

1. CAMELLIA Linnaeus, Sp. Pl. 2: 698. 1753.

山茶属 shan cha shu

Shrubs or small trees, rarely large trees, evergreen. Leaves petiolate or rarely sessile and amplexicaul; leaf blade leathery to thinly leathery, margin serrate, serrulate, or rarely entire. Flowers axillary or subterminal, solitary or rarely to 3 in a cluster. In *C.* subg. *Thea* flowers clearly pedicellate; bracteoles differentiated from sepals, 2–10, spirally arranged, persistent or caducous; sepals 5(or 6), persistent, distinct or basally connate. In *C.* subg. *Camellia* flowers apparently sessile, actually with a short stout pedicel completely covered by bracteoles and sepals at anthesis; bracteoles and sepals not differentiated, ca. 10, caducous or persistent. Petals 5–8(–12), white, red, or yellow, basally ± connate. Stamens numerous, in 2–6 whorls; outer filament whorl basally ± connate into a tube and adnate to petals; anthers dorsifixed, 2-loculed, longitudinally and laterally cleft. Ovary superior, 3–5-loculed, placentation axile. Capsule globose or obovate, 3–5-loculed, sometimes reduced to 1- or 2-loculed by abortion, loculicidal into (1–)3–5 valves from apex; columella persistent or lacking. Seeds globose, semiglobose, or polygonal; testa hornlike; hilum umbilicate; cotyledons full and fleshy with high oil content; endosperm absent.

About 120 species: Bhutan, Cambodia, China, NE India, Indonesia, S Japan, S Korea, Laos, Malaysia, Myanmar, Nepal, Philippines, Thailand, Vietnam; 97 species (76 endemic) in China.

Camellia renshanxiangiae C. X. Ye & X. Q. Zheng (Acta Phytotax. Sin. 39: 160. 2001) is not treated here because we have been unable to see the type or other authentic material and are unable to evaluate the species. *Camellia renshanxiangiae* is described as having pilose anthers, which are otherwise unknown in *Camellia* but do occur in *Adinandra*.

Some of the varieties of *Camellia* used in this treatment may represent extremes in a range of variation that in reality is continuous and would be better treated by just describing the pattern of variation within an overall species. Additional study may show that fewer varieties are justified in being recognized than are represented in the present treatment.

The main economic value of *Camellia* is the production of tea made from the young leaves of *C. sinensis* var. *sinensis* and *C. sinensis* var. *assamica*. The next most economically important species is *C. oleifera* which has the longest history of cultivation and utilization in China for oil, used primarily in cooking, extracted from its seeds. Other species used locally for seed oil production include *C. chekiangoleosa*, *C. drupifera*, and *C. reticulata*.

Camellia species are of great ornamental value, especially *C. japonica*, *C. reticulata*, and *C. sasanqua* Thunberg, with by far the greatest number of named cultivars being those of *C. japonica*, although many other species have ornamental potential. Other species have been used ornamentally for hybridization, particularly with *C. japonica*, to incorporate desirable characteristics such as the yellow petal color of *C. petlotii*, the frost hardiness of *C. oleifera*, or the fragrance of *C. grijsii* and *C. lutchuensis*. The species *C. hiemalis* Nakai, *C. maliflora* Lindley, *C. rosiflora* Hooker, *C. sasanqua*, and *C. uraku* Kitamura were treated in FRPS (49(3). 1998) but occur in China only as cultivated plants and are therefore not treated here.

- 1a. Flowers clearly pedicellate; bracteoles clearly on pedicel and differentiated from sepals; sepals persistent, leathery (species nos. 1–58) 1. *C.* subg. *Thea*
- 1b. Flowers apparently sessile (actually with a short stout pedicel completely covered by bracteoles and sepals at anthesis); bracteoles followed closely by and undifferentiated from sepals; sepals caducous but sometimes persistent in young fruit, crustaceous (species nos. 59–97) 2. *C.* subg. *Camellia*

1. *Camellia* subg. *Thea* (Linnaeus) Hung T. Chang, Taxon. Gen. *Camellia*, 86. 1981.

茶亚属 cha ya shu

Thea Linnaeus, Sp. Pl. 1: 515. 1753.

Flowers axillary, solitary or to 3 in a cluster, pedicellate. Bracteoles spirally arranged on pedicel, differentiated from sepals, persistent or caducous. Sepals leathery, persistent.

About 74 species: Bhutan, China, NE India, S Japan, S Korea, Laos, Myanmar, Thailand, Vietnam; 58 species (45 endemic) in China.

Camellia sect. *Piquetia* Pierre, containing only *C. piquetiana* (Pierre) Sealy, and *C.* sect. *Cylindraceae* T. L. Ming, containing only *C. cylindracea* T. L. Ming, are two additional sections in *C.* subg. *Thea* and are both endemic to Vietnam (Ming, Monogr. Gen. *Camellia*, 75, 108. 2000).

- 1a. Styles distinct or nearly so.
 - 2a. Bracteoles 5 or more; androecium and gynoecium equal to petal length; filaments filiform, basal 1/2 of outer filament whorl connate into a tube; ovary 3–5-loculed (species nos. 1–10) 1. *C.* sect. *Archecamellia*
 - 2b. Bracteoles 2 or 3; androecium and gynoecium ca. 1/2 petal length; filaments usually subulate, nearly distinct but outer filament whorl basally connate; ovary 3-loculed (species nos. 26–30) 4. *C.* sect. *Corallinae*
- 1b. Styles basally connate.
 - 3a. Stamens in 2–5 whorls, outer filaments only basally connate; capsule 3–5-loculed, columella persistent.
 - 4a. Pedicel less than 1 cm, stout, thickened toward apex; bracteoles 2; columella thick (species nos. 11–21) 2. *C.* sect. *Thea*

- 4b. Pedicel 1.5–4.2 cm, slender, not thickened toward apex; bracteoles 2–4; columella slender (species nos. 22–25) 3. *C.* sect. *Longipedicellatae*
- 3b. Stamens in 2 whorls, outer filament whorl connate for ca. 2/3 of length; capsule small, 1(–4)-loculed, usually 1-seeded, rarely more, columella nearly abortive.
- 5a. Petals glabrous; ovary and style glabrous (species nos. 31–49) 5. *C.* sect. *Theopsis*
- 5b. Petals outside farinose-puberulent; ovary and style tomentellate (species nos. 50–58) 6. *C.* sect. *Eriandria*

1. *Camellia* sect. *Archecamellia* Sealy, Rev. Gen. *Camellia*, 36. 1958.

古茶组 gu cha zu

Camellia sect. *Chrysanthae* Hung T. Chang; *C.* sect. *Pleurocarpae* Hung T. Chang.

Flowers axillary or subterminal, solitary or rarely paired, medium in size. Pedicel thick, erect; bracteoles 5–10, persistent. Sepals persistent. Corolla yellow or pale yellow, rarely red; inner petals basally connate and adnate to androecium. Stamens in 3–5 whorls; filaments filiform, puberulent or glabrous, basal 1/2 of outer whorl connate into a tube. Ovary apex sunken or 3–5-lobed; styles 3–5, distinct. Capsule apex sunken.

Eighteen species: S and SW China, Vietnam; ten species (seven endemic) in China.

Camellia aurea Hung T. Chang is in this section and is treated in FRPS (49(3): 103. 1998) as occurring in both Guangxi and Vietnam, but the species occurs only in Vietnam.

- 1a. Ovary tomentose.
- 2a. Terminal bud large, terete, puberulent; leaf blade oblong-elliptic to oblong; flowers ca. 4 cm in diam.; bracteoles ± covering pedicel; seeds yellow pubescent 1. *C. chrysanthoides*
- 2b. Terminal bud small, ovoid, glabrous; leaf blade broadly obovate, obovate-elliptic, or elliptic; flowers 1.5–2.5 cm in diam.; bracteoles not covering pedicel; seeds glabrous 2. *C. micrantha*
- 1b. Ovary glabrous.
- 3a. Terminal buds oblong, large; current year branchlets, petioles, and abaxial surface of leaf blades pubescent; leaf blade midvein and secondary veins adaxially clearly impressed 3. *C. impressinervis*
- 3b. Terminal buds ovoid, small; current year branchlets, petioles, and abaxial surface of leaf blades glabrous; leaf blade midvein flat or slightly impressed and secondary veins adaxially not impressed, slightly impressed, or impressed.
- 4a. Bracteoles 7–10; flowers (2–)5–6 cm in diam.; petals golden yellow, fleshy; capsule (1.5–)4–6 cm in diam.
- 5a. Pedicel (5–)10–15 mm; bracteoles spreading, not covering pedicel, glabrous; sepals glabrous or inside white puberulent, margin ciliate 4. *C. petelotii*
- 5b. Pedicel ca. 5 mm; bracteoles appressed and covering pedicel, inside white sericeous; sepals inside white sericeous 5. *C. euphlebia*
- 4b. Bracteoles 5 or 6; flowers 1.5–4.5 cm in diam.; petals yellow or pale yellow, membranous; capsule 1.5–3.5 cm in diam. ((4–)6–8 cm in *C. fascicularis*).
- 6a. Sepals yellowish green, membranous; petals 0.4–1 cm in diam.; capsule 1.5–3 cm in diam.; seeds glabrous.
- 7a. Leaf blade elliptic, obovate-elliptic, or oblong-ovate, secondary veins adaxially slightly impressed; sepals inside glabrous 9. *C. indochinensis*
- 7b. Leaf blade ovate, secondary veins adaxially visible to obscure; sepals inside white puberulent 10. *C. pingguoensis*
- 6b. Sepals green, leathery; petals 0.8–4(–5) cm in diam.; capsule 2.5–3.5(–8) cm in diam.; seeds pubescent, pilose, or villous.
- 8a. Petiole 0.3–1 cm; pedicel 3–5 mm, bracteoles ± covering pedicel 8. *C. flavida*
- 8b. Petiole 0.7–1.5 cm; pedicel 6–10 mm, bracteoles not covering pedicel.
- 9a. Leaf blade 10–19.5 × 5–9.5 cm, apex abruptly and shortly caudate to caudate; sepals 7–9 mm; capsule globose to oblate, (4–)6–8 cm in diam. 6. *C. fascicularis*
- 9b. Leaf blade 7.5–11.5 × 3–5 cm, apex shortly acuminate; sepals ca. 5 mm; capsule oblate, 3–3.5 cm in diam. 7. *C. huana*

1. *Camellia chrysanthoides* Hung T. Chang, Acta Sci. Nat. Univ. Sunyatseni 18(3): 73. 1979.

薄叶金花茶 bo ye jin hua cha

Camellia longzhouensis J. Y. Luo; *C. xiashiensis* S. Ye Liang & C. Z. Deng.

Shrubs or trees, 1.5–5 m tall. Current year branchlets purplish brown, glabrous; terminal buds large, terete, gray puberulent. Petiole 6–10 mm, glabrous, adaxially grooved; leaf blade oblong-elliptic to oblong, 10–19 × 3.5–6.5 cm, leathery to thinly leathery, abaxially pale green, brown glandular punctate, and becoming pale brown when dry, adaxially dark green, both

surfaces glabrous, midvein abaxially elevated and adaxially channeled, secondary veins 10–12 on each side of midvein, abaxially raised, and adaxially impressed, base cuneate to obtuse, margin serrulate, apex abruptly shortly caudate to caudate. Flowers axillary, solitary, ca. 4 cm in diam. Pedicel 3–4 mm; bracteoles 5 or 6, ± covering pedicel, semiorbicular, 1–2 mm, outside gray puberulent, inside glabrous. Sepals 5, broadly ovate to suborbicular, 3–3.5 mm, outside gray puberulent, inside glabrous, margin ciliolate. Petals ca. 9, yellow; outer 2 petals sepaloid, suborbicular, ca. 5 mm, outside puberulent; inner petals broadly obovate to oblong-elliptic, 1–1.9 × 0.8–1.5 cm, basally connate and adnate to androecium. Stamens ca. 1.3 cm, glabrous; outer filament whorl basally connate into a 2–3 mm tube. Ovary white tomentose, 3-loculed; styles 3, distinct, 1–1.2 cm, glabrous or basally pubescent. Capsule flattened globose, (2 or)3-coccal, ca. 1.5 × 2.5–4.5 cm, 2- or 3-grooved; pericarp ca. 1 mm thick. Seeds brown, globose or hemispherical, yellow pubescent. Fl. Dec, fr. Sep. $2n = 30^*$.

• Evergreen broad-leaved forests on rock or hills; 100–800 m. Guangxi (Longzhou, Pingxiang).

2. *Camellia micrantha* S. Ye Liang & Y. C. Zhong, Acta Sci. Nat. Univ. Sunyatseni 27(4): 110. 1988.

小花金花茶 xiao hua jin hua cha

Shrubs 2–3 m tall. Young branches yellowish brown; current year branchlets purplish red, glabrous; terminal bud small, ovoid, glabrous. Petiole 6–8 mm, glabrous; leaf blade broadly obovate, obovate-elliptic, or elliptic, 8.5–10.5(–17.5) × 3.5–5.5(–7.5) cm, leathery, abaxially pale green and brown glandular punctate, adaxially dark green and shiny, both surfaces glabrous, midvein abaxially elevated and adaxially channeled, secondary veins 7 or 8 on each side of midvein, abaxially elevated, and adaxially impressed, base broadly cuneate to obtuse, margin serrulate, apex acute to shortly caudate. Flowers axillary, solitary or to 3 in a cluster, 1.5–2.5 cm in diam. Pedicel 3–5(–7) mm; bracteoles 5–7, not covering pedicel, ovate to semi-orbicular, 1.5–2.5 mm, glabrous, margin ciliolate. Sepals 5, suborbicular, 3–4 × 4–6 mm, outside puberulent, inside glabrous, margin ciliolate. Petals 6–8, pale yellow but slightly pink in bud; outer 2 or 3 petals suborbicular, 6–7 mm; inner petals elliptic to obovate-elliptic, 9–15 × 5–8.5 mm, basally connate for ca. 2 mm. Stamens 7–9 mm, glabrous; outer filament whorl basally connate into a ca. 3 mm tube. Ovary globose, ca. 1 mm in diam., white pubescent or glabrescent; styles 3, distinct, 6–8 mm, glabrous. Capsule obovate, 1.5–2 × ca. 3 cm; pericarp 1–2 mm thick. Seeds brown, hemispherical, glabrous. Fl. Dec–Jan, fr. Sep–Oct.

