EBENACEAE

柿科 shi ke

Lee Shu-kang¹; Michael G. Gilbert², Frank White³

Trees or erect shrubs, occasionally with spine-tipped branchlets. Leaves alternate, rarely opposite, entire; stipules absent. Flowers actinomorphic, usually unisexual, dioecious, or polygamous, rarely bisexual. Staminate flowers often in cymes, sometimes in clusters or solitary; pistillate flowers often solitary, axillary, imperfect or without stamens. Calyx 3–7-lobed, persistent and often becoming enlarged in pistillate or bisexual flowers; lobes valvate or overlapping in bud. Corolla 3–7-lobed; lobes convolute, rarely overlapping or valvate. Stamens hypogynous or at base of corolla, 2–4 × as many as corolla lobes, rarely as many as corolla lobes and alternate with them; filaments free or united in pairs. Ovary superior, 2–16-locular; ovules 1 or 2 per locule. Styles 2–8, free or basally united; stigmas entire or 2-lobed. Fruit ± fleshy, few- to several-seeded berry. Seeds usually oblong; endosperm sometimes ruminate; hilum small.

Three genera and ca. 500 species: mostly in the tropics; one genus and 60 species (43 endemic) in China.


柿属 shi shu

Maba J. R. Forster & G. Forster.

Trees or shrubs, deciduous or evergreen. Terminal buds absent. Branchlet tips sometimes forming a spine. Leaves alternate, occasionally minutely translucent dotted or with gland pits. Flowers dioecious or polygamous. Staminate flowers in axillary cymes, rarely solitary, usually on basal part of current year’s branchlets; deciduous soon after anthesis; stamens 4 to numerous, often paired and forming 2 whorls; ovary rudimentary. Pistillate flowers usually solitary, axillary; staminodes 0–16; stigma often 2-cleft. Calyx usually 3–5(–7)-lobed, sometimes truncate; corolla urceolate, campanulate, or tubular, 3–5(–7)-lobed, deciduous. Berry fleshy to somewhat leathery, usually with an enlarged persistent calyx. Seeds 1–10(or more), often laterally compressed.

About 485 species: pantropical and extending into temperate regions; 60 species in China, most abundant in SE and SW China, several incompletely known and of uncertain status.

The following key is primarily to fruiting material because the flowers of many Chinese species are not known.

1a. Branchlets usually tipped with slender inconspicuous spines; reticulate veins of leaves slender, slightly raised but never conspicuous.

2a. Leaf blade base shallowly cordate, less often rounded to truncate; corolla glabrous outside; berry black when mature, glabrous; fruiting sepals strongly recurved, hard, rigid, ca. 0.7 cm, veins not visible ........................................................................................................... ........................  5. D. diversilimba

2b. Leaf blade base cuneate to attenuate, rarely subrounded; corolla hairy outside; berry ± yellow when mature, hairy at least at base of style; fruiting sepals spreading to slightly reflexed, stiff papery to ± leathery, 0.9–2.5 cm, veins several and subparallel, prominent.

3a. Corolla outside not uniformly hairy but with longer hairs restricted to 4 ridges and sometimes with much smaller hairs adjacent; leaf blade rhombic-oblanceolate; short stout spines often present on branchlets ...........................................................................................................  3. D. rhombifolia

3b. Corolla outside uniformly densely puberulent; leaf blade elliptic to narrowly elliptic, sometimes rhombic-oblanceolate to slightly oblong; short stout spines never present.

4a. Fruiting pedicel 2.4–4(–6) cm; corolla 5–7 mm; fruiting sepals (1–)1.2–2(–2.5) cm ..........  1. D. cathayensis

4b. Fruiting pedicel 1.1–2 cm; corolla 4–5 mm; fruiting sepals 0.9–1.1 cm ..............................................  2. D. armata

1b. Branches never spine-tipped; leaf blade elliptic to narrowly elliptic, sometimes rhombic-oblanceolate to slightly oblong; short stout spines never present.

5a. Leaf blades 2–6 cm, mostly less than 4 cm.

6a. Fruiting pedicel 8–11 mm.

7a. Leaf blade abaxially without scattered concave glands, reticulate veins inconspicuous;

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calyx 4-lobed ............................................................................................................... 6. D. howii
7b. Leaf blade abaxially with scattered concave glands, reticulate veins prominent; calyx
5-lobed ..................................................................................................................... 7. D. oliviformis
6b. Fruiting pedicel to 5 mm, sometimes ± obsolete.
8a. Leaf blade uniformly hairy.
9a. Corolla glabrous; leaf apex clearly acuminate; petiole 6–10 mm, subglabrous .......... 9. D. esquiriolii
9b. Corolla outside with 4 distinct longitudinal lines of hairs; leaf apex not clearly
acuminate; petiole 2–6 mm, hairy.
10a. Ovary densely yellow strigose; calyx lobes mostly less than half as long as
corolla; leaf blade smooth; fruit pilose, glabrescent, apex mucronate; petiole
2–3(–5) mm .................................................................................................................. 10. D. dumetorum
10b. Ovary glabrous except at apex; calyx lobes about as long as or longer than
corolla; leaf blade very minutely rugulose-papillate; fruit glabrescent, apex rounded;
petiole (2–)4–16 mm.
11a. Petiole (5–)10–16 mm; pistillate corolla tube shorter than lobes; calyx
lobes 3.5–5 mm wide .......................................................................................... 12. D. balfouriana
11b. Petiole (2–)4–6 mm; corolla tube longer than lobes; calyx lobes 2–2.5
mm wide .................................................................................................................. 11. D. yunnanensis
8b. Leaf blade glabrous except, sometimes when young, for pilose margin and abaxially
puberulent midrib.
12a. Leaf apex rounded; flowers irregularly 3–5-merous; calyx lobes rounded, ca. 1/2 as
long as tube, erect; berry ellipsoid ............................................................................ 60. D. ferrea
12b. Leaf apex subacute to bluntly acuminate; flowers regularly 4-merous; calyx lobes
triangular to lanceolate, longer than tube; berry globose.
13a. Leaves drying gray-green, margin often conspicuously ciliate-pilose when young
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13b. Leaves drying dark brown to ± blackish, margin never conspicuously hairy.
14a. Leaf blade very minutely rugulose-papillate, dull, lateral veins 4–6 per
side .................................................................................................................. 11. D. yunnanensis
14b. Leaf blade smooth, often glossy, lateral veins 6–18 per side.
15a. Lateral veins of leaves 12–18 per side; berry 1–1.2 cm ....................... 13. D. nitida
15b. Lateral veins of leaves 6–8 per side; berry 1.3–1.5 cm ............... 14. D. kotoensis
5b. At least some leaf blades more than 7 cm.
16a. Leaf blade abaxially with reticulate veinlets not raised but clearly defined, dark.
17a. Calyx tube well developed, partly enclosing young fruit; leaf blade lateral veins
3 or 4 per side ........................................................................................................ 22. D. tsangii
17b. Calyx deeply divided, never partly enclosing fruit; leaf blade lateral veins 5–10 per side.
18a. Leaf blade abaxially glaucous gray-green.
19a. Fruiting calyx lobes (4–)6–8 × ca. 6 mm; petiole 1.2–2.5 cm ..................... 19. D. japonica
19b. Fruiting calyx lobes 9–15 × 7–10 mm; petiole to 1.4 cm.
20a. Leaves glabrous; fruiting calyx lobes 12–15 × ca. 10 mm ....................... 20. D. sichourensis
20b. Leaves hairy; fruiting calyx lobes ca. 9 × 7 mm ......................... 21. D. kintungensis
18b. Leaf blade abaxially green to pale brown.
21a. Berry 1–2 cm in diam., bluish black with a glaucous bloom when ripe .................. 18. D. lotus
21b. Berry 2–8.5 cm in diam., yellow, orange, or red when ripe.
22a. Leaves abaxially glabrous or with very scattered pubescence; calyx
much shorter than corolla; fruiting calyx ca. 1.4 cm in diam. ............................. 23. D. oldhamii
22b. Leaves abaxially hairy, sometimes adaxially glabrescent; calyx ± as
long as corolla; fruiting calyx 3–4 cm in diam.
23a. Young branchlets, leaves, and calyx outside brown pubescent,
often glabrescent; petiole 8–20 mm; leaf blade with 5–7 pairs of
lateral veins ........................................................................................................ 24. D. kaki
23b. Young branchlets, leaves, and calyx outside densely grayish-yellow
pubescent; petiole 6–10 mm; leaf blade with 7–9 pairs of lateral
veins .................................................................................................................. 25. D. oleifera
16b. Leaf blade abaxially with reticulate veinlets inconspicuous or, if clearly defined, pale and/or raised.
24a. Branchlets with hairs ± overlapping and concealing much of epidermis.
25a. Fruiting calyx tube inflated, baglike, and almost or entirely covering fruit, lobes
short and inconspicuous, incurved ................................................................. 59. D. inflata

25b. Fruiting calyx tube much shorter than fruit, lobes well-developed, erect, spreading or recurved to reflexed or calyx with conspicuous spreading undulately plicate limb.

26a. Berry to 2.5 cm in diam.

27a. Leaf blade abaxially with numerous minute globose glands between reticulate veinlets ................................................................. 45. D. punctilimba

27b. Leaf blade without such glands between reticulate veinlets, rarely occasional glandular pits at junctions of veinlets.

28a. Young shoots pubescent or puberulent.

29a. Leaf lateral veins 4–6 per side; fruiting pedicel 3–4 mm ............ 17. D. unisemina

29b. Leaf lateral veins 5–7(–10) per side; fruiting pedicel ca. 10 mm.

30a. Leaf blade subelliptic-rhombic; berry globose, densely pubescent .................................................................................. 4. D. sxicola

30b. Leaf blade elliptic-rhombic, elliptic-oblong, or oblanceolate; berry ovoid, glabrescent ................................................................. 6. D. howii

28b. Young shoots rusty strigose, yellowish brown, or brown tomentose.

31a. Flowers and young fruit subtended by ovate bracts as long or longer than calyx tube; fruit globose to ovoid, 0.5–1(–1.5) cm wide, sessile; leaves abaxially drying grayish, brown, or blackish.

32a. Leaf blade rounded to cuneate at base, lateral veins 4–7(or 8) per side ................................................................. 46. D. eriantha

32b. Leaf blade truncate to cordate at base, lateral veins 7–10 per side ................................................................. 47. D. strigosa

31b. Flowers and fruit not subtended by prominent bracts; fruit globose, (0.8–)1.8–2.5 cm wide, pedicellate; leaves drying gray-green.

33a. Leaf blade lateral veins 10–15 per side; inflorescences always 1-flowered; fruiting pedicel 1–1.6 cm .................................................... 51. D. xishuangbannaensis

33b. Leaf blade lateral veins 4–10 per side; inflorescences usually 2- or more flowered; fruiting pedicel ca. 0.4 cm.

34a. Leaf blade lateral veins 4–6 per side, densely appressed yellowish brown pubescent when young, adaxially glabrescent; pedicel and calyx indumentum similar in color to stem indumentum ................................................................. 48. D. xiangguiensis

34b. Leaf blade lateral veins 7–10 per side, glabrescent except for midrib which is densely rusty strigose; pedicel and calyx indumentum distinctly paler than stem indumentum, often grayish ............................................. 49. D. kerrii

26b. Berry 2.5 cm or more in diam.

35a. Winter buds and young shoots with prominent dark brown to almost black hairs ................................................................. 54. D. hainanensis

35b. Winter buds and young shoots with pale or yellow to reddish brown hairs.

36a. Fruiting pedicel to 6(–10) mm.

37a. Leaf blade lateral veins 4–7 per side; fruiting calyx lobes flat, appressed to berry and overlapping .................................................. 53. D. chunii

37b. Leaf blade lateral veins (6 or)7–14 per side; fruiting calyx lobes with recurved to strongly reflexed margins, not overlapping.

38a. Leaf blade abaxially with small but sharply delimited sunken glands scattered along leaf blade between lateral veins and 3–12 mm from midrib, lateral veins 10–14 per side; berry ca. 8 cm in diam., densely and persistently villose ................................................................. 52. D. philippensis

38b. Leaf blade without sunken glands, lateral veins (6 or)7–10 per side; berry 3–3.5 cm in diam., glabrescent ............................................. 55. D. ehretioides

36b. Fruiting pedicel more than 8 mm.

39a. Fruiting calyx 5- or 6-lobed ................................................................. 26. D. hexamera
39b. Fruiting calyx 4-lobed.

40a. Lobes of fruiting calyx unequal, 2 broad lobes alternate with 2 narrow lobes ................................................................. 57. D. anisocalyx

40b. Lobes of fruiting calyx equal.

41a. Fruiting pedicel 3–4 cm ........................................... 39. D. miaoshanica

41b. Fruiting pedicel 1.2–2 cm.

