

9. DECASPERMUM J. R. Forster & G. Forster, Char. Gen. Pl. 37. 1775.

子楝树属 *zi lian shu shu*

Nelitris Gaertner.

Shrubs or trees. Branchlets terete or 4-angled, glabrous or pubescent. Stipules small, filiform, caducous. Leaves opposite, petiolate; leaf blade punctate, pinnately veined, with intramarginal veins. Inflorescences axillary and 1–3-flowered dichasia, racemes, or thyrses, sometimes terminal and paniculate. Flowers bisexual or sometimes staminate, 3–5-merous, often fragrant; bracteoles often small, sometimes caducous. Hypanthium globose, urceolate, or obconiform. Calyx lobes sometimes subequal, persistent. Petals pink or white, punctate. Stamens numerous, in several series; filaments filiform; anthers globular, dorsifixed, dehiscing by longitudinal slits; connectives usually terminating in an apical gland. Ovary 3–13-loculed, placentation axile; ovules 1–2[–4] per locule, col-lateral. Style filiform; stigma capitate or peltate. Fruit a berry, globular, vertically ribbed, usually 1- or 2-seeded per locule. Seeds separated by a vertical false septum; seed coat and pericarp separate; testa bony; embryo horseshoe-shaped; radicle long; cotyledons short.

About 30 species: SE Asia, Australia, Pacific islands; eight species (five endemic) in China.

Specimens of *Decaspermum* have flowers that are either perfect or staminate, but it is unclear whether plants with staminate flowers are andromonoecious or androdioecious.

The treatment and descriptions for *Decaspermum* are largely adapted from Scott (Kew Bull. 34: 59–67. 1979; 35: 403–411. 1980) except for more recently described species. The genus name "*Pyrenocarpa*" (Hung T. Chang & R. H. Miao, Acta Sci. Nat. Univ. Sunyatseni 1975: 62. 1975), which was not validly published because no type was indicated, was established on the basis of its possessing an 11–13-loculed ovary and fruit with a solitary ovule in each locule; however 9-loculed material of *D. hainanense* also has been observed. Given the variation in these characters elsewhere in *Decaspermum* (ovary 3–10-loculed, ovules 2–4 per locule), it is considered that the two Chinese species assigned to "*Pyrenocarpa*" are better included within the former genus.

- 1a. Inflorescences with flowers solitary or occasionally 2-flowered 1. *D. albociliatum*
- 1b. Inflorescences dichasia, racemes, thyrses, or panicles.
 - 2a. Flowers 3-merous; ovary 3-loculed 2. *D. gracilentum*
 - 2b. Flowers (3 or)4- or 5-merous; ovary 4–13-loculed.
 - 3a. Branchlets glabrous 6. *D. glabrum*
 - 3b. Branchlets sericeous, pubescent, or tomentose.
 - 4a. Ovary 11–13-loculed.
 - 5a. Branchlet angled; leaf blade oblong, secondary veins 20 on each side of midvein; peduncle angled 7. *D. hainanense*
 - 5b. Branchlets terete; leaf blade elliptic to obovate, secondary veins 12–15 on each side of midvein; peduncle terete 8. *D. teretis*
 - 4b. Ovary 4–6-loculed.
 - 6a. Leaf blade secondary veins 10–20 on each side of midvein, apex acute to acuminate and with an acumen to 2 cm 5. *D. parviflorum*
 - 6b. Leaf blade secondary veins 5–10 on each side of midvein, apex obtuse, acute, or shortly acuminate.
 - 7a. Flowers (3 or)4-merous; calyx glabrous 3. *D. montanum*
 - 7b. Flowers 4- or 5-merous; calyx sparsely pubescent 4. *D. austrohainanicum*

1. *Decaspermum albociliatum* Merrill & L. M. Perry, J. Arnold Arbor. 19: 202. 1938.