• Evergreen broad-leaved forests; 100–400 m. Guangxi (Ningming).

3. *Camellia impressinervis* Hung T. Chang & S. Ye Liang, Acta Sci. Nat. Univ. Sunyatseni 18(3): 72. 1979.

凹脉金花茶 ao mai jin hua cha

Shrubs or trees, 1.5–5 m tall. Young branches grayish brown, glabrous; current year branchlets purplish brown, yellow pubescent; terminal buds oblong, large, glabrous. Petiole ca. 1 cm, pubescent, adaxially grooved; leaf blade elliptic to

oblong-elliptic, 12–18(–22) × 3–8.5 cm, leathery, abaxially pale green, reddish brown glandular punctate, and sparsely pubescent, adaxially dark green, shiny, and glabrous, midvein abaxially elevated and adaxially channeled, secondary veins 9–11 on each side of midvein, abaxially elevated, and adaxially impressed, base rounded to obtuse, margin serrulate, apex abruptly shortly caudate to caudate. Flowers axillary, solitary, ca. 5 cm in diam. Pedicel ca. 5 mm; bracteoles 5 or 6, ± covering pedicel, lunate, 1–2.5 mm, glabrous, margin ciliolate. Sepals 5, ovate to broadly ovate, 6–10 mm, glabrous, margin ciliolate. Petals 11 or 12, yellow; outer 4 or 5 petals obovate to obovate-elliptic, 1.3–2 × 0.9–1.5 cm, nearly distinct; inner petals obovate, ca. 3 × 1.5–1.8 cm, basally connate for 4–5 mm, apex rounded. Stamens ca. 2 cm, glabrous; outer filament whorl basally connate into a ca. 5 mm tube. Ovary ovoid, ca. 2 mm in diam., glabrous, 3-loculed; styles 3, distinct, 2–2.3 cm. Capsule obovate, 2-coccal, ca. 3 cm in diam., glabrous; pericarp 1–1.5 mm thick. Seeds brown, pubescent. Fl. Jan–Mar, fr. Oct. $2n = 30^*$.

• Evergreen broad-leaved forests on calcareous hills; 100–500 m. Guangxi (Longzhou).

4. *Camellia petelotii* (Merrill) Sealy, Kew Bull. 4: 219. 1949.

金花茶 jin hua cha

Shrubs or trees, (1.5–)2–5 m tall. Young branches grayish brown; current year branchlets purplish brown, 2–3 mm thick, glabrous. Petiole 1–2 cm, glabrous; leaf blade elliptic, oblong-elliptic, or oblong, 9–18(–23) × 3–6(–7.5) cm, leathery, abaxially pale green, brown glandular punctate, and becoming pale brown when dry, adaxially dark green and shiny, both surfaces glabrous, midvein abaxially elevated and adaxially flat or slightly impressed, secondary veins 8–10 on each side of midvein, abaxially elevated, and adaxially impressed, base broadly cuneate to subrounded, margin serrulate, apex shortly caudate. Flowers axillary or subterminal, solitary or paired, (2–)5–6 cm in diam. Pedicel (5–)10–15 mm, erect, apically thickened; bracteoles (6–)8–10, spreading, not covering pedicel, lunate to broadly ovate, 2–3 × 3–5 mm, leathery, glabrous, margin ciliolate. Sepals 5, ovate to broadly ovate, (4–)6–8 × 6–9 mm, leathery, glabrous or inside white puberulent, margin ciliolate. Petals 10–14, golden yellow, fleshy; outer 4 or 5 petals broadly elliptic to suborbicular, 1.5–2 × 1–1.5 cm, margin ciliolate; inner petals elliptic to oblong-elliptic, 2–3.5 × 1.4–1.8 cm, basally connate for 6–8 mm. Stamens numerous, 2–2.5 cm, glabrous; outer filament whorl basally connate into a 7–10 mm tube. Ovary globose, ca. 2.5 mm in diam., glabrous, 3-loculed; styles 3, distinct, 1.5–2 cm. Capsule obovate, (1.2–)2.5–3.5 × (1.5–)4–6 cm, (2 or)3-loculed with 3 seeds per locule, apex sunken; pericarp 3–5 mm thick when dry, woody. Seeds brown, hemispherical, 1.5–2 cm in diam., sparsely yellowish brown pilose. Fl. Nov–Feb, fr. Sep–Nov. $2n = 30$.

Forests in river valleys or along streams; 100–900 m. S Guangxi [N Vietnam].

1a. Leaf blade oblong-elliptic to oblong, 9–18(–23) × 3–6(–7.5) cm; flowers 5–6 cm in diam.; pedicel 10–15 mm, bracteoles 8–10; sepals glabrous; capsule 2.5–3.5 × 4–6 cm, 3-loculed 4a. var. *petelotii*

- 1b. Leaf blade elliptic, 10–14 × 4–6 cm; flowers 2–3 cm in diam.; pedicel ca. 5 mm, bracteoles ca. 6; sepals inside white puberulent; capsule 1.2–1.5 × 1.5–2.5 cm, 2-loculed 4b. var. *microcarpa*

4a. *Camellia petelotii* var. *petelotii*

金花茶(原变种) jin hua cha (yuan bian zhong)

Thea petelotii Merrill, Univ. Calif. Publ. Bot. 10: 427. 1924; *Camellia achrysantha* Hung T. Chang & S. Ye Liang; *C. chrysantha* (Hu) Tuyama; *C. chrysantha* f. *longistyla* S. L. Mo & Y. C. Zhong; *C. nitidissima* C. W. Chi; *C. nitidissima* var. *phaeopubisperma* S. Ye Liang & Z. H. Tang; *Theopsis chrysantha* Hu.

Leaf blade oblong-elliptic to oblong, 9–18(–23) × 3–6(–7.5) cm. Flowers 5–6 cm in diam. Pedicel 10–15 mm; bracteoles 8–10. Sepals glabrous. Capsule 2.5–3.5 × 4–6 cm, 3-loculed. Fl. Jan–Feb, fr. Oct–Nov.

Forests in river valleys or along streams; 200–900 m. S Guangxi [N Vietnam].

4b. *Camellia petelotii* var. *microcarpa* (S. L. Mo & S. Z. Huang) T. L. Ming & W. J. Zhang, Acta Bot. Yunnan. 15: 10. 1993.

小果金花茶 xiao guo jin hua cha

Camellia chrysantha var. *microcarpa* S. L. Mo & S. Z. Huang, Acta Phytotax. Sin. 17(2): 90. 1979; *C. microcarpa* (S. L. Mo & S. Z. Huang) S. L. Mo; *C. nitidissima* var. *microcarpa* (S. L. Mo & S. Z. Huang) Hung T. Chang & C. X. Ye.

Leaf blade elliptic, 10–14 × 4–6 cm. Flowers 2–3 cm in diam. Pedicel ca. 5 mm; bracteoles ca. 6. Sepals inside white puberulent. Capsule 1.2–1.5 × 1.5–2.5 cm, 2-loculed. Fl. Nov–Dec, fr. Sep–Oct.

• Forests in river valleys or along streams; 100–200 m. S Guangxi (Yongning).

5. *Camellia euphlebica* Merrill ex Sealy, Kew Bull. 4: 216. 1949.

显脉金花茶 xian mai jin hua cha

Camellia chrysantha (Hu) Tuyama var. *macrophylla* S. L. Mo & S. Z. Huang; *C. euphlebica* var. *macrophylla* (S. L. Mo & S. Z. Huang) C. X. Ye & J. Y. Liang.

Shrubs or trees, 2–5 m tall. Young branches grayish brown; current year branchlets purplish brown, thick, glabrous. Petiole 0.9–1.3 cm, stout, glabrous, adaxially grooved; leaf blade elliptic to broadly elliptic (11–)14–20(–25) × (4.5–)5–8(–15) cm, leathery, abaxially pale green, brown glandular punctate, and becoming pale brown when dry, adaxially dark green and slightly shiny, both surfaces glabrous, midvein abaxially elevated and adaxially impressed, secondary veins 11–13 on each side of midvein, abaxially raised, and adaxially slightly impressed, base obtuse to subrounded, margin serrulate, apex abruptly shortly caudate to caudate and with a blunt tip. Flowers axillary or subterminal, solitary or paired. Pedicel ca. 5(–7) mm, thick; bracteoles (7 or)8, appressed and covering pedicel,

semiorbicular, 1–3 × 3–5 mm, leathery, outside green and glabrous, inside brown and white sericeous, margin ciliolate. Sepals 5, semiorbicular to broadly ovate, 4–5 × 5–7 mm, leathery, outside green and glabrous, inside brown and white sericeous, margin ciliolate. Petals 7–9, golden yellow, ± fleshy; outer 2 or 3 petals sepeloid, suborbicular, 1–1.5 cm, concave; inner petals broadly obovate to obovate-elliptic, 2.5–4 × 2–2.5 cm, glabrous, basally connate for 5–10 mm and adnate to androecium, apex rounded. Stamens numerous, 2–3.5 cm, glabrous; outer filament whorl basally connate for 1–1.5 cm. Ovary ovoid, ca. 2.5 mm in diam., glabrous, 3-loculed; styles 3, distinct, 2–3.5 cm. Capsule obovate, 3-loculed, 2–3 × 3.5–6 cm, 3-loculed with 1 or 2 seeds per locule, apex sunken; pericarp 2–3 mm thick when dry. Seeds brown, globose or hemispherical, 1.5–2 cm in diam., glabrous. Fl. Dec, fr. Oct. $2n = 30$.

Evergreen broad-leaved forests along streams; 100–500 m. Guangxi (Fangcheng) [N Vietnam].

6. *Camellia fascicularis* Hung T. Chang, Acta Sci. Nat. Univ. Sunyatseni 30(2): 81. 1991.

云南金花茶 yun nan jin hua cha

Camellia euphlebica Merrill ex Sealy var. *yunnanensis* C. J. Wang & G. S. Fan.

Shrubs or trees, 2–8 m tall. Young branches grayish brown; current year branchlets purplish brown, glabrous. Petiole 1–1.5 cm, glabrous; leaf blade elliptic to oblong-elliptic, 10–19.5 × 5–9.5 cm, thinly leathery, abaxially pale green and brown glandular punctate, adaxially dark green, both surfaces glabrous, midvein abaxially elevated and adaxially slightly raised, secondary veins 9 or 10 on each side of midvein, slender, abaxially raised, and adaxially slightly impressed, base cuneate to broadly cuneate, margin serrate, apex abruptly shortly caudate and with an obtuse tip. Flowers axillary, solitary or paired, 3.5–4.5 cm in diam. Pedicel 6–8 mm, thick, thickened toward apex; bracteoles 5 or 6, not covering pedicel, ovate to semiorbicular, 1–2 × 2–3 mm, outside glabrous or sparsely puberulent, inside white puberulent, margin ciliolate. Sepals 5, suborbicular, 7–9 mm, leathery, outside sparsely puberulent to subglabrous, inside white pubescent, margin ciliolate. Petals 7 or 8, pale yellow; outer 2 petals suborbicular, 1.3–1.5 × 1.1–1.5 cm, concave, outside white puberulent; inner petals elliptic to oblong-elliptic, 2–3 × 1.5–2 cm, glabrous, basally connate for 2–5 mm. Stamens ca. 1.8 cm, glabrous; outer filament whorl basally connate for ca. 5 mm. Ovary ovoid, ca. 3 mm, 3-grooved, glabrous, 3-loculed, apically 3-lobed; styles 3, distinct, ca. 2 cm. Capsule globose to obovate, (2 or)3-loculed, 4–6 × (4–)6–8 cm; pericarp 3–6 mm thick when dry. Seeds brown, hemispherical, densely yellow pubescent. Fl. Dec, fr. Sep. $2n = 30^*$.

• Forests on hills or slopes or in valleys; 300–1800 m. SE Yunnan.

7. *Camellia huana* T. L. Ming & W. J. Zhang, Acta Bot. Yunnan. 15: 12. 1993.

贵州金花茶 gui zhou jin hua cha

Camellia liberofilamenta Hung T. Chang & C. H. Yang; *C. tianeensis* S. Y. Liang & Y. T. Luo.