42a. Leaf blade glabrous except for abaxially tawny puberulent midvein and lateral veins ......................................................... 36. D. reticulinervis

42b. Leaf blade abaxially tawny pilose or sparsely strigose on midvein.

43a. Young shoots yellow pubescent; leaf blade abaxially tawny pilose, densely so on veins; lobes of fruiting calyx outside slightly pilose, inside glabrous .................. 37. D. sunyiensis

43b. Young shoots puberulent; leaf blade abaxially sparsely strigose on midvein; lobes of fruiting calyx glabrous on both surfaces ................................................... 38. D. sutchuensis

24b. Branchlets glabrous to inconspicuously pubescent.

44a. Seeds 1.5–3.5 cm; reticulate veinlets of leaf blades always conspicuous, raised on both surfaces (Guangxi or Hainan).

45a. Fruiting calyx ca. 2 cm wide, clearly reflexed between lobes only; seeds 1.5–2 cm; petioles blackish in contrast to green leaf blades, inconspicuously articulate at base ................................................................................................... 30. D. susarticulata

45b. Fruiting calyx 2.5–3.5 cm wide, flat or with reflexed lobes; seeds 2–3.5 cm; petioles similar in color to leaf blades, not articulate at base.

46a. Fruiting calyx reflexed, ca. 2.5 cm in diam., lobes clearly defined; berry longer than broad; seeds 3–3.5 × 0.8–0.9 cm; petiole 0.5–1 cm ................ 31. D. maclurei

46b. Fruiting calyx a fleshy slightly reflexed undulate disc, 2.5–3.5 cm in diam., lobes inconspicuous; berry broader than long; seeds 2–2.5 × 9–1.5 cm; petiole 1–1.5 cm ............................................................. 32. D. metcalfii

44b. Seeds to 1.6 cm; reticulate veinlets of leaf blades varying from almost invisible to very prominently raised (widely distributed).

47a. Leaf blade abaxially with 2–4 small but sharply delimited sunken gland patches close to base; fruiting calyx lobes 4, sharply reflexed so as to be ± transversely folded when dry; corolla 3- or 4-lobed ................................................. 58. D. maritima

47b. Leaf blade with gland patches absent or more than 4 and scattered throughout leaf; fruiting calyx lobes 4 or 5, subrevolute, often ± undulately plicate, never transversely folded; corolla 4-lobed.

48a. Calyx often 5- or more lobed, lobes sometimes reduced to small teeth; fruiting calyx very shallowly divided and reflexed between lobes so as to be undulately plicate, often strongly longitudinally 4- or 5-ridged at base.

49a. Reticulate veinlets of leaf blades well defined, dense, prominently raised on both surfaces ...................................................... 29. D. longibracteata

49b. Reticulate veinlets of leaf blades inconspicuous, lax, flat or sometimes abaxially slightly raised.

50a. Branchlets at first yellowish green; fruiting calyx only slightly undulately plicate, slightly reflexed between spreading lobes; staminate flowers not known ........................................... 33. D. corallina

50b. Branchlets brown or blackish brown; fruiting calyx strongly undulately plicate, clearly reflexed between lobes; staminate flowers tubular or cup-shaped, calyx lobes reduced to small teeth.

51a. Staminate calyx tubular, 4- or 5-mucronate-dentate;

stamens ca. 12; leaf blade lanceolate to oblong-lanceolate;

berry black when mature, depressed globose, 2.5–3 cm
in diam., glabrous, glossy .................................................. 27. D. nigricortex

51b. Staminate calyx cupular, 5–7-denticulate; stamens ca. 24;

leaf blade elliptic to oblong; mature fruit not known ............ 28. D. forrestii
48b. Calyx always clearly 4-lobed, usually deeply divided; fruiting calyx usually deeply divided, not reflexed between lobes though lobes sometimes revolute or reflexed.

52a. Fruiting calyx ± square, lobes flat; leaves adaxially drying brown, reticulate veinlets very inconspicuous.
53a. Mature fruit 1.5–2.2(–2.9) cm in diam. (widespread in S China) ................................................................. 15. D. morrisiana
53b. Mature fruit 2.5–3 cm in diam. (Yunnan, Marlipo Xian) ................. 16. D. fengii

52b. Fruiting calyx variously lobed, lobes recurved, strongly reflexed, or revolute; leaves drying gray-green to ± black or, if adaxially ± brownish, reticulate veinlets conspicuously raised.

54a. Leaf blade hairy between lateral veins on 1 or both surfaces.
55a. Fruit base glabrous .............................................................. 12. D. balfouriana
55b. Fruit base densely appressed yellowish tomentose.

56a. Fruiting calyx lobes ca. 2 cm, broadly ovate ........... 43. D. zhenfengensis
56b. Fruiting calyx lobes ca. 0.8 cm, narrowly triangular ..................................................... 36. D. reticulinnervis

54b. Leaf blade glabrous except sometimes for abaxially appressed villose main veins or appressed pubescence when young.

57a. Berry glabrous or hairy only at apex; leaves drying blackish.
58a. Lateral veins of leaves 12–18 per side; berry 1–1.2 cm ................................................................. 13. D. nitida
58b. Lateral veins of leaves 6–8 per side; berry 1.3–1.5 cm ................................................................. 14. D. kotoensis

57b. Berry hairy at least at base when young, sometimes glabrescent; leaves not drying blackish.

59a. Berry sessile or sub sessile; always globose.
60a. Leaf blade lateral veins 10–13 per side; fruiting calyx lobes spreading, inside brown sericeous; fruit 2–2.8 cm in diam. ......... 34. D. siderophylla
60b. Leaf blade lateral veins 6–8 per side; fruiting calyx lobes strongly recurved, conspicuously tomentose on both surfaces; fruit 1–1.5 cm in diam. .............................................. 56. D. rubra

59b. Berry with pedicel 5 mm or more; globose or ovoid.
61a. Leaf blade lateral veins 5 or 6 per side .................... 40. D. tutcheri
61b. Leaf blade lateral veins 7–12 per side.

62a. Berry densely black pubescent at base; fruiting calyx sparsely black pubescent ...... 50. D. hasseltii
62b. Berry appressed rusty or yellowish brown hairy, glabrescent when ripe; fruiting calyx puberulent.

63a. Fruiting pedicel 0.5–1 cm; reticulate veinlets of leaf blade thick, dense, conspicuously pale and raised on adaxial surface .......... 35. D. caloneura
63b. Fruiting pedicel 1.1–2.5 cm; reticulate veinlets of leaf blade slender, often lax.

64a. Leaf blade stiff papery, lateral veins not united to form a marginal vein; fruit ovoid ......... 41. D. potingensis
64b. Leaf blade nearly leathery, lateral veins (at least apical ones) united to form a marginal vein; fruit globose or depressed globose.
1. Diospyros cathayensis Steward, J. Arnold Arbor. 35: 86. 1954.

乌柿  wu shi

*Diospyros cathayensis* var. *foochowensis* (F. P. Metcalf & L. Chen) S. Lee; *D. foochowensis* F. P. Metcalf & L. Chen; *D. sinensis* Hemsley (1889), not Blume ex Naudin (1880).

Trees to 10 m tall, evergreen or nearly so. Trunk to 80 cm d.b.h. Branchlets brown, slender, pubescent, glabrescent, usually tipped with slender inconspicuous spines. Petiole 2–4 mm, puberulent; leaf blade elliptic, 4–9(–11) × 1.5–3.6 cm, thin leathery, abaxially paler and ± pubescent along veins, adaxially dark green and lustrous, base cuneate to attenuate, apex acute to slightly blunt; lateral veins 10–12 per side, reticulate veins slender and raised on both surfaces. Flowers solitary or staminee usually in cymes. Staminee flowers: pedicel 6–11 mm, pubescent; calyx deeply divided, densely pubescent; calyx lobes 4, triangular, 1.5–3 mm; corolla pale yellow, urceolate, 5–7 mm, pubescent on both surfaces; lobes 4, ovate, ca. 1 mm, reflexed; stamens 16, villose. Pistillate flowers: calyx lobes 4, ovate, ca. 1 cm, puberulent; corolla white, tube ca. 5 mm, lobes 4; staminodes 6; ovary villose. Fruiting pedicel 2.5–4(–6) cm, slender. Fruiting calyx divided to near base, subglabrous; lobes lanceolate, (1–)1.2–2(–2.5) cm × 5–9(–11) mm, ± leathery, apex obtuse, veins several, subparallel, and prominent. Berry yellow, globose to ovoid, 1.5–3 cm, sparsely hairy. Seeds 4 or more, to 1.5 cm. Fl. Apr–May, fr. Aug–Oct.

* * Diospyros cathayensis* var. *foochowensis* Hemsley in F. B. Forbes & Hemsley, J. Linn. Soc., Bot. 26: 70. 1889.


Trees 5–13 m tall, semi-evergreen to deciduous. Trunk to 50 cm d.b.h. Branchlets densely puberulent, with a few much longer hairs, usually tipped with slender inconspicuous spines. Petiole 3–4 mm; leaf blade narrowly elliptic, sometimes rhombic-ob lanceolate, 1.5–6.5×1.5–3 cm, thin leathery to leathery, translucent dotted, abaxially very sparsely pilose on veins, adaxially dark green and lustrous, base cuneate, margin very narrowly revolute, apex obtuse, rounded, or acute; lateral veins 7 or 8 per side, adaxially raised, reticulate veins lax and inconspicuous. Staminee flowers in small corymbose cymes, fragrant; corolla white, urceolate, 4–5 mm, tomentose. Fruiting calyx divided to near base, abaxially sparsely strigose, adaxially glabrous; lobes 4, spreading to slightly reflexed, lanceolate to ovate, 0.9–1.2 cm × 4–5 mm, margin slightly revolute. Berry yellow, globose, ca. 2 cm in diam., strigose. Fl. Apr–May, fr. Aug–Dec.

* Scarce in forests; ca. 300 m. W Hubei, E Sichuan.


老鸦柿  lao ya shi

Trees to 8 m tall, deciduous. Branchlets pubescent, usually with inconspicuous slender spiny tips, sometimes also with short thick lateral spines. Petiole 2–4 mm, slender, puberulent; leaf blade, 4–8.5 × 1.8–3.8 cm, papery, abaxially glabrous and scattered appressed pubescent, adaxially dark green, yellowish brown pubescent on veins, glabrescent, and minutely pustulate, base cuneate, margin ciliate, apex acute to acuminate; lateral veins 5–7 per side, reticulate veins lax, raised on both surfaces, sometimes pale or inconspicuous. Staminee flowers: pedicel ca. 7 mm; calyx lobes 4, triangular; corolla urceolate, ca. 4 mm, both surfaces slightly pubescent; stamens 16. Pistillate flowers: pedicel ca. 1.8 cm, pubescent; calyx lobes 4, divided nearly to base, lanceolate, ca. 1 cm; corolla urceolate, with 4 white villose ridges; corolla lobes 4, reflexed; ovary densely villose. Fruiting pedicel 1.5–2.5 cm, slender. Fruiting calyx lobes 4, spreading to slightly reflexed, oblong-lanceolate, 1.6–2 cm × ca. 5 mm; veins several, subparallel, slightly raised. Berry orange, solitary, globose, ca. 2 cm in diam., glabrous, shiny. Seeds 2–4, brown, ca. 1 cm. Fl. Apr–May, fr. Sep–Oct.

石生柿 shi sheng shi

Shrubs to 1.5 m tall. Older branches black, glabrescent; lenticels many, circular, splitting longitudinally, young branchlets slender, terete, dirty yellow, twisted pubescent. Winter buds small, conical, densely dirty yellow pubescent. Petiole ca. 3 mm, densely dirty yellow pubescent; leaf blade subelliptic-rhombic, rarely obovate, 2.7–8.5 cm, leathery, glabrous except for densely pubescent adaxial veins, base cuneate, margin slightly revolute, apex obtuse to rarely rounded; lateral veins 6–10 per side, reticulate veins adaxially distinct. Flowers not seen. Fruiting pedicel ca. 1.1 cm, dirty yellow pubescent. Fruiting calyx subglabrous, both sides slightly more densely hairy toward base; lobes 4, ovate-lanceolate, ca. 1.5 cm, 6 mm, apex narrowly obtuse. Berry drying yellow, globose, ca. 1.2 cm in diam., densely pubescent. Fr. Jun.


光叶柿 guang ye shi

Diospyros cordifolia Roxburgh var. glabrofolia Merrill.

