

3. POLYSPORA Sweet, News Lit. Fashion 2: 205. 1825.

大头茶属 da tou cha shu

Shrubs or trees, evergreen. Leaves alternate but often clustered apically on branchlets, petiolate; leaf blade leathery, pinnately veined, margin entire or serrate. Flowers axillary, solitary or in a short raceme. Pedicel short; bracteoles 2–7, caducous. Sepals 5, caducous after anthesis. Petals 5 (or 6), basally ± connate. Stamens numerous; outer filament whorl adnate to petals; anthers dorsifixed. Ovary placentation axile. Capsule oblong-cylindric or cylindric, 5 (or 6–8)-loculed, loculicidal; columella persistent to apex of locules. Seeds flat, apically with an oblong membranous wing; endosperm thin.

About 40 species: E and SE Asia; six species (two endemic) in China.

Molecular evidence has shown that *Polyspora* is not closely related to *Gordonia* J. Ellis, which is now considered to be strictly a New World genus (Prance & Park, Amer. J. Bot. 88: 2309–2320. 2001; Yang et al., Pl. Syst. Evol. 248: 45–55. 2004).

- 1a. Capsule 6–8-loculed 5. *P. tiantangensis*
- 1b. Capsule 5-loculed.
 - 2a. Leaf blade apex rounded, obtuse, or emarginate.
 - 3a. Petiole 10–15 mm, glabrous; leaf blade margin entire or apically remotely crenate 1. *P. axillaris*
 - 3b. Petiole 3–5 mm, appressed pubescent; leaf blade margin serrate 2. *P. chrysandra*
 - 2b. Leaf blade apex bluntly acute, acuminate, or shortly acuminate.
 - 4a. Current year branchlets, petioles, abaxial surface of leaf blades, and basal part of filaments with pubescence; capsule 4–5 cm 4. *P. longicarpa*
 - 4b. Current year branchlets, petioles, abaxial surface of leaf blades, and basal part of filaments glabrous; capsule 1–3.5 cm.
 - 5a. Young branches slender; leaf blade narrowly oblong to oblanceolate, 8–13 × 2–3 cm; flowers ca. 4 cm in diam. 3. *P. hainanensis*
 - 5b. Young branches stout; leaf blade elliptic to oblong-elliptic, (9–)10–18 × 3–6(–7) cm; flowers 5 cm or more in diam. 6. *P. speciosa*

1. *Polyspora axillaris* (Roxburgh ex Ker Gawler) Sweet, News Lit. Fashion 2: 205. 1825.

大头茶 da tou cha

Camellia axillaris Roxburgh ex Ker Gawler, Bot. Reg. 4: t. 349. 1818; *Castanopsis camelliifolia* H. Léveillé; *Gordonia anomala* Sprengel; *G. axillaris* (Roxburgh ex Ker Gawler) D. Dietrich; *G. axillaris* var. *nantoensis* H. Keng; *G. shimadae* Ohwi; *G. tagawae* Ohwi; *G. tonkinensis* Pitard; *Polyspora axillaris* var. *nantoensis* (H. Keng) S. S. Ying; *P. shimadae* (Ohwi) Ohwi; *P. tagawae* (Ohwi) S. S. Ying; *P. tonkinensis* (Pitard) B. M. Bartholomew & T. L. Ming.

Shrubs or trees, to 9 m tall. Current year branchlets stout, glabrous; terminal buds pubescent. Petiole 1–1.5 cm, glabrous; leaf blade obovate-oblong to oblanceolate, 6–14 × 2.5–4 cm, thickly leathery, abaxially pale green, adaxially dark green and shiny, both surfaces glabrous, midvein abaxially elevated and adaxially slightly impressed, secondary veins obscure on both surfaces, base cuneate and decurrent, margin entire or apically remotely crenate, apex rounded to obtuse and usually retuse. Flowers axillary, solitary or paired, 7–10 cm in diam. Pedicel 2–3 mm, glabrous; bracteoles 6 or 7, caducous. Sepals 5, persistent in young fruit, ovate, 1–1.5 cm, outside white villous, inside glabrous. Petals 5, white, broadly obovate, 3.5–5 cm, apex emarginate. Stamens 1.5–2 cm, glabrous, basally adnate with petals. Ovary tomentose, 5-loculed; style ca. 2 cm, densely velutinous. Capsule cylindric, 2–3.5(–4) × 1.5–2.5 cm. Seeds together with wing 1.5–2 cm. Fl. Sep–Oct, fr. Nov–Dec. $2n = 30$.

Forests, thickets; 100–800(–2300) m. Guangdong, Guangxi, Hainan, Taiwan [Vietnam].

2. *Polyspora chrysandra* (Cowan) Hu ex B. M. Bartholomew & T. L. Ming, Novon 15: 264. 2005.