Shrubs 1–3 m tall. Young branches grayish yellow, with brown lenticels; current year branchlets purplish red, slender, glabrous. Petiole 7–12 mm, glabrous; leaf blade elliptic to oblong-elliptic, 7–11.5 × 3–5 cm, thinly leathery, abaxially pale green and brown glandular punctate, adaxially dark green, shiny, and becoming yellowish green when dry, both surfaces glabrous, midvein abaxially elevated and adaxially slightly impressed, secondary veins 6 or 7 on each side of midvein, abaxially raised, and adaxially visible, base cuneate, margin serrate, apex shortly acuminate. Flowers subterminal, solitary, 3–3.5 cm in diam. Pedicel 6–10 mm, thickened toward apex; bracteoles 5 or 6, not covering pedicel, semiorbicular to ovate, 0.5–2 mm, outside glabrous, inside white puberulent, margin ciliolate. Sepals 5, ovate to suborbicular, ca. 5 mm, leathery, outside green and glabrous, inside white puberulent, margin ciliolate. Petals 7–9, pale yellow; outer 2 or 3 petals broadly elliptic to obovate, 1–1.2 × 0.8–1 cm; inner petals obovate-elliptic, 1.5–2 × 1–1.5 cm, basally connate for ca. 2 mm. Stamens ca. 1.5 cm, glabrous; outer filament whorl basally connate for ca. 4 mm. Ovary globose, ca. 2 mm in diam., glabrous; styles 3, distinct, ca. 1.4 cm. Capsule oblate, ca. 1.5 × 3–3.5 cm, 3-loculed with 2 seeds per locule; pericarp 1–1.5 mm thick. Seeds brown, hemispherical, reddish brown villous. Fl. Feb, fr. Oct. $2n = 30^*$.

• Forests or thickets in valleys or on calcareous hills; 600–800 m. Guangxi (Tian'e), Guizhou (Ceheng, Luodian).

8. *Camellia flavida* Hung T. Chang, Taxon. Gen. *Camellia*, 103. 1981.

淡黄金花茶 dan huang jin hua cha

Shrubs 1–3.5 m tall. Young branches grayish brown; current year branchlets purplish red, glabrous. Petiole 3–10 mm, glabrous, adaxially grooved; leaf blade elliptic to oblong-elliptic, 8–16(–17.5) × 3–6.5 cm, thinly leathery, abaxially pale green, brown glandular punctate, and becoming pale brown when dry, adaxially dark green, both surfaces glabrous, midvein abaxially elevated and adaxially impressed, secondary veins 7–9 on each side of midvein, abaxially raised, and adaxially slightly impressed, reticulate veins abaxially slightly raised and adaxially visible, base cuneate to obtuse, margin serrulate, apex acuminate to shortly caudate. Flowers axillary, solitary. Pedicel 3–5 mm; bracteoles 5 or 6, ± covering pedicel, semiorbicular to ovate, 1.5–2.5 × 2–3.5 mm, outside glabrous, inside white puberulent, margin ciliolate. Sepals 5, 3.5–5 × 4.5–6 mm, outside glabrous, inside white puberulent, margin ciliolate. Petals 7–13, pale yellow, rarely purplish in bud, obovate to obovate-elliptic, 1.2–2.5 × 0.9–1.5 cm; inner petals basally connate for ca. 2 mm. Stamens 1–1.5 cm, glabrous; outer filament whorl basally connate for 3–5 mm. Ovary globose, ca. 1.5 mm in diam., glabrous, (2 or)3(–5)-loculed; styles 3, distinct, 1–1.3 cm. Capsule oblate, 2.5–3.5 cm in diam., (2 or)3(–5)-loculed with 1 or 2 seeds per locule; pericarp ca. 1 mm thick. Seeds brown, globose or hemispherical, 1–1.5 cm in diam., reddish brown villous. Fl. Nov–Jan, fr. Sep–Oct. $2n = 30^*$.

• Evergreen broad-leaved forests on calcareous hills; 100–500 m. S and SW Guangxi.

1a. Petiole 3–6 mm; ovary (2 or)3-loculed 8a. var. *flavida*

1b. Petiole ca. 10 mm; ovary 2–5-loculed 8b. var. *patens*

8a. *Camellia flavida* var. *flavida*

淡黄金花茶(原变种) dan huang jin hua cha (yuan bian zhong)

Camellia flavida f. *polypetala* R. G. Li & S. Q. He; *C. grandis* (C. F. Liang & S. L. Mo) Hung T. Chang & S. Ye Liang; *C. longgangensis* C. F. Liang & S. L. Mo; *C. longgangensis* var. *grandis* C. F. Liang & S. L. Mo; *C. longruensis* S. Ye Liang & X. J. Dong; *C. ptilosperma* S. Ye Liang.

Petiole 3–6 mm. Ovary (2 or)3-loculed. Fl. Nov–Dec, fr. Sep–Oct.

• Evergreen broad-leaved forests on calcareous hills; 100–500 m. Guangxi (Longzhou, Ningming, Pingxiang).

8b. *Camellia flavida* var. *patens* (S. L. Mo & Y. C. Zhong) T. L. Ming, Acta Bot. Yunnan. 21: 152. 1999.

多变淡黄金花茶 duo bian dan huang jin hua cha

Camellia longgangensis var. *patens* S. L. Mo & Y. C. Zhong, Guihaia 5: 354. 1985; *C. multipetala* S. Ye Liang & C. Z. Deng; *C. quinqueloculosa* S. L. Mo & Y. C. Zhong; *C. wumingensis* S. Ye Liang & C. R. Fu.

Petiole ca. 1 cm. Ovary 2–5-loculed. Fl. Dec–Jan, fr. Sep–Oct.

• Evergreen broad-leaved forests on calcareous hills; 100–500 m. Guangxi (Fusui, Wuming).

9. *Camellia indochinensis* Merrill, J. Arnold Arbor. 20: 347. 1939.

柠檬金花茶 ning meng jin hua cha

Shrubs 1–4 m tall. Young branches yellowish brown; current year branchlets purplish brown, slender, glabrous. Petiole 5–8 mm, glabrous, adaxially grooved; leaf blade elliptic, obovate-elliptic, or oblong-ovate, 6–10.5 × (2.5–)3–4.5 cm, thinly leathery, abaxially pale green, brown glandular punctate, and becoming glaucescent when dry, adaxially dark green and becoming grayish green when dry, both surfaces glabrous, midvein abaxially elevated and adaxially impressed, secondary veins 6 or 7 on each side of midvein, abaxially raised, and adaxially slightly impressed, reticulate veins abaxially slightly raised and adaxially visible, base broadly cuneate, margin serrulate, apex acute to acuminate. Flowers axillary, solitary, 1–3.5 cm in diam. Pedicel 3–13 mm, slender; bracteoles 5 or 6, not covering pedicel, semiorbicular to broadly ovate, 0.5–1.5 × 1–2.5 mm, glabrous or outside farinose-puberulent, margin ciliolate. Sepals 5, orbicular, 2–3 mm, concave, glabrous or outside farinose-puberulent, margin ciliolate. Petals 8 or 9, pale yellow to yellowish white; outer 3 or 4 petals suborbicular, 5–7 × 4–6 mm; inner petals obovate to oblong, 8–15 × 5–6 mm, basally connate for ca. 2 mm. Stamens 8–10 mm, glabrous; outer filament whorl basally connate for 3–4 mm. Ovary ovoid, ca. 1.5 mm in diam., glabrous; styles 3, distinct, ca. 1 cm. Capsule oblate, (2 or)3-coccal, 1–1.5 × 1.5–2.5 cm; pericarp 1–1.5 mm thick. Seeds hemispherical, brown, glabrous. Fl. Dec–Jan, fr. Sep–Oct. $2n = 30$.

Forests on calcareous hills, in valleys, or along streams; (near sea level to) 100–400 m. S Guangxi [N Vietnam].

- 1a. Flowers 1–2 cm in diam.; pedicel
3–4 mm 9a. var. *indochinensis*
1b. Flowers 2.5–3.5 cm in diam.; pedicel
(5–)7–13 mm 9b. var. *tunghinensis*

9a. *Camellia indochinensis* var. *indochinensis*

柠檬金花茶(原变种) ning meng jin hua cha (yuan bian zhong)

Camellia limonia C. F. Liang & S. L. Mo; *C. limonia* f. *obovata* S. L. Mo & Y. C. Zhong; *C. parvipetala* J. Y. Liang & Z. M. Su; *Thea indochinensis* (Merrill) Gagnepain.

Flowers 1–2 cm in diam. Pedicel 3–4 mm. Fl. Dec–Jan, fr. Sep–Oct.

Forests on calcareous hills or in valleys; (near sea level to) 100–400 m. S Guangxi [N Vietnam].

9b. *Camellia indochinensis* var. *tunghinensis* (Hung T. Chang) T. L. Ming & W. J. Zhang, *Acta Bot. Yunnan*. 15: 14. 1993.

东兴金花茶 dong xing jin hua cha

Camellia tunghinensis Hung T. Chang, *Acta Sci. Nat. Univ. Sunyatseni* 18(3): 73. 1979.

Flowers 2.5–3.5 cm in diam. Pedicel (0.5–)0.7–1.3 cm. Fl. Dec–Jan, fr. Oct.

• Forests in valleys or along streams; 100–300 m. Guangxi (Fangcheng).

10. *Camellia pingguoensis* D. Fang, *Acta Bot. Yunnan*. 2: 339. 1980.

平果金花茶 ping guo jin hua cha

Shrubs 1–3 m tall. Young branches grayish yellow; current year branchlets purplish red, slender, glabrous. Petiole 6–10 mm, glabrous; leaf blade ovate to long ovate, 5.5–7.5(–9.5) × 2–3.8 cm, thinly leathery, abaxially pale green and brown glandular punctate, adaxially dark green and shiny, both surfaces glabrous, midvein raised on both surfaces, secondary veins 6 or 7 on each side of midvein, abaxially raised, and adaxially

visible to obscure, base broadly cuneate to obtuse, margin serrulate, apex acuminate to acute. Flowers axillary or subterminal, solitary, 1.5–4.5 cm in diam. Pedicel 3–5 mm; bracteoles 5 or 6 (or 7), not covering pedicel, ovate to semiorbicular, 0.5–1.5 mm, membranous, glabrous or outside farinose puberulent, margin ciliolate. Sepals 5, suborbicular, 2–8 mm, outside farinose puberulent, inside white puberulent, margin ciliolate. Petals 7 or 8, pale yellow; outer 2 or 3 petals suborbicular, 6–8 mm; inner petals obovate, 10–13 × 6–10 mm, basally connate for 1–2 mm. Stamens 7–9 mm, glabrous; outer filament whorl basally connate for ca. 3 mm. Ovary subglobose, ca. 1 mm in diam., glabrous, 3-loculed; styles 3, distinct, 6–9 mm. Capsule globose to subglobose, 2-coccal, 1.2–1.5 × 1.5–3 cm, (1 or)2(or 3)-loculed; pericarp 1–1.5 mm thick. Seeds brown, hemispherical, ca. 1 cm in diam., glabrous. Fl. Dec–Jan, fr. Sep. $2n = 30^*$.

• Forests on calcareous hills; 100–500(–700) m. Guangxi (Pingguo, Tiandeng).

- 1a. Flowers 1.5–2.5 cm in diam.; sepals
yellowish green, 2–4 mm 10a. var. *pingguoensis*
1b. Flowers 3.5–4.5 cm in diam.; sepals
green, 5–8 mm 10b. var. *terminalis*

10a. *Camellia pingguoensis* var. *pingguoensis*

平果金花茶(原变种) ping guo jin hua cha (yuan bian zhong)

Flowers 1.5–2.5 cm in diam. Sepals yellowish green, 2–4 mm.

• Evergreen broad-leaved forests on calcareous hills; 200–400(–700) m. Guangxi (Pingguo).

10b. *Camellia pingguoensis* var. *terminalis* (J. Y. Liang & Z. M. Su) T. L. Ming & W. J. Zhang, *Acta Bot. Yunnan*. 15: 14. 1993.

顶生金花茶 ding sheng jin hua cha

Camellia terminalis J. Y. Liang & Z. M. Su, *Guihaia* 5: 183. 1985.

Flowers subterminal, 3.5–4.5 cm in diam. Sepals green, 5–8 mm, leathery.

• Forests on calcareous hills; 100–500 m. Guangxi (Tiandeng).

2. *Camellia* sect. *Thea* (Linnaeus) Dyer in J. D. Hooker, *Fl. Brit. India* 1: 292. 1874.

茶组 cha zu

Thea Linnaeus, *Sp. Pl.* 1: 515. 1753; *Camellia* sect. *Glaberrimae* Hung T. Chang; *Theaphylla* Rafinesque; *Tsia* Adanson.

Pedicel thick, thickened toward apex; bracteoles 2(or 3), caducous. Sepals persistent. Petals white, basally connate. Stamens numerous, in 4 or 5 whorls, glabrous; outer filament whorl basally connate into a tube. Ovary 3–5-loculed; style apically 3–5-parted or lobed.

Twelve species: S China, NE India, S Japan, S Korea, Laos, Myanmar, Thailand, Vietnam; 11 species (nine endemic) in China.