Shrubs or trees, to 15 m tall. Trunk to 35 cm d.b.h. Branchlets yellowish brown, slender, grayish white pubescent, tipped with slender inconspicuous spines. Petiole 4–5 mm, slender, pubescent or glabrous; leaf blade elliptic to oblong, 3–9 × 1.5–3.3 cm, papery, glabrous, drying green with slender dark veins, base shallowly cordate, less often rounded to cordate, apex obtuse to obtusely acuminate or sometimes notched; lateral veins 4–6 per side, slender, reticulate veins lax and inconspicuous. Stamineate flowers not seen. Pistillate flower solitary, fragrant; pedicel 5–10 mm, pubescent; calyx tube ca. 2 mm; lobes 4, ovate, (5–)8 × ca. 4 mm, puberulent; corolla campanulate, ca. 8 mm, tube ca. 4 mm; corolla lobes 4, broadly ovate, glabrous; staminodes 8. Ovary glabrous. Fruiting pedicel 5–10 mm, slender, glabrescent. Fruiting calyx lobes 4, reflexed, oblong-ovate, ca. 7–8 mm. Berry black, globose, ca. 1.5 cm in diam., 4-locular, glabrous. Fl. Apr–May, fr. Oct.


琼南柿 qiong nan shi

Diospyros changii Miau.

Trees to 15 m tall. Trunk to 50 cm d.b.h., bark gray to grayish black. Branchlets slender, appressed yellowish brown pubescent. Petiole 2–3 mm, appressed yellowish brown pubescent; leaf blade elliptic, elliptic-oblong, or oblanceolate, 2.4–5.7 cm × 1–2.5 cm, thin leathery, abaxially paler, sparsely appressed pubescent, brown when dry, adaxially shiny dark green and grayish brown when dry, base cuneate, margin ciliate, apex obliquely acuminate; lateral veins 5–7(–10) per side, reticulate veinlets inconspicuous. Stamineate flowers: pedicel slender, ca. 7 mm, sparsely pubescent; calyx campanulate, ca. 2.5 mm, very sparsely pubescent; calyx lobes 4, ovate, margin ciliate, apex rounded to subacute; corolla white, slender, at least 8 mm (not mature), with narrow lines of hairs; corolla lobes 4, oblong-elliptic, ca. 8 mm, apically reflexed; stamens 8, glabrous. Pistillate flowers: ovary sparsely appressed white pubescent; styles 2. Fruiting pedicel ca. 1 cm, slender, slightly pubescent. Fruiting calyx (5–)7 mm in diam., deeply divided; lobes 4, ± spreading, broadly ovate, (1.5–)2.5 cm × ca. 2.5 mm. Berry red, ovoid, 1.5–2.2(–2.5) cm × (1.1–)1.2–1.8 cm, glabrescent. Seeds dark brown, subcylindric, ca. 11 × 4.5 mm. Fl. Jun–Aug, fr. Oct–Dec.

* Guangdong.

Diospyros saxicola is known only from the protolog. The fruiting pedicels, calyces, and berry suggest a relationship to Dios pyros cathayensis and D. armata.

* Mixed forests or forested ravines. Hainan.

Although authentic material of Diospyros changii has not been seen by the authors, the plant appears to be an unusually vigorous form of D. howii. The former resembles the Indochinese D. eugeniifolia Lecomte, a species reported to have stamineate flowers with 16 stamens.


榄果柿 lan guo shi

Diospyros armata Merril.

Trees to 8 m tall. Older branches grayish black, terete; young branches slightly slender, densely grayish black pubescent. Petiole 1.5–3 mm, densely pubescent; leaf blade oblong, 3–6 × 1.5–2.0 cm, ± leathery, abaxially with scattered distinct concave glands and drying brownish, adaxially glabrous except for hairs along midrib and drying dull grayish brown, base narrowly cuneate, margin sometimes revolute, apex obtuse, obtusely acuminate, or rarely retuse; lateral veins 6–8 per side, slender, abaxially distinctly raised, adaxially inconspicuous, reticulate veins abaxially prominent. Flowers not seen. Fruiting pedicel ca. 8 mm, apically thickened. Fruiting calyx ca. 6 mm in diam., spreading, puberulent; lobes 5, orbicular–ovate, ca. 2 mm, apex rounded to subobtuse. Berry solitary, ellipsoid, ca. 2 × 1.2 cm, apex puberulent, pilose. Seeds 1, blackish brown, ca. 1.5 cm. Fr. Dec.

* Hainan.

No authentic material of Diospyros oliviformis has been seen by the authors.

小果柿 xiao guo shi

*Diospyros vaccinoides* var. *oblongata* Merrill & Chun.

Shrubs 1–2 m tall, evergreen, much branched, rusty pilose-pubescent on young branchlets, leaves, and winter buds. Branches glabrescent. Petiole 1 mm, glabrescent; leaf blade elliptic to obovate, 2–4 × 0.9–1.5 cm, leathery, abaxially pubescent along midrib when young but glabrous when mature, adaxially lustrous, base obtuse to rounded, margin often pilose, apex subacute and mucronate; lateral veins ca. 5 or 6 per side, veins inconspicuous or slightly impressed. Flowers solitary or stamineate also in cymes, subsessile. Stamineate flowers: calyx divided nearly to base, ± as long as corolla; calyx lobes 4, narrowly lanceolate, brown pilose; corolla campanulate, ca. 4.5 mm; lobes 4, spreading, ovate, as long as tube, midrib sparsely pilose, apex acuminate; stamens 16. Pistillate flowers: calyx and corolla similar to staminate flowers; staminodes 4–8, sparsely pilose, apex acuminate; stamens 16. Pistillate flowers: calyx and corolla similar to staminate flowers; staminodes 4–8, linear; ovary glabrous. Fruiting pedicel 1–2 mm, puberulent. Fruiting calyx deeply divided, glabrous; lobes 4, spreading to reflexed, triangular, ca. 5 mm. Berry black, globose, ca. 1 cm in diam., glabrous. Seeds (1 or)2(3), dark brown, ± semiglobose with a small beak, ca. 8 × 6 × 4 mm, minutely rugulose. Fl. May, fr. autumn and winter.

* Guangdong, Guangxi, Hainan.


贵阳柿 gui yang shi

Trees 12–24 m tall. Branchlets dark purplish brown, with large pale lenticels, glabrous except for a few apical hairs. Petiole 6–10 mm; leaf blade elliptic, 5–5.5 × 1.9–2.2 cm, papery, uniformly pubescent, abaxially paler, base cuneate, apex acuminate; lateral veins 6–8 per side, not raised, reticulate veinlets inconspicuous. Stamineate flowers in small, subsessile clusters; pedicel ca. 0.5 mm; calyx 1.5–2 mm, narrowly appressed pilose; calyx lobes 4, triangular, ca. 1.3 × 1.3 mm, apex acute; corolla urceolate, ca. 4 mm, tube ca. 3 mm, glandular; corolla lobes 4, reflexed, ca. 1 mm, apex rounded; stamens 16, about as long as corolla tube; anthers dorsally pilose. Pistillate flowers and fruit not known. Fl. May.

* Guizhou (Guiyang Shi).


岩柿 yan shi

*Diospyros mairei* H. Léveillé; *D. mollifolia* Rehder & E. H. Wilson.

Trees 5–15 m tall. Branchlets slender, finely lenticellate, appressed rusty pilose when young, glabrescent. Winter buds small, pubescent, apex obtuse. Petiole (2–)4–6 mm, appressed pubescent; leaf blade narrowly elliptic to lanceolate, (2.4–)3.5–4.5(–5.5) × 1–3 cm, papery, minutely rugulose-papillate, glabrous or sparsely appressed pubescent when young, abaxially hairy along midrib at maturity, drying blackish, base rounded to broadly cuneate, apex acute to slightly acuminate; lateral veins 4–6 per side, reticulate veinlets almost invisible. Staminate flowers in 1–3-flowered cymes; pedicel slender, 1–2 mm; calyx 2–3.5 mm; calyx lobes 4, ovate; corolla urceolate, 4–5 mm, glabrous except for 4 lines of appressed hairs; corolla lobes 4, basally overlapping, ovate, ca. 1 mm, apex acute; stamens 16. Pistillate flower solitary; pedicel to 2 mm, pubescent; calyx lobes 4, lanceolate, 6–7 × ca. 2 mm, longer than corolla, subglabrous; corolla urceolate to subcampanulate, ca. 5 mm, with 4 white pilose ridges; corolla lobes 4, ovate, apex blunt; staminodes 5; ovary glabrous except at apex; styles 4, joined ± halfway; stigmas each slightly 2-lobed. Fruiting pedicel 2–4 mm. Fruiting calyx divided to near base, glabrous; lobes 4, strongly recurved, lanceolate, ca. 3 mm, apex acute, veins inconspicuous. Berry subglobose to obovoid, ca. 1.2 cm in diam., glabrous. Seeds few, dark brown, compressed, 7–9 mm, rugulose. Fl. May, fr. Sep.

* Thickets, open or dense forests on slopes; 700–1600 m. S Yunnan.


云南柿 yun nan shi

Trees 5–15 m tall. Branchlets slender, pale brown to almost white tomentose. Winter buds tomentose. Petiole 2–(3–)5 mm, slender, densely tomentose; leaf blade elliptic to narrowly oblanceolate, 2–3(–6) × 1–1.3(–2.5) cm, papery to thin leathery, densely pubescent to almost tomentose, base cuneate to rounded, apex obtuse to acute and cuspidate; lateral veins 3–5 per side, pale, abaxially raised, reticulate veinlets obscure. Staminate flowers 1–4 together; pedicel 1–4 mm; calyx 1.5–3(–6) mm, divided almost to base, densely pubescent; lobes 4, ovate; corolla white, urceolate, 4.5–5.5 mm, glabrous except for 4 conspicuous lines of appressed hairs on outside; corolla lobes 4, basally overlapping, ovate, 1.5 (–2.5) mm, apex acute; stamens 16; anthers glabrous. Pistillate flower solitary; calyx lobes 4, as long as corolla, appressed pilose; corolla urceolate, ca. 5 mm, with 4 white pilose ridges; staminodes absent; ovary densely strigose. Fruiting calyx appressed pubescent; lobes 4, spreading to reflexed, triangular, ca. 2 mm, apex acute. Berry purplish black, ovoid, 1.2–1.4 cm. 1 cm, pilose, glabrescent, apex mucronate. Seeds 1–4, compressed ovoid, with a small beak, 8–10 ca. 4.5 2.5 mm, transversely wrinkled. Fl. Apr–May, fr. Oct–Feb.

Thickets on slopes, mixed woods, ravines or limestone hills; 700–2700 m. SW Guizhou, Sichuan, Yunnan [N Thailand].

*Diospyros dumetorum* was published in February 1916, while *D. mollifolia* was published on March 30 of the same year.


大理柿 da li shi

Trees 5–15 m tall. Branchlets slender, finely lenticellate, appressed rusty pilose when young, glabrescent. Winter buds small, pubescent, apex obtuse. Petiole (2–)4–6 mm, appressed pubescent; leaf blade narrowly elliptic to lanceolate, (2.4–)3.5–4.5(–6) × 1–3 cm, papery, minutely rugulose-papillate, glabrous or sparsely appressed pubescent when young, abaxially hairy along midrib at maturity, drying blackish, base rounded to broadly cuneate, apex acute to slightly acuminate; lateral veins 4–6 per side, reticulate veinlets almost invisible. Staminate flowers in 1–3-flowered cymes; pedicel slender, 1–2 mm; calyx 2–3.5 mm; calyx lobes 4, ovate; corolla urceolate, 4–5 mm, glabrous except for 4 lines of appressed hairs; corolla lobes 4, basally overlapping, ovate, ca. 1 mm, apex acute; stamens 16. Pistillate flower solitary; pedicel to 2 mm, pubescent; calyx lobes 4, lanceolate, 6–7 × ca. 2 mm, longer than corolla, subglabrous; corolla urceolate to subcampanulate, ca. 5 mm, with 4 white pilose ridges; corolla lobes 4, ovate, apex blunt; staminodes 5; ovary glabrous except at apex; styles 4, joined ± halfway; stigmas each slightly 2-lobed. Fruiting pedicel 2–4 mm. Fruiting calyx divided to near base, glabrous; lobes 4, strongly recurved, lanceolate, ca. 3 mm, apex acute, veins inconspicuous. Berry subglobose to obovoid, ca. 1.2 cm in diam., glabrous. Seeds few, dark brown, compressed, 7–9 mm, rugulose. Fl. May, fr. Sep.

