daphniphyllum*

27b. Leaf blade obovate-oblong, oblanceolate, or oblong-oblanceolate, 8–15 × 2–6 cm; inflorescences 3–4 cm.

28a. Seeds ca. 4; placentas at base of capsule valves; leaf blade obovate-oblong, 4–6 cm wide ................................................................. 38. *P. kwangsiense*

28b. Seeds more than 6; placentas in middle part of capsule valves; leaf blade obovate-lanceolate, 2–5 cm wide.

29a. Lateral veins more than 12-paired; seeds 6–8 .................................................. 39. *P. undulatifolium*

29b. Lateral veins fewer than 10-paired; seeds 7–16 or more.

30a. Capsule 8–9 mm in diam.; seeds more than 16 .............................................. 40. *P. johnstonianum*

30b. Capsule 7–8 mm in diam; seeds 7–10 ............................................................ 41. *P. brevicalyx*

21b. Inflorescences simple, umbellate, racemose, or corymbose.

31a. Capsule valves woody, 1–3 mm thick.

32a. Leaf blade obovate-lanceolate, 7–10 × 2–3 cm; capsule 1.3–1.6 cm in diam.; seeds 16–24

32b. Leaf blade oblanceolate, 4–6 × 1–2 cm; capsule 1–1.2 cm in diam.; seeds 10–12

31b. Capsule valves thinly woody, less than 1 mm thick.

33a. Capsule ellipsoid, long pear-shaped, or obvoid, more than 1 cm.

34a. Young branchlets and inflorescences brown pubescent; inflorescences densely flowered

34b. Young branchlets and inflorescences glabrous; inflorescences sparsely flowered.

35a. Leaf blade narrowly lanceolate, falcate, 10–23 × 0.7–1.8 (–2.2) cm; sepals ovate, ca. 3 mm

35b. Leaf blade oblong or oblanceolate, 7–12 × 2.5–4.5 cm; sepals triangular-ovate, ca. 2 mm

36a. Young branchlets pubescent or puberulous.

36b. Young branchlets glabrous.


皱叶海桐 皱叶海桐


Shrubs to 3 m tall. Young branchlets red-brown after drying, glabrous; previous year’s branchlets not lenticellate. Leaves clustered at branchlet apex, biennial; petiole 1–1.5 cm; leaf blade pale green abaxially, dark green and slightly shiny adaxially, dull green after drying, oblongate or lanceolate, 8–18 × 3–5 cm, thinly leathery, glabrous, lateral veins 13–20-paired, base cuneate, margin slightly rugose or sinuate, apex acuminate. Inflorescences 2–4, clustered in leaf axils at branchlet apex, umbellate, 2–5-flowered; pedicels 1–2 cm, glabrous. Sepals slightly connate at base, triangular-ovate, ca. 3 mm, glabrous, margin ciliate. Petals ca. 1.5 × 0.2–0.25 cm. Stamens ca. 1 cm; filament 5–7 mm; anther ca. 2 mm. Pistil 8–10 mm; ovary 2–3 mm, pubescent, wall ca. 0.5 mm thick; placetas 3–5, parietal; ovules 10–15 per placenta in 4 rows; style 2–2.5 mm. Capsule ellipsoid or pear-shaped, 2.5–3 cm, dehiscing by 3–5 valves; pericarp ca. 2.5 mm thick, woolly, pubescent abaxially; pedicel 1–2.5 cm; stigma 2–4 mm. Seeds 45–50 per valve in 2–4 rows, 2.5–3 mm; funicle 1–1.5 mm. Fl. Feb–May, fr. Jun–Oct.

● Damp places in forests, thickets; 500–1800 m. NW Guizhou (Chishui Xian), Hubei, Sichuan, Yunnan.

This species is used medicinally to treat nephritis and stop vomiting.


厚圆果海桐 厚圆果海桐

Shrubs to 3 m tall. Young branchlets dull brown after drying, glabrous; old branchlets gray-brown, lenticellate. Leaves 4- or 5-clustered at branchlet apex, appearing pseudoverticillate,
biennial; petiole 5–10 mm; leaf blade pale green abaxially, brownish after drying, dark green and shiny adaxially, oblan-
celate, 5–12 × 2–4 cm, leathery or thinly so, glabrous, lateral
veins 6–9-paired, slightly prominent abaxially, indistinct adaxi-
ally after drying, reticulate veins indistinct on both surfaces,
base cuneate, margin flat, apex acuminate. Inflorescences termi-
nal, umbellate, glabrous; bracts ovate, 1–4 mm, glabrous; pedic-
cels 5–10 mm. Sepals slightly connate at base, triangular-ovate,
ca. 2 mm, glabrous. Petals free, yellow, 10–12 mm. Stamens
shorter than petals, 7–8 mm. Pistil equaling stamens; ovary
glabrous; placentas 3, parietal; ovules 24–27. Capsule globose,
angular, 1.5–2 cm in diam., dehiscing by 3 broadly ovate (when
open) valves; pericarp 1–2 mm thick, woody; pedicel 1–2 cm.
Seeds ca. 8 or 21–24 per capsule, red, becoming black after
drying, ca. 3.5 mm; funicle ca. 3 mm. Fl. Mar–May, fr. May–
Nov.

3a. Pittosporum rehderianum var. rehderianum

Seeds 21–24 per capsule.

● Forests, thickets, slopes, bases of slopes, river sides; 700–2400
m. SE Gansu, W Hubei, S Shaanxi, W Sichuan, W Yunnan.

1a. Young branchlets and leaf blade pubescent; ovary densely pubescent; inflo-
rescences, bracts, and sepals densely brown pubescent

1b. Young branchlets and leaf blade sparsely
pubescent; ovary sparsely puberulous; inflo-
rescences, bracts, and sepals
glabrous

2a. Pittosporum rehderianum var. ternstroemioides

Seeds ca. 8 per capsule.

● Forests, slopes, river sides; 700–1300 m. SE Gansu, W Hubei, S
Shaanxi, W Sichuan.


2a. Pittosporum rehderianum var. ternstroemioides

Seeds ca. 8 per capsule.

● Thickets, bases of slopes; ca. 2400 m. W Yunnan (Longling
Xian).


海棉 hai tong

Shrubs or small trees to 6 m tall. Young branchlets len-
ticellate. Leaves clustered at branchlet apex, biennial; petiole
ca. 2 cm; leaf blade dark green and shiny adaxially, dull after
drying, obovate or obovate-lanceolate, 4–9 × 1.5–4 cm, lea-
thery, lateral veins 6–8-paired, connected at margin, sometimes
reticulate veins conspicuous between lateral veins, base nar-
wolly cuneate, margin entire, revolute, apex rounded or obtuse,
usually emarginate or slightly cordate. Inflorescences terminal
or nearly so, umbellate or corymbose; bracts lanceolate, 4–5
mm; bracteoles 2–3 mm; pedicels 1–2 cm; flowers fragrant. Se-
pals lanceolate, 3–4 mm. Petals free, white at first, becoming
yellow later, oblanceolate, 1–1.2 cm. Stamens dimorphic: fila-
ment 2–3 mm and anther nearly sterile in reduced stamens;
filament 5–6 mm and anther yellow, oblong, and ca. 2 mm in
terminal stamens. Ovary long ovoid, densely pubescent; placen-
tas 3; ovules numerous, in 2 rows. Capsule globose, angular, ca.
1.2 cm in diam., dehiscing by 3 valves, ± pubescent; pericarp
yellow-brown and shiny adaxially, ca. 1.5 mm thick, woody,
horizontally striate; stipe 1–2 mm. Seeds numerous, red, angu-
lar, ca. 4 mm; funicle ca. 2 mm. Fl. Mar–May, fr. May–Oct.

Cultivated for ornament and possibly naturalized, forests, lime-
stone areas, slopes, sandy seashores, roadsides; sea level to 1800 m.
Native in N Taiwan; introduced in Fujian, Guangdong, Guangxi, Gui-
zhou, Hainan, Hubei, Jiangsu, Sichuan, Taiwan, Yunnan, Zhejiang [na-
tive to S Japan and S Korea].

1a. Young branchlets and leaf blade pubescent;

ovary densely pubescent; inflorescences,
bracts, and sepals densely brown pubescent

1b. Young branchlets and leaf blade sparsely
pubescent; ovary sparsely puberulous;
infloricescences, bracts, and sepals
glabrous

3a. Pittosporum tobira var. tobinia

海棉(原变种) hai tong (yuan bian zhong)

Upsal. 3: 208. 1780; Pittosporum tobira var. chinense S. Koba-
yashi.

Young branchlets and leaf blade pubescent. Inflor-
ences, bracts, and sepals densely brown pubescent. Ovary

Cultivated for ornament and possibly naturalized, forests, lime-
stone areas, slopes, sandy seashores, roadsides; sea level to 1800 m.
Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hubei, Jiangsu, Si-
chuan, Yunnan, Zhejiang [native to S Japan and S Korea (including
Cheju Island)].


秃序海棉 tu xu hai tong

Pittosporum makinoi Nakai; P. tobira var. fukienense
Gowda.

Young branchlets and leaf blade sparsely pubescent. Inflor-
ences, bracts, and sepals glabrous. Ovary sparsely puberulous.

● Forests, coastal regions. Native in N Taiwan; semicultivated in
E and S Fujian (Gu Shan, Xiamen Shi).