- 1a. Ovary (3 or)4- or 5-loculed, style apically 5-lobed or 3–5-parted.
2a. Ovary tomentose.
3a. Current year branchlets and leaf blades glabrous; pedicel, sepals outside, and petals glabrous; styles
glabrous; capsule oblate, pericarp 1–2 mm thick 14. *C. taliensis*

- 3b. Current year branchlets and leaf blades abaxially along midvein pubescent; pedicel sparsely pubescent or glabrous, sepals outside gray puberulent or glabrous, and petals farinose-puberulent; styles densely pubescent; capsule globose, pericarp 5–8 mm thick 15. *C. crassicolumna*
- 2b. Ovary glabrous.
- 4a. Petiole and pedicel pubescent 12. *C. grandibracteata*
- 4b. Petiole and pedicel glabrous.
- 5a. Petiole ca. 5 mm; sepals 5–6 mm, margin ciliate 11. *C. tachangensis*
- 5b. Petiole 8–12 mm; sepals 7–10 mm, margin not ciliate 13. *C. kwangsiensis*
- 1b. Ovary 3-loculed, style apically 3-lobed or 3-parted.
- 6a. Ovary glabrous.
- 7a. Current year branchlets, terminal buds, and leaf blades abaxially pubescent; leaf blade reticulate veins slightly raised on both surfaces; sepals inside glabrous 18. *C. leptophylla*
- 7b. Current year branchlets and leaf blades glabrous or sparsely yellow puberulent; leaf blade reticulate veins obscure on both surfaces; sepals inside sericeous.
- 8a. Terminal buds pubescent; leaf blade elliptic to oblong-elliptic, 4–6.5 cm wide; pedicel 9–13 mm; sepals 6–8 mm; capsule 3-loculed, 5–8 cm in diam., pericarp 4–5 mm thick 16. *C. gymnogyna*
- 8b. Terminal buds glabrous; leaf blade oblong-elliptic to oblong-oblongeolate, 2.5–4 cm wide; pedicel 6–8 mm; sepals 2.5–4 mm; capsule 1- or 2-loculed, fertile, 1.5–2 cm in diam., pericarp ca. 1 mm thick 17. *C. costata*
- 6b. Ovary pubescent, tomentose, or subglabrous.
- 9a. Current year branchlets white pubescent; leaf blade 5–14 cm; sepals outside glabrous or sparsely pubescent, inside densely sericeous 21. *C. sinensis*
- 9b. Current year branchlets yellowish brown villous or grayish yellow pubescent; leaf blade 12–29 cm; sepals outside pubescent, inside glabrous.
- 10a. Leaf blade elliptic to oblong-elliptic, 5.5–12.5 cm wide, midvein adaxially impressed; sepals 3–3.5 mm 19. *C. fangchengensis*
- 10b. Leaf blade oblong, (3–)4–6 cm wide, midvein adaxially flat; sepals 5–6 mm 20. *C. ptilophylla*

11. *Camellia tachangensis* F. C. Zhang, Acta Bot. Yunnan. 2: 341. 1980.

大厂茶 da chang cha

Trees 7–15 m tall. Young branches yellowish brown; current year branchlets purplish brown, glabrous; terminal buds large, glabrous or sparsely white pubescent. Petiole purplish red, ca. 5 mm, glabrous; leaf blade elliptic, oblong-elliptic, or broadly elliptic, (9–)12–18 × 3–6(–8) cm, leathery to thinly leathery, abaxially pale green, adaxially dark green and shiny, both surfaces glabrous, midvein purplish red, abaxially elevated, and adaxially slightly raised, secondary veins 8–10 on each side of midvein and raised on both surfaces, base cuneate to broadly cuneate, margin serrate or undulate-serrate, apex acute to shortly acuminate and with an obtuse tip. Flowers axillary, solitary or to 3 in a cluster, 4–6 cm in diam. Pedicel 0.8–1.4 cm, thickened toward apex, glabrous; bracteoles 2 or 3, caducous, ovate, 2.5–3 mm, outside glabrous, inside white sericeous. Sepals 5(or 6), persistent, broadly ovate to suborbicular, 5–6 mm, outside glabrous, inside white sericeous, margin ciliate. Petals 10–13, white, broadly obovate, 2.5–3 × 2–2.5 cm, basally slightly connate, apex rounded. Stamens 1.5–2 cm, glabrous; outer filament whorl basally connate for ca. 3 mm. Ovary globose, glabrous, (3 or)4- or 5-loculed; style 1.5–2 cm, apically 3–5-parted for 4–8 mm. Capsule globose to obovate, 2–3 × 3–5 cm, 3–5-loculed with 1 or 2 seeds per locule; pericarp 1–2 mm thick when dry. Seeds pale brown, globose or hemispherical, 1–1.5 cm in diam., glabrous. Fl. Oct–Jan, fr. Sep–Oct. $2n = 30^*$.

- Evergreen broad-leaved and coniferous forests; 900–2300 m.

Chongqing, NW Guangxi, N and W Guizhou, SE Sichuan, E and NE Yunnan.

- 1a. Terminal buds glabrous; leaf blade oblong-elliptic to elliptic, margin serrate; ovary (4 or)5-loculed 11a. var. *tachangensis*
- 1b. Terminal buds sparsely white pubescent; leaf blade broadly elliptic, margin undulate-serrate; ovary 3(or 4)-loculed 11b. var. *remotiserrata*

11a. *Camellia tachangensis* var. *tachangensis*

大厂茶(原变种) da chang cha (yuan bian zhong)

Camellia quinquelocularis Hung T. Chang & S. Ye Liang; *C. tetraococca* Hung T. Chang.

Terminal buds glabrous. Leaf blade oblong-elliptic to elliptic, margin serrate. Ovary (4 or)5-loculed. Fl. Oct–Nov, fr. Sep–Oct.

- Evergreen broad-leaved forests; 1500–2300 m. NW Guangxi, W Guizhou, E Yunnan.

11b. *Camellia tachangensis* var. *remotiserrata* (Hung T. Chang et al.) T. L. Ming, Fl. Yunnan. 8: 276. 1997.

疏齿大厂茶 shu chi da chang cha

Camellia remotiserrata Hung T. Chang et al., Acta Sci. Nat. Univ. Sunyatseni 29(2): 87. 1990; *C. gymnogyna* Hung T. Chang var. *remotiserrata* (Hung T. Chang et al.) T. L. Ming; *C. gymnogynoides* Hung T. Chang & B. H. Chen; *C. jinyunshanica* Hung T. Chang & J. H. Xiong; *C. nanchuanica* Hung T. Chang & J. H. Xiong.

Terminal buds sparsely white pubescent. Leaf blade broadly elliptic, margin undulate-serrate. Ovary 3(or 4)-loculed. Fl. Nov–Jan, fr. Sep–Oct.

• Evergreen broad-leaved and coniferous forests; 900–1400 m. Chongqing, N Guizhou, SE Sichuan, NE Yunnan.

12. *Camellia grandibracteata* Hung T. Chang & F. L. Yu, Acta Sci. Nat. Univ. Sunyatseni 23(1): 3. 1984.

大苞茶 da bao cha

Trees 6–12 m tall. Young branches pale brown, glabrous; current year branchlets gray pubescent; terminal buds white sericeous. Petiole ca. 5 mm, pubescent; leaf blade elliptic to oblong-elliptic, 10–14 × 4–5.5 cm, thinly leathery, abaxially pale green and sparsely pubescent, adaxially dark green, glabrous, and shiny, midvein abaxially elevated and adaxially flat, secondary veins 8–10 on each side of midvein, abaxially raised, and adaxially visible, base cuneate to broadly cuneate, margin serrulate, apex acute to shortly acuminate. Flowers axillary, solitary or paired, 4–5 cm in diam. Pedicel 6–7 mm, thickened toward apex, pubescent; bracteoles 2, ovate, ca. 4 mm. Sepals 5, ovate, 5–6 mm, outside glabrous, inside white sericeous. Petals 7–9, white, obovate, 2–2.5 cm; inner 5 petals basally connate. Stamens ca. 1 cm, glabrous; outer filament whorl basally connate for ca. 4 mm. Ovary globose, glabrous, 5-loculed; style ca. 1.5 cm, apically 5-lobed. Capsule oblate, ca. 2 × 3–4 cm, 5-loculed with 1 seed per locule; pericarp 1–2 mm thick when dry. Seeds brown, globose, ca. 1 cm in diam. Fl. Nov, fr. Sep. $2n = 30^*$.

• Near villages; 1700–1900 m. Yunnan (Yunxian).

13. *Camellia kwangsiensis* Hung T. Chang, Acta Sci. Nat. Univ. Sunyatseni 20(1): 89. 1981.

广西茶 guang xi cha

Shrubs or trees, 3–6 m tall. Young branches pale brown, glabrous; current year branchlets purplish brown, gray pubescent; terminal buds white sericeous. Petiole purplish brown, 0.8–1.2 cm, glabrous, abaxially grooved; leaf blade oblong-elliptic to oblong, 8–12(–17) × 3–5(–7) cm, leathery, abaxially pale green, sparsely pubescent or glabrescent, and becoming pale brown when dry, adaxially dark green and becoming grayish brown when dry, shiny, and glabrous, midvein abaxially elevated and adaxially slightly raised, secondary veins 9–11 on each side of midvein and raised on both surfaces, base broadly cuneate, margin sharply serrulate, apex acuminate to shortly acuminate. Flowers axillary or subterminal, solitary or paired. Pedicel 7–10 mm, thickened toward apex, glabrous; bracteoles 2, caducous. Sepals 5, persistent, broadly ovate to suborbicular, 7–10 mm, leathery, outside glabrous or farinose-puberulent, inside white sericeous, margin membranous. Petals 8–10, white, broadly obovate, 2–2.5 cm, outside glabrous or farinose-puberulent, basally connate. Stamens 1.1–1.8 cm, glabrous; outer filament whorl connate for basal 1/3. Ovary globose, glabrous, 5-loculed; style ca. 1.8 cm, apically 5-parted for ca. 6 mm. Capsule globose, ca. 4 cm in diam., 5-loculed with 2 seeds per locule; pericarp 5–6 mm thick when dry. Seeds brown, hemispherical, ca. 1.5 cm in diam. Fl. Nov–Dec, fr. Sep–Oct.

• Evergreen broad-leaved forests, mixed forests; 1500–1900 m. W Guangxi, SE Yunnan.

1a. Sepals and petals outside glabrous

..... 13a. var. *kwangsiensis*

1b. Sepals and petals outside

farinose-puberulent 13b. var. *kwangnanica*

13a. *Camellia kwangsiensis* var. *kwangsiensis*

广西茶(原变种) guang xi cha (yuan bian zhong)

Sepals and petals outside glabrous. Fl. Nov–Dec, fr. Sep–Oct.

• Mixed forests; 1500–1900 m. W Guangxi, SE Yunnan.

13b. *Camellia kwangsiensis* var. *kwangnanica* (Hung T. Chang & B. H. Chen) T. L. Ming, Acta Bot. Yunnan. 14: 118. 1992.

毛萼广西茶 mao e guang xi cha

Camellia kwangnanica Hung T. Chang & B. H. Chen, Acta Sci. Nat. Univ. Sunyatseni 23(1): 4. 1984.

Sepals and petals outside farinose-puberulent. Fl. Nov–Dec, fr. Sep. $2n = 30^*$.

• Evergreen broad-leaved forests; 1500–1900 m. SE Yunnan (Guangnan).

14. *Camellia taliensis* (W. W. Smith) Melchior in Engler & Prantl, Nat. Pflanzenfam., ed. 2, 21: 131. 1925.

大理茶 da li cha

Thea taliensis W. W. Smith, Notes Roy. Bot. Gard. Edinburgh 10: 73. 1917; *Camellia changningensis* F. C. Zhang et al.; *C. irrawadiensis* Burua; *C. pentastyla* Hung T. Chang; *C. quinquebracteata* Hung T. Chang & C. X. Ye; *Gordonia yunnanensis* (Hu) H. L. Li; *Polyspora yunnanensis* Hu.

Shrubs or trees, 2–8 m tall. Young branches grayish brown; current year branchlets purplish brown, glabrous; terminal buds glabrous or sparsely pubescent. Petiole 5–10 mm, glabrous; leaf blade elliptic to oblong-elliptic, 8.5–15 × 3–5.5 cm, leathery, abaxially pale green, adaxially dark green and shiny, both surfaces glabrous, midvein pale yellow, abaxially elevated, and adaxially slightly raised, secondary veins 7 or 8 on each side of midvein and slightly raised on both surfaces, base cuneate to broadly cuneate, margin sparsely serrate to undulate-serrate, apex acute to shortly acuminate and with an obtuse tip. Flowers axillary, solitary or to 3 in a cluster, ca. 5 cm in diam. Pedicel ca. 1 cm, thickened toward apex, glabrous; bracteoles 2 or 3(or 4), caducous. Sepals 5, persistent, ovate, 3–4 × 4–6 mm, leathery, outside glabrous, inside white sericeous, margin ciliolate. Petals 7–10, white, obovate to broadly obovate, 1.5–3.5 × 1–2 cm, apex rounded; inner petals basally connate. Stamens ca. 2 cm, glabrous; outer filament whorl basally connate for ca. 6 mm. Ovary white tomentose, 5-loculed; style ca. 2 cm, glabrous, apically 5-lobed to 5-parted. Capsule oblate, ca. 3 × 5 cm, 5-loculed with 2 seeds per locule; pericarp 1–2 mm thick when dry. Seeds brown, hemispherical, 1.5–1.8 cm in diam. Fl. Oct–Nov, fr. Sep–Oct. $2n = 30$.

Forests on mountain slopes or in valleys; 1300–2400(–2700) m. W Yunnan [N Myanmar, N Thailand].

15. *Camellia crassicumna* Hung T. Chang, Acta Sci. Nat. Univ. Sunyatseni 20(1): 91. 1981.