* Thickets, or open or dense forests on slopes; 700–1600 m. S Yunnan.
Shrubs or small trees, 1.5–8 m tall. Branchlets reddish brown to brown-black, glaucous. Winter buds narrowly ovate, 5–6 mm. Petiole (0.5–)1–1.6 cm, pubescent; leaf blade elliptic, (2.5–)6.5–12.5 × (1–)2.5–3.6 cm, thin, leathery, axially villose but glabrescent, adaxially sparsely pubescent but denser on midrib, base cuneate, apex acuminate; lateral veins 6–9 per side, inconspicuous. Stamineate flowers not seen. Pistillate flowers solitary; calyx lobes 4, broadly ovate, subequal, 4.5–6 × 3.5–5 mm; corolla green, tube ca. 1.5 mm, with 4 white villose ridges; corolla lobes 4, subovate, ca. 3 mm; staminodes 8; ovary sparsely pubescent at apex; styles 4, base sparsely pubescent, apex 2-cleft. Fruiting calyx outside glabrous, inside near base sericeous. Berry blackish when dry, slightly glaucous, subsessile. Fl. May-Jun, fr. Jul-Aug.

* Mixed forests; ca. 2000 m. Yunnan (Dali Xian).


**Diospyros** kotoensis

Trees to 20 m tall. Trunk to 40 cm d.b.h. Branchlets gray to dark brown. Winter buds densely appressed yellow pubescent. Petiole 5–6 mm; leaf blade lanceolate to oblong-lanceolate, 5–9 × 1.5–3.3 cm, thin, leathery, subglabrous, axially sparsely pubescent when young, drying blackish, base attenuate, margin narrowly revolute, apex bluntly acuminate; lateral veins 12–18 per side, reticulate veinlets slender, raised on both surfaces in older leaves. Staminate flowers in small dense cymes, less than 5 mm; pedicel ca. 1 mm, pubescent; calyx bowl-shaped, ca. 1.5 mm, glabrous; calyx lobes 4, flat at anthesis, triangular, erect, margin ciliate; corolla with globose basal swelling and narrowly cylindric limb, ca. 6 mm, basal swelling minutely puberulent, otherwise glabrous; corolla lobes 4, ca. 2 mm. Pistillate flowers solitary; pedicel 2–3 mm; calyx lobes 4, subovate; corolla urceolate, tube ca. 3 mm; corolla lobes subovate, ca. 3 mm. Fruiting pedicel ca. 3 mm. Fruiting calyx ca. 1.4 cm in diam.; lobes 4, strongly recurved or reflexed, elliptic-ovate, apex rounded. Berry globose, 1–1.2 cm in diam., 4-locular, glabrous, ± rugulose. Seeds slightly compressed ovoid, 8–9 × 3.4 × 2.5–4 mm. Fl. Jul–Dec, fr. Sep–Dec.

Valleys or in low moist broad-leaved forests; below 400 m. SW Hainan [Philippines, Vietnam].

The wood of *Diospyros nitida* is dark gray, hard, and heavy and is suitable for construction and furniture.

The corollas of stamineate flowers are apparently gall-like, and the description might not represent the true state.


**Diospyros** morrisiana

Shrubs or trees 3–20 m tall, deciduous. Trunk to 30 cm d.b.h., bark peeling off in thin pieces, surface black. Young shoots puberulent. Winter buds conical, ca. 2 mm, puberulent. Petiole ca. 1 cm; leaf blade elliptic, 5–11.5 × 2.5–4.3 cm, thin leathery, abaxially drying brown, adaxially glossy dark green and drying grayish brown, base cuneate or obtuse, margin sometimes slightly undulate, apex acuminate to obtuse; lateral veins 4–8 per side, reticulate veinlets very slender, inconspicuous. Staminate flowers congested, cymose, nodding; pedicel ca. 2 mm; calyx lobes 4, brownish puberulent; corolla glabrous, white, urceolate, ca. 7 mm; corolla lobes 4, spreading, ovate, ca. 2 × 2 mm; stamens 16–20, hairy. Pistillate flowers solitary; pedicel ca. 2 mm; calyx lobes 4, divided to about middle; corolla nearly urceolate, ca. 7 mm; corolla lobes 4, ca. 3 × 3 mm, outside glabrous, inside densely brown sericeous; staminodes 6. Fruiting pedicel ca. 3 mm, stout. Fruiting calyx ± square, 6–8 mm wide, outside densely puberulent, inside sericeous; lobes 4, spreading, triangular. Berry yellow, globose, 1.5–2.2(–2.9) cm in diam., 8-locular, glabrous, apex sometimes apiculate. Seeds ca. 4, glossy dark olive-brown, laterally compressed, (8–)10–14 × 5–7 × (2–)3 mm. Fl. May–Jun, fr. Nov.

* Evergreen broad-leaved forests; near sea level to 500 m. Taiwan (Lan Yu).


**Diospyros** morrisiana

The wood is used for furniture. The bark, leaves, and fruit are used for medicine.
1.2–1.4 cm × 6.5–7 mm. Fr. Oct.

Seeds 4, glossy dark olive-brown, laterally compressed, Berry green, 2.5–3 cm in diam., glabrous, at base of branchlets. Seeds 4, glossy dark olive-brown, laterally compressed, 1.2–1.4 cm × 6.5–7 mm. Fr. Oct.

* Mixed forests; 1300–1500 m. Yunnan (Malipo Xian).


君迁子 dan zi shi

Trees to 12 m tall. Branches glabrous, dirty yellow pubescent when young. Petiole 5–8 mm; leaf blade elliptic to ovate-oblong, ca. 10 × 1.8–4 cm, thin leathery, abaxially with appressed hairs along midrib, adaxially puberulent along midrib, base cuneate to broadly cuneate, margin slightly revolute, apex short acuminate to short caudate; lateral veins 4–6 per side, very slender, reticulate veins abaxially slightly raised, almost invisible, sometimes slightly darkened. Flowers not seen. Fruiting pedicel 3–4 mm, densely dirty yellow strigose. Fruiting calyx shallowly cupular, ca. 8 mm in diam., outside sparsely pubescent, oblong-sericeous; lobes 4, reflexed. Berry solitary, drying glossy black, on basal part of young branchlets, ellipsoid, 1.5–1.8 × 1–1.2 cm. Style persistent, rusty strigose. Seeds 1(or 2). Fr. Oct–Dec.

* Mixed forests; 1000–1700 m. SE Yunnan.


君迁子 jun qian zi

Trees to 17 m tall. Deciduous. Bark grayish black to grayish brown. Petiole 0.7–1.5 cm; leaf blade elliptic to ovate-oblong, 5–13 × 2.5–6 cm, submembranous, abaxially drying green or glaucous and with dark veins, base obtuse, cuneate, or subrounded, apex acuminate to acute; lateral veins 7–10 per side, reticulate veins clearly defined, flat, dark. Staminate flowers 1–3 together; pedicel to 6 mm; calyx lobes 4(or 5); corolla reddish to pale yellow, urceolate, ca. 4 mm; corolla lobes 4; stamens 16. Pistillate flowers subsessile, pale green to reddish; calyx lobes 4; corolla urceolate, ca. 6 mm; corolla lobes 4 or rarely 5; staminodes 8; ovary 8-locular, glabrous except for apex: styles 4. Fruiting calyx lobes 4, ovate, apex obtuse. Berry pale yellow, becoming bluish black with a glaucous bloom, subglobose to ellipsoid, 1–2 cm in diam. Seeds brown, compressed, ca. 10 × 6 mm in diam. Fl. May–Jun, fr. Oct–Nov.

Slopes, mixed forests or by streams in ravines; 500–2500 m. Anhui, Gansu, Guizhou, Hebei, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Liaoning, Shaanxi, Shandong, Shanxi, Sichuan, Xizang, Yunnan, Zhejiang [SW Asia, S Europe, naturalized in countries around the Mediterranean].

1a. Leaf blade glabrous or sometimes abaxially pubescent .......................... 18a. var. lotus
1b. Leaf blade densely minutely

villose ............................................. 18b. var. mollissima

18a. Dirosypos lotus var. lotus

君迁子（原变种） jun qian zi (yuan bian zhong)

Trees to 30 m tall. Trunk to 1.3 m d.b.h. Leaf blade glabrous or sometimes abaxially pubescent mainly on veins. Fruiting calyx shallowly cupular, ca. 8 mm in diam., outside sparsely pubescent, oblong-sericeous; lobes 4, reflexed. Berry solitary, drying glossy black, on basal part of young branchlets, ellipsoid, 1.5–1.8 × 1–1.2 cm. Style persistent, rusty strigose. Seeds 1(or 2). Fr. Oct–Dec.

* Mixed forests; 1000–2500 m. Gansu, Shaanxi, Sichuan.


多毛君迁子 dou mao jun qian zi

Trees to 13 m tall. Branchlets and both surfaces of leaf blade densely minutely villose.

* 1000–2500 m. Gansu, Shaanxi, Sichuan.


生柿 shan shi

* Diosypos glaucifolia F. P. Metcalf; *D. glaucifolia var. brevipes* S. Lee; *D. glaucifolia var. pubescens* Ling.

Trees to 17 m tall. Deciduous. Trunk to 50 cm d.b.h. Branchlets dark brown to blackish brown, glabrous. Winter buds ovate, 4–5 mm, glabrous. Petiole 1.2–2.5 cm; leaf blade elliptic to lanceolate, 7.5–17.5 × 3.5–7.5 cm, thin leathery, glabrous or sparsely appressed pubescent, abaxially glaucous, base rounded to truncate, apex acuminate; lateral veins 7 or 8 per side, reticulate veins dense, dark, not raised. Staminate flowers in cymes; pedicel ca. 1 mm; calyx lobes 4; corolla urceolate, lobes 4; stamens 16. Pistillate flowers solitary or in clusters of 2 or 3; calyx lobes 4, sparsely pubescent; corolla yellowish, urceolate, ca. 7 mm, tube ca. 5 mm; style 4-parted; stigma emarginate. Fruiting pedicel 2–3 mm. Fruiting calyx 1.3–1.6 cm in diam., divided to below middle, ± spreading, outside sparsely pubescent; lobes 4, triangular-ovate, (4–)6–8 × ca. 6 mm, appressed to fruit, margin sometimes revolute. Berry orange-yellow, becoming red, globose to depressed globose, 1.5–2.3 cm in diam., 8-locular, glaucous. Seeds oblong, strongly compressed, 9–12 × 4.5–6.5 × 2–3 mm. Fl. Apr–Jul, fr. Sep–Nov.

Slopes, mixed forests or by streams in ravines; 600–1300 m. Anhui, Fujian, NW Guangdong, NE Guangxi, NW Guizhou, SW Hunan, Jiangxi, Sichuan, Yunnan, Zhejiang [Japan].

The ripe fruit of some forms of *Diosypos japonica*, particularly those included in *D. glaucifolia var. brevipes*, are edible and have a good flavor. *Diosypos japonica* has been suggested as rootstock for *D. kaki*. Unripe fruit yield persimmon lacquer, the fruiting calyx is medicinal, and the wood is used for furniture, etc.
Japanese specimens correspond more closely with Diospyros glaucifolia var. brevipes but vary sufficiently to obscure the differences in petiole length and leaf shape used to separate this from var. glaucifolia. Diospyros glaucifolia var. pubescens was based on specimens from Fujian with densely appressed pubescence along abaxial leaf veins, but the leaf indumentum varies even among the syntypes.


西畴君迁子 xi chou jun qian zi

Trees to 10 m tall. Branches and winter buds glabrous. Petiole 1.2–1.4 cm; leaf blade elliptic to oblong, 7–15 × 3–5.5 cm, papery, glabrous, abaxially drying gray green with dark veinlets, adaxially brown, base cuneate and decurrent into a winged petiole, apex acute; lateral veins 5–7 per side, slender, ± conspicuous on both surfaces, reticulate veinlets flat, clearly defined. Stamineate flowers in 3-flowered cymes; peduncle, pedicel, and calyx with short rusty appressed hairs; calyx lobes 4; corolla subglabrous; corolla lobes twisted and divided to below middle, ± spreading, appressed rusty pubescent. Berry solitary, globose, ca. 2.5 cm in diam. Seeds oblong, ca. 1.2 cm × 6 mm. Fl. May, fr. Aug.


景东君迁子 jing dong jun qian zi

Trees. Bark grayish black. Branchlets yellowish brown. Winter buds ovoid, ca. 4 mm, sparsely white or rusty pubescent, subglabrous. Petiole 1–1.3 cm, slender; leaf blade ovate-elliptic, obovate, or suborbicular, 11–17 × 5.5–7 cm, submembranous, sparsely appressed pubescent but glabrescent, abaxially drying pale gray-green with dark veinlets, adaxially blackish, base cuneate to rounded, apex acuminate; lateral veins 5–7 per side, reticulate veinlets flat, clearly defined. Flowers not seen. Fruiting calyx 1.8(–2) cm in diam., divided to below middle, ± spreading, appressed rusty pubescent; lobes 4, ovate, 1.2–1.5 × ca. 1 cm, apex subacute. Berry solitary, globose, ca. 2.5 cm in diam. Seeds oblong, ca. 1.2 cm × 6 mm. Fl. May, fr. Sep.

* Mixed forests, by streams in valleys; 800–1700 m. SE Yunnan.