木果海棉 mu guo hai tong

Shrubs to 3 m tall. Young branchlets slender, glabrous; old
branchlets lenticellate. Leaves clustered at branchlet apex, bien-
nial; petiole 6–15 mm; leaf blade yellow-brown abaxially after
drying, green and shiny adaxially, oblanceolate or narrowly
long elliptic, 6–13 × 2–4.5 cm, thinly leathery, glabrous abaxi-
ally, lateral veins 11–15-paired, slightly convex abaxially, slight-
ly prominent adaxially, reticulate veins indistinct, base
cuneate, margin flat, apex acuminate. Inflorescences termi-
nal, umbellate or corymbose, glabrous; peduncle ca. 5 mm; bracts

1a. Young branchlets and leaf blade pubescent;

ovary densely pubescent; inflorescences,
bracts, and sepals densely brown pubescent
ca. 2 mm, membranous, caducous; pedicels unequal, 4–12 mm; flowers fragrant. Sepals slightly connate at base, slightly shiny, ovate, unequal, 1.5–2 mm. Petals proximally connate into a tube for ca. 2/3 their length, yellow, narrowly lanceolate, ca. 1.2 cm. Stamens ca. 8 mm; anther ca. 2 mm. Ovary long ovoid, ca. 1.5 cm; placentas (2 or)3; ovules 2–5 per placenta; stipe short, pubescent. Style ca. 3 mm. Capsule ovoid, ca. 1.5 cm, dehiscing by (2 or)3 valves; pericarp woody, 1.5–2 mm thick, horizontally striate. Seeds 4–8, red, becoming black after drying, 3–4 mm; funicle 1–1.5 mm. Fl. Apr–May, fr. Jun–Oct.

- Damp places in forests, forest margins, thickets, slopes; 200–1500 m. Guizhou, W Hubei, Sichuan, NE Yunnan (Zhenxiong Xian).


尖萼海桐 jian e hai tong

Shrubs. Branchlets slender, glabrous, lenticellate. Leaves biennial; petiole 5–10 mm; leaf blade pale green abaxially, dark green and shiny adaxially, oblong-ovate, rarely obovate or narrowly elliptic, 6–11 × 2–4 cm, thinly papery at first, soon becoming thinly leathery, glabrous abaxially, midvein convex abaxially, slightly concave adaxially, lateral veins 6–9-paired, slightly concave, reticulate veins prominent, base cuneate or decurrent, margin rugose, slightly revolute, apex acuminate. Inflorescences terminal, umbellate, 2–4-flowered, glabrous; pedicels 6–10 mm. Sepals free, linear-lanceolate, 6–7 mm, glabrous abaxially, margin ciliate. Petals yellow-green, narrowly oblong, ca. 9 × 2 mm. Stamens ca. 3.5 mm; filament stout, ca. 2.5 mm; anther sagittate. Pistil longer than stamens, ca. 6 mm; ovary long ovoid, brown pubescent; carpels 3; placentas 3; ovules 16 in total; style short; stigmas enlarged. Capsule ovoid, ca. 1.2 × 0.8 cm, dehiscing by 3 valves; pericarp woody; pedicel ca. 2 cm; stipe distinct. Fl. Mar–May, fr. Jun–Nov.


少花海桐 shao hua hai tong

Shrubs. Young branchlets glabrous; old branchlets lenticellate. Leaves borne on young branchlets, sometimes appearing pseudoverticillate; petiole 8–15 mm, pubescent at first, soon glabrate; leaf blade dark green and shiny adaxially, narrowly oblong or narrowly obovate, 5–8 × 1.5–2.5 cm, leathery, pubescent abaxially when young, soon glabrate, lateral veins 6–8-paired, together with reticulate veins convex abaxially and slightly concave adaxially, base cuneate, margin slightly revolute after drying, apex acute. Inflorescences in leaf axils at branchlet apex, appearing pseudoverticillate, 3–5-flowered; bracts linear-lanceolate, 6–7 mm; pedicels ca. 1 mm, glabrous or puberulous. Sepals narrowly lanceolate, 4–5 mm, puberulous, margin ciliate. Petals 8–10 mm. Stamens 6–7 mm. Ovary long ovoid, gray tomentose; placentas 3; ovules ca. 18; stipe short. Style 2–3 cm. Capsule ellipsoid, ovoid, or long cylindric, 1.2–1.8 × 0.7–1 cm, sparsely pubescent, dehiscing by 3 valves; pericarp ca. 1 mm thick, woody; placenta in middle part of valves. Seeds 5 or 6 per placenta, red, ca. 4 mm; funicle ca. 2 mm; stipe 0.6–1.5 mm. Fl. Apr–May, fr. May–Oct.

- Forests, thickets, valleys, stream sides, roadsides; 700–1000 m. Fujian, Guangdong, Guangxi, S Hunan, Jiangxi [Vietnam].

1a. Capsule ellipsoid or ovoid, ca. 1.2 × 1 cm .................................................... 1a. var. pauciflorum

1b. Capsule long cylindric, ca. 1.8 × 0.7 cm .................................................... 1b. var. oblongum

6a. Pittosporum pauciflorum var. pauciflorum

少花海桐 var. pauciflorum


Capsule ellipsoid or ovoid, ca. 1.2 × 1 cm. Fl. Apr–May, fr. May–Oct.

- Thickets, valleys, stream sides, roadsides; 700–1000 m. Fujian, Guangdong, Guangxi, S Hunan, Jiangxi [Vietnam].

6b. Pittosporum pauciflorum var. oblongum

var. oblongum

Pittosporum pauciflorum var. oblongum (Hooker & Arnott) Shao (1978).

Capsule long cylindric, ca. 1.8 × 0.7 cm. Fl. Aug.

- Thickets. N Guangdong (Lianshan Xian).


缝线海桐 feng xian hai tong

Shrubs 1–2 m tall. Young branchlets glabrous, slightly lenticellate. Leaves usually 3–5-clustered at branchlet apex, biennial; petiole 8–15 mm; leaf blade pale green abaxially, yellow-green after drying, green and shiny adaxially, long elliptic, obovate-elliptic, or belite-like-lanceolate, 8–17 × 1–6 cm, thinly leathery, becoming submembranous, glabrous, lateral veins 7-paired, slightly prominent abaxially, slightly convex after drying, connected at 5–8 mm from margin, base cuneate, margin flat, apex acute. Inflorescences terminal, umbellate, 6–9-flowered, glabrous; bracts linear, 5–7 mm; pedicels 5–10 mm. Sepals ovate, ca. 2 mm, glabrous. Petals ca. 10 mm. Stamens 7–8 mm. Ovary glabrous; carpels 3 or 4; ovules 4–6 in each carpel. Style ca. 3 mm. Capsules 1–4, ellipsoid or occasionally narrowly cylindric, 1.5–3(–4) × 1.4–1.7 cm, glabrous, with 3 prominently angled abaxial sutures, dehiscing by 3 or 4 valves; pericarp yellow adaxially, thinly leathery, not horizontally striate; pedicel thick and short, ca. 1 cm; stipe 2–3 mm. Seeds usually 8 or 9(–18) in total, in 2 rows per placenta, red, becoming yellow-red after drying, compressed rounded, ca. 6 mm; funicle ca. 3 mm. Fl. Mar–May, fr. May–Oct.

- Forests, thickets, valleys, slopes, stream sides; 600–1800 m. W Guangdong, S Guangxi, SE Guizhou, SW Hainan, SE Sichuan, S Yunnan.

1a. Leaf blade long elliptic or obovate-elliptic, 8–17 × 4–6 cm; capsule ellipsoid or occasionally narrowly tubelike, 2–3(–4) cm .................................................... 7a. var. perryanum

1b. Leaf blade beltlike-lanceolate, 9–13 ×
1–2 cm; capsule ellipsoid, ca. 1.5 cm ...................................................... 7b. var. linearifolium

7a. Pittosporum perryanum var. perryanum

缝线海桐(原变种) feng xian hai tong (yuan bian zhong)

Pittosporum membranifolium S. C. Huang ex W. Q. Yin.

Leaf blade long elliptic or obovate-elliptic, 8–17 × 4–6 cm. Capsule ellipsoid or occasionally narrowly tubelike, 2–3(–4) × 1.4–1.7 cm. Fl. Mar–May, fr. May–Oct.

● Forests, thickets, valleys, slopes, stream sides; 600–1800 m. W Guangdong (Xinyi Xian), S Guangxi, SW Hainan, SE Sichuan (Changning Xian, Hejiang Xian), S Yunnan.

The capsules can be used medicinally in the treatment of jaundice.


狭叶缝线海桐 xia ye feng xian hai tong

Leaf blade beltlike-lanceolate, 9–13 × 1–2 cm. Capsule ellipsoid, ca. 1.5 cm. Fl. Aug.

● Dense forests, thickets, stream sides in valleys; 800–1100 m. SE Guizhou (Rongjiang Xian).


峨眉海桐 e mei hai tong

Pittosporum glabratum Lindley var. chinense Pampanini, pro parte.

Shrubs ca. 2 m tall. Young branchlets glabrous; old branchlets lenticellate. Leaves 2–4-clustered at branchlet apex, appearing opposite or verticillate, biennial; petiole 5–8 mm; leaf blade pale brown and glabrous abaxially, dark green and shiny adaxially, dull green after drying, obovulate or narrowly oblong, 7–10 × 1.5–2.5 cm, leafy, lateral veins ca. 5-paired, slightly convex abaxially, indistinct adaxially, base narrowly cuneate, margin flat, apex truncate to obtuse. Inflorescences 1–4 in leaf axils at branchlet apex, umbellate or corymbose, many flowered; bracts lanceolate, ca. 3 mm; pedicels 4–12 mm, puberulous or glabrous. Sepals ovate, ca. 2 mm, margin usually ciliate. Petals free, obovulate, 8–12 mm. Stamens (4–)6–7 mm. Ovary long ovoid, glabrous; placentas 3; ovules ca. 6 in each placenta. Style ca. 3 mm; stigmas slightly enlarged. Capsule ellipsoid, 2–2.5 cm, sometimes long tubelike and then 3–3.2 × 1–2 cm, dehiscing by 3 valves; pericarp thin, leathery; pedicel short and strong; style persistent. Seeds 6 or 7 per placenta, red, subglobose, 5–7 × 4–5 mm; funicle ca. 3 mm. Fl. Mar–Aug, fr. Jun–Dec.

Forests, thickets, slopes, valleys, river sides; 200–2000 m. Fujian, S Guangzhou, Guangdong, Guizhou, Hainan, Hubei, Hunan, Jiangxi, Sichuan [Vietnam].

Records of Pittosporum glabratum from India (e.g., by Rehder and Wilson in Sargent, Pl. Wilson 3: 328. 1916) are based on misidentified plants of P. podocarpum.