白毛子楝树 *bai mao zi lian shu*

Shrubs, to 4 m tall. Branchlets terete, slender, woolly with long trichomes. Petiole 1–2 mm, tomentose; leaf blade narrowly ovate to oblong-lanceolate, 2.5–6 × 1–2.5 cm, subleathery to stiffly papery, sericeous with long trichomes when young but becoming sparsely pubescent, midvein abaxially raised and adaxially impressed, secondary veins 8–10 on each side of mid-vein and inconspicuous, base obtuse, apex long acuminate with a 0.5–1.5 cm acumen. Flowers bisexual, axillary, solitary or occasionally 2, 5-merous, white villous; bracteoles linear, 5–7 mm, persistent, villous. Open flowers unknown. Fruit subglobose, 4–

5 mm in diam., 6-loculed, 6-ribbed, pubescent; persistent calyx lobes narrowly triangular, 3–5 × ca. 1 mm, pubescent. Seeds 2 per locule, ca. 2 mm. Fr. Mar–May.

• Forests; 200–400 m. Hainan (Baoting).

2. *Decaspermum gracilentum* (Hance) Merrill & L. M. Perry, J. Arnold Arbor. 19: 202. 1938.

子楝树 *zi lian shu*

Eugenia gracilenta Hance, J. Bot. 23: 7. 1885; *Decaspermum esquirolii* (H. Léveillé) Hung T. Chang & R. H. Miao; *E. esquirolii* H. Léveillé; *Syzygium gracilentum* (Hance) Hu.

Shrubs or trees, to 4 m tall. Branchlets often 4-angled or

narrowly 4-winged, sparsely sericeous. Petiole 2–5 mm, glabrous; leaf blade elliptic to ovate, rarely lanceolate or obovate, abaxially subglabrous, adaxially glossy green turning blackish when dry, secondary veins 5–9 on each side of midvein, ascending, abaxially faint, and adaxially raised, intramarginal veins 1–2 mm from margin, base cuneate to obtuse, apex acuminate with a 0.5–1 cm acumen. Inflorescences axillary or lateral below leaves, racemes or thyrses, to 6 cm; axes sparsely sericeous; bracts ovate, ca. 1 mm, caducous, each commonly with a pair of flowers or dichasia in axil. Flowers bisexual or staminate, 3-merous; bracteoles ovate, ca. 0.5 mm, caducous. Hypanthium campanulate to funnel-shaped, ca. 1 mm, sericeous. Calyx lobes 1–1.5 × 1–1.5 mm, unequal, sparsely pubescent, apex obtuse to truncate. Petals white, orbicular, ca. 3 mm, margin ciliate. Stamens ca. 4 mm. Ovary 3-loculed. Style ca. 4 mm; stigma peltate. Fruit black, globular, 3–5 mm in diam., 3–5-ribbed, sparsely pubescent. Seeds 3–5 per fruit, ca. 1.5 mm. Fl. Mar–May.

Forests; low to middle elevations. Guangdong, Guangxi, S Guizhou, Hunan, Taiwan (Hengchun Peninsula, Lan Yu) [Vietnam].

3. *Decaspermum montanum* Ridley, J. Straits Branch Roy. Asiat. Soc. 61: 6. 1912.

柬埔寨子楝树 jian pu zhai zi lian shu

Decaspermum cambodianum Gagnepain; *Eugenia ciliaris* Ridley; *E. multipunctata* Merrill.

Trees, to 10 m tall. Branchlets sparsely sericeous. Petiole 3–10 mm; leaf blade obovate to oblanceolate, 2.7–9 × 1.8–4.2 cm, stiffly papery to leathery, abaxially glabrous, adaxially glossy and turning blackish when dry, secondary veins 5–7 on each side of midvein and ascending, intramarginal veins 1–2 mm from margin, base cuneate to attenuate, margin revolute, apex acute, shortly acuminate, or sometimes obtuse. Inflorescences axillary or lateral below leaves, dichasia, racemes, or thyrses, to 4 cm, 3-flowered, branches terete and glabrous; bracts small, caducous. Flowers (3 or)4-merous, bisexual or staminate; bracteoles ovate, ca. 1 mm, caducous. Hypanthium campanulate to funnel-shaped, 1–1.5 mm, glabrous. Calyx lobes obtuse to truncate, 1–1.5 × 1–2 mm, unequal, glabrous or ciliate. Petals white, orbicular, ca. 3 mm, ciliate. Stamens white, ca. 3 mm. Ovary 4-loculed. Style ca. 3 mm; stigma capitate. Fruit dark purple, globular, 3–5 mm in diam., 5- or 6-ribbed, glabrous. Seeds 3–5 per fruit, ca. 1.5 mm. Fl. Apr–May.