Except for the larger calyx and berry, Diospyros sichourensis hardly differs from D. japonica and it may prove to be conspecific.


延平柿 yan ping shi

Shrubs or small trees to 7 m tall, rusty pubescent on young branchlets, petioles, midveins, and adaxial lateral veins. Winter buds minutely pubescent. Petiole confluent with leaf base; leaf blade narrowly elliptic-oblancoate to oblong, 4–9 × 1.5–3 cm, papery, abaxially appressed pilose when young, later glabrous except for midrib, drying gray-green with dark veinlets, adaxially blackish, base cuneate, margin ciliate when young, apex acuminate; lateral veins 3–5 per side, slender, reticulate veinlets flat, clearly defined. Flowers in 1-flowered cymes. Stamineate flowers ca. 8 mm; calyx pubescent, lobes 4; corolla white, ca. 7 × 5 mm; corolla lobes 4, appressed pubescent; stamens 16. Pistillate flowers larger than stamineate flowers; calyx deeply divided; calyx lobes 4, narrowly lanceolate, ca. 4.5 × 1.5 mm, both surfaces sparsely appressed pubescent; corolla white. Fruiting pedicel ca. 5 mm. Fruiting calyx tube ca. 0.6 × 1.2 cm, at first enclosing young fruit, minutely puberulent; lobes 4, erect, 1–1.2 cm, 8 mm. Berry yellow, depressed globose, 1.3–5 cm in diam., 8-locular, densely appressed pubescent, glabrescent. Fl. Feb–May, fr. Aug.

* Thickets, mixed broad-leaved forests. Fujian, Guangdong, Jiangxi.


红柿 hong shi

Diospyros hayatai Odashima; D. oldhamii Maximowicz var. chartacea Hayata; D. taitoensis Odashima.

Trees deciduous. Branchlets reddish brown, glabrous. Petiole 1–3 cm; leaf blade broadly lanceolate, 10–15 × 5–6 cm, submembranous, glabrous or very sparsely pubescent, abaxially drying with dark veinlets contrasting with paler background, adaxially brown, both ends acute to obtuse, margin sometimes inconspicuously crenulate; lateral veins 4–6(7) per side, most prominent ones extending to near leaf apex, reticulate veinlets flat, clearly defined. Stamineate flowers in 1–7-flowered cymes; peduncle to 4 mm; pedicel ca. 5 mm, glabrous; calyx less than 1/2 as long as corolla; glabrous; calyx lobes 4, triangular, longer than tube, ca. 1.5 × 1 mm; corolla glabrous, urceolate, 8–10 mm; corolla lobes 4, 2–3 mm wide, apex rounded. Fruiting calyx nearly round, ca. 1.4 cm in diam., outside sparsely appressed white pubescent, inside densely chestnut brown sericeous; lobes 4. Berry solitary, depressed globose to ellipsoid, 2–3.5 × 2–2.8 cm, 8-locular, solitary, sessile, glabrous, apex cupululate. Seeds brown, compressed oblong, ca. 1.1 cm, Fr. Oct.

Broad-leaved forests; ca. 1000 m. C and E Taiwan [Japan].


柿 shi

Trees to 27 m tall, deciduous. Young branchlets densely pubescent to glabrous, sometimes with reddish brown lenticels. Winter buds small, blackish. Petiole 0.8–2 cm; leaf blade lanceolate, elliptic, or ovate, occasionally obovate, 5–18 × 2.6–9 cm, papery, pubescent when young drying brown, adaxially often glabrescent when mature and paler with dark veinlets, base cuneate, subtruncate, or rarely cordate, apex
usually acuminate; lateral veins 5–7 per side, reticulate veinlets clearly defined, flat, dark. Staminate flowers in 3–5-flowered cymes; calyx ± as long as corolla, hairy on both sides; lobes 4; corolla white, yellowish white, or red, 6–10 mm; stamens (14–)16–24. Pistillate flowers solitary; calyx 3 cm or more in diam., lobes 4; corolla usually yellowish white, campanulate, (0.9–)1–1.6 cm; corolla lobes recurved, ovate; staminodes 8(–16); ovary glabrous or pubescent. Fruiting calyx 3–4 cm in diam. Berry yellow to orange, flattened globose to ovoid but usually globose, 2.8–8.5 cm in diam., 8-locular, glabrescent. Seeds dark brown, 1.3–1.6 cm × 7.5–9 × 4–5 mm. Fl. May-Jun, fr. Sep-Oct.

*Anhui, Fujian, Gansu, Guangdong, Guangxi, Guizhou, Hainan, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Shandong, Shanxi, Sichuan, Taiwan, Yunnan, Zhejiang [widely cultivated outside of China, particularly Japan, naturalized in some areas].

1a. Young branchlets glabrous, with prominent pale lenticels; staminate flowers 9–10 mm; calyx lobes linear-lanceolate (pistillate plants not seen); corolla red 24c. var. macrantha

1b. Young branchlets densely brown pubescent to glabrous, obscurely lenticellate; staminate flowers 6–9 mm; calyx lobes ± ovate; corolla white, yellow-white, pink, or red.

2a. Leaf blade adaxially glabrous or glabrescent; berry 3.5–8.5 cm in diam., ± glabrous at maturity 24a. var. kaki

2b. Leaf blade densely brown pubescent to glabrous; berry 2–5 cm in diam., densely brown pubescent to glabrescent 24b. var. silvestris

24a. Diospyros kaki var. kaki

柿（原变种） shi (yuan bian zhong)

*Diospyros kaki* var. *domestica* Makino; *D. lobata* Loureiro; *D. schizte* Bunge; *D. sinensis* Blume ex Naudin.

Young branchlets densely brown pubescent to glabrous, obscurely lenticellate. Petiole glabrous or glabrescent; leaf blade adaxially glabrous or glabrescent, abaxially ± pubescent. Staminate corolla 6–9 mm. Pistillate calyx lobes ovate. Fruiting calyx outside densely pubescent to glabrescent. Berry 2.5–5 cm in diam., densely brown pubescent to glabrescent 24b. var. silvestris

unripe fruit is employed in hypertension and as a preservative of construction materials.


**柿 ye shi**

*Diospyros argyi* H. Léveillé; *D. trichocarpa* Miao.

Young branchlets densely brown pubescent, obscurely lenticellate. Petiole and leaf blade densely pubescent. Staminate corolla 6–9 mm. Pistillate calyx lobes ovate. Fruiting calyx outside densely pubescent to glabrescent. Berry 2–5 cm in diam., densely brown pubescent to glabrescent.

* Forests or thickets, on slopes; to 1600 m. Fujian, Hubei, Jiangsu, Jiangxi, Sichuan, Yunnan.

*Diospyros kaki* var. *silvestris* includes wild Chinese plants with smaller fruit and a denser indumentum. However, the variation within the species as a whole is considerable and a careful study of the relationships between the wild plants and the many cultivars could lead to a reassessment of the formal taxonomy of this complex.


**大花柿 da hua shi**

Branchlets glabrous, with prominent pale lenticels. Leaves adaxially glabrous, abaxially very sparsely hairy. Staminate calyx lobes linear-lanceolate, to ca. 10 × 2.7 mm at anthesis, glabrous; corolla 9–10 mm; corolla lobes ca. 2 × 2.3 mm, outside glabrous; anther connective densely sericeous; ovary densely pubescent. Pistillate plant not seen.

* Hunan.

The staminate calyx, prominently lenticellate stems, and atypical anther indumentum suggest that var. *macrantha* might be better treated as a distinct species.


**油柿 you shi**

Trees to 14 m tall, deciduous, many parts gray to grayish yellow to grayish brown pubescent. Bark dark gray to grayish brown, peeling in large thin flakes to reveal ± white bark below. Branches sparsely villose to glabrescent. Petiole 6–10 mm; leaf blade oblong to oblong-lanceolate, rarely obovate, 6.5–17 × 3.5–10 cm, papery, base rounded to subrounded and slightly oblique; lateral veins 7–9 per side. Flowers sometimes polygamous. Staminate flowers in 3–5(or more)-flowered cymes, ca. 8 mm; calyx lobes 4; corolla lobes 4, ciliate. Pistillate calyx divided to middle; corolla ca. 1.5 cm, pubescent, with 4 sparsely villous ribs; staminodes 12–14, villose; ovary densely villose. Berry dark yellow, ovoid to depressed globose, 4.5–7 × 5(–8) cm, 8(–10)-locular, with soft hairs. Fl. Apr–May, fr. Aug–Oct.

* Anhui, Fujian, Guangdong, Guangxi, Hunan, Jiangxi, Zhejiang.

A commonly cultivated fruit tree. The fruit are edible. The persistent calyx is used to treat hiccups.

六花柿 liu hua shi

Trees to 20 m tall. Trunk to 40 cm d.b.h. Branches slender, puberulent; young shoots tawny puberulent. Petiole ca. 1 cm, densely puberulent; leaf blade oblong-lanceolate, 8–18 × 2.7–5.5 cm, leathery, glabrous except for abaxially sparsely puberulent midrib, base broadly cuneate, apex acute to obtuse; lateral veins 5–8 per side, reticulate veins prominent on both surfaces. Flowers not seen. Fruiting pedicel 0.8–1.5 cm, brown puberulent, apical part slightly thickened. Fruiting calyx ca. 2.4 cm in diam., leathery; lobes 5 or 6, leaflike, incurved, apex acute and apiculate. Berry greenish brown, solitary, subglobose, ca. 2.5 cm in diam., densely rusty strigose-velutinous. Seeds 4, slightly 3-angled, ca. 1.5 × 1 cm. Fr. Dec.

* Moist places under forests; ca. 300 m. Yunnan (Hekou Yaozu Zizhixian).


黑皮柿 hei pi shi

Trees 10–20 m tall. Trunk to 40 cm d.b.h. Bark black. Branches brown, glabrous; branchlets ridged. Winter buds oblong-ovate, rusty puberulent. Petiole 5–10 mm, apically narrowly winged; leaf blade lanceolate to oblong-lanceolate, (7–)10–14 × 3–5 cm, thin leathery, base cuneate, apex acuminate; lateral veins 7–10 per side, very slender, ± raised on both surfaces, reticulate veins slightly raised, almost invisible. Staminate flowers in 2–8-flowered cymes; peduncle very short or absent; calyx tubular, 6–8 mm, glabrous, teeth 4; corolla white or pale yellow, tubular, 1.5–2.6 cm, tube 0.8–1.4 cm, lobes 7–12 mm; stamens 12. Fruiting flowers 1 or 2; peduncle and pedicle very short, rusty puberulent; calyx lobes 4 or 5, reflexed, outside subglaucous, inside rusty scurfy; corolla lobes 4, pyramidal in bud; staminodes 8; ovary glabrous; styles 4 or 5, undulate-ciliate. Berry black when mature, depressed globose, 2.5–3 cm in diam., glabrous, shiny. Seeds tawny-brown, ovate, compressed, ca. 1 cm. Fl. Apr–May, fr. Jul–Oct.

* Valleys or along streams, dense broad-leaved mixed forests, open woods, thickets on plains, shaded thickets at mountain summits; 500–1800 m. S Yunnan.


腾冲柿 teng chong shi

Trees 6–12 m tall. Branchlets blackish brown, glabrous. Petiole 1 cm; leaf blade narrowly elliptic to oblong, 10–15 × 2.5–4 cm, glabrous, base cuneate, margin very narrowly revolute, apex acuminate; lateral veins 12–15 per side, reticulate veiulents inconspicuous. Staminate flowers in congested 1–3-flowered cymes, fragrant; pedicle very short, pubescent; calyx cupular, 5–7 mm, very sparsely pubescent to subglabrous; calyx lobes 5–7, reduced to minute glandlike teeth; corolla ca. 1.5 cm, tubular-campanulate; corolla tube 6–8 mm, glabrous; corolla lobes 5 or 6, ovate-lanceolate, 6–8 × 2.5–3.5 mm; stamens ca. 24, inserted at base of tube. Pistillate flowers not seen. Fruiting pedicel ca. 2 mm, stout, densely brown pubescent. Fruiting calyx ca. 1.6 cm in diam., glabrous; lobes 4 or 5, erect, reflexed between lobes, ovate, 6–8 × 9–10 mm, undulate-plicate, apex acute and hard when dry. Immature berry globose, solitary, ca. 1.5 cm in diam., 5-locular, glabrous. Style short, persistent at apex. Fl. May–Jul, fr. Jul–Aug.

* Shaded ravines and thickets, mountains or by streams; 1800–2700 m. SW Yunnan.