1a. Leaf blade obovate to narrowly so, apex truncate to obtuse ...................... 9c. var. wuxianense
1b. Leaf blade oblong, obovate, narrowly lanceolate, or beltlike, apex acute.

2a. Leaf blade obovate or obovulate, 5–15 × 2–5.5 cm ....................... 9a. var. glabratum
2b. Leaf blade narrowly lanceolate or beltlike, 6–18 × 1–2.5(–3.2) cm ................ 9b. var. neriifolium

9a. Pittosporum glabratum var. glabratum

光叶海桐(原变种) guang ye hai tong (yuan bian zhong)

Pittosporum fortunei Turczaninow.


Forests, thickets, sunny slopes, river sides; 200–2000 m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan [Vietnam].

The roots can be used medicinally as an analgesic.


狭叶海桐 xia ye hai tong

Pittosporum cavaleriei H. Léveillé.

Leaf blade narrowly lanceolate or beltlike, 6–18 × 1–2.5(–3.2) cm. Fl. Mar–May, fr. Jun–Nov.

Shrubs 2–3 m tall. Young branchlets glabrous; old branchlets lenticellate. Leaves clustered at branchlet apex, biennial; petiole 6–14 mm; leaf blade pale green and glabrous abaxially, green and shiny adaxially, obovate to narrowly so, oblong, lanceolate, narrowly lanceolate, or beltlike, 3.5–18 × 1–5.5 cm, thinly leathery, lateral veins 5–8-paired, slightly prominent abaxially, slightly convex after drying, along with reticulate veins indistinct adaxially, base cuneate, margin flat, sometimes slightly rugose, apex truncate to obtuse or acute. Inflorescences 1–4 in leaf axils at branchlet apex, umbellate or corymbose, many flowered; bracts lanceolate, ca. 3 mm; pedicels 4–12 mm, puberulous or glabrous. Sepals ovate, ca. 2 mm, margin usually ciliate. Petals free, obovulate, 8–12 mm. Stamens (4–)6–7 mm. Ovary long ovoid, glabrous; placentas 3; ovules ca. 6 in each placenta. Style ca. 3 mm; stigmas slightly enlarged. Capsule ellipsoid, 2–2.5 cm, sometimes long tubelike and then 3–3.2 × 1–2 cm, dehiscing by 3 valves; pericarp thin, leathery; pedicel short and strong; style persistent. Seeds 6 or 7 per placenta, red, subglobose, 5–7 × 4–5 mm; funicle ca. 3 mm. Fl. Mar–Aug, fr. Jun–Dec.

Forests, thickets, slopes, valleys, river sides; 200–2000 m. Fujian, S Guangzhou, Guangdong, Guangxi, Guizhou, Hainan, Hubei, Hunan, Jiangxi, Sichuan [Vietnam].

The roots can be used medicinally as an analgesic.

文县海桐 wen xian hai tong


Leaf blade obovate to narrowly so, 3.5–7 × 2–3.5 cm, apex truncate to obtuse. Fr. Aug.

• About 1100 m. S Gansu (Wen Xian).


柄果海桐 bing guo hai tong

Shrubs ca. 2 m tall. Young branchlets glabrous, sparsely puberulent, or densely brown pubescent; old branchlets lenticellate. Leaves clustered at branchlet apex; petiole 8–15 mm; leaf blade green and shiny adaxially, becoming yellow-green after drying, obovate, oblong-lanceolate, or beltlike, rarely oblong, 7–15 × 1–4 cm, thinly leathery, glabrous or pubescent abaxially, lateral veins (4–)6–8-paired, convex abaxially, prominent adaxially, reticulate veins indistinct, base cuneate, usually decurrent, margin flat, entire, apex acute or acuminate. Inflorescences in leaf axils at branchlet apex, 1–4-flowered, glabrescent to densely hairy; bracts small, deciduous; pedicels 2–3 mm, glabrous or shortly pilose. Sepals ovate, ca. 3 mm, glabrous or margin ciliate, rarely pilose. Petals free or partly connate, ca. 5–8 mm; style 3–4 mm, glabrous. Capsule pear-shaped, ellipsoid to long ellipsoid, densely brown puberulent. Fr. Aug.

• Forests on slopes; ca. 800 m. SE Sichuan (Hejiang Xian).


合江海桐 he jiang hai tong


Young branchlets sparsely puberulent. Leaf blade abaxially pubescent. Ovary stipe 1–2 mm. Capsule ellipsoid to long ellipsoid, densely brown puberulent. Fr. Aug.

• Forests, thickets, valleys; 1000–2500 m. Fujian, Gansu, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Shaanxi, Sichuan, SE Xizang, Yunnan [NE India, Myanmar, N Vietnam].


线叶柄果海桐 xian ye bing guo hai tong


• Forests, thickets, valleys; 1000–2500 m. Fujian, Gansu, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Shaanxi, Sichuan, SE Xizang, Yunnan [NE India, Myanmar, N Vietnam].


毛花柄果海桐 mao hua bing guo hai tong

Young branchlets densely brown pubescent. Leaf blade narrowly lanceolate or beltlike. Inflorescences densely brown pubescent.

• Thickets; ca. 1000 m. S Fujian (Hua’an Xian), S Guizhou (Libo Xian).


桜果海桐 ling guo hai tong

Shrubs. Young branchlets glabrous except young buds pubescent; old branchlets gray, lenticellate. Leaves clustered at branchlet apex, biennial; petiole ca. 1 cm; leaf blade green and shiny adaxially, pale green abaxially, obovate or oblong-lanceolate, 7–14 × 2.5–4 cm, leathery, glabrous, lateral veins ca. 6-paired, indistinct on both surfaces, base narrowly cuneate, margin flat, apex acute. Inflorescences 3–5, terminal, corymbose, many flowered; pedicels slender, 1–2.5 cm, glabrous. Sepals ovate, ca. 2 mm, margin ciliate. Petals free or partly connate, ca. 1.2 cm. Staminodes ca. 8 mm. Pistil equaling stamens; ovary pu-
bescent; placentas 3, parietal; ovules 9–15. Capsule usually solitary, ellipsoid, becoming triangular or globose after drying, 2.5–2.7 × 1–1.2 cm, pubescent; pedicel ca. 1 cm; stipe less than 2 mm; persistent style ca. 3 mm. Fl. Mar–May, fr. Jun–Oct.

- Forests, forest margins, thickets, slopes, valleys, river sides; 400–2000 m. NE Guangxi (Lingui Xian), S Guizhou, Hunan, Sichuan.

The roots and bark can be used medicinally for the treatment of asthma.


贵州海桐 zuo hai tong

Shrubs ca. 1.5 m tall. Young branchlets puberulous, soon glabrate; old branchlets gray-white, lenticels suborbicular. Leaves scattered on young shoots, annual or biennial; petiole ca. 5 mm; leaf blade yellow-green abaxially, dark green and shiny adaxially, narrowly oblong or lanceolate, 3–8 × 0.5–2.2 cm, leathery, glabrescent abaxially, lateral veins 5–6-paired, indistinct on both surfaces, base cuneate, margin flat or occasionally rugose, apex acumenate, apex obtuse. Inflorescences axillary, 1- or 2-flowered; bracts ovate, ca. 1.5 mm, margin ciliate; pedicels 4–7 mm, brown pubescent. Sepals triangular-ovate, 1–1.5 mm, margin ciliate, apex obtuse. Petals free, yellow, ca. 7 mm. Filaments 4–5 mm; anthers ca. 1 mm. Ovary brown pubescent; stipe short; placentas 3, parietal; ovules 2 or 3 per placenta. Capsule solitary, terminal, yellow, obovoid or cylindric, rarely oblong, 12–15(–20) × 6–8 mm, pubescent, dehiscing by 3 valves; placenta in middle part of valves; pericarp thin, long elliptic, not prominently horizontally striate; stipe slightly stout, 1–1.5 cm. Seeds 6–8, red, globose, 5–6 mm; funicle compressed, 2–3 mm. Fl. Feb–Apr, fr. May–Oct.

- Forests, thickets, limestone areas, slopes, river sides; 500–2000 m. SW Guizhou, W Hunan, SE Yunnan.

12a. Pittosporum kweichowense var. kweichowense

贵州海桐 (原变种) zuo hai tong (yuan bian zhong)


Leaf blade narrowly oblong, 3–8 × 1–2.2 cm. Sepals 1–1.5 mm. Capsule cylindric.

- Forests, thickets, river sides; 500–2000 m. SW Guizhou (Anlong Xian), W Hunan (Zhijiang Xian), SE Yunnan (Wenshan Xian).


罗汉松叶海桐 luohan song ye hai tong


Leaf blade lanceolate, 3–5 × 0.5–0.8 cm. Sepals 1–2 mm.

- Limestone areas, bases of slopes; ca. 800 m. SE Yunnan (Funing Xian).


黄杨叶海桐 huang yang ye hai tong


Capsule obovoid.

- Limestone areas, slopes; 1500–1700 m. SE Yunnan (Guangnan Xian, Xichou Xian).


小果海桐 xiao guo hai tong

Shrubs. Young branchlets dark brown after drying, slender, glabrous, sparsely gray-lenticellate. Leaves clustered at branchlet apex, biennial; petiole 5–7 mm; leaf blade pale green abaxially, dark green adaxially, brownish after drying, oblong or oblong-ovate, 3.5–6 × 1.3–2.3 cm, leathery, glabrous, lateral veins 7–8-paired, convex abaxially, together with reticulate veins slightly concave adaxially, base cuneate, margin flat, apex acuminate. Flowers not seen. Infructescence terminal, umbellate, 2–5-capsuled. Capsule ellipsoid, 6–8 × 4–5 mm, brown pubescent, dehiscing by (2 or)3 valves; pericarp less than 1 mm thick, not prominently horizontally striate adaxially; pedicel ca. 1 cm, glabrous; stipe indistinct; persistent style 2–2.5 mm. Seeds 9–12, 2.2–2.5 mm; funicle very short. Fl. Mar–May, fr. Jun–Oct.