厚轴茶 *hou zhou cha*

Trees 5–15 m tall. Young branches yellowish brown, glabrous; current year branchlets green, sparsely gray pubescent or glabrous; terminal buds white sericeous. Petiole 5–10 mm, sparsely pubescent to subglabrous; leaf blade elliptic, oblong-elliptic, or oblong, (8–)10–13(–17) × (2–)4–6 cm, leathery, abaxially pale green and pubescent along midvein when young, adaxially dark green, shiny, and glabrous, midvein abaxially elevated and adaxially slightly raised, secondary veins 8–10 on each side of midvein, slender, and ± raised on both surfaces, base cuneate to broadly cuneate, margin serrate, apex acute to shortly caudate and with an obtuse tip. Flowers axillary, solitary or to 3 in a cluster, 4–5.5 cm in diam. Pedicel 5–10 mm, thickened toward apex, sparsely pubescent or glabrous; bracteoles 2, caducous. Sepals 5, persistent, ovate, 5–8 mm, outside gray puberulent or glabrous, inside white sericeous or glabrous. Petals 9–12, white; outer 4–6 petals sepaloid, ovate, ca. 1.5 cm; inner petals obovate, 2–2.5 cm, outside farinose-puberulent, basally connate. Stamens ca. 1.5 cm, glabrous; outer filament whorl basally connate for ca. 5 mm. Ovary white tomentose, (3–)5-loculed; style ca. 2 cm, densely white pubescent, apically (3–)5-parted for ca. 8 mm. Capsule globose, 5–6 cm in diam., (3 or)4- or 5-loculed with (1 or)2 seeds per locule; pericarp 5–8 mm thick. Seeds brown, hemispherical or globose, 2–2.5 cm in diam. Fl. Nov–Dec, fr. Sep–Oct. $2n = 30^*$.

• Evergreen broad-leaved forests; (1600–)1800–2500 m. W Guizhou, SE Yunnan.

- 1a. Current year branchlets sparsely gray pubescent, pedicel sparsely pubescent, sepals outside gray puberulent and inside white sericeous 15a. var. *crassicumna*
 1b. Current year branchlets, pedicels, and sepals glabrous 15b. var. *multiplex*

15a. *Camellia crassicumna* var. *crassicumna*

厚轴茶(原变种) *hou zhou cha* (*yuan bian zhong*)

Camellia atrothea Hung T. Chang & H. S. Wang; *C. crassicumna* var. *shangbaensis* F. C. Zhang; *C. crispula* Hung T. Chang; *C. haaniensis* Hung T. Chang & F. L. Yu; *C. makuanica* Hung T. Chang & Y. J. Tang; *C. purpurea* Hung T. Chang & B. H. Chen; *C. rotundata* Hung T. Chang & F. L. Yu.

Current year branchlets sparsely gray pubescent. Pedicel sparsely pubescent. Sepals outside gray puberulent, inside white sericeous. Fl. Nov–Dec, fr. Sep–Oct.

• Evergreen broad-leaved forests; (1600–)1800–2500 m. SE Yunnan.

15b. *Camellia crassicumna* var. *multiplex* (Hung T. Chang & Y. J. Tang) T. L. Ming, Acta Bot. Yunnan. 14: 121. 1992.

光萼厚轴茶 *guang e hou zhou cha*

Camellia multiplex Hung T. Chang & Y. J. Tang, Acta Sci. Nat. Univ. Sunyatseni 23(1): 7. 1984.

Current year branchlets, pedicels, and sepals glabrous. Fl. Nov–Dec, fr. Sep.

• Evergreen broad-leaved forests; 1900–2300 m. W Guizhou, SE Yunnan.

16. *Camellia gymnogyna* Hung T. Chang, Acta Sci. Nat. Univ. Sunyatseni 20(1): 94. 1981.

秃房茶 *tu fang cha*

Camellia glaberrima Hung T. Chang.

Shrubs or trees, 3–8(–10) m tall. Young branches pale brown; current year branchlets purplish brown, glabrous; terminal buds grayish yellow pubescent. Petiole 7–12 mm, glabrous, adaxially grooved; leaf blade elliptic to oblong-elliptic, 9–18 × 4–6.5 cm, leathery to thinly leathery, abaxially pale green, adaxially dark green, both surfaces glabrous, midvein abaxially elevated and adaxially slightly raised, secondary veins 9–11 on each side of midvein, abaxially raised, and adaxially visible to slightly raised, base cuneate to broadly cuneate, margin serrate, apex shortly caudate to caudate. Flowers axillary, solitary or paired, ca. 4 cm in diam. Pedicel 0.9–1.3 cm, glabrous, thickened toward apex; bracteoles 2, caducous. Sepals 5, persistent, suborbicular to broadly ovate, (4–)6–8 mm, outside glabrous, inside pale yellow sericeous, apex rounded. Petals 6–8, white, broadly obovate 1.5–2.5 × 1.5–1.8 cm, basally connate, apex rounded. Stamens (1.5–)2 cm, glabrous; outer filament whorl basally connate for ca. 1/3 of length. Ovary glabrous, 3-loculed; style ca. 2 cm, apically 3-parted for 6–9 mm. Capsule globose, 5–8 cm in diam., 3-loculed with 2 seeds per locule; pericarp 4–5 mm thick. Seeds brown, hemispherical, ca. 2 cm in diam. Fl. Dec–Jan, fr. Sep–Oct. $2n = 30^*$.

• Evergreen broad-leaved forests; (1000–)1500–1800 m. W Guangdong, N Guangxi, S Guizhou, SE Yunnan.

17. *Camellia costata* Hung T. Chang, Acta Sci. Nat. Univ. Sunyatseni 20(1): 94. 1981.

突肋茶 *tu le cha*

Camellia danzaiensis K. M. Lan; *C. kwangtungensis* Hung T. Chang; *C. yungkiangensis* Hung T. Chang.

Shrubs or trees, 3–8(–10) m tall. Young branches grayish brown; current year branchlets purplish brown, glabrous; terminal buds glabrous. Petiole purplish brown, 5–8 mm, glabrous; leaf blade oblong-elliptic to oblong-obovate, 8–13(–15) × 2.5–4(–5.2) cm, leathery, abaxially pale green, adaxially dark green and shiny, both surfaces glabrous, midvein abaxially elevated and adaxially slightly raised, secondary veins 7–9 on each side of midvein, abaxially slightly raised to obscure, and adaxially raised, base cuneate to broadly cuneate, margin undulate-serrate, apex acuminate to caudate. Flowers axillary, solitary or paired. Pedicel 6–8 mm but elongated to 1.4 cm in fruit, glabrous; bracteoles 2, caducous. Sepals 5, persistent, broadly ovate to suborbicular, 2.5–4 mm, outside glabrous or sparsely puberulent, inside white sericeous. Petals 6–8, white, obovate,

1.5–2.2 cm, basally connate. Stamens ca. 1 cm, glabrous; outer filament whorl basally connate. Ovary glabrous, 3-loculed; style ca. 1 cm, apically 3-lobed. Capsule globose or 2-coccal, 1–1.5 × 1.5–2 cm, 1- or 2-loculed with 1 seed per locule; pericarp ca. 1 mm thick. Seeds brown, hemispherical. Fl. Jan–Feb, fr. Oct. $2n = 30^*$, 90^* .

• Evergreen broad-leaved forests; 700–1100 m. NW Guangdong, N Guangxi, SE Guizhou.

18. *Camellia leptophylla* S. Ye Liang ex Hung T. Chang, Acta Sci. Nat. Univ. Sunyatseni 20(1): 95. 1981.

膜叶茶 mo ye cha

Shrubs or trees, 2–5 m tall. Young branches pale brown, glabrous; current year branchlets purplish brown, sparsely yellow puberulent; terminal buds pale yellow sericeous. Petiole 4–6 mm, sparsely pubescent or glabrescent; leaf blade thinly elliptic to oblong-elliptic, (8–)9–15 × (3–)3.5–5.5 cm, leathery, abaxially pale green and very sparsely appressed pubescent when young but glabrescent, adaxially dark green, shiny, and becoming yellowish green to pale brown when dry, midvein abaxially elevated and adaxially slightly raised, secondary veins 8 or 9 on each side of midvein and clearly raised on both surfaces, reticulate veins slightly raised on both surfaces, base broadly cuneate, margin serrate, apex shortly acuminate. Flowers axillary, solitary or paired. Pedicel 3–5 mm, erect, sparsely pubescent or glabrescent; bracteoles 2, caducous. Sepals 5, persistent, broadly ovate to suborbicular, 6–7 mm, glabrous, margin membranous and ciliolate. Petals only seen in bud, 7–9, white, obovate, 1–1.3 cm, basally slightly connate. Stamens glabrous; outer filament whorl basally slightly connate for ca. 1.5 mm. Ovary glabrous, 3-loculed; style ca. 1 cm, apically 3-parted. Capsule globose or 2-coccal, ca. 2 × 2–3 cm, 1- or 2-loculed with 1 seed per locule; pericarp ca. 1 mm thick. Seeds brown, globose, ca. 1.4 cm in diam. Fl. Nov–Dec, fr. Sep–Oct. $2n = 30^*$.

• Forests, thickets; 600–900 m. W Guangxi.

19. *Camellia fangchengensis* S. Ye Liang & Y. C. Zhong, Acta Sci. Nat. Univ. Sunyatseni 20(3): 118. 1981 [*“fang-chensis”* & *“fangchengensis”*].

防城茶 fang cheng cha

Shrubs or trees, 3–5 m tall. Young branches grayish brown, glabrous; current year branchlets purplish brown, thick, terete, yellowish brown villous; terminal buds sericeous. Petiole 5–8 mm, yellow pubescent, adaxially grooved; leaf blade elliptic to oblong-elliptic, 13–29 × 5.5–12.5 cm, leathery to thinly leathery, abaxially pale green, densely pubescent, and becoming grayish green to grayish brown when dry, adaxially dark green, glabrous, and becoming yellowish green when dry, midvein abaxially elevated and adaxially impressed, secondary veins 10–12 on each side of midvein and raised on both surfaces, base broadly cuneate to rounded, margin serrulate, apex shortly acuminate to acute and with a blunt tip. Flowers axillary, solitary or paired, 2–3 cm in diam. Pedicel 5–10 mm, recurved, yellow pubescent; bracteoles 2, caducous. Sepals 5, persistent, suborbicular, 3–3.5 × 2–3 mm, outside grayish

brown sericeous, inside glabrous, margin ciliolate. Petals 5–7, white, suborbicular, 1–1.5 × 0.7–1 cm, basally slightly connate, apex rounded; outer 2 or 3 petals sepaloid, outside sericeous. Stamens numerous, ca. 1 cm, glabrous; outer filament whorl basally slightly connate. Ovary globose, 2–3 mm in diam., pale yellow tomentose, 3-loculed; style ca. 8 mm, glabrous or basally pubescent, apically 3-lobed. Capsule 3-coccal oblate, ca. 1.5 × 2–3 cm, 3-loculed with usually 1 seed per locule; pericarp ca. 1 mm thick, splitting into 3 valves. Seeds yellowish brown, subglobose, ca. 1.5 cm in diam. Fl. Nov–Dec, fr. Sep–Oct.

• Forests on lower hills or in valleys; 200–400 m. Guangxi (Fangcheng).

20. *Camellia ptilophylla* Hung T. Chang, Acta Sci. Nat. Univ. Sunyatseni 20(1): 98. 1981.

毛叶茶 mao ye cha

Camellia pubescens Hung T. Chang & C. X. Ye.

Shrubs or trees, to 6 m tall. Year-old branchlets straw colored, glabrous; current year branchlets densely grayish yellow pubescent. Petiole 8–10 mm, densely pubescent; leaf blade oblong, (9–)12–21 × (3–)4–6 cm, leathery, abaxially pale green, appressed pubescent but densely villous along midvein, and becoming grayish brown when dry, adaxially dark green, glabrous, and becoming dull when dry, midvein abaxially elevated and adaxially flat, secondary veins 8–10 on each side of midvein and visible to slightly raised on both surfaces, base cuneate to broadly cuneate, margin serrulate, apex acuminate. Flowers axillary or subterminal, solitary, 2.5–3 cm in diam. Pedicel 5–7 mm, densely grayish yellow pubescent; bracteoles 3, caducous. Sepals 5 or 6, persistent, broadly ovate to suborbicular, 5–6 mm, outside grayish yellow sericeous, inside glabrous. Petals 5(–8), white, broadly obovate, 1.5–1.8 cm, basally slightly connate. Stamens ca. 1 cm, glabrous; outer filament whorl basally connate for ca. 2 mm. Ovary densely grayish yellow pubescent, 3-loculed; style ca. 1 cm, glabrous or basally pubescent, apically 3-lobed. Capsule globose or 3-coccal oblate, ca. 1.5 × 2 cm, 1–3-loculed with 1 or 2 seeds per locule; pericarp ca. 1 mm thick, splitting into 3 valves. Seeds brown, hemispherical or globose, ca. 1.5 cm in diam. Fl. Dec, fr. Sep–Oct.

• Forests; 200–500 m. N Guangdong, S Hunan.

21. *Camellia sinensis* (Linnaeus) Kuntze, Trudy Imp. S.-Peterburgsk. Bot. Sada 10: 195. 1887.

茶 cha

Shrubs or trees, 1–5(–9) m tall. Young branches grayish yellow, glabrous; current year branchlets purplish red, white pubescent; terminal buds silvery gray sericeous. Petiole 4–7 mm, pubescent, glabrescent; leaf blade elliptic, oblong-elliptic, or oblong, 5–14 × 2–7.5 cm, leathery, abaxially pale green and glabrous or pubescent, adaxially dark green, shiny, and glabrous, midvein ± raised on both surfaces, secondary veins 7–9 on each side of midvein and ± raised on both surfaces, reticulate veins visible on both surfaces, base cuneate to broadly cuneate, margin serrate to serrulate, apex bluntly acute to acuminate and with an obtuse tip. Flowers axillary, solitary or to 3 in a cluster, 2.5–3.5 cm in diam. Pedicel 5–10 mm, recurved, pubescent or

glabrous, thickened toward apex; bracteoles 2, caducous, ovate, ca. 2 mm. Sepals 5, persistent, broadly ovate to suborbicular, 3–5 mm, outside glabrous or white pubescent, inside white sericeous, margin ciliolate. Petals 6–8, white; outer 1–3 petals sepaloïd; inner petals obovate to broadly obovate, 1.5–2 × 1.2–2 cm, basally connate, apex rounded. Stamens numerous, 0.8–1.3 cm, glabrous; outer filament whorl basally connate for ca. 2 mm. Ovary globose, densely white pubescent, tomentose, or subglabrous, 3-loculed; style ca. 1 cm, glabrous or base pubescent, apically 3-lobed. Capsule obovate, 2-coccal, or rarely globose, 1–1.5 × 1.5–3 cm, 1- or 2-loculed with 1 seed per locule; pericarp ca. 1 mm thick. Seeds brown subglobose, 1–1.4 cm in diam. Fl. Oct–Feb, fr. Aug–Oct.