长苞柿 chang bao shi

Trees 9–13 m tall. Trunk to 30 cm d.b.h. Branches darkish brown; young branches glabrous. Winter buds sparingly appressed pubescent. Petiole 1–1.2 cm; leaf blade elliptic, obovate, or oblong, 7–16 × 2–4 cm, leathery, glabrous, base cuneate, margin narrowly revolute, apex acuminate to obtusely acuminate; lateral veins 5–8 per side, reticulate veins dense, raised on both surfaces. Staminate flowers in 3–5-flowered pedunculate cymes, 0.8–1.2 cm; calyx campanulate, ca. 4 mm, densely appressed pubescent; lobes 4, erect, flat at anthesis, triangular, shorter than tube; corolla urceolate; corolla tube ca. 8 mm, outside densely sericeous; corolla lobes 4, ovate, ca. 3 mm, inside glabrous. Pistillate flowers solitary; calyx lobes 4 or 5, soon crownlike after anthesis, both surfaces minutely pubescent. Fruiting pedicel 2–4 mm. Fruiting calyx strongly undulate plicate, appressed puberulent to striose; lobes 4, erect, triangular, 6–10 × 7–8 mm, base reflexed auriculate, margin subrevolute, apex acuminate. Berry subglobose, somewhat depressed, 2–3 cm in diam., densely dark red stribose, glabrescent. Fl. May–Jul, fr. Oct.

Evergreen broad-leaved forests, slopes, valleys; below 800 m. Hainan [Laos, Vietnam].

The wood of Diospyros longibracteata, which is generally called blackwood, is suitable for furniture and becomes dark after soaking in water. It is used for chopsticks and musical instruments.

Diospyros longibracteata, D. susarticulata, D. maculuri, and D. metcalfii form a rather distinct group. The vegetative differences between them seem very minor, but the flowers are not known for the last two. Their fruit show considerable variation in size and shape, but much of the herbarium material examined is not mature. It is very difficult to assess the significance of this variation.


过布柿 guo bu shi

Trees to 12 m tall. Trunk to 35 cm d.b.h., bark black to brownish black. Branches grayish black; young shoots yellowish green. Winter buds slender, 3–6 mm, densely appressed pale yellowish pubescent. Petiole often blackish, 6–10 mm, ± articulate near base; leaf blade oblong, 7.5–17 × 3.5–7 cm, thin leathery, glabrous, drying green, base cuneate, apex acuminate; lateral veins 8–11 per side, reticulate veinslets slender, raised on
both surfaces. Stamine flowers solitary, cymose, or short paniculate, appressed pubescent, rarely only 1 flower fertile; pedicel slender, 2–3 mm; calyx bowl-shaped, outside glabrous, inside densely yellow strigose; calyx lobes 4, ca. 2 × 2 mm, apex rounded; corolla white, urceolate, 7–8 mm, glabrous; corolla lobes 4, reflexed, ca. 2 mm; stamens 16. Pistillate flowers not seen. Fruiting pedicel 3–4(–8) mm. Fruiting calyx ± woody, reflexed between lobes, ± square, ca. 2 cm wide, outside sparsely pubescent, inside densely strigose; lobes 4, spreading, subtriangular. Berry orange-yellow, solitary depressed globose, 1.4–2 cm in diam., 76-locular, glabrous but appressed brown hirtellous around mucro, apex apiculate. Seeds dark brown, solitary, depressed globose, 1.4–2.5 cm in diam., margin entire and undulate, outside densely yellow strigose, ± woody, reflexed between lobes, ± square, ca. 6 × 7 mm. Fruiting pedicel 5–8 mm, thick, sparsely pubescent. Fruiting calyx almost flat, 2.5–3.5 cm in diam., margin entire and undulate, outside densely pale brown tomentose; lobes 4, apex rounded; corolla white, urceolate, 7–8 mm, glabrous; corolla lobes 4, spreading, subtriangular. Staminate flowers solitary, cymose, or short racemes. Fruiting pedicel 8–10 mm, densely puberulent. Fruiting calyx ca. 2.5 cm in diam., reflexed, rusty tomentose, glabrescent; lobes 4, apex subrounded. Berry orange-red, cylindric to subglobose, 4–5 cm, densely rusty tomentose, glabrescent. Seeds few, blackish brown, oblong, 1.5–2 cm. Fl. Apr–Aug, fr. Aug–Oct.

* Slopes or in dense evergreen mixed broad-leaved forests in valleys; below 800 m. Hainan. * Mixed forests by stream; low altitudes. Guangxi, Hainan.


五蒂柿 wu di shi

Trees to 8 m tall. Branchlets of current year slender, yellowish green, becoming blackish brown. Winter buds conical, ca. 2 mm. Petiole 5–8 mm; leaf blade oblong, 15–20 × 5–8 cm, thin leathery, base broadly cuneate and sometimes with 2–4 small sunken glands, apex acute to short acuminate; lateral veins 8–10 per side, slightly raised on both surfaces, reticulate veinlets slightly raised, almost invisible. Flowers not seen. Fruiting calyx ca. 2 cm in diam., leathery when dry; lobes (4 or)5, broadly triangular-ovate, apex obtuse. Berry red, solitary, depressed globose, ca. 2 cm in diam., 8-locular, subsessile, apex cuspidate. Seeds blackish brown, elliptic-oblong, 1–1.2 cm. Fl. Oct.

* Evergreen broad-leaved mixed forests in ravines. Hainan (Yai Xian).


山榄叶柿 shan lan ye shi

Trees 4–6(–15) m tall. Bark blackish brown. Branches blackish when dry; branchlets brown, glabrous except when young. Winter buds caudate, 7–10 mm, densely appressed brownish yellow pubescent. Petiole 5–10 mm; leaf blade oblong-lanceolate, 6.5–20 × 2–6 cm, leathery, glabrous, drying abaxially pale to glaucous green, adaxially darker, base cuneate, margin narrowly revolute, apex bluntly acuminate; lateral veins 10–14 per side, reticulate veinlets inconspicuous, abaxially slightly raised. Staminate flowers solitary or 2 to several in clusters, sessile; calyx campanulate, 4-ridged, both surfaces brown tomentose, lobes 4; corolla ca. 8 mm, 4-ridged, outside densely brown tomentose, inside glabrous; corolla lobes 4, convolute; stamens 16. Pistillate flowers not seen. Fruiting calyx ca. 2 cm in diam., outside densely short appressed hirsute, inside densely brown tomentose; lobes 4, spreading, triangular-ovate, apex subacute; lateral veins 6–10 per side, reticulate veinlets dense, raised on both surfaces. Flowers not seen. Fruiting pedicel 5–8 mm, thick, sparsely pubescent. Fruiting calyx almost flat, 2.5–3.5 cm in diam., margin entire and undulate, outside densely densely pubescent; lobes inconspicuous. Berry green, solitary, globose to depressed globose, 3.5–4 × 5–6 cm, 10-locular, apically appressed pubescent. Seeds brown, bean-shaped, (1.5–)2–2.5 × (0.8–)1–1.5 × (0.5–)1–1.2 cm. Fl. Aug.

* Mixed forests by stream; low altitudes. Guangxi, Hainan.
Trees 4–5 m tall. Young branchlets glabrous or appressed rusty pubescent, apically glabrescent. Petiole 5–10 mm, margins hairy; leaf blade lanceolate to oblong-elliptic, 4.5–15 × 2–5 cm, thin leathery, glabrous, base broadly cuneate to subrounded, apex bluntly acuminate; lateral veins 6–10 per side, reticulate veinslets dense, conspicuously pale, raised on both surfaces. Cymes lax, 3-flowered. Staminate flowers: calyx glabrous, lobes 4; corolla urceolate, ca. 6 mm, both surfaces densely yellowish brown puberulent; corolla lobes reflexed; stamens 16; filaments puberulent. Pistillate flowers: calyx lobes 4; corolla broadly urceolate, slightly shorter than calyx, tube ca. 5 mm; corolla lobes reflexed, oblong-ovate, ca. 3.5 × 1.7 mm, both surfaces hairy; staminodes 16, in 2 whorls, well developed, glabrous; ovary densely dirty yellow tomentose; style glabrous. Fruit in lax cymes, peduncle ca. 8 mm. Berry brown, ca. 2.5 cm in diam., base densely appressed yellowish tomentose. Fruiting pedicel ca. 1.2 cm. Persistent pedicels in fruiting calyx deeply pubescent; leaf blade elliptic to oblong, 9–13.5 × 3.5–4.5 cm, leathery, base rounded, apex acuminate; lateral veins 7–9 per side, raised on both surfaces, reticulate veinslets dense, conspicuously raised on both surfaces. Staminate flowers: calyx brown stigrose, lobes 4; corolla urceolate-tubular, ca. 6 mm, outside densely yellowish brown puberulent; stamens 16. Fruiting peduncle 5–8(–12) mm, with subapical bract scars; pedicel 3–4 mm, sometimes recurved, bracteate near base; bracts linear, 3–4.5 mm. Berry solitary. Fl. Mar–Apr, fr. Nov.

* Ca. 1600 m. SE Yunnan.


信宜柿 xin yi shi

Shrubs or small trees, 4–6 m tall. Branches grayish black, with irregular longitudinal crevices; young branchlets densely dull yellow tomentose, glabrescent. Petiole 6–8 mm; leaf blade oblong-ob lanceolate, 10–19 × 3.5–7 cm, stiff papery, abaxially tawny pilose and more densely hairy along midrib, adaxially glabrescent except for puberulent main veins and drying gray green, base rounded to shallowly cordate or rarely broadly cuneate, margin slightly revolute, apex acuminate; lateral veins 7–9(10) per side, reticulate veinslets dense, raised on both surfaces. Flowers not seen. Fruiting pedicel (1.2–)2 cm, dull yellow tomentose. Fruiting calyx outside somewhat pubescent, inside glabrous; lobes 4, spreading, ovate to ovate-lanceolate, 1.5(–)2 × (0.8–)1(–1.5) cm, with numerous parallel veins. Berry solitary, globose, 3–3.5 cm in diam., 7-locular, dull yellow pubescent to densely yellowish brown stigrose, glabrescent. Seeds 7, oblong, 1.3–1.6 cm × 6–8 × ca. 4.5 mm. Fr. Aug.

* Mixed forests; low altitudes. Guangdong (Xinyi Xian), Guangxi (Jingxi Xian).


川柿 chuan shi

Trees 7–8 m tall. Bark gray, rugose. Branches glabrous or sparsely puberulent; branchlets puberulent. Petiole 6–10 mm, densely pubescent; leaf blade elliptic to oblong-elliptic, 8–12 × 2.8–4.7 cm, papery, adaxially deep green and shiny, base rounded to subrounded, apex acute to rarely acuminate, midrib hairy on both surfaces; lateral veins 6–8 per side, abaxially raised, adaxially impressed. Flowers not seen. Fruiting pedicel 1.2–2 cm, densely pubescent. Fruiting calyx pubescent on both surfaces; lobes 4, ovate, 1.2–1.8 × 1–1.4 cm, veined. Berry yellowish green, solitary, subglobose, 3–4 cm in diam., densely pubescent. Seeds 3–7, chestnut brown, glossy, subreniform, 1.6–1.8 × 1.1–1.2 cm. Fr. Oct.

* Forests; ca. 1300 m. Sichuan (E of Sichuan Basin).

苗山柿 miao shan shi

Shrubs or small trees. Bark dark brown to yellowish brown. Older branches glabrescent; young branchlets yellow tomentose. Petiole ca. 1.2 cm; leaf blade lanceolate to oblong-lanceolate, 7–17 × 3–5.5 cm, abaxially glabrous except for midrib and lateral veins, adaxially shiny and glabrous except for midrib when young, base broadly cuneate to subrounded, apex acute to obtuse; lateral veins 5 or 6 pairs, reticulate veinlets closely spaced, conspicuous on both surfaces. Flowers not seen. Fruiting pedicel 3–4 cm, slender, grayish yellow tomentose when young, glabrescent. Fruiting calyx puberulent; lobes 4, ovate, 1.6–1.8 cm × 8–10 mm, with several parallel veins. Berry on basal part of young branchlets, orange-yellow, globose, 2.8–3.5 cm in diam., densely appressed pubescent, glabrescent. Seeds ca. 1.5 × 1 cm. Fr. Oct.

* Forests on slopes, open forests in valleys; ca. 900 m. N Guangxi, W Hunan.


岭南柿 ling nan shi

*Diospyros taamii* Merrill.

Trees to ca. 6 m tall. Bark rough. Branches gray and black; young branchlets yellow-brown, glabrous except for some hairs at base. Winter bud scales outside densely appressed pubescent. Petiole 5–10 mm, minutely pubescent when young; leaf blade elliptic, elliptic-lanceolate, or oblong-lanceolate, 8–12 × 2.4–4.5 cm, thin leathery, glabrous, drying gray-green when young, darker when older, base obtuse to subrounded, margin slightly revolute, apex acute; lateral veins 5 or 6 per side, reticulate veinlets dense, conspicuously raised on both surfaces. Staminate flowers: calyx lobes 4; corolla urceolate, ca. 2 cm; corolla tube 1 cm; corolla lobes 4, spreading, ovate-lanceolate, ca. 1.5 × 1.1 cm, papery, reticulate veined. Berry globose, ca. 2.5 cm in diam., deeply striate, glabrescent. Fl. Apr–May. fr. Aug–Oct.