- Forests, thickets. Guangxi, SE Guizhou (Liping Xian), Hunan, Jiangxi, Zhejiang.

This species has the smallest capsules among the Chinese species that have 3-valved capsules.


海金子 hai jin zi

Pittosporum illicioides var. angustifolium Huang ex S. Y. Lu; P. illicioides var. oligocarpum (Hayata) Kitamura; P. illicioides var. sternophyllum P. L. Chiu ex H. T. Chang & S. Z. Yan; P. kobuskianum Gowda; P. oligocarpum Hayata; P. oligospermum Hayata; P. salnianum Gowda.

Shrubs ca. 5 m tall. Young branchlets glabrous; old branchlets lenticellate. Leaves 3–6-clustered at branchlet apex, appearing pseudoverticillate; petiole 7–15 mm; leaf blade pale green abaxially, dark green adaxially, shiny after drying, oblong-lanceolate, 12–15(–20) × 1.7–4.5 cm, thinly leathery, glabrous, lateral veins 6–8-paired, slightly convex abaxially, inconspicuous adaxially, reticulate veins indistinct abaxially, base narrowly cuneate, usually decurrent, margin flat or slightly rugose, apex obtuse or acumi-

Shrubs ca. 1.5 m tall. Young branchlets gray, slender, glabrous; old branchlets occasionally sparsely lenticellate. Leaves 3–5-clustered at branchlet apex, appearing opposite; petiole 6–10 mm; leaf blade pale green abaxially, green adaxially, slightly shiny after drying, narrowly lanceolate or narrowly oblanceolate, 6–12 × 1.5–2.5 cm, laterally veins indistinct, base cuneate, margin entire, slightly involute, apex abruptly acuminate. Inflorescence terminal, subumbellate, 5–9-flowered, with leaflike bracts at base; pedicels slender, 10–15 mm, pubescent. Sepals usually reflexed or spreading, ca. 2 mm, pubescent. Petals connate below middle, pale yellow, ca. 1 cm. Capsule not seen. Fl. May–Jun.

- Forests, forest margins, SE Yunnan (Guangnan Xian).

This species is close to Pittosporum parvilimbum, but differs in having sepals reflexed and petals united below the middle.


Shrubs small, 60–130 cm tall. Young branchlets pubescent. Petiole 3–7 mm; leaf blade ovate-lanceolate, 3–7 × 1.5–2.5 cm, lateral veins indistinct, base cuneate, margin entire, slightly involute, apex abruptly acuminate. Inflorescence terminal, subumbellate, 5–9-flowered, with leaflike bracts at base; pedicels slender, 10–15 mm, pubescent. Sepals usually reflexed or spreading, ca. 2 mm, pubescent. Petals connate below middle, pale yellow, ca. 1 cm. Capsule not seen. Fl. Mar.–May, fr. Jun.–Oct.

- Limestone slopes; 1300–1600 m. SE Yunnan (Guangnan Xian).


Shrubs small, 60–130 cm tall. Young branchlets pubescent. Petiole 3–7 mm; leaf blade ovate-lanceolate, 3–7 × 1.5–2.5 cm, lateral veins indistinct, base cuneate, margin entire, slightly involute, apex abruptly acuminate. Inflorescence terminal, subumbellate, 5–9-flowered, with leaflike bracts at base; pedicels slender, 10–15 mm, pubescent. Sepals usually reflexed or spreading, ca. 2 mm, pubescent. Petals connate below middle, pale yellow, ca. 1 cm. Capsule not seen. Fl. Mar.–May, fr. Jun.–Oct.

- Limestone slopes; 1300–1600 m. SE Yunnan (Guangnan Xian).


Shrubs. Young branchlets gray-brown pubescent, gray-white lenticellate. Leaves usually ca. 10-clustered at branchlet apex, biennial; petiole 3–5 mm, pubescent at first, soon glabrate; leaf blade green and shiny adaxially, oblanccolate, 3–5 × 1–1.7 cm, thinly leathery, densely pubescent when young, later glabrate, lateral veins 6-paired, indistinct on both surfaces, reticulate veins slightly prominent adaxially, base cuneate, apex obtuse or subacute. Inflorescences 1–5, subterminal in leaf axils near branchlet apex, corymbose, 1.5–2 cm, pubescent, 3–5-flowered; peduncle and pedicels pubescent; bracts linear-lanceolate, 4–6 mm, pubescent; bracteoles linear, ca. 3 mm. Sepals slightly connate at base, narrowly lanceolate, 3–4 mm, pubescent. Petals free, ca. 8 mm. Stamens 6–7 mm. Pistil equaling stamens; ovary brown pubescent; ovary wall thin; placentas 2, parietal; ovules ca. 16; stipe short; style ca. 4 mm, glabrous. Capsule not seen. Fl. Mar.–May, fr. Jun.–Oct.

- Forests, thickets. Guangxi (Luzhou Shi).


Shrubs ca. 2 m tall. Young branchlets glabrous; old branchlets brown, lenticels small. Leaves clustered at branchlet apex, appearing opposite or verticillate; petiole 1 cm; leaf blade slightly shiny adaxially, narrowly oblanccolate, 6–13 × 2–3.5 cm, leathery, glabrous abaxially, midvein convex adaxially, lateral veins 8–10-paired, convex abaxially, slightly visible adaxially, reticulate veins concave and indistinct abaxially, base narrowly cuneate, apex acute. Inflorescences terminal or nearly so, umbellate; pedicels 1–1.7 cm, glabrous. Sepals ovate, 2.5–3 mm, glabrous, slightly connate at base, margin ciliate, apex obtuse. Petals ca. 7 mm. Stamens ca. 5 mm; filament 3–4 mm; anther ca. 1 mm. Pistil equaling stamens; ovary pubescent; placentas 2(or 3), parietal; ovules 8–15; style ca. 2.5 mm. Capsules 1 or 2, subglobose, 1–1.2 cm in diam., usually dehiscing by 2(or 3) valves; pericarp ca. 1 mm thick; pedicel 1–2.5 cm; stipe ca. 2 mm; persistent style ca. 2 mm. Capsule not seen. Fl. Mar.–May, fr. Jun.–Oct.

- Forests, forest margins, thickets, slopes, valleys, stream sides; 800–1300 m. N Guizhou (Yinjiang Xian, Zunyi Shi), W Hubei, E Sichuan.

14. Pittosporum illicioides var. angustifolium (described from Taiwan) represents the extreme of a continuous range of variation, with leaf blades linear, 5–15 × 0.6–2 cm.

Fats and oils can be extracted from the seeds for making soaps, and fibers from the stems can be made into paper.

13. Pittosporum elevaticostatum var. angustifolium (described from Taiwan) represents the extreme of a continuous range of variation, with leaf blades linear, 5–15 × 0.6–2 cm.

Fats and oils can be extracted from the seeds for making soaps, and fibers from the stems can be made into paper.

12. Pittosporum xiao bing guo hai tong

Shrubs 319. 1951.

11. Pittosporum merrillianum

Shrubs ca. 1.5 m tall. Young branchlets gray, slender, glabrous; old branchlets occasionally sparsely lenticellate. Leaves 3–5-clustered at branchlet apex, appearing opposite; petiole 6–10 mm; leaf blade pale green abaxially, green adaxially, slightly shiny after drying, narrowly lanceolate or narrowly oblong, slightly curved, 6–12 × 1.5–2.5 cm, leathery, glabrous, lateral veins 5–7-paired, slightly convex abaxially, indistinct adaxially, reticulate veins indistinct on both surfaces, margin flat. Flowers not seen. Inflorescences terminal, umbellate, 2–6-capsuled; bracts numerous, scalelike, broadly ovate, ca. 2 mm, membranous, glabrous, margin ciliate. Capsule cylindric or ellipsoid, 1.3–1.5 × 0.7–0.8 cm; pericarp elliptic, ca. 1.5 × 1.1 cm, less than 0.4 mm thick, thinly leathery, prominently horizontally striate adaxially; placenta in middle part of valves; pedicel ca. 1 cm, glabrous; stipe ca. 2 mm; persistent style ca. 2 mm, 2-lobe. Seeds 8–12 in total, ca. 4 mm; funicle ca. 2 mm. Fl. Mar.–May, fr. Jun.–Oct.

- Forests, forest margins, thickets, valleys; 800–1500 m. Chongqing (Nanchuan Xian), Guizhou, SE Sichuan (Xingwen Xian).

10. Pittosporum dian yue hai tong

Shrubs. Branches verticillate or dichotomous; bark brown or grayish, speckled with large lenticels. Leaves loosely crowd- ed toward branchlet apex; petiole usually ca. 10 mm; leaf blade shining, broadly elliptic or ovate-elliptic, 6–10 × 2.5–4 cm, firm and thickly leathery, glabrous, margin entire, slightly recurved, apex subacute. Flowers not seen. Inflorescences terminal,

shortly thyrsoid, subtended loosely at the base by 3 or 4 leaves with subglobose dormant buds in axils; peduncle short and thick, 5–6 mm; pedicels short and thick, 4–5 mm. Capsule redish brown, ellipsoidal, slightly compressed, 2-valved, glabrous; pericarp reflexed after dehiscing, broadly elliptic, ca. 12 × 10 mm, ca. 1 mm thick, woolly, smooth adaxially, not striate either side of placenta; placenta bulging into a ridge in middle of valves and there bearing 2 brown, knoblike funicles. Seeds 3 or 4 per capsule, shining pinkish black, 5–6 mm, smooth, covered with a light brown, thin, dry arillate coat.

Sparse forests; 1100–1900 m. SE Yunnan (Funing Xian, Pingbian Xian, Wenshan Xian) [Vietnam].

Described from Vietnam, this species was first reported from China by Wu (Index Fl. Yunnan. 1: 326. 1984). Gowda also described var. polianellum Gowda (J. Arnold Arbor. 32: 320. 1951) from Vietnam; it was distinguished from var. merrillanum only by having the leaf blade larger and oblong or elliptic-oblong.