Evergreen broad-leaved forests, thickets; 100–2200 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Henan, Hubei, Hunan, Jiangsu, Jiangxi, S Shaanxi, Sichuan, Taiwan, SE Xizang, Yunnan, Zhejiang [NE India, S Japan, S Korea, Laos, Myanmar, Thailand, Vietnam].

Tea is made from the vegetative buds and young leaves of *Camellia sinensis* var. *sinensis* and *C. sinensis* var. *assamica*. There is a long history of the use and cultivation of tea in China. Tea is usually distinguished by the Chinese people as small leaf tea (var. *sinensis*) with a more northern distribution and large leaf tea (var. *assamica*) with a more southern distribution. However, the other varieties of *C. sinensis* and even some other species of *Camellia* are locally used as tea. The distinction between green tea and black tea concerns the processing of the leaves whether they are just wilted before drying (green tea) or wilted and then fermented before drying (black tea).

Because of extensive cultivation, it is often difficult to know for certain whether specific collections of var. *sinensis* and var. *assamica* are wild, cultivated, or escaped. For this reason, the actual wild distribution of these two varieties is uncertain.

- 1a. Leaf blade apex acute to bluntly acute and with an obtuse tip; ovary densely pubescent or tomentose.
- 2a. Sepals outside glabrous 21a. var. *sinensis*
 2b. Sepals outside white pubescent ... 21b. var. *pubilimba*
- 1b. Leaf blade apex acuminate; ovary glabrous at least apically.
- 3a. Leaf blade abaxially densely spreading villous along midvein; ovary apically glabrous 21c. var. *assamica*
 3b. Leaf blade abaxially appressed pubescent; ovary glabrous or base rarely sparsely pubescent 21d. var. *dehungensis*

21a. *Camellia sinensis* var. *sinensis*

茶(原变种) cha (yuan bian zhong)

Thea sinensis Linnaeus, Sp. Pl. 1: 515. 1753; *Camellia arborescens* Hung T. Chang & F. L. Yu; *C. longlingensis* F. C. Zhang et al.; *C. oleosa* (Loureiro) Rehder; *C. sinensis* f. *formosensis* Kitamura; *C. sinensis* f. *macrophylla* (Siebold) Kitamura; *C. sinensis* f. *parvifolia* (Miquel) Sealy; *C. sinensis* var. *waldeniae* (S. Y. Hu) Hung T. Chang; *C. thea* Link; *C. waldeniae* S. Y. Hu; *T. bohea* Linnaeus; *T. cantonensis* Loureiro; *T. chinensis* Sims; *T. cochinchinensis* Loureiro; *T. grandifolia* Salisbury; *T. olearia* Loureiro ex Gomes; *T. oleosa* Loureiro; *T. parvifolia* Salisbury (1796), not Hayata (1913); *T. sinensis* var. *macrophylla* Siebold; *T. sinensis* var. *parvifolia* Miquel; *T. viridis* Linnaeus; *Theaphylla cantonensis* (Loureiro) Rafinesque.

Leaf blade abaxially glabrous or sparsely pubescent only when young, apex bluntly acute. Sepals outside glabrous. Ovary densely white pubescent. Fl. Oct–Dec, fr. Sep–Oct. $2n = 30, 45, 60$.

Evergreen broad-leaved forests, thickets; 100–2200 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Henan, Hubei, Hunan, Jiangsu, Jiangxi, S Shaanxi, Sichuan, Taiwan, SE Xizang, Yunnan, Zhejiang [NE India, S Japan, S Korea].

This taxon is widely cultivated in tropical and subtropical parts of the world. Because of its extensive long-term cultivation, the original wild distribution in E Asia is obscure although certainly much more restricted than the current distribution.

21b. *Camellia sinensis* var. *pubilimba* Hung T. Chang, Acta Sci. Nat. Univ. Sunyatseni 20(1): 98. 1981.

白毛茶 bai mao cha

Camellia angustifolia Hung T. Chang; *C. dishiensis* F. C. Zhang et al.; *C. parvisepala* Hung T. Chang.

Leaf blade abaxially densely white pubescent, apex acute and with an obtuse tip. Flowers small. Sepals outside white pubescent. Ovary tomentose. Fl. Oct–Dec, fr. Aug–Oct.

• Evergreen broad-leaved forests; 200–1500 m. W Guangdong, Guangxi, Hainan, SE Yunnan.

21c. *Camellia sinensis* var. *assamica* (J. W. Masters) Kitamura, Acta Phytotax. Geobot. 14: 59. 1950.

普洱茶 pu er cha

Thea assamica J. W. Masters, J. Agric. Soc. India 3: 63. 1844; *Camellia assamica* (J. W. Masters) Hung T. Chang; *C. assamica* var. *kucha* (Hung T. Chang & H. S. Wang) Hung T. Chang & H. S. Wang; *C. assamica* var. *polyneura* (Hung T. Chang & Y. J. Tang) Hung T. Chang; *C. multiseepala* Hung T. Chang & Y. J. Tang; *C. polyneura* Hung T. Chang & Y. J. Tang; *C. sinensis* var. *kucha* Hung T. Chang & H. S. Wang; *C. theifera* Griffith; *T. chinensis* var. *assamica* (J. W. Masters) Pierre; *T. viridis* var. *assamica* (J. W. Masters) Choisy.

Leaf blade elliptic, 8–14 × 3.5–7.5 cm, abaxially densely spreading villous along midvein, apex acuminate. Ovary apically glabrous. Fl. Dec–Feb, fr. Aug–Oct. $2n = 30$.

Evergreen broad-leaved forests; (100–)500–1500(–1900) m. S Guangdong, S Guangxi, Hainan, S Yunnan [Laos, Myanmar, Thailand, Vietnam].

Camellia sinensis var. *assamica* is the source of Puer (普洱) tea which is a black (fermented) tea from Yunnan.

21d. *Camellia sinensis* var. *dehungensis* (Hung T. Chang & B. H. Chen) T. L. Ming, Acta Bot. Yunnan. 14: 128. 1992.

德宏茶 de hong cha

Camellia dehungensis Hung T. Chang & B. H. Chen, Acta Sci. Nat. Univ. Sunyatseni 23(1): 8. 1984; *C. parvisepaloides* Hung T. Chang & H. S. Wang.

Leaf blade elliptic, 11–17 × 4–7 cm, abaxially pubescent, apex acuminate to acute. Ovary glabrous, base rarely sparsely pubescent. Fl. Dec–Jan, fr. Sep–Oct.

• Evergreen broad-leaved forests; 100–1600(–2000) m. S Yunnan.

3. *Camellia* sect. *Longipedicellatae* Hung T. Chang, Taxon. Gen. *Camellia*, 98. 1981 [*“Longipedicellata”*].

长梗茶组 chang geng cha zu

Camellia sect. *Longissimae* Hung T. Chang.

Flowers axillary. Pedicel slender, elongate; bracteoles 2–4, persistent or caducous. Sepals 5, persistent. Petals 7–9, white, nearly distinct. Stamens in 2 or 3 whorls; filament filiform, glabrous or pubescent; outer filament whorl basally connate. Ovary 3(or 4)-loculed; style 3-parted to nearly distinct.

Five species: SW China, Laos, Vietnam; four species (three endemic) in China.

- 1a. Bracteoles caducous 25. *C. longissima*
 1b. Bracteoles persistent.
 2a. Ovary glabrous 22. *C. longipedicellata*
 2b. Ovary tomentose.
 3a. Current year branchlets, abaxial surface of leaf blades, and petioles glabrous; leaf blade oblong to oblong-lanceolate, 16–25 × 3.5–7 cm; petiole 6–10 mm 23. *C. hekouensis*
 3b. Current year branchlets, midvein of leaf blade abaxial surface, and petioles pubescent; leaf blade narrowly lanceolate, 6–11 × 1.4–2.8 cm; petiole 2–4 mm 24. *C. gracilipes*

22. *Camellia longipedicellata* (Hu) Hung T. Chang & D. Fang, Acta Phytotax. Sin. 18: 229. 1980.

长梗茶 chang geng cha

Theopsis longipedicellata Hu, Acta Phytotax. Sin. 10: 141. 1965.

Shrubs 1–2 m tall. Young branches grayish brown, slender, glabrescent; current year branchlets purplish brown, pubescent. Petiole ca. 2 mm, pubescent; leaf blade broadly ovate, elliptic, or oblong-elliptic, 4–7 × 1.5–3.5 cm, leathery, abaxially pale green, brown glandular punctate, and sparsely pubescent along midvein, adaxially dark green, shiny, and glabrous, midvein abaxially elevated and adaxially impressed, secondary veins 5 or 6 on each side of midvein, abaxially raised, and adaxially slightly impressed, base cuneate to obtuse, margin serrulate, apex acute to acuminate and with an obtuse tip. Bract solitary at base of pedicel, ovate, ca. 1.5 mm, outside pubescent, margin ciliolate. Flowers axillary or subterminal, solitary, ca. 4.5 cm in diam. Pedicel 1.2–2 cm, slender, glabrous; bracteoles 3 or 4, persistent, ovate, 1–2 mm, margin ciliolate. Sepals 5–7, broadly ovate, 4–7 mm, glabrous, margin ciliolate. Petals ca. 9, white, obovate, 2–3 × 1.5–2 cm, basally slightly connate. Stamens ca. 1 cm; outer filament whorl glabrous, basally connate into a 3–5 mm tube; inner filaments nearly distinct, white pilose. Ovary globose, ca. 2 mm in diam., glabrous, 3(or 4)-loculed; styles 3(or 4), distinct, ca. 1 cm but elongating after anthesis. Capsule oblate, 1–1.5 cm in diam., 3(or 4)-loculed; pericarp ca. 1 mm thick. Seeds brown, pubescent. Fl. Dec–Feb, fr. Sep–Oct.

• Thickets on calcareous hills; ca. 200 m. C Guangxi.

23. *Camellia hekouensis* C. J. Wang & G. S. Fan, Acta Bot. Yunnan. 10: 365. 1988.

河口长梗茶 he kou chang geng cha

Shrubs or trees, 3–4.5 m tall. Year-old branchlets purplish brown; current year branchlets green, glabrous. Petiole 6–10 mm, glabrous; leaf blade oblong to oblong-lanceolate, 16–25 × 3.5–7 cm, thinly leathery, abaxially pale green and becoming pale brown when dry, adaxially dark green, both surfaces gla-

brous, midvein raised, secondary veins 13–18 on each side of midvein and raised on both surfaces, reticulate veins slightly raised or obscure on both surfaces, base broadly cuneate to rounded, margin serrulate, apex abruptly shortly caudate to long caudate. Flowers axillary, solitary or to 3 in a cluster. Pedicel 2.5–3.5 cm, slender, glabrous; bracteoles 3, persistent, ovate, ca. 1 mm, glabrous. Sepals 5, broadly ovate to suborbicular, 3–5 × 3–4 mm, glabrous, margin ciliolate. Petals 7, white, nearly distinct, obovate to obovate-elliptic, 7–10 × 6–7 mm, glabrous. Stamens ca. 7 mm, glabrous; outer filament whorl basally connate for ca. 1 mm. Ovary ovoid, ca. 1.5 mm in diam., densely pale yellow tomentose, 3-loculed; style ca. 5 mm, 3-parted to near base, base pubescent or glabrous. Capsule not seen. Fl. Nov–Dec.

• Forests on hilly slopes or in valleys; 300–500 m. SE Yunnan (Hekou).

24. *Camellia gracilipes* Merrill ex Sealy, Kew Bull. 4: 218. 1949.

狭叶长梗茶 xia ye chang geng cha

Shrubs 1.8–3 m tall. Young branches grayish brown, slender, glabrous; current year branchlets purplish red, gray pubescent. Petiole 2–4 mm, pubescent; leaf blade narrowly lanceolate, 6–11 × 1.4–2.8 cm, leathery, abaxially pale green, pubescent along midvein, and becoming yellowish brown when dry, adaxially dark green and glabrous, midvein abaxially raised and adaxially impressed, secondary veins 6 or 7 on each side of midvein, abaxially raised, and adaxially impressed, base rounded to obtuse, margin sparsely serrate, apex long acuminate to caudate. Flowers axillary, solitary or to 3 in a cluster. Pedicel 3–3.5 cm, slender, glabrous; bracteoles 2, persistent, long ovate, ca. 1 × 0.5 mm, membranous, glabrous, apex apiculate. Sepals 5, semiorbicular to broadly elliptic, 1.5–2.5 × 2–4 cm, glabrous, margin ciliolate. Petals 7, white, obovate to broadly obovate; outer 2 petals ca. 7 mm; inner petals nearly distinct, 10–11 × 6–10 mm, outside silky gray sericeous, inside glabrous. Stamens ca. 6 mm, glabrous; outer filament whorl basally connate for 1–2 mm. Ovary ovoid, ca. 2 mm, yellow tomentose, 3-loculed; style ca. 7 mm, 3-parted to near base, basal 1/2 pubescent. Capsule ovoid, 2.5–3.5 × 2–2.5 cm, usually 1-

loculed with 1 seed; pericarp ca. 1 mm thick. Seed brown, globose, glabrous. Fl. Nov–Dec, fr. Sep–Oct.