Forests; middle to high elevations. Hainan [Cambodia, Malaysia, Thailand, Vietnam].

4. *Decaspermum austrohainanicum* Hung T. Chang & R. H. Miao, Acta Bot. Yunnan. 4: 24. 1982.

琼南子楝树 qiong nan zi lian shu

Shrubs. Branchlets grayish brown pubescent. Petiole 4–7 mm; leaf blade obovate, 3–5 × 1.7–2.6 cm, stiffly papery to leathery, abaxially brown when dry, adaxially reddish brown and glossy when dry, abaxially glabrous, adaxially densely impressed punctate, secondary veins 5–7 on each side of midvein, base cuneate, margin revolute, apex abruptly acute with an

obtuse acumen. Inflorescences axillary, dichasia, racemes, or thyrses but sometimes solitary; bracts oblong to lanceolate, 2–4 mm, pubescent. Flowers 5-merous, only staminate seen; bracteoles scapelike. Hypanthium sparsely pubescent. Calyx lobes 5, broadly ovate, less than 1 mm, grayish pubescent. Petals 5, ovate, ca. 2 mm, outside sparsely pubescent. Stamens as long as petals, glabrous. Ovary rudimentary. Fruit not seen.

• S Hainan (Yaxian: Yanglin Shan).

This species is known only from type gathering.

5. *Decaspermum parviflorum* (Lamarck) A. J. Scott, Kew Bull. 34: 66. 1979.

五瓣子楝树 wu ban zi lian shu

Eugenia parviflora Lamarck, Encycl. 3: 200. 1789; *Decaspermum paniculatum* (Lindley) Kurz; *Myrtus parviflora* (Lamarck) Sprengel; *Nelitris paniculata* Lindley; *N. parviflora* (Lamarck) Blume; *Pyrus bodinieri* H. Léveillé.

Shrubs or trees, to 20 m tall. Branchlets terete, grayish tomentose or sericeous. Petiole 3–7 mm, pubescent or glabrous; leaf blade elliptic, ovate, oblong, or lanceolate, 4–13 × 1.2–6 cm, glabrous or sparsely pubescent, midvein abaxially slightly raised, secondary veins inconspicuous, intramarginal veins 1–2 mm from margin, base cuneate to obtuse, apex usually acuminate with a 0.5–2 cm acumen. Inflorescences axillary or terminal, when axillary then thyrses or rarely some flowers in racemes in more basal axils, when terminal then paniculately arranged and to 9 cm; bracts ovate-lanceolate, 0.5–2 cm, usually caducous. Flowers bisexual or staminate, (4 or)5-merous; bracteoles lanceolate, 1–1.5 mm, caducous. Hypanthium sericeous, 1–1.5 mm. Calyx lobes to 1–2 × 1–2 mm, unequal, ± glabrous, margin ciliate, apex obtuse to sometimes truncate or acute. Petals white or pink, orbicular, 3–4 mm, margin ciliate. Stamens 3–4 mm; filaments pink or white. Ovary 4–6-loculed. Style 3–6 mm; stigma peltate. Fruit 3–5 mm in diam., sparsely pubescent. Seeds 3–12 per fruit. Fl. spring–summer.

Scrub, forests; below 2000 m. Guangdong, Guangxi, Guizhou, Hainan, Xizang (Cona), Yunnan [Cambodia, NE India, Indonesia, Malaysia, Myanmar, Philippines, Thailand, Vietnam; Pacific islands].

Plants treated in FRPS (53(1): 126. 1984) as *Decaspermum fruticosum* J. R. Forster & G. Forster belong here.

6. *Decaspermum glabrum* Hung T. Chang & R. H. Miao, Acta Bot. Yunnan. 4: 25. 1982.