全秃海桐 quan tu hai tong

Shrubs or small trees, 3–4 m tall. Young branchlets glabrous; old branchlets brown, lenticellate. Leaves clustered at branchlet apex; petiole 4–8 mm; leaf blade dark yellow-green after drying abaxially, green and shiny adaxially, oblong or oblong-oblongate, 5–7 × 2–2.5 cm, leathery, glabrous, lateral veins 5–6-paired, slightly convex on both surfaces, reticulate veins indistinct, base cuneate, margin dentate distally, apex acute. Inflorescences terminal, umbellate, ca. 10-flowered; bracts ovate, ca. 1.5 mm; pedicels 1–1.5 cm. Sepals ovate, ca. 2 mm, glabrous, apex obtuse. Petals free, 8–9 mm. Stamens 6–7 mm. Pistil equaling stamens; carpels 2; placenta parietal, 2; ovules ca. 12; stipe short, glabrous; style slightly longer than ovary. Capsule long ellipsoid, 10–12 × 6–7 mm, glabrous, dehiscing by 2 valves; pericarp ca. 1 mm thick, horizontally striate adaxially; placenta longitudinal, long; stipe ca. 2 mm; persistent style 2–3 mm. Seeds ca. 8, ca. 3.5 mm; funicle very short. Fl. Mar–May, fr. Jun–Oct.

• Forests, thickets, limestone mountains; 200–1100 m. N Guangxi, SE Guizhou.

The name Pittosporum ovoideum has been applied in the sense of P. lenticellatum, but its holotype in fact belongs to P. pauciflorum. Peng and Deng (Novon 11: 440–441. 2001) discussed the situation in detail.


扁片海桐 bian pian hai tong

Trees small. Bark black-brown. Young branchlets dark brown after drying, pubescent, glabrate; old branchlets lenticellate. Leaves 4–7-clustered at branchlet apex, biennial; petiole 5–10 mm; leaf blade green and shiny adaxially, oblongate, 4–6 × 1–2 cm, leathery, pubescent abaxially at first, soon glabrate, lateral veins ca. 6-paired, slightly convex on both surfaces, reticulate veins prominent abaxially, base narrowly cuneate, margin flat, apex acute. Inflorescences terminal, umbellate, 8–17-flowered; bracts narrowly lanceolate, 9–10 mm, pubescent; bracteoles linear, 7–8 mm; pedicels 1–1.5 cm, pubescent. Sepals linear-lanceolate, 5–7 mm, pubescent. Petals subequaling sepals. Stamens 4–5 mm; Pistil equaling stamens; ovary long ovoid, ca. 2 mm, pubescent; ovary wall ca. 0.5 mm thick; placenta 2, parietal; ovules ca. 12; stipe very short; style ca. 2 mm, glabrous. Capsule compressed globose, 10–12 mm in diam., dehiscing by 2 valves; pericarp pale yellow and compressed adaxially, 1–1.5 mm thick, woody, horizontally ca. 10-striate. Seeds 10–12, ca. 3.5 mm. Fl. Feb–May, fr. May–Oct.

• Forests, slopes, limestone areas; 200–1300 m. NE Guangxi (Guilin Shi, Lingui Xian).


薄片海桐 bo pian hai tong

Shrubs or small trees. Young branchlets glabrous; old branchlets gray, sparsely lenticellate. Petiole 1–1.5 cm; leaf blade pale green abaxially, dark green adaxially, oblong or oblongate, 7–12 × 2.5–4.5 cm, membranous, glabrous abaxially, lateral veins 7–9-paired, slightly visible abaxially, indistinct adaxially, reticulate veins indistinct, base cuneate, margin slightly rugose, apex acute or acuminate. Inflorescences terminal, umbellate, 2–8-flowered; peduncle short; pedicels slender, ca. 1 cm, glabrous. Sepals triangular-ovate, ca. 2 mm, glabrous, margin ciliate. Petals free, ca. 10 × 1–1.5 mm. Stamens 7–8 mm. Pistil ca. 6 mm; ovary pubescent; placenta 2, parietal; ovules 4–22; stipe short; style ca. 2.5 mm, glabrous. Infrutescence 1- or 2-capsuled; pedicels slender, 1.5–2 cm. Capsule obovoid, ca. 2 cm, dehiscing by 2 valves; pericarp obovate, 2–2.5 × 1–1.6 cm, ca. 0.4 mm thick; placenta at base to middle of

valves; stipe 3–4 mm. Seeds 8–12, subglobe, 6–7 mm; funicle slender, ca. 2.5 mm. Fl. Mar–May, fr. Jun–Oct.

- Forests, thicket; ca. 1500 m. NW Guangxi (Donglan Xian, Lingyun Xian).


聚花海桐 ju hua hai tong

Shrubs. Young branchlets brown pubescent, soon glabr. Leaves clustered at branchlet apex, appearing opposite or verticillate, biennial; petiole 5–15 mm, pubescent at first, later glabrate; leaf blade green and shiny adaxially, oblong, lanceolate, or narrowly lanceolate, 5–16 × 1–5 cm, thinly leathery, pubescent abaxially at first, soon glabrate, lateral veins 6–7-paired, slightly convex abaxially, indistinctly adaxially, reticulate veins indistinct, base cuneate, margin flat, apex acute to long acuminate. Inflorescences 1 or 2 in leaf axil at branchlet apex, umbellate, 3–9-flowered; peduncle 1–1.5 cm or sometimes absent, brown pubescent; bracts narrowly lanceolate, shorter than sepals; pedicels 2–5 mm, pubescent. Sepals lanceolate, 5–6 mm, shortly pubescent. Petals white or pale yellow, ca. 8 mm. Stamens ca. 6 mm. Ovary pubescent; carpels 2; placentas 2; ovules 4 per placenta; stipe 5–7 mm; funicle ca. 1.5 mm. Fl. Mar–May, fr. Jun–Dec.

Forests, thicket; stream sides; 1500–1800 m. W Guangdong, SW Guangxi, Hainan; W Yunnan [N Myanmar, Vietnam].

1a. Leaf blade oblong, 2–5 cm wide ..........  24a. var. balansae
1b. Leaf blade lanceolate or narrowly so,
1. 3–5 cm wide.
   2a. Leaf blade lanceolate, 1–3.5 cm wide, apex long acuminate..........................  24c. var. chatterjeeanum
   2b. Leaf blade narrowly lanceolate, 1–1.5(–2) cm wide, apex acute to acuminate ..........  24b. var. angustifolium

24a. Pittosporum balansae var. balansae

聚花海桐(原变种) ju hua hai tong (yuan bian zhong)

Pittosporum confertum Merrill & Chun.


Dense forests, stream sides. W Guangdong, SW Guangxi, Hainan [Vietnam].


秦岭海桐 qin ling hai tong

Shrubs ca. 2 m tall. Young branchlets glabrous; old branchlets lenticelate. Leaves clustered at branchlet apex; petiole 6–11 mm; leaf blade yellow-green abaxially, turning yellow-brown after drying, green adaxially, narrowly lanceolate, falcate, 10–23 × 0.7–1.8(–2.2) cm, thinly leathery, lateral veins 7–18-paired, slightly convex abaxially, slightly indistinct adaxially, sometimes very indistinct on both surfaces, base narrowly cuneate; margin slightly undulate, apex acuminate. Inflorescences in leaf axil, umbellate, 3–5-flowered; peduncle very short; scalelike leaves present, ovate, abaxially and at margin densely brown pubescent; pedicels slender, unequal, 6–8 mm; bracts ovate-lanceolate, ca. 2 mm, deciduous. Flowers ca. 3.5 mm in diam. Sepals ovate, ca. 3 mm, base slightly connate, margin shortly ciliate. Petals connate proximally, yellow, ca. 12 mm, free part ovate-orbicular, margin irregularly and shortly ciliate. Stamens unequal; filaments filiform, 6–8 mm; anthers ca. 2 mm. Ovary ovoid, ca. 4 mm; carpels 2; placentas 2; ovules 6 per placenta; styles 4–5 mm; stigma inflated. Capsule ovoid, ca. 3 cm, glabrous, dehiscing by 2 valves; pericarp woody, less than 1 mm thick. Seeds 10–12 per capsule, red, turning black after drying, ca. 3.5 mm; funicle ca. 4 mm. Fl. Apr–Jun, fr. Jun–Aug.

- Forests, thicket; 1000–1300 m. S Gansu (Kang Xian), S Shaanxi (Foping Xian).


石生海桐 shi sheng hai tong

Shrubs to 2 m tall. Old branchlets gray-brown, slender; young branchlets puberulous. Leaves clustered at branchlet apex, biennial; petiole 1–5 mm; leaf blade shiny adaxially, narrowly oblong, 2.5–11 × ca. 1 cm, leathery, glabrous abaxially, lateral veins 4–8-paired, convex abaxially, concave adaxially, base cuneate, margin reflexed, slightly sinuolate, apex obtuse. Inflorescences terminal, solitary flowers or umbellate; bracts lanceolate, 1–2 mm, membranous, deciduous; pedicels 3–8 mm, puberulous; flowers fragrant. Sepals free, ovate, ca. 2 mm, margin ciliate, apex obtuse. Petals connate proximally, together tubular or campanulate, free and flat distally, yellow, 7–8 mm.
Stamens 5–6 mm; anther rhombic. Pistil shorter than stamens; ovary glabrous or puberulous; placentas 2, parietal; style slightly stout. Capsule compressed globose, 6–8 mm in diam., verrucate, dehiscing by 2 valves; style persistent. Seeds ca. 4. Fl. Mar–May, fr. Jun–Oct.

- Forests, thickets, slopes. NC Sichuan (Li Xian, Mao Xian).

This species is a dry-habitat variant of *Pittosporum heterophyllum*.