Thickets; 100–300 m. Guangxi (Fangcheng) [N Vietnam].

25. *Camellia longissima* Hung T. Chang & S. Ye Liang in Hung T. Chang, *Taxon. Gen. Camellia*, 124. 1981.

超长梗茶 chao chang geng cha

Shrubs or trees, 3.5–5 m tall. Young branches grayish white to straw colored; current year branchlets purplish brown, glabrous. Petiole 2–7 mm, glabrous; leaf blade obovate-elliptic to obovate-oblong, 9–19 × 4–8.5 cm, papery, abaxially pale green, adaxially dark green, both surfaces glabrous, midvein abaxially raised and adaxially ± impressed, secondary veins 14–

19 on each side of midvein, abaxially raised, and adaxially ± impressed, base cuneate to broadly cuneate, margin serrulate, apex abruptly caudate with a 1–1.5 cm cauda. Flowers axillary, solitary or paired. Pedicel 1.7–4.5 cm, slender, glabrous; bracteoles 2–4, caducous. Sepals 5, broadly ovate to suborbicular, 4–5 × 3–4 mm, outside glabrous, inside white pubescent, margin ciliolate. Petals 7 or 8, white, nearly distinct, obovate-elliptic, ca. 10 × 7–8 mm. Stamens 7–8 mm, glabrous; outer filament whorl basally connate for ca. 1 mm. Ovary globose, ca. 1 mm in diam., glabrous, 3-loculed; style 6–8 mm, apically 3-parted for ca. 1/3 of its length, glabrous. Capsule not seen. Fl. Dec.

• Evergreen broad-leaved forests; 400–500 m. Guangxi (Longzhou).

4. *Camellia* sect. *Corallinae* Sealy, Rev. Gen. *Camellia*, 132. 1958 [*“Corallina”*].

短蕊茶组 duan rui cha zu

Camellia sect. *Brachyandrae* Hung T. Chang.

Flowers axillary or subterminal, solitary or to 3 in a cluster, small. Bracteoles 2 or 3, persistent, contiguous with sepals, rarely absent. Sepals (4 or 5 or 6), persistent, basally connate into a shallow cup. Petals 5–7(–9), white or rarely yellow; inner 5 petals basally connate and adnate to androecium. Stamens in 2(or 3) whorls, short, ca. 1/2 as long as petals; filament usually subulate; outer filament whorl basally connate. Styles distinct or nearly so.

Nine species: S China, N Vietnam; five species (four endemic) in China.

1a. Leaf blade base auriculate-cordate; seeds pubescent.

2a. Current year branchlets glabrous; leaf blade oblong to oblong-lanceolate, 9–23.5 cm; petals yellow; ovary glabrous 26. *C. amplexifolia*

2b. Current year branchlets spreading hirsute; leaf blade elliptic to ovate-oblong, 2–5.5 cm; petals white; ovary tomentose 27. *C. pilosperma*

1b. Leaf blade base rounded, cuneate, or obtuse; seeds glabrous.

3a. Ovary white pubescent 30. *C. xanthochroma*

3b. Ovary glabrous.

4a. Leaf blade elliptic to oblong-elliptic, secondary veins adaxially impressed, apex abruptly shortly caudate; pedicel 4–5 mm; ovary base with a terete disk 28. *C. gilbertii*

4b. Leaf blade oblong to oblong-lanceolate, secondary veins adaxially obscure, apex obtuse; pedicel ca. 1.5 mm; ovary base without a disk 29. *C. parviflora*

26. *Camellia amplexifolia* Merrill & Chun, *Sunyatsenia* 5: 129. 1940.

抱茎短蕊茶 bao jing duan rui cha

Theopsis amplexifolia (Merrill & Chun) Hu.

Shrubs to 4 m tall. Young branches grayish brown; current year branchlets purplish brown, thick, glabrous. Petiole 1–2 mm, glabrous; leaf blade oblong to oblong-lanceolate, 9–23.5 × 3–5.5(–6.5) cm, leathery, abaxially pale green but becoming brown when dry, adaxially dark green, both surfaces glabrous, midvein abaxially elevated and adaxially impressed, secondary veins 9–11 on each side of midvein, slender, and slightly raised on both surfaces, base cordate and amplexicaul, margin undulate-serrate to subentire, apex acute to obtuse. Flowers axillary, solitary or paired. Pedicel ca. 2 mm, glabrous; bracteoles 2 or 3, persistent, semiorbicular to broadly ovate, 1–1.5 mm, glabrous. Calyx campanulate, 3–4 mm; lobes 5, persistent, unequal, broadly ovate, 2–4 mm, concave, crustaceous, glabrous, margin membranous and ciliolate. Petals 5 or 6, yellow, broadly ovate, 5–7 mm, basally connate for ca. 2 mm, apex rounded.

Stamens ca. 20, 4–4.5 mm, glabrous, basally connate into a short tube. Ovary glabrous, 3-loculed; styles 3, distinct, ca. 3 mm. Capsule oblate, ca. 1 × 1.3 cm, 3-loculed with 1 or 2 seeds per locule; pericarp ca. 1.7 mm thick. Seeds brown, hemispherical, pubescent. Fl. May–Jun, fr. Oct.

• Forests; ca. 1100 m. Hainan (Baoting).

27. *Camellia pilosperma* S. Ye Liang, *Acta Phytotax. Sin.* 17(2): 95. 1979.

毛籽短蕊茶 mao zi duan rui cha

Shrubs 1–3 m tall. Young branches grayish brown; current year branchlets spreading hirsute, indumentum persistent. Petiole 1.5–2 mm, hirtellous; leaf blade elliptic to ovate-oblong, 2–5.5 × 1–2.5 cm, leathery, abaxially pale green and sparsely pubescent, adaxially dark green and hirtellous along midvein, both surfaces becoming dark brown when dry, midvein abaxially raised and adaxially impressed, secondary veins 5–7 on each side of midvein, abaxially raised, and adaxially impressed, base auriculate-cordate, margin serrulate, apex obtuse. Flowers axillary, solitary or paired, 2–2.5 cm in diam. Pedicel ca. 2 mm;

bracteoles 2 or 3 (or 4), covering pedicel, semiorbicular to suborbicular, 0.5–2 mm, glabrous. Sepals 5 (or 6), suborbicular, 4–5 mm, crustaceous, margin broadly membranous and ciliate. Petals 5–7, white, obovate to obovate-elliptic, 1.2–2 × 0.7–1.2 cm, apex emarginate, basally connate for ca. 2 mm. Stamens ca. 1.2 cm, glabrous; outer filament whorl basally connate for ca. 2 mm. Ovary tomentose, 3-loculed; styles 3, distinct to basal 1/3 connate, ca. 1 cm. Capsule oblate, 5–7 × 7–10 mm, 3-loculed with 1 or 2 seeds per locule; pericarp ca. 1 mm thick. Seeds globose or hemispherical, 4–5 mm in diam., pubescent. Fl. Jan–Feb, fr. Oct–Nov.

- Thickets; 100–500 m. Guangxi (Zhaoping).

28. *Camellia gilbertii* (A. Chevalier) Sealy, Rev. Gen. *Camellia*, 136. 1958.

中越短蕊茶 zhong yue duan rui cha

Thea gilbertii A. Chevalier, Bull. Econ. Indochine 21: 531. 1919.

Shrubs to 2 m tall. Young branches grayish yellow, slender; current year branchlets purplish red, pubescent or glabrescent. Petiole purplish red, 5–8 mm, sparsely pubescent; leaf blade elliptic to oblong-elliptic, 7–13 × 3–5 cm, thinly leathery, abaxially pale green and sparsely pubescent along midvein, adaxially green, both surfaces glabrous, midvein abaxially raised and adaxially impressed, secondary veins 6 or 7 on each side of midvein, abaxially raised, and adaxially impressed, base cuneate, margin obtusely serrate, apex abruptly shortly caudate. Flowers axillary, solitary. Pedicel 4–5 mm, glabrous; bracteoles 2 or 3, persistent, ovate to semiorbicular, 0.5–1 mm, glabrous. Sepals 5 or 6, broadly ovate, 2–3 × 3–4 mm, glabrous. Petals 5 or 6, white, broadly obovate to suborbicular, 6–7 × 3.5–5.5 mm, basally connate for ca. 2 mm, apex rounded. Stamens ca. 20, ca. 4 mm, glabrous; filaments subulate; outer filament whorl basally connate for ca. 2 mm. Gynoecium ca. 2.5 mm, glabrous, seated on a fleshy shortly cylindrical lobulate disk ca. 1 mm high. Ovary globose, ca. 1.5 mm in diam., glabrous, 3-loculed; styles 3, distinct, ca. 1 mm. Capsule not seen. Fl. Nov–Dec.

Forests, thickest; near sea level to 2000 m. Yunnan (Hekou) [N Vietnam].

29. *Camellia parviflora* Merrill & Chun ex Sealy, Rev. Gen. *Camellia*, 139. 1958.

细花短蕊茶 xi hua duan rui cha

Shrubs to 3 m tall. Young branches grayish white, slender;

current year branchlets pubescent or glabrescent. Petiole 3–5 mm, sparsely pubescent or glabrescent; leaf blade oblong to oblong-lanceolate, 4–7 (–14) × (1–)1.5–3 (–3.5) cm, thinly leathery, abaxially pale green and sparsely pubescent along midvein or glabrescent, adaxially dark green, shiny, and glabrous, midvein abaxially elevated and adaxially impressed, secondary veins obscure on both surfaces, base cuneate, margin widely undulate-dentate, apex obtuse. Flowers axillary or subterminal, solitary, 8–10 mm in diam. Pedicel ca. 1.5 mm; bracteoles 2, persistent, semiorbicular, 1–1.5 mm, glabrous, margin ciliate. Sepals 5 (or 6), persistent, suborbicular, 2.5–4 mm, leathery, glabrous, margin membranous and ciliate. Petals 5 or 6, white, obovate to obovate-elliptic, 7–8 × 3.5–5.5 mm, basally connate for 2–3 mm, apex rounded. Stamens ca. 4 mm, glabrous; filament subulate, basally connate for ca. 1.5 mm. Ovary glabrous, 3-loculed; styles 3, distinct, ca. 3 mm. Capsule oblate, 1–1.5 cm in diam.; pericarp 1–1.5 mm thick. Seeds brown, hemispherical. Fl. Apr–May, fr. Nov.

- Rain forests; 300–500 m. S and SW Hainan.

30. *Camellia xanthochroma* K. M. Feng & L. S. Xie, Acta Bot. Yunnan. 2: 424. 1980.

黄花短蕊茶 huang hua duan rui cha

Camellia brachyandra Hung T. Chang.

Shrubs 2–4 m tall. Young branches grayish brown, slender; current year branchlets brown, glabrous. Petiole 3–7 mm, thick, glabrous, abaxially grooved; leaf blade oblong to oblong-elliptic, (6.5–)12–21 × (2–)4–7 cm, thinly leathery, abaxially pale green, adaxially green, both surfaces glabrous, midvein abaxially elevated and adaxially impressed, secondary veins 11–13 on each side of midvein, abaxially raised, and adaxially visible to slightly impressed, base rounded to obtuse, margin widely undulate-serrate to subentire, apex obtuse. Flowers axillary, solitary or to 3 in a cluster, 1–1.2 cm in diam. Pedicel ca. 2 mm, glabrous; bracteoles 2 (or 3), persistent, broadly ovate, ca. 2 mm, glabrous. Sepals 5 or 6, persistent, pale yellow, suborbicular, 3–4 mm, leathery, glabrous, margin membranous. Petals 6–8, broadly obovate, 6–7 mm, basally slightly connate, apex rounded. Stamens 12–16, 3–4 mm; filaments glabrous, basally connate. Ovary globose, ca. 2 mm in diam., white pubescent, 3-loculed; styles 3, distinct, ca. 2 mm, glabrous. Capsule oblate, ca. 8 × 10 mm, 3 (or 4)-loculed; pericarp ca. 2 mm thick. Fl. Jul–Aug, fr. Oct–Dec.

- Forests along streams; 100–200 m. S Hainan (Sanya).

5. *Camellia* sect. **Theopsis** Cohen-Stuart, Meded. Proefstat. Thee 40: 69. 1916.

连蕊茶组 lian rui cha zu

Camellia subg. *Metacamellia* Hung T. Chang; *Theopsis* (Cohen-Stuart) Nakai.

Leaf blade often small, thinly leathery, adaxially hirtellous along midvein. Flowers axillary, solitary or paired, small. Bracteoles (2 or)3–5 (–8), persistent. Sepals 5, basally ± connate. Petals 5 (–7), white, basally connate and adnate with androecium. Stamens in 2 whorls, glabrous; outer filament whorl basal 2/3 usually connate into a tube. Gynoecium glabrous. Ovary 3 (–5)-loculed. Capsule 1 (–4)-loculed, usually 1-seeded, rarely more; columella nearly abortive; pericarp ca. 1 mm thick, leathery, splitting into 3 valves.

Nineteen species: China, S Japan, Myanmar, Thailand, Vietnam; 19 species (14 endemic) in China.

1a. Current year branchlets glabrous or puberulent, sometimes only obviously minutely puberulent under magnification.