秃子楝树 tu zi lian shu

Shrubs. Branchlets reddish brown when dry, slender, terete, glabrous. Petiole 3–5 mm, slender, glabrous; leaf blade ovate-lanceolate to lanceolate, 2.5–5 × 1–1.7 cm, stiffly papery, abaxially brown when dry, adaxially shiny black when dry, abaxially densely punctate and glabrous, secondary veins inconspicuous, base cuneate to obtuse, apex acuminate. Inflorescences axillary, dichasia, racemes, or thyrses, 4–9-flowered; peduncle slender, glabrous; bracts leaflike, 6–8 mm. Flowers 4-merous, only staminate known; bracteoles subulate, ca. 2 mm, glabrous. Hypanthium glabrous. Calyx lobes triangular ovate, ca. 1.5 mm,

glabrous, apex acute. Petals obovate, 2–2.5 mm, margin sparsely ciliate. Stamens as long as petals. Ovary rudimentary.

- Mountain slopes. SW Guangdong (Zhanjiang Diqu).

This species is known only from type gathering.

7. *Decaspermum hainanense* (Merrill) Merrill, Lingnan Sci. J. 14: 42. 1935.

海南子楝树 hai nan zi lian shu

Eugenia hainanensis Merrill, Philipp. J. Sci. 23: 255. 1923.

Trees, to 10 m tall. Branchlets 4-angled, grayish brown tomentose. Petiole 5–10 mm; leaf blade oblong, 5–9 × 2–2.5 cm, both surfaces at first pubescent, glabrescent, abaxially yellowish green when dry, adaxially dark green and shiny when dry, secondary veins ca. 20 on each side of midvein, at an angle of ca. 65° from midvein, and obscure, intramarginal veins ca. 1 mm from margin, base cuneate, apex slightly apiculate with an obtuse tip. Inflorescences in axil of apical leaves, cymose paniculate, 4–8 cm, many-flowered; bracts obovate. Flowers 1.7–2 cm in diam.; bracteoles elliptic, ca. 3 mm, pubescent. Hypanthium 2–2.5 mm. Calyx lobes 5, broadly ovate, ca. 2 mm, pubescent. Petals 5, white, ovate, 7–8 × 4–5 mm, glandular, apex pointed. Stamens pink to red, 7–8 mm; filaments with some trichomes. Ovary 9–13-loculed. Style 7–8 mm; stigma expanded. Fruit depressed globose, 7–8 mm in diam., 9–13-loculed. Fl. Feb–Jul.

- Forests, thickets on clay, humus-rich soils; 400–2500 m. Hainan.

“Pyrenocarpa hainanensis” (Hung T. Chang & R. H. Miao, Acta Sci. Nat. Univ. Sunyatseni 1975: 63. 1975) belongs here but was not validly published because the genus name *“Pyrenocarpa”* was not validly published (see comment following genus description above).

8. *Decaspermum teretis* Craven, Harvard Pap. Bot. 11: 27. 2006.

圆枝子楝树 yuan zhi zi lian shu

Trees, to 30 m tall. Branchlets terete, grayish brown tomentose. Petiole 6–10 mm, tomentose; leaf blade elliptic to obovate, 7–8 × 2.5–3.7 cm, leathery, abaxially yellowish green when dry, adaxially dark green and slightly shiny when dry, both surfaces at first pubescent but glabrescent, secondary veins 12–15 on each side of midvein, at an angle of ca. 75° from midvein, and obscure, intramarginal veins ca. 1 mm from margin, base cuneate, apex acute. Inflorescences in axil of terminal leaves, cymose, 2.5–4 cm, 3–8-flowered; bracts leaflike, oblong, 10–15 × 5–8 mm. Flowers ca. 1.5 cm in diam.; bracteoles lanceolate, ca. 3 mm, pubescent. Hypanthium obovoid, ca. 2.5 mm in diam., tomentose. Calyx lobes 5, suborbicular, ca. 2.5 mm, apex rounded. Petals 5, white, obovate, ca. 6 mm, glandular, apex rounded. Stamens red, longer than petals; filaments pubescent. Ovary 11- or 12-loculed. Style as long as stamens; stigma expanded. Fruit subglobose, ca. 1 cm in diam., 11- or 12-furrowed, pubescent, 11- or 12-loculed. Fl. Jul.

- S Hainan.

“Pyrenocarpa teretis” (Hung T. Chang & R. H. Miao, Acta Sci.

Nat. Univ. Sunyatseni 1975: 64. 1975) belongs here but was not validly published because the genus name *“Pyrenocarpa”* was not validly published (see comment following genus description above).

Flora of China 13: 332–334. 2007.