窄叶海桐 zhai ye hai tong

Shrubs to 1 m tall. Petiole 2–3 mm; leaf blade linear or linear-lanceolate, 2.5–6 × 0.3–0.8 cm, thinly leathery, lateral veins indistinct adaxially, base narrowly cuneate, margin entire, slightly revolute, apex acuminate. Inflorescence terminal, umbellate, 1–3-flowered; pedicels 6–11 mm, glabrous. Calyx shallowly cupular; sepals triangular, unequal, 1–2 mm. Petals free, bellate, 1–3-flowered; pedicels 6–11 mm, glabrous. Calyx slightly revolute, apex acuminate. Inflorescences terminal, umbellate or racemose, 5–10 cm; leaf blade shiny adaxially, dark green after drying, oblong, 6–9 × 2.5–3.5 cm, leathery, pubescent on both surfaces when young, soon glabrate, lateral veins 10–12-paired, slightly convex abaxially, prominently visible adaxially, reticulate veins indistinct adaxially, base cuneate, decurrent, margin slightly rugose, apex acute. Inflorescences terminal, umbellate, numerous flowers; bracts linear, 2–3 mm; pedicels 1–1.5 cm, brown pubescent. Sepals free, ovate-lanceolate, ca. 1.5 mm, pubescent; pedicels 5–8 mm, pubescent. Sepals ovate, ca. 2 mm, pubescent. Ovary glabrate. Capsule not seen. Fl. May.

- Thickets on slopes; ca. 1800 m. NW Yunnan (Weixi Xian).

This species is close to *Pittosporum heterophyllum* and *P. saxicola*, but differs in having free petals and a glabrate ovary.


四子海桐 si zi hai tong

Shrubs ca. 5 m tall. Terminal buds and young branchlets brown pubescent; old branchlets glabrous, sparsely and inconspicuously lenticellate. Leaves clustered at branchlet apex; petiole 5–10 cm; leaf blade shiny adaxially, dark green after drying, narrowly oblong, 6–9 × 2–3.5 cm, hard leathery, glabrous abaxially, lateral veins ca. 5-paired, visible abaxially, indistinct adaxially, reticulate veins indistinct on both surfaces, base cuneate, apex acute. Inflorescences terminal, umbellate or racemose, ca. 2 cm, brown pubescent; peduncle very short; bracts deciduous; bracteoles lanceolate, ca. 1 mm, pubescent; pedicels 5–8 mm, pubescent. Sepals ovate, ca. 2 mm, pubescent. Ovary glabrate. Capsule globose, 6–8 mm in diam., glabrous, dehiscing by 2 valves; pericarp thinly woody, horizontally striate adaxially. Seeds ca. 4, compressed globose, ca. 5 mm; funicle very short. Fl. Jan–May, fr. Jan–Oct.

- Forests, slopes, limestone areas, roadsides; 600–1800 m. Guangxi, Guizhou, SE Yunnan [Vietnam].

This species is the only one in China with an umbellate-racemose inflorescence. Gowda (J. Arnold Arbor. 32: 337. 1951) included *Pittosporum tonkinense* in the synonymy of *P. tetraspermum* Wight & Arnott, which, in the strict sense, is distributed in India. *Pittosporum calcicola* C. Y. Wu (in C. Y. Wu & H. W. Li, Fl. Yunnan. 3: 326. 1983) was described from Xichou Xian, SE Yunnan, and was said to differ from *P. tonkinense* in several characters, but these fall within the range of variation of *P. tonkinense*. The name is anyway invalid under Art. 81 and 37 of the St. Louis Code because two type specimens were indicated.


崖花子 ya hua zi

Shrubs many branched, 2–3 m tall. Young branchlets gray pubescent, soon glabrate. Leaves clustered at branchlet apex; petiole 5–8 mm; leaf blade dark green, shiny adaxially, obovate or rhombic, 5–8 × 2.5–3.5 cm, hard leathery, white pubescent abaxially at first, soon glabrate, lateral veins 7–8-paired, slightly convex abaxially, prominent adaxially, reticulate veins visible abaxially, indistinct adaxially, apex acute. Inflorescences in leaf axils at branchlet apex, solitary flowers or umbellate; pedicels slender, 1.5–2 cm, glabrous or sparsely white tomentose. Sepals ovate, ca. 2 mm, glabrous, margin ciliate. Petals oblong, ca. 8 mm. Stamens ca. 6 mm. Ovary ovoid, brown pubescent; placentas 2, parietal; ovules 16–18. Capsule shortly ellipsoid, 9–11 × 7–8 mm, dehiscing by 2 valves; pericarp thin, horizontally small striate adaxially. Seeds 16–18; funicle slender, compressed, ca. 1.5 mm. Fl. Mar–May, fr. Jun–Oct.

- Forests, thickets, valleys, stream sides; 300–2600 m. Gansu, Guizhou, Hubei, Hunan, Shaanxi, Sichuan, NE Yunnan (Yongshian Xian).


褐毛海桐 he mao hai tong

Shrubs or small trees ca. 5 m tall. Young branchlets brown pubescent; old branchlets dark brown, glabrous, sparsely lenticellate. Leaves clustered at branchlet apex, annual or biennial; petiole 1–1.5 cm, pubescent at first, soon glabrate; leaf blade yellow-brown abaxially after drying, dark green and shiny adaxially, oblong, 6–9 × 2.5–3.5 cm, leathery, pubescent on both surfaces when young, soon glabrate, lateral veins 10–12-paired, slightly convex abaxially, slightly visible adaxially, reticulate veins prominent abaxially, indistinct adaxially, base cuneate, decurrent, margin slightly rugose, apex acute. Inflorescences terminal, umbellate, numerous flowers; bracts linear, 2–3 mm; pedicels 1–1.5 cm, brown pubescent. Sepals free, ovate-lanceolate, ca. 2.5 mm, pubescent, margin ciliate. Petals 7–8 mm. Stamens 4–5 mm. Ovary ovoid, brown pubescent; ovary wall ca. 0.4 mm thick; placentas 2, parietal; ovules 8–12. Style 1–2 mm. Capsule globose, slightly compressed, ca. 1 cm in diam., dehiscing by 2 valves; pericarp woody, 0.7–1 mm thick, horizontally striate adaxially; placentas slightly exserted in middle part of valves; pedicel 1–2 cm. Seeds 8–10; funicle very short. Fl. Feb–Apr, fr. May–Nov.

- Forests, thickets, limestone and sandstone areas. N Guangdong.


秀丽海桐 xiu li hai tong

Shrubs ca. 3 m tall. Young branchlets black after drying, glabrous; old branchlets gray-brown, sparsely lenticellate. Leaves usually ca. 20, clustered at branchlet apex, biennial; petiole 5–8 mm; leaf blade pale green abaxially, green and shiny adaxially, yellow-green after drying, obovate or oblanceolate, 3–6 × 1.2–2 cm, thickly leathery, glabrous abaxially,
lateral veins 6–8-paired, slightly convex abaxially, concave adaxially after drying, reticulate veins indistinct abaxially, slightly concave adaxially, base cuneate, decurrent, margin reflexed, apex rounded, sometimes emarginate. Inflorescences terminal,umbellate, 3–5 cm, pubescent; bracts 2–5 mm; pedicels ca. 1.5 cm. Sepals ovate, pubescent. Petals white, narrowly oblong. Stamens shorter than petals. Ovary pubescent; placenta 2, parietal; ovules 14–16. Style 2-lobed, ca. 1.5 mm. Capsule globose, 7–8 mm, dehiscing by 2 valves; pericarp thinly woody, ca. 0.8 mm thick, pubescent abaxially, horizontally striate adaxially; placenta at base to middle part of valves; persistent style ca. 2 mm; stigmas enlarged. Seeds ca. 15, irregularly angular, 2–2.5 mm; funicle very short. Fl. Jan–Apr, fr. Mar–Oct.

Slopes in forests; 400–500 m. W Guangxi (Daxin Xian, Longzhou Xian, Tianyang Xian) [N Vietnam].

Pittosporum pulchrum var. foliosum Gagnepain (loc. cit.: 547) was also described from Vietnam together with the species; it was said to differ in having a shorter inflorescence.


昆明海桐 kun ming hai tong

Shrubs or small trees, ca. 4 m tall. Young branchlets gray-brown after drying, glabrous; old branchlets lenticellate. Leaves clustered at branchlet apex, biennial; petiole ca. 5 mm; leaf blade pale green abaxially after drying, dark green and slightly shiny adaxially, oblong-oblancoate or oblancoate, 6–9 × 2–3 cm, thinly leathery, glabrous abaxially, lateral veins 6–7-paired, slightly convex abaxially, indistinct adaxially, reticulate veins indistinct on both surfaces, base cuneate, margin slightly sinuolate, apex acute or acuminate. Inflorescence terminal or nearly so, umbellate or corymbose, 2–12-flowered, with scalelike leaves at base; bracts broadly ovate, ca. 2 mm, pubescent; bracteoles lanceolate, ca. 2 mm, pubescent; pedicels 6–12 mm, brown pubescent. Sepals slightly connate at base, ovate, ca. 2 mm, brown pubescent. Petals free, 10–12 mm. Filaments 5–7 mm; anthers ca. 1 mm. Ovary long ovoid, pubescent; ovary wall thin; placenta 2, parietal; ovules ca. 12; stipe prominent. Style slightly shorter than ovary, glabrous. Capsule not seen. Fl. Apr–May, fr. May–Nov.

● Forests, thickets, slopes; 800–1300 m. SW Guizhou (Luodian Xian, Xingren Xian), Yunnan.


贫脉海桐 pin mai hai tong

Shrubs ca. 2 m tall. Young branchlets dark brown after drying, glabrous; old branchlets gray-brown. Leaves clustered at branchlet apex, biennial; petiole 3–6 mm; leaf blade pale yellow-green abaxially, green and shiny adaxially, brown-yellow after drying, oblancoate, 6–9 × 1.3–2.6 cm, leathery, pubescent abaxially, lateral veins 5–7-paired, slightly convex abaxially, slightly visible adaxially, reticulate veins indistinct on both surfaces, base cuneate, margin flat, glabrous or margin acuminate. Infructescence usually 3–5 clustered at branchlet apex, umbellate, numerous flowered; peduncle 2–3 cm; bracts broadly ovate, ca. 2 mm; bracteoles lanceolate, 1–1.5 mm; pedicels slender, ca. 1 cm, glabrous. Calyx shallowly cupular; sepals connate, ovate-triangular, 2.5–3 mm, glabrous or margin ciliate. Petals connate into a tube proximally, free and spreading in distal 1/3, ca. 1.2 cm. Stamens ca. 8 mm. Pistil longer than stamens; ovary long tubular, pubescent; ovary wall thin; placenta 2, parietal; ovules 4–8; stipe ca. 1.5 mm; style 3–4 mm. Infructescence 7–14-capsuled; pedicels 7–12 mm. Capsule long ellipsoid, 12–15 × 6–7 mm, 2-lobed; pericarp thinly woody, less than 1 mm thick; placenta at base to middle part of valves; stipe ca. 3 mm; persistent style 3–4 mm. Seeds 5–7; funicle very short. Fl. Mar–May, fr. Jun–Oct.