* Dense forests in valleys; ca. 500 m. NE Guizhou (Fanjing Shan).

The relationship between *Diospyros fanjingshanica*, *D. zhenfengensis*, and *D. longshengensis* needs further study, and the three are distinguished by fairly minor quantitative characters.


梵净山柿 fan jing shan shi

Shrubs or small trees. Young branchlets glabrous or slightly appressed hairy at base, sometimes obscurely spine tipped. Petiole ca. 8 mm; leaf blade oblong to elliptic-oblong, 7–12.5 × 2–4 cm, thin leathery, glabrous except for adaxially puberulent midrib of young leaves, base broadly cuneate, apex acuminate to short caudate; lateral veins ca. 9 per side, reticulate veinlets conspicuous on both surfaces. Flowers not seen. Fruiting pedicel ca. 2 cm, puberulent. Fruiting calyx puberulent on both surfaces; lobes 4, ca. 2 × 1 cm. Berry on basal part of young branchlets, solitary, globose, ca. 3 cm in diam., appressed hispidulous, glabrescent. Seeds 4. Fr. Dec.

* Thickets, forests in valleys. SW Guangxi, Hainan [Vietnam].


贞丰柿 zhen feng shi

Shrubs to 13 m tall. Bark dark grayish, with irregular longitudinal fissures. Young branchlets puberulent to appressed hirsute near base. Winter buds yellowbrown hirsute. Petiole ca. 1 cm, adaxially puberulent; leaf blade elliptic, 11–18 × 3.2–5.6 cm, adaxially sometimes scattered long strigose, base rounded, apex acuminate; lateral veins 10–12 per side. Flowers not seen. Fruiting pedicel 1.6–2.5 cm, dirty yellow pubescent. Fruiting calyx ± appressed pubescent; lobes 4, broadly ovate, ca. 2 × 1.2–1.5 cm. Berry on basal parts of young branchlets, depressed globose, ca. 2.6 cm in diam., striate, glabrescent. Fr. Oct.

* Thickets, Guizhou (Zhenfeng Xian).


龙胜柿 long sheng shi

Shrubs to 3 m tall. Bark dark grayish. Branches glabrous, rarely slightly puberulent. Petiole 6–8 mm; leaf blade narrowly elliptic, 8–14 × 2.5–4.4 cm, thin leathery, abaxially usually glabrous except for scattered long appressed hairs along midrib, base broadly cuneate to subrounded, margin sometimes with sparse long appressed hairs when young, apex caudate.

41. Diospyros potingensis Merrill & Chun, Sunyatsenia 5: 164. 1940.

保亭柿 bao ting shi

Trees 5–7 m tall. Branches dark brown; young branchlets glabrous to sparsely hirsute. Winter buds conical, scaly, abaxially appressed pubescent, margins ciliate. Petiole 5–8 mm, glabrous or sparsely hirsute; leaf blade lanceolate to lanceolate-elliptic, 7–14 × 2.5–5 cm, papery, glabrous or midrib abaxially with a few long appressed hairs, drying slightly brownish abaxially, adaxially grayish, base usually rounded, apex acuminate; lateral veins 7–11 per side, indistinctly looped, reticulate veinlets dense, slender, pale, sharply raised on both surfaces. Flowers not seen. Fruiting pedicel 1.5–2.5 cm, sparsely hairy. Fruiting calyx deeply divided, very sparsely hairy; lobes 4, spreading, ovate-lanceolate, 1.5–2 × ca. 1.2 cm, papery, reticulate veined, often lost on ripe fruit. Berry yellow, solitary, ovoid to depressed globose, 2–3 cm, 8-loccular, densely hispidulous, glabrescent. Seeds suboblong, ca. 1.5 × 6 mm. Fr. Jul–Aug.

Thickets, forests in valleys. SW Guangxi, Hainan [Vietnam].
Flowers not seen. Fruiting pedicel 3.3–4.7 cm, slender, apically densely minutely pubescent. Fruiting calyx ca. 5.3 cm in diam., outside with appressed hairs; lobes 4, ovate-lanceolate, ca. 2.5 cm, unequal. Berry yellowish green to yellow, solitary, globose, ca. 3 cm in diam., densely yellowish brown strigose. Fr. Jul–Aug.

* Scarce in dense forests in valleys. Guangxi (Longsheng Xian).


点叶柿 dian ye shi

Trees to 10 m tall. Older branches strigose; young branchlets brown, angular, densely rusty pubescent. Petiole 3–6 mm; leaf blade elliptic to ovate, 2.5–8(–13) × 1.5–3.5 cm, leathery, glabrous, abaxially with minute globose glands each sunken in a pit, base cuneate to subrounded, margin revolute, apex short acuminate; lateral veins 10–20 per side, reticulate veinlets abaxially raised, enclosing groups of glands. Flowers not seen. Fruiting pedicel ca. 5 mm, robust, densely rusty tomentose. Fruiting calyx disc-shaped, both surfaces densely minutely yellowish to rusty tomentose; lobes 4, ± triangular-ovate, thick, ca. 7 × 7 mm. Berry globose, ca. 2 cm in diam., densely rusty tomentose, glabrescent. Fr. May.

* Ca. 1100 m. Yunnan (Yuan Jiang valley).


乌材 wu cai

Trees or shrubs 2.5–15 m tall, evergreen, many parts rusty strigose. Trunk to 30 cm d.b.h. Branches glabrescent. Winter buds ovoid, scales brown strigose with a glabrous margin. Petiole 5–6 mm, densely brown strigose; leaf blade oblong-lanceolate, 5–15 × 1.8–4 cm, papery, glabrous except for brown strigose hairs on midrib and abaxially on larger veins, drying abaxially brown and adaxially on larger blackish or grayish, base rounded to cuneate, apex acuminate; lateral veins 4–7(or 8) per side, reticulate veinlets mostly transverse, abaxially inconspicuously raised to ± invisible. Stamine flowers in 1–3-flowered cymes, subsessile; calyx base concealed by overlapping ovate bracts, lobes 4; corolla white, narrowly urceolate, 1–1.2 cm overall, outside densely strigose, inside glabrous; corolla lobes 4, lanceolate, 4–5 × ca. 2.5 mm, apex long acuminate to caudate; stamens 14–16. Pistillate flowers solitary; calyx ca. 5 mm; calyx lobes 4, both surfaces strigose; corolla creamy white, salverform; corolla lobes 4, outside strigose, inside glabrous; staminodes 4–8; ovary densely strigose; styles strigose at base, Fruiting calyx 0.8–1.2 cm, sparsely strigose; lobes 4, erect to spreading, lanceolate to ovate, 6–8 × 4.5–7 mm, apex subacute. Berry purple, ovoid, 1.2–1.8 cm × 5–8 mm, 4-loccular, strigose, slightly glabrescent. Seeds 4. Fl. Jul–Aug, fr. Oct–Feb.

Open to dense forests, slopes or in valleys; below 500 m. Guangdong, Guangxi, Hainan, Taiwan [Indonesia, Japan, Laos, Malaysia, Vietnam].

A gum derived from unripe fruit, called persimmon lacquer, is used to waterproof material such as oilcloths, fishing nets, etc. The wood is hard, heavy, durable, and maintains a permanent shape. It is used for construction, turnery, agricultural implements, and furniture.


毛柿 mao shi

Diospyros cardiophylla Merrill.

Shrubs or small trees, to 8 m tall, many parts conspicuously rusty strigose to pilose. Bark dark brown. Petiole 2–4 mm; leaf blade oblong, 5–14 × 2–6 cm, papery to thick papery, abaxially reddish brown pilose on all veins and on margin, adaxially glabrous and usually drying gray brown but sometimes blackened, base truncate to cordate, apex acute to acuminate; lateral veins 7–10 per side, abaxially impressed, reticulate veinlets transverse, abaxially raised. Flowers solitary. Calyx lobes 4. Corolla salverform, 7–10 mm, inside glabrous; lobes 4. Stamine flowers with 12 stamens. Pistillate flowers with filiform staminodes; ovary strigose; styles 2. Fruiting calyx lobes 4, lanceolate, 7–10 × 3–4 mm, apex acute. Berry brown when dry, globose to ovoid, 1–1.5 cm, sessile, 4-locural, brown pilose. Seeds 1–4, dark brown, ± 3-sided, ca. 8 × 3.7 × 3.2 mm, tip extended into a beak. Fl. Jun–Aug, fr. winter.

* Dense to open forests. Hainan (Leizhou peninsula).


湘桂柿 xiang gui shi

Shrubs or small trees, 3–8 m tall, evergreen. Bark gray to dark gray. Branches glabrous; young branchlets yellowish brown tomentose. Winter buds elliptic, densely and somewhat appressed yellowish brown pubescent. Petiole ca. 5 mm; leaf blade elliptic, 5–10 × 1.7–4 cm, thick papery, densely appressed yellowish brown pubescent when young, adaxially glabrescent and drying slightly grayish; lateral veins 4–6 per side. Stamine flowers in short 3–5-flowered cymes; calyx lobes 4; corolla campanulate, lobes 4; stamens 14–16. Pistillate flowers solitary; corolla subcampanulate, lobes 4; staminodes ca. 10; ovary appressed yellowish brown pubescent. Style base connate. Berry subglobose, ca. 1.8 cm in diam., with densely appressed hairs, glabrescent. Seeds 4. Fl. Apr, fr. Nov.

* Open forests, limestone hills, by streams. Guangxi (Guilin Shi, Lingchuan Xian), Hunan (Yichang Xian).


傣柿 dai shi

Trees to 12(–20) m tall, evergreen, many parts rusty strigose. Branchlets brown, glabrescent. Winter buds ovoid, apex acute. Petiole 5–8 mm; leaf blade obovate, 4–10.5 × 2–4 cm, thick papery, glabrescent except for abaxially densely strigose midrib and margin, drying abaxially pale gray and adaxially dark gray, base broadly cuneate to cuneate, margin narrowly but distinctly revolute, apex acuminate; lateral veins
ca. 8 pairs, reticulate veinlets lax, indistinct. Staminate flowers in 3–7(or more)-flowered cymes, to 1.5 cm; pedicel ca. 2 mm, densely reddish brown pubescent to tomentose; calyx deeply divided, densely gray to pale yellow appressed pubescent; calyx lobes 4, ovate, 2.5–3 × ca. 1.8 mm, apex subacute; corolla white, acute in bud, urceolate; tube 6–7 mm, outside densely pubescent; corolla lobes 4, ca. 1.5 mm. Pistillate flowers not seen. Fruiting pedicel ca. 4 mm, slightly reflexed. Fruiting calyx outside more densely pubescent; lobes 4, lanceolate, 8–10 × ca. 5 mm, apex acute. Berry solitary, globose, 8–20 mm, glabrescent. Fr. Nov.

Trees to 20 m, evergreen. Bark dark brown. Branchlets green when young, sericeous, becoming gray and glabrous. Winter buds sericeous. Petiole 0.5–1.7 cm, robust, densely pubescent; leaf blade oblong to oblong-elliptic, (7.5–)20–30 × (3.5–)7–11 cm, leathery, abaxially sericeous to appressed pubescent when young, becoming glaucous, glabrous, with small sharply delimited sunken glands scattered between lateral veins and 3–12 mm from midrib, adaxially glabrous, drying abaxially grayish and adaxially brown, base rounded to shallowly cordate, apex acuminate, acute, or rarely obtuse; lateral veins 10–14 or more per side, inconspicuous, reticulate veins almost invisible. Staminate flowers in sericeous (1–) 3–7-flowered cymes or racemes, fragrant; pedicel 1–7 mm, densely villous; calyx densely villous; calyx lobes 4, oblong; corolla white, urceolate, outside slightly hairy; corolla lobes 4, reflexed; stamens 24. Pistillate flowers solitary, similar to staminate flowers, subsessile; staminodes apparently absent; style apparently 3-cleft. Fruiting calyx 1.4–2.8 cm in diam., outside densely sericeous; lobes 4, recurved, oblong, 1–1.5 cm, villous. Berry red to pink, solitary, globose, ca. 8 cm, 8–10-locular, densely rusty, yellowish, or gray villose. Seeds dark brown with thin pale skin, 3-sided, ca. 2.7 × 1.4 × 1.4 cm. Fl. Mar–May, fr. Nov.

Trees on limestone hills. Yunnan (Xishuangbanna Daizu Zizhizhou) [Cambodia, Indonesia (Java), Laos, Malaysia, Thailand, Vietnam].