黄药大头茶 huang yao da tou cha

Gordonia chrysandra Cowan, Notes Roy. Bot. Gard. Edinburgh 16: 184. 1931.

Shrubs or small trees, 3–6 m tall. Young branches grayish brown; current year branchlets slender, appressed pubescent; terminal buds small, yellow sericeous. Petiole 3–5 mm, appressed pubescent; leaf blade obovate-elliptic to long obovate, 6–11 × 2.5–4.5 cm, thinly leathery, adaxially dark green and shiny, abaxially pale green and glabrous or basally sparsely pubescent, midvein abaxially elevated and adaxially impressed, secondary veins obscure on both surfaces, base cuneate and decurrent, margin serrate, apex obtuse and emarginate. Flowers axillary, solitary or 3–5 in a short raceme, 4–5 cm in diam. Pedicel 2–3 mm; bracteoles 6 or 7, caducous. Sepals 5, suborbicular, ca. 1 cm in diam., leathery, outside basally white farinose-sericeous but apically purplish brown and glabrous, inside glabrous, margin membranous. Petals 5, white, suborbicular, ca. 3 cm in diam., basally connate for ca. 3 mm, apex emarginate. Stamens ca. 1.5 cm; filaments glabrous, basally adnate to petals. Ovary ovoid, white tomentose, 5-loculed; style ca. 1.2 cm, basally white tomentose. Capsule oblong-cylindric, 3–3.5 × ca. 1.5 cm, apex acute; pericarp woody; pedicel to 1 cm. Seeds together with wing ca. 2 × 0.5 mm. Fl. Nov–Dec, fr. Aug–Sep.

Forests or thickets; 1100–2400 m. N Guizhou, SE Sichuan, Yunnan [N Myanmar].

3. *Polyspora hainanensis* (Hung T. Chang) C. X. Ye ex B. M. Bartholomew & T. L. Ming, Novon 15: 264. 2005.

海南大头茶 hai nan da tou cha

Gordonia hainanensis Hung T. Chang, Acta Sci. Nat. Univ. Sunyatseni 22(2): 111. 1983.

Trees to 12 m tall. Current year branchlets slender, glabrous. Petiole 5–10 mm, glabrous; leaf blade narrowly oblong to oblanceolate, 8–13 × 2–3 cm, leathery, abaxially pale green, adaxially dark green and shiny, both surfaces glabrous, secondary veins obscure on both surfaces, base cuneate and decurrent, margin undulate-serrate, apex bluntly acute. Flowers solitary, ca. 4 cm in diam. Pedicel ca. 5 mm, pubescent; bracteoles 3, caducous. Sepals 5, orbicular to broadly ovate, 6–7 mm, outside velutinous. Petals 5, white, 2–2.5 cm, basally connate for ca. 3 mm. Stamens 8–10; filaments distinct, glabrous. Ovary tomentose, 5-loculed; style 8–10 mm, velutinous; stigma 5, slightly furcate. Capsule oblong-cylindric, 1.5–2.5 × 0.9–1.4 cm; columella 1.5–1.8 cm. Seeds together with wing ca. 1 cm, wing ca. 7 mm. Fl. Nov–Dec, fr. Oct.

- Forests; 300–1500 m. Hainan.

4. *Polyspora longicarpa* (Hung T. Chang) C. X. Ye ex B. M. Bartholomew & T. L. Ming, Novon 15: 265. 2005.

长果大头茶 chang guo da tou cha

Gordonia longicarpa Hung T. Chang, Acta Sci. Nat. Univ. Sunyatseni 22(2): 111. 1983.

Trees 8–15(–25) m tall. Current year branchlets stout, pubescent; terminal buds large, densely white sericeous. Petiole ca. 1 cm, pubescent or glabrescent; leaf blade oblong-elliptic to oblong, 10–15(–21) × 3–5.5(–7) cm, leathery, abaxially pale green, sparsely appressed pubescent or glabrescent, and becoming pale brown when dry, adaxially dark green, shiny, and glabrous, secondary veins obscure, base cuneate, margin basally entire and apically serrate, apex bluntly acute to shortly acuminate. Flowers solitary, 8–12 cm in diam. Pedicel 6–8 mm, stout, grayish yellow velutinous; bracteoles 5, caducous. Sepals broadly ovate, 1.5–2 cm, outside densely yellow velutinous, inside puberulent to subglabrous. Petals 5, white, broadly ovate, 5–6.5 cm, basally connate for 3–5 mm, apex emarginate. Stamens 2–2.5 cm; filaments basally pubescent and adnate to petals. Ovary ovoid, ca. 4 mm, white tomentose; style ca. 2 cm, white velutinous; stigma 5, capitate. Capsule oblong-cylindric, 4–5 × 1.8–2.5 cm, with ca. 5 seeds per locule. Seeds together with wing ca. 2 × 0.6 cm. Fl. Oct–Nov, fr. Sep–Oct.