● Forests, thickets, valleys; among stones; 800–1500 m. Chongqing (Nanchuan Xian), E and N Guizhou (Leigong Shan, Zhang’an Xian), W Hunan (Zhijiang Xian).


异叶海桐 yi ye hai tong

Shrubs ca. 2.5 m tall. Young branchlets gray-brown, glabrous; old branchlets not lenticellate. Leaves clustered at branchlet apex, biennial; petiole 3–4 mm or absent; leaf blade pale green abaxially, green and shiny adaxially, narrowly lanceolate, bijective, or linear, 4–8 × 0.3–2 cm, thinly leathery, glabrous abaxially, lateral veins 5–6-paired, together with reticulate veins indistinct on both surfaces, base cuneate, margin flat, apex acute or acuminate. Inflorescences terminal, um-
Capsule subglobose, slightly compressed, ca. 6 mm in diam., dehiscing by 2 valves; pericarp thinly woody; persistent style ca. 2 mm. Seeds 5–8, black after drying, ca. 2.5 mm; funicle very short. Fl. Mar–May, fr. May–Nov.

- Forests, valleys, slopes, stream sides, rocks; 800–3000(–4000) m. Sichuan, SE Xizang, N Yunnan.

1a. Leaves sessile; pedicels tomentose; ovary glabrous ...................................................... 35c. var. sessile

1b. Leaves petiolate or very shortly so; pedicels glabrous; ovary pubescent.

2a. Leaf blade oblanceolate, narrowly lanceolate, or linear, 4–8 × 1–2 cm, sometimes narrower; pedicels 7–15 mm ............ 35a. var. heterophyllum

2b. Leaf blade beltlike, ca. 5 × 0.3–0.4 cm; pedicels ca. 2 mm ....... 35b. var. ledoides

35a. Pittosporum heterophyllum var. heterophyllum

异叶海桐 (原变种) yi ye hai tong (yuan bian zhong)

Pittosporum truncatum Pritz var. tsaii Gowda.


- Forests, valleys, slopes, stream sides; 800–3000(–4000) m. Sichuan, SE Xizang, N Yunnan.

The roots and bark are used medicinally in the treatment of broken bones, burns, and cuts.


带叶海桐 dai ye hai tong

Pittosporum ledoides (Handel-Mazzetti) C. Y. Wu.

 Leaves very shortly petiolate; leaf blade beltlike, ca. 5 × 0.3–0.4 cm. Pedicels ca. 2 mm, glabrous. Ovary pubescent. Fl. Mar–May, fr. May–Nov.

- Forests, rocks. NC Yunnan (Dayao Xian).


无柄异叶海桐 wu bing yi ye hai tong

 Leaves sessile; leaf blade narrowly lanceolate, 3–7 × 0.5–0.8 cm. Pedicels tomentose. Ovary glabrous.

- NC Yunnan (Dayao Xian).


薄萼海桐 bo e hai tong

 Shrubs or small trees, 3–4 m tall. Young branchlets dark brown, glabrous; old branchlets sparsely lenticillate. Leaves clustered at branchlet apex, biennial; petiole slender, 6–10 mm, glabrous; leaf blade pale green abaxially, dark green and shiny adaxially, dark green after drying, oblong or lanceolate, 5–8 × 1.5–2.5 cm, thinly leathery, glabrous abaxially, lateral veins 5–7-paired, visible abaxially, indistinct adaxially, reticulate veins prominent abaxially, concave adaxially, base cuneate, margin slightly rugose, apex acuminate. Inflorescences in leaf axils at branchlet apex, umbel-like, numerous flowered; bracts deciduous; pedicels slender, ca. 1 cm, glabrous. Sepals free, linear-lanceolate, ca. 3 mm, glabrous. Petals free, pale yellow-white, narrowly lanceolate, 7–8 mm. Stamens 5–6 mm; filament slender; anther basifixed, ca. 1.5 mm. Pistil equaling stamens; ovary pubescent; placentas 2, parietal; ovules 11 or 12; stipe short; style ca. 2.5 mm. Capsule globose, 6–8 mm in diam., dehiscing by 2 valves; pericarp thin, horizontally striate adaxially; placentas in proximal part of valves. Seeds ca. 10, ca. 3 mm; funicle very short. Fl. Mar–May, fr. Jun–Nov.

- Forests in mountains. N Guangdong, NE Guangxi (Lingui Xian, Quanzhou Xian).


牛耳枫叶海桐 niu er feng ye hai tong

Shrubs or small trees, 2–5(–8) m tall. Young branchlets stout, glabrous, old ones red-brown, small-lenticillate. Leaves clustered at branchlet apex, biennial; petiole 1.5–3 cm, subterete; leaf blade pale green abaxially, green or dark green and shiny adaxially, brownish after drying, oblong or elliptic, rarely ovobate-oblong, 10–20 × 4–8 cm, thinly or thickly leathery, glabrous abaxially, lateral veins 9–12-paired, convex abaxially, visible or prominent adaxially, reticulate veins convex abaxially, slightly concave adaxially, base cuneate or broadly so, decurrent, margin flat, reflexed after drying, apex acute or acuminate. Inflorescences 3–7, in leaf axils at branchlet apex, compoundly corymbose, many branched, 4–6 cm, pubescent; primary peduncle very short or absent; secondary ones 3–4.5 cm; tertiary ones 0.8–1.3 cm; bracts lanceolate, 2–3 mm, pubescent, deciduous; pedicels 2–7 mm. Sepals free or connate only at base, ovate or broadly so, unequal, 1.2–2 mm, pubescent abaxially, margin ciliate, apex subacute. Petals free, yellow, narrowly oblong, 6–7.5 mm, apex subobtuse. Stamens ca. 5 mm. Pistils equaling stamens; ovary glabrous; placentas 2(or 3), parietal; ovules ca. 24; style ca. 2 mm. Capsule globose or subglobose, slightly compressed, 6–10 mm in diam., dehiscing by 2 valves; pericarp thinly woody, horizontally striate adaxially; placentas exserted in middle part of valves; stipe distinct or very short; persistent style slender, ca. 1.5 mm. Seeds 10–23, red, black after drying, angular, ca. 2 mm; funicle very short. Fl. Mar–Jun, fr. Jun–Dec.

- Forests, thickets, valleys, ravines, slopes, dry places; 500–2500 m. N Guizhou, SHubei, NW Hunan, S and W Sichuan, Taiwan.

37a. Pittosporum daphniphylloides var. daphniphylloides

牛耳枫叶海桐 (原变种) niu er feng ye hai tong (yuan bian zhong)


滇西海桐 dian xi hai tong

Trees small. Young branchlets glabrous, inconspicuously lenticellate; old branchlets conspicuously lenticellate. Petiole 1–1.5 cm; leaf blade pale green abaxially, green and shiny adaxially, dark green after drying, oblong-obovate or oblong, 8–15 × 2–5 cm, thinly leathery, glabrous abaxially, lateral veins 8–9-paired, slightly convex abaxially, visible adaxially, reticulate veins indistinct on both surfaces, base cuneate, usually decurrent, margin flat, apex acuminate. Flowers not seen. Inflorescences 3–5 in leaf axils at branchlet apex, glomerulate (when 3–4 cm wide) or laxly compoundly umbellate, glabrous; peduncle 1–3 cm, numerous lenticellate; pedicels 0.5–1.5 cm. Capsule globose, slightly compressed, 8–9 mm in diam., dehiscing by 2 valves; pericarp thin, orbicular, pubescent abaxially, horizontally striate adaxially; placentas at base to middle part of valves; stipe indistinct; persistent style ca. 2 mm. Seeds more than 16, angular, small, 1.5–2 mm; funicle very short. Fl. Mar–May, fr. May–Nov.

Forests, thickets, slopes; 1200–3100 m. SW Sichuan, W Yunnan [N Myanmar].

40a. Pittosporum johnstonianum var. johnstonianum

滇西海桐(原变种) dian xi hai tong (yu bian zhong)

Infructescences laxly compoundly umbellate; peduncle 2.5–3 cm; pedicels 0.5–1.5 cm. Fl. Mar–May, fr. May–Nov.

Forests, thickets, slopes; 1200–3100 m. SW Sichuan (Muli Xian), NW Yunnan (Gongshan Xian, Zhongdian Xian) [N Myanmar].


密花海桐 mi hua hai tong

Inflorescences glomerulate, 3–4 cm wide; peduncle ca. 1 cm; pedicels 0.5–0.9 cm. Fr. Jul–Aug.

Forests; ca. 2900 m. W Yunnan (Zhenkang Xian).


短萼海桐 duan e hai tong

Pittosporum pauciflorum Hooker & Arnott var. brevicalyx Oliver, Hooker’s Icon. Pl. 16: t. 1579. 1887; Euonymus pro
divicarii H. Léveillé; P. brevicalyx var. brevitamineum Gagne
pain; P. neelgherrense Wight & Arnott var. laxiflorum Fran
chet.