**版纳柿**  
*Diospyros atrorhicha* H. W. Li; *D. horsefieldii* Hiern.

Shrubs or small trees, 2–4 m tall. Older branches grayish brown, asperous. Winter buds dark, glabrous. Petiole 0.8–1.2 cm; leaf blade ovate, 16–17 × 5.5–7 cm, leathery, glabrous, base cuneate, apiculate acuminate; lateral veins ca. 10 per side, adaxially raised. Flowers not seen. Infructescences flat based cuneate, apex short acuminate; lateral veins ca. 10 per side, adaxially pubescent on veins, abaxially sparsely pubescent, glabrescent. Winter buds short caudate, brownish to grayish brown; young branchlets pale rusty to yellowish brown tomentose, glabrescent. Winter buds short caudate, brownish yellow tomentose. Petiole 5–9 mm; leaf blade oblong to oblong-lanceolate, 7–8 × 2–3.3 cm, thin leathery, abaxially glabrous except for brownish tomentose midrib and pubescent veins, adaxially sparingly pubescent, base obtuse, margin tomentose, apex acute; lateral veins 4–7 per side, reticulate veins slender, ± prominent on both surfaces. Flowers not seen. Fruiting pedicel ca. 4 mm, yellowish brown tomentose. Fruiting calyx divided to near base, outside yellow tomentose, inside glabrous; lobes 4, overlapping, broadly ovate, ca. 6 × 7 mm. Berry greenish yellow, sub-globose, ca. 3 cm in diam., 4-locular, glabrescent, apex acuminate.

The original publication of this species (Acta Bot. Yunnan. 12: 375. 1990) was invalid because it indicated more than one type (for both flowering and fruiting states).


**异色柿**  
*Cavanillea philippensis* Desrousseaux in Lamarck, Encycl. 3: 663. 1792; *Diospyros discolor* Willdenow; *R. utilis* Hemsley.

*Shrubs or small trees, to 4–7 m tall. Older branches dark to gray brown; young branchlets pale rusty to yellowish brown tomentose, glabrescent. Winter buds short caudate, brownish yellow tomentose. Petiole 5–9 mm; leaf blade oblong to oblong-lanceolate, 7–8 × 2–3.3 cm, thin leathery, abaxially glabrous except for brownish tomentose midrib and pubescent veins, adaxially sparingly pubescent, base obtuse, margin tomentose, apex acute; lateral veins 4–7 per side, reticulate veins slender, ± prominent on both surfaces. Flowers not seen. Fruiting pedicel ca. 4 mm, yellowish brown tomentose. Fruiting calyx divided to near base, outside yellow tomentose, inside glabrous; lobes 4, overlapping, broadly ovate, ca. 6 × 7 mm. Berry greenish yellow, sub-globose, ca. 3 cm in diam., 4-locular, glabrescent, apex acuminate.*

Trees to 20 m tall. Trunk to 60 cm d.b.h. Branches pale gray; young shoots dark brown to almost black hispidulous. Petiole 1–1.5(–2) mm; leaf blade narrowly elliptic, elliptic, or lanceolate, 10–19 × 3.5–7.5 cm, leathery, glabrescent, adaxially ± glossy, base broadly cuneate, apex obtuse to obtusely acuminate; lateral veins 9 or 10 per side, reticulate veinlets dense, abaxially raised. Staminate flowers solitary or crowded in cymes; calyx campanulate, ca. 0.8 × 1–1.2 cm in diam., dark brown strigose; calyx lobes 4, shorter than tube, erect, flat; corolla white, campanulate, glabrous, tube as long as calyx; corolla lobes 4 or 5; stamens 40. Pistillate flowers solitary; calyx-bowl-shaped, ca. 1 × 1.5 cm, lobes 4; corolla campanulate, ca. 1.6 cm; corolla lobes 4, recurved, 5–8 × 6–7 mm. Fruiting pedicel 5–7 mm, robust. Berry black, ovoid to subglobose, 3–5 cm in diam., usually 8-locular, glabrescent when ripe. Fl. Mar–May, fr. Aug–Jan.

* Evergreen broad-leaved forests in moist places; below 800 m. Hainan.

The wood is hard, heavy, and suitable for construction, furniture, and agricultural tools.

55. Diospyros ehrartioides* Wallich ex A. de Candolle, Prodr. 8: 231. 1844.

Trees to 16 m tall; young branchlets, winter buds, petioles, inflorescences, and immature fruit brownish tomentose. Trunk to 1.5 m d.b.h. Petiole ca. 1 cm; leaf blade oblong-elliptic to elliptic, 8–20 × 6.5–9 cm, leathery, abaxially pubescent and denser on midrib, adaxially pubescent, glabrescent except for hairs along midrib, base broadly cuneate to rounded, apex acute to rounded; lateral veins (6 or) 7–10 per side, reticulate veinlets lax, slender, raised on both surfaces. Staminate flowers in 3-flowered cymes, usually on current year's branchlets; calyx outside sparsely pubescent, inside glabrous, lobes 4; corolla lobes 4; stamens 16, pubescent only at apex; pistillode densely dirty yellow strigose. Pistillate flowers solitary, globose, 1–1.5 cm in diam., subsessile, stigmate glabrescent except at apex. Seed usually 1, subglobose to ellipsoid, ca. 1 cm. Fru. Sep–Dec.

* Forests on limestone hills; 500–1000 m. Yunnan (Funing Xian).


Trees to 7 m tall. Trunk to 60 cm d.b.h. Winter buds brownish apressed pubescent. Petiole 0.6–1.5 cm; leaf blade elliptic to narrowly elliptic, 10–14 × 3.5–5 cm, papery, drying brownish abaxially and green adaxially, base broadly cuneate to subrounded, apex obtuse; lateral veins 6–8 per side, reticulate veinlets dense, raised on both surfaces. Flowers not seen. Fruiting calyx densely tomentose on both surfaces; lobes 4(–8), strongly recurved, 3.5–5 mm. Berry orange, solitary, globose, 1–1.5 cm in diam., subsessile, stigmate glabrescent except at apex. Seed usually 1, subglobose to ellipsoid, ca. 1 cm. Fl. Sep–Dec.

The wood is used for construction, agricultural tools, and furniture.

Collections from Hainan have small inflorescences and larger fruit than those from India and Thailand. Perhaps their status needs reassessment.


Trees to 8 m. Older branches with small conspicuous lenticles; branchlets densely yellow puberulent, almost tomentose. Petiole 5–12 mm; leaf blade oblong, 5–15 × 2.5–7 cm, thin leathery, drying brown but abaxially paler, base rounded, apex bluntly acute to acuminate; lateral veins 9–11 per side, adaxially impressed, reticulate veinlets raised, clearly defined. Staminate flowers in 3–7-flowered cymes at base of young branchlets; calyx outside sparsely pubescent, inside glabrous, lobes 4; corolla lobes 4; stamens 16, pubescent only at apex; pistillode densely dirty yellow stigmate. Pistillate flowers solitary, staminate flower pedicel ca. 1.8 cm (immature). Fruiting calyx 3–4.5 cm in diam.; lobes 4, unequal, larger ca. 2 × 1.3 cm, smaller ca. 1.2 × 0.8–1.2 cm. Young berry densely dirty yellow stigmate. Mature fruit not seen. Fl. Apr–May, fr. May–Jun.

* Forests on limestone hills; 500–1000 m. Yunnan (Funing Xian).

58. Diospyros maritima* Blume, Bijdr. 669. 1826.

Trees 3–12 m tall, evergreen. Young shoots yellowish brown, glabrous. Winter buds sericeous. Petiole ca. 1 cm; leaf blade oblong-elliptic to lanceolate-oblong, 7–17 × 3–8 cm, leathery, glabrous except sometimes pubescent abaxially when young, base obtuse to somewhat attenuate, with 2(–4) gland patches near petiole, apex obtusely acuminate; lateral veins ca. 7 per side, reticulate veinlets slender, inconspicuous. Inflorescences bracteate at base. Staminate flowers in 2- or 3-flowered cymes; pedicel short, thick; calyx

Diospyros kusanoi* Hayata; D. liukiuensis* Makino.
ca. 3.5 mm, densely sericeous throughout; calyx lobes 4, triangular, slightly longer than tube; corolla urceolate, ca. 1.6 cm; corolla tube ca. 9 mm, outside densely appressed hairy; corolla lobes 3 or 4, oblong, ca. 7 × 4 mm, outside with half densely sericeous, otherwise subglabrous, apex rounded; stamens 16; filaments hirsute; pistillode hirsute. Pistillate flowers solitary, sessile; calyx lobes 4, both surfaces sericeous; corolla outside sericeous, inside glabrous; staminodes present; ovary 8-locular, rusty hairy. Fruiting calyx ca. 2 cm in diam.; lobes 4, poorly defined, reflexed. Berry orange colored, depressed globose, 1.5–3 cm in diam., 8-locular, glabrous when ripe except for base of style.

Usually scattered in thickets along seashore. N and S Taiwan, Yunnan [Cambodia, Indonesia, Japan (Ryukyu Islands), Laos, Philippines, Vietnam; Australia, New Guinea, Pacific Islands].

The fruit and bark contain an anesthetic substance. The wood is used for furniture and rifle butts.


囊萼柿 nang e shi

Trees to 15 m tall; branchlets, winter buds, and petioles densely strigose. Bark black to grayish black. Branches grayish black to grayish brown, glabrescent. Petiole 0.8–1.4 cm; leaf blade elliptic, 12–22 × 4.5–10 cm, leathery, abaxially light brown, strigose on veins and sometimes with small scattered sunken glands especially toward base, adaxially lustrous, sparsely pubescent or glabrous, base broadly cuneate, margin densely ciliate when young, apex abruptly acuminate; lateral veins 5–7 per side, reticulate veinlets slender, lax, abaxially raised, adaxially indistinctly raised. Staminate flowers in 2- to several-flowered cymes or panicles, 1–2.5 cm; calyx urceolate, ca. 6 mm, outside appressed pubescent, lobes 3; corolla outside densely appressed pubescent; calyx lobes 4 or 5, inside glabrous. Pistillate flowers solitary or clustered. Fruiting pedicel ca. 1 cm, densely brown strigose. Fruiting calyx ovoid when young, almost entirely enclosing fruit, ca. 3 × 2.5 cm, densely strigose especially inside; lobes indistinct. Young berry light brown to reddish brown, ovate, 4-locular, strigose. Fl. Apr. fr. Sep–Oct.

* Dense forests. Hainan.

The inflated calyx readily distinguish Diospyros inflata from any other Chinese species.


象牙树 xiang ya shu

Ehretia ferrea Willdenow, Phytographia 1: 4. 1794; Diospyros ferrea var. buxifolia (Rottboelli) Bakhuizen; Maba buxifolia (Rottboelli) Jussieu; M. ferrea (Willdenow) Aubr 関 ille; Pisonia buxifolia Rottboll.

Trees evergreen, sometimes procumbent. Branchlets grayish, pubescent to hirsute, glabrescent. Winter buds appressed brownish pubescent to hirsute. Petiole 4–5 mm; leaf blade oblong, oblong-oblongate, or elliptic, occasionally obovate, 2–4(–8) × 1–2(–3) cm, leathery, glabrous or nearly so, base attenuate to obtuse, apex rounded to emarginate; lateral veins 5–7 per side, usually inconspicuous, reticulate veinlets almost invisible and sometime adaxially ± raised. Staminate inflorescences 1–3-flowered, densely appressed pubescent. Staminate flowers with pedicel very short to almost absent; calyx cupular, 2.5–3.5 mm, densely pubescent; calyx lobes 3, erect, flat, ca. 1/2 as long as tube, apex rounded; corolla urceolate, 6–8.5 mm; corolla tube 4–5 mm, outside densely sericeous, inside glabrous; corolla lobes 3, spreading, 2–3.5 × 1.5–2 mm, apex rounded; stamens (5–)8, often partly exerted from tube; pistillode densely hirsute. Pistillate flowers sessile or sub sessile; calyx lobes 3–5, ciliate, outside tomentose; ovary 3-locular, densely hirsute, rarely glabrescent. Fruiting calyx bowl-shaped, ca. 3 × 6 mm, pubescent or glabrous; lobes 3(–5), shorter than tube, apex rounded. Berry solitary, ellipsoid, 8–13 × ca. 8 mm, sub sessile, 3-locular, finely puberulous, glabrous when mature. Seeds 1–3, almost black, cylindric, often flat on 1 side, ca. 8 × 3.5 mm. Fr. Sep.

Evergreen broad-leaved forests along coast; near sea level to 500 m. Taiwan (Hengchun peninsula, Huoshao Dao, Lanyu) [Cambodia, India, Japan, Laos, Malaysia, Thailand; Australia].

Cultivated in Taipei. The wood is used for walking sticks and for ornamental carvings.