Forests; (1000–)1700–2500 m. SE and SW Yunnan [N Myanmar, NE Thailand, N Vietnam].

5. *Polyspora tiantangensis* (L. L. Deng & G. S. Fan) S. X. Yang, J. Trop. Subtrop. Bot. 13: 365. 2005.

天棠大头茶 tian tang da tou cha

Gordonia tiantangensis L. L. Deng & G. S. Fan, J. Trop. Subtrop. Bot. 7: 193. 1999.

Trees 12–15 m tall. Current year branchlets tomentose; terminal buds sericeous pubescent. Petiole 1–1.5 cm, stout, pubescent or glabrescent; leaf blade oblong-elliptic, 10–14 × 3.5–4 cm, thickly leathery, abaxially pale green, adaxially dark

green and shiny, both surfaces glabrous, midvein abaxially elevated and adaxially impressed, secondary veins obscure on both surfaces, base cuneate, margin entire but apically remotely crenate, apex usually retuse. Flowers not seen. Capsule obovate-cylindric, ca. 4.5 × 2–2.8 cm, 6–8-sided, 6–8-loculed, with 6–9 seeds per locule; columella 3–3.8 cm; pedicel 5–8 mm in fruit. Seeds 2–2.5 cm including wing. Fr. Sep.

- Evergreen broad-leaved forests; 1800–2200 m. Yunnan (Changning).

This species is very close to *Polyspora longicarpa*. Whether or not plants with an ovary and capsule having more than 5 locules should be maintained as a distinct species needs additional study.

6. *Polyspora speciosa* (Kochs) B. M. Bartholomew & T. L. Ming, Novon 15: 265. 2005.

四川大头茶 si chuan da tou cha

Thea speciosa Kochs, Bot. Jahrb. Syst. 27: 597. 1900; *Camellia speciosa* (Kochs) Cohen-Stuart; *Gordonia acuminata* Hung T. Chang (1983), not Zollinger (1854), nor S. Vidal (1886); *G. axillaris* (Roxburgh ex Ker Gawler) D. Dietrich var. *acuminata* E. Pritzel; *G. kwangsiensis* Hung T. Chang; *Polyspora acuminata* S. X. Yang; *P. kwangsiensis* (Hung T. Chang) C. X. Ye ex S. X. Yang.

Trees 5–15 m tall. Current year branchlets stout, glabrous or subglabrous; terminal buds purplish red, 1–1.5 cm, glabrous or white sericeous. Petiole purplish, (0.8–)1.5–2 cm, glabrous; leaf blade elliptic to oblong-elliptic, (9–)10–18(–22) × 3–6(–7) cm, leathery, abaxially pale green, adaxially dark green and shiny, both surfaces glabrous, midvein abaxially elevated and adaxially impressed, secondary veins obscure or slightly visible on both surfaces, base cuneate and decurrent, margin apically serrate to sometimes crenate-serrate, apex acuminate to sometimes bluntly acute. Flowers axillary and solitary, (5–)8–10 cm in diam. Pedicel ca. 3 mm, gray velutinous; bracteoles 5, caducous. Sepals 5, broadly ovate to suborbicular, 8–10 mm in diam., outside purplish brown but basally yellowish velutinous. Petals 5, white, broadly obovate, 3–5 cm, basally connate for ca. 3 mm, apex emarginate. Stamens 2–2.5 cm; filaments glabrous, basally adnate to petals. Ovary ovoid, white tomentose, 5-loculed; style 1.5–2 cm, white velutinous; stigma 5, slightly furcate. Capsule oblong-cylindric, (2.5–)3–3.5 × 1–1.5 cm, with ca. 5 seeds per locule; pedicel to 1 cm in fruit. Seeds together with wing 2–2.5 × ca. 0.5 cm. Fl. Aug–Nov, fr. Sep–Dec.

Forests, thickets; 1200–2100 m. Chongqing, Guangxi, Guizhou, Hunan (Jianghua), S and SW Sichuan, NE, SE, and SW Yunnan [Vietnam].

This species was described from collections in Chongqing Municipality where the plants have larger, more deeply serrate leaf blades. Plants from farther south, particularly in SE Yunnan and S Guangxi, have smaller leaf blades that are more shallowly serrate as well as smaller flowers, and the name *Polyspora tonkinensis* (Pitard) B. M. Bartholomew & T. L. Ming (*Gordonia tonkinensis* Pitard) has been misapplied to them (Ming, Fl. Yunnan. 8: 316. 1997; Bartholomew & Ming, Novon 15: 266. 2005; Yang, J. Trop. Subtrop. Bot. 14: 365. 2005).

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