Shrubs or small trees, ca. 10 m tall. Branchlets glabrous or young ones pubescent. Leaves clustered at branchlet apex, bi-
pinnate; petiole 1–1.5 cm or more; leaf blade dark green and shiny abaxially, obovate-lanceolate, rarely obovate or oblong, 5–12 × 2–5 cm, thinly leathery, puberulous abaxially at first, soon glabrate, lateral veins 9–11-paired, slightly convex abaxially, prominent adaxially, base cuneate, margin flat, apex acuminate or long acuminate. Inflorescences 3–5 in leaf-axils at branchlet apex, corymbose, 3–4 cm, puberulous; peduncle 1–1.5 cm; bracts narrowly lanceolate, 4–6 mm, puberulous; pedicels ca. 1 cm. Sepals ovate-lanceolate, 2–2.5 mm, puberulous. Petals free, 6–8 mm. Stamens slightly shorter than or sometimes 1/2 as long as petals. Ovary ovoid, pubescent; placentas 2, parietal; ovules 7–10. Style usually puberulous. Capsule subglobose, compressed, 7–8 mm in diam., dehiscing by 2 valves; pericarp thin; placentas in proximal part of valves. Seeds 7–10, 3–4 mm; funicle very short. Fl. Mar–May, fr. Jul–Nov.

- Forests, thickets, slopes, limestone areas, roadsides; 600–3500 m; Guangdong, Guangxi, Guizhou, W Hubei, Hunan, Jiangxi, Sichuan, SE Xizang (Zayü Xian), Yunnan.

Two syntypes were cited in the protologue: “Ichang [Yichang], Dr. Henry,” which agrees with P. brevicaulyx as currently understood, and “Kiujiang [Jiujiang], Mr. Maries,” which agrees with P. illicioides.

The roots, bark, and capsules can be used medicinally in the treatment of chronic bronchitis and coughs.


荚蒾叶海桐 jia mi ye hai tong

Shrubs. Young branchlets gray-brown, stout, lenticillate. Leaves clustered at branchlet apex, biennial; petiole stout, 1–2 cm; leaf blade dark green and shiny abaxially, obovate or obovate-lanceolate, 10–14 × 3–5 cm, thickly leathery, glabrous abaxially, lateral veins 8–10-paired, conspicuously convex abaxially, concave adaxially, base narrowly cuneate, margin flat, slightly reflexed after drying, apex rounded. Inflorescences terminal, paniculate, ca. 10 cm, brown pubescent; peduncle 8–15 mm; pedicels 5–10 mm. Sepals slightly connate at base, ovate, ca. 3 mm, glabrous or margin rarely ciliate. Petals oblong, 1–1.2 cm. Stamens ca. 7 mm; filament compressed linear. Ovary brown pubescent; stipe short. Style short, ca. 2 mm, glabrous; stigmas capitate. Capsule oblate, 2.5–3 cm in diam., dehiscing by 2 valves; pericarp thickly wooly, ca. 3 mm thick, horizontally striate adaxially; placentas 2, parietal. Seeds ca. 7 mm. Fl. Feb–Apr, fr. Mar–Nov.

- Low broad-leaved forests, thickets along seashores, trailsides near lakes; sea level to 200 m. S Taiwan (including La Yü).

This species is close to Pittosporum littorale Merrill (from the Philippines), which differs in having inflorescences corymbose and cymes 4–5 cm in diam. It is also related to P. moluccanum (Lamarréq) Miqnel (from Indonesia and Malaysia), which differs in having leaf blades acute at the apex, and inflorescences corymbose, short, and small.


圆锥海桐 yuan zhi hai tong


Trees small, ca. 10 m tall. Young branchlets stout, glabrous; old branchlets lenticillate. Leaves clustered at branchlet apex, biennial; petiole stout, 1.5–2.2 cm; leaf blade yellow-brown after drying abaxially, dark green and shiny adaxially, dark green after drying, elliptic or obovate-elliptic, 11–15 × 4–6 cm, thinly leathery, glabrous abaxially, midvein convex abaxially, concave adaxially, lateral veins 8–10-paired, slightly convex abaxially, indistinct adaxially, base cuneate, usually decurrent, margin flat, apex strongly narrowed, shortly triangular cuspitate, rarely acuminate. Flowers not seen. Inflorescences terminal, paniculate, 6–10 cm, with 8–10 branched corymb; primary peduncle very short; primary axis 5–7 cm; secondary peduncles 4–5 cm, distal ones shorter, apical ones ca. 1.5 cm; tertiary peduncles 1–1.5 cm; pedicels 4–6 mm. Capsule subglobose or long ovoid, 5–7 mm in diam., dehiscing by 2 valves; pericarp thin, horizontally small striate adaxially; placentas at base of valves. Seeds 2–4(or 5), black after drying, compressed globose, ca. 4 mm in diam.; funicle very short. Fl. Jan–Mar, fr. Feb–Oct.

- Forests, thickets, limestone slopes; 500–1600 m. C Sichuan (Emei Shan), S Yunnan.


羊脆木 yang cui mu

Trees small, 4–10 m tall. Young branchlets ferrugineous pubescent, prominently lenticillate. Leaves usually clustered at branchlet apex, biennial; petiole 1–2 cm; leaf blade brown-green abaxially, becoming brown after drying adaxially, obovate to obovate-lanceolate or long elliptic, 6–15 × 2–5 cm, thickly leathery, glabrous abaxially, lateral veins 7–10-paired, convex abaxially, slightly visible adaxially, reticulate veins indistinct on both surfaces, base cuneate, margin entire, slightly reflexed or slightly rugose after drying, apex acute or acuminate. Inflorescences paniculate, with many corymb; primary peduncle 2–4 cm, together with primary axis ferrugineous pubescent; secondary peduncles 1–1.8 cm; corymb 8–12-flowered; bracteoles lanceolate, 2–3 mm, deciduous, margin ciliate; pedicels 3–6 mm; flowers fragrant. Sepals free or slightly connate at base, ovate, 2–3 mm, glabrous abaxially, margin ciliate. Petals free, yellow-white, 6–7 mm. Stamens slightly shorter than petals; filament 3–4 mm; anther 1.5–2 mm. Ovary long ovoid, pubescent; placentas at base of ovary; ovules 2–4. Capsule oblate, compressed, 6–8 mm in diam., dehiscing by 2 valves; pericarp finely wooly, horizontally numerous striate adaxially. Seeds 2–4, black after drying, subreniform, 4–5 mm. Fl. Mar–May, fr. Jun–Oct.

Forests, mountains; 700–2300 m. S Yunnan [Laos, Myanmar, Thailand].

This species is close to Pittosporum wightii A. K. Mukherjee (P. floribundum Wight & Arnott, Oct 1834, not Royle, Jun 1834), from S India and Madagascar, which differs in having leaf blades smaller, thinly leathery, corymbs clustered into a compoundly umbellate inflorescence, and seeds 5–8.

The roots and bark can be used medicinally.


滇藏海桐 dian zang hai tong
Senacia napaulensis de Candolle, Prodr. 1: 347. 1824; Celastrus verticillatus Roxburgh (1824), not Ruiz & Pavón (1802); Pittosporum floribundum Wight & Arnott ex Royle (Jun 1834), not Wight & Arnott (Oct 1834); P. napaulense var. rawalpindiensis Gowda; P. verticillatum Wall. lich.

Shrubs or small trees. Young branchlets brown, lenticel-late. Leaves clustered at branchlet apex, biennial; petiole stout, 1–2 cm or more; leaf blade dark brown adaxially after drying, oblong or oblong-lanceolate, 8–20 × 4–8 cm, thickly leathery, glabrous abaxially, lateral veins convex adaxially, base cuneate, margin flat, reflexed after drying, apex acute or acuminate. Inflorescences terminal, paniculate or compoundly corymbose-paniculate, usually brown pubescent; pedicels 7–10 mm. Sepals slightly connate at base, ovate, 2–3 mm, glabrous or margin ciliate. Petals narrowly oblong, 5–6 mm. Stamens ca. 4 mm. Ovary ca. 2 mm, pubescent. Style ca. 1 mm, glabrous; stigmas capitate. Capsule globose, 6–7 mm in diam., dehiscing by 2 valves; pericarp orbicular, thin, horizontally striate adaxially; placentas at base of valves. Seeds 4–8, 2–3 mm in diam; funicle very short. Fl. Mar–May, fr. May–Nov.

Forests, thickets; 400–2000 m. SE Xizang, W Yunnan [Bangladesh, N India, Myanmar, Nepal, N Pakistan, Sikkim].

Pittosporum napaulense var. rawalpindiensis was described from Bhutan, N India, ?Myanmar, Nepal, N Pakistan, Sikkim.


台琼海桐 tai qiong hai tong


Trees small or shrubs, ca. 12 m tall. Young branchlets ferrugineous pubescent; old branchlets glabrous, inconspicuously lenticellate. Leaves clustered at branchlet apex, appearing pseudoverticillate, biennial or perennial; petiole 5–12 mm; leaf blade dark green and shiny adaxially, pale green abaxially, obovate or oblong-obovate, 4–10 × 3–5 cm, papery when young, soon becoming leathery, pubescent on both surfaces, later gla-brate, lateral veins 7–10-paired, reticulate veins prominent adaxially, base narrowly cuneate, decurrent, margin entire or rugose, apex obtuse or shortly acute, sometimes rounded. Inflorescences terminal, paniculate, with numerous corymb, densely ferrugineous pubescent; primary peduncle and primary axis 4–8 cm; secondary peduncles 1.5–4 cm; tertiary peduncles 3–5 mm; bracts lanceolate, ca. 2 mm, deciduous; bracteoles ovate-lanceolate, 1.5–2 mm, glabrous or margin ciliate; pedicels 3–6 mm. Petals 5–6 mm. Filaments ca. 3 mm; anthers ca. 1 mm. Ovary ovoid, sparsely ferrugineous pubescent at base; placentas 2, parietal, in proximal part of ovary; ovules 12–16. Capsule compressed globose, 6–9 mm in diam., glabrous, dehiscing by 2 valves; pericarp thinly woody, horizontally striate adaxially. Seeds ca. 10, irregularly angular, ca. 3 mm. Fl. May–Nov, fr. Oct–Dec.

Thickets, slopes, seashores; sea level to 300 m. S Guangxi (Hepu Xian), Hainan, S Taiwan (including Lan Yu) [Vietnam].

Pittosporum pentandrum var. pentandrum is distributed in Indonesia (N Sulawesi) and the Philippines.