- 2a. Sepals linear-lanceolate, 5–10 mm, apex caudate-acuminate 37. *C. longicalyx*
- 2b. Sepals broader than linear-lanceolate, 1–5(–8) mm, apex rounded, obtuse, or caudate.
- 3a. Young branches slender and ascendant; pedicel 8–12 mm, not thickened toward apex; calyx ca. 2/3 connate 49. *C. elongata*
- 3b. Young branches spreading; pedicel 2–5 mm, thickened toward apex; calyx ca. 1/2 or less connate.
- 4a. Leaf blade glabrous, midvein adaxially impressed 36. *C. glabricostata*
- 4b. Leaf blade minutely hirtellous, midvein adaxially raised.
- 5a. Leaf blade oblong-elliptic, elliptic, or oblong-lanceolate; sepals and petals outside not farinose-puberulent; sepal margins membranous 34. *C. cuspidata*
- 5b. Leaf blade lanceolate to linear-lanceolate; sepals and petals outside farinose-puberulent; sepal margins ciliolate 35. *C. viridicalyx*
- 1b. Current year branchlets densely pubescent, hispidulous, hirsute, or spreading villous.
- 6a. Current year branchlets spreading villous, hirsute, or pubescent.
- 7a. Filaments white pilose 47. *C. tsingpiensis*
- 7b. Filaments glabrous.
- 8a. Leaves distichous; leaf blade ovate to elliptic-ovate, 1–2.5 cm, base rounded to subcordate; sepals outside glabrous 44. *C. trichoclada*
- 8b. Leaves not distichous; leaf blade elliptic, oblong-elliptic, or ovate-lanceolate, 2–8 cm, base broadly cuneate to cuneate; sepals outside villous.
- 9a. Leaf blade 4–8 × 2–3.5 cm; petiole 3–5 mm; calyx lobes inside yellow sericeous; petals 2–2.5 cm 45. *C. fraterna*
- 9b. Leaf blade 2–4.8 × 1–1.7 cm; petiole 1.5–3 mm; calyx lobes inside glabrous; petals 1–1.8 cm 46. *C. transarisanensis*
- 6b. Current year branchlets densely pubescent or hispidulous.
- 10a. Style usually divided to middle, apically parted for (1–)2.5–9 mm.
- 11a. Style (4 or)5-parted 31. *C. stuartiana*
- 11b. Style 3-parted.
- 12a. Style parted for 7–9 mm 33. *C. crassipes*
- 12b. Style parted for 2.5–5 mm.
- 13a. Leaf blade elliptic, elliptic-ovate, ovate, or oblong-ovate, 2–7 × 1–2.5 cm, base rounded to obtuse, apex broadly obtuse, bluntly acute, or bluntly acuminate; bracteoles outside glabrous; stamens 0.9–1.2 cm; style 0.8–1.2 cm; capsule apex convex 32. *C. forrestii*
- 13b. Leaf blade oblong-lanceolate, lanceolate, or narrowly lanceolate, 5–10 × 1.5–3 cm, base cuneate to broadly cuneate, apex long acuminate to caudate; bracteoles outside pubescent; stamens 1.1–1.4 cm; style 1.2–1.5 cm; capsule apex apiculate 40. *C. tsaii*
- 10b. Style apically 3-lobed or 3-parted, apically parted for ca. 1.5 mm or less.
- 14a. Leaf blade 2–4.5 cm.
- 15a. Bracteoles 4–8, covering pedicel 41. *C. lutchuensis*
- 15b. Bracteoles 3–5, not covering pedicel.
- 16a. Pedicel 2–4 mm, stout, bracteoles outside glabrous; calyx lobes 2–2.5 mm 42. *C. rosthorniana*
- 16b. Pedicel 4–10 mm but to 15 mm in fruit, slender, bracteoles outside puberulent near apex; calyx lobes 1–1.5 mm 43. *C. euryoides*
- 14b. Leaf blade 5–10(–12) cm.
- 17a. Calyx lobes outside glabrous 38. *C. synaptica*
- 17b. Calyx lobes outside pubescent.
- 18a. Pedicel 2–5 mm; calyx 3–4.5 mm 39. *C. costei*
- 18b. Pedicel ca. 7 mm; calyx 5–5.6 mm 48. *C. cupiformis*

31. *Camellia stuartiana* Sealy, Kew Bull. 4: 220. 1949.

五室连蕊茶 wu shi lian rui cha

Shrubs or trees, 2–6 m tall. Young branches grayish brown, glabrous; current year branchlets yellow pubescent. Petiole 3–5 mm, pubescent; leaf blade oblong-elliptic to elliptic, 7–12 × 3–4 cm, thinly leathery, abaxially pale green and sparsely pilose, adaxially dark green and hirtellous along midvein, midvein abaxially raised and adaxially visible to slightly raised, secondary veins 8–10 on each side of midvein, abaxially ± raised, and adaxially visible to slightly impressed, reticulate veins adaxially visible to slightly impressed, base broadly cuneate,

margin serrulate, apex caudate. Flowers axillary or subterminal, solitary or paired. Pedicel 2–3 mm; bracteoles 4 or 5, persistent, broadly triangular to ovate, 1–1.5 mm, outside grayish villous, inside glabrous, margin ciliolate. Calyx cupular; lobes 5, broadly ovate to suborbicular, 2–3 mm, outside densely grayish villous, inside glabrous, basally connate for ca. 1 mm. Petals 5–7, white, broadly obovate to obovate-elliptic, 1.5–1.7 cm, outside villous toward apex, basally connate for ca. 4 mm, apex rounded to retuse. Stamens 1.2–1.5 cm, glabrous; outer filament whorl basally connate for 6–7 mm. Ovary ovoid, glabrous, (4 or)5-loculed; style 1.5–1.7 cm, (4 or)5-parted for 7–9 mm. Capsule globose, ca. 2 cm in diam., 1-loculed with 1 seed; pericarp

ca. 1 mm thick. Seed brown, globose, ca. 1.7 cm in diam. Fl. Feb–Mar, fr. Aug–Sep.

- Forests; ca. 1500 m. Yunnan (Hekou, Yuanjiang).

32. *Camellia forrestii* (Diels) Cohen-Stuart, Meded. Proefstat. Thee 40: 68. 1916.

云南连蕊茶 yun nan lian rui cha

Shrubs or trees, 1–6(–8) m tall. Older branches grayish brown, bark splitting longitudinally, exfoliating, and becoming smooth and gray; current year branchlets densely shortly pubescent to hispidulous, indumentum persisting through second year. Petiole 2–4 mm, densely shortly pubescent to hispidulous; leaf blade elliptic, elliptic-ovate, ovate, or oblong-ovate, 2–7 × 1–2.5 cm, leathery to thinly leathery, abaxially pale green and sparsely pubescent but with a dense indumentum along midvein or glabrescent, adaxially dark green and hirtellous along midvein, midvein raised on both surfaces, secondary veins obscure to slightly raised on both surfaces, base rounded to obtuse, margin serrulate to crenulate-serrulate, apex broadly obtuse, bluntly acute, or bluntly acuminate. Flowers axillary, solitary or paired, 1.5–2.5 cm in diam. Pedicel 2–4.5 mm, thickened toward apex; bracteoles 3 or 4, persistent, semiorbicular, triangular-ovate, or broadly ovate, 1–2 mm, outside glabrous, margin ciliolate, apex rounded, obtuse, or acute. Calyx cupular, 5–6 mm; lobes 5, persistent, unequal, semiorbicular, broadly ovate, triangular-ovate, or long ovate, 2.5–10 mm, leathery, outside glabrous or apically pubescent, inside puberulent, margin membranous, apex rounded, obtuse, or acute. Petals 5 or 6, white but sometimes pink or purplish red in bud, broadly obovate, unequal, 0.6–1.5 cm, basally connate for ca. 2 mm, apex rounded to retuse. Stamens 0.9–1.2 cm, glabrous; outer filament whorl basally connate for 2–3.5(–5) mm. Ovary ovoid, 1–2 mm in diam., glabrous, 3-loculed; style 0.8–1.2 cm, apically 3-parted for 2.5–5 mm. Capsule ovoid, 1.2–1.5 cm in diam., 1-loculed with 1 seed, apex convex; pericarp ca. 1 mm thick, leathery. Seed brown, globose, ca. 1 cm in diam., smooth. Fl. Nov–May, fr. Sep–Oct. $2n = 30, 60, 90$.

Forests, thickets; (1200–)1600–2900(–3200) m. Yunnan [N Vietnam].

- 1a. Sepals triangular-ovate to long ovate, apex acute 32c. var. *acutisepala*
 1b. Sepals broadly ovate to suborbicular, apex rounded to obtuse.
 2a. Flower buds white, rarely pink; sepal 2.5–5 mm, margins narrowly membranous 32a. var. *forrestii*
 2b. Flower buds lightly purplish red; sepal 7–10 mm, margins widely membranous 32b. var. *pentamera*

32a. *Camellia forrestii* var. *forrestii*

云南连蕊茶(原变种) yun nan lian rui cha (yuan bian zhong)

Thea forrestii Diels, Notes Roy. Bot. Gard. Edinburgh 5: 284. 1912; *Camellia liui* H. T. Tsai & K. M. Feng; *C. polygama* (Hu) Hu; *C. truncata* Hung T. Chang & C. X. Ye; *T. polygama* Hu; *Theopsis forrestii* (Diels) Nakai; *T. polygama* (Hu) Nakai.

Leaf blade ovate, elliptic-ovate, or oblong-ovate, apex usually obtuse but sometimes bluntly acute to bluntly acuminate. Flower buds white, rarely pink. Sepals 2.5–5 mm, margins narrowly membranous. Fl. Jan–Mar, fr. Sep–Oct.

Forests, thickets; (1200–)1600–2800(–3200) m. Yunnan [N Vietnam].

32b. *Camellia forrestii* var. *pentamera* (Hung T. Chang) T. L. Ming, Acta Bot. Yunnan. 21: 153. 1999.

膜萼云南连蕊茶 mo e yun nan lian rui cha

Camellia pentamera Hung T. Chang, Taxon. Gen. *Camellia*, 90. 1981.

Flower buds lightly purplish red. Sepals broadly ovate, 7–10 mm, margin widely membranous. Fl. Feb–May, fr. Sep–Oct.

- Thickets; 2000–2500 m. Yunnan (Wenshan).

32c. *Camellia forrestii* var. *acutisepala* (H. T. Tsai & K. M. Feng) Hung T. Chang, Taxon. Gen. *Camellia*, 138. 1981.

尖萼云南连蕊茶 jian e yun nan lian rui cha

Camellia acutisepala H. T. Tsai & K. M. Feng, Acta Phytotax. Sin. 1: 189. 1951, not Hung T. Chang (1991).

Bracteoles and sepals triangular-ovate to long ovate, apex acute. Fl. Nov–Feb, fr. Sep.

- Forests, thickets; 1900–2900 m. C Yunnan.

33. *Camellia crassipes* Sealy, Kew Bull. 4: 215. 1949.

粗梗连蕊茶 cu geng lian rui cha

Camellia yangkiangensis Hung T. Chang.

Shrubs or trees, 1.5–5(–12) m tall. Current year branchlets densely brown hispidulous, indumentum ± persistent. Petiole 3–5 mm, hispidulous; leaf blade elliptic-ovate to elliptic, (3.5–)4–6.5 × 1.5–2.5 cm, leathery, abaxially pale green and villous along midvein, adaxially dark green, slightly shiny, and hirtellous along midvein, midvein raised on both surfaces, secondary veins 6–8 on each side of midvein, abaxially raised, and adaxially slightly impressed but sometimes obscure on both surfaces, base broadly cuneate to obtuse, margin serrulate, apex bluntly acuminate to caudate. Flowers axillary or subterminal, solitary or paired. Pedicel ca. 4 mm, stout, thickened toward apex, hispidulous; bracteoles 2 or 3, persistent, bluntly triangular to broadly ovate, 2.5–3 mm, outside yellowish brown pubescent, inside sericeous, margin ciliolate. Calyx cupular, 5–6 mm; lobes 5, persistent, broadly ovate to suborbicular, 3–4 mm, thickly crustaceous, outside densely yellowish brown pubescent, inside sericeous, margin thin and ciliolate. Petals 5 or 6, white, broadly obovate, 1.3–2 × 1–1.8 cm, outside sparsely puberulent, basally connate for ca. 3 mm, apex rounded to slightly retuse. Stamens 1.5–1.8 cm, glabrous; outer filament whorl basally connate for ca. 3 mm. Ovary glabrous, 3-loculed; style 1.5–1.8 cm, apically 3-parted for 7–9 mm. Capsule subglobose, ca. 1.6 cm in diam., 1-loculed with 1 seed; pericarp ca. 1 mm thick. Seed brown, subglobose, ca. 1.3 cm in diam. Fl. Feb–Mar, fr. Oct. $2n = 30^*$.

- Evergreen broad-leaved forests, mixed forests, thickets; 900–2500 m. C, NE, and SE Yunnan.

34. *Camellia cuspidata* (Kochs) H. J. Veitch, Gard. Chron., ser. 3, 51: 228, 262. 1912.

连蕊茶 lian rui cha

Shrubs or trees, 1–5 m tall. Young branches yellowish brown to grayish brown; current year branchlets straw colored, slender, glabrous or very minutely puberulent when young, soon glabrescent. Petiole 2–5 mm, glabrous or puberulent; leaf blade leathery to thinly leathery, oblong-elliptic, elliptic, or oblong-lanceolate, 5–7.5(–11) × 1.5–3(–4) cm, abaxially pale green and glabrous, adaxially dark green, slightly shiny, and hirtellous along midvein, secondary veins 6–8 on each side of midvein and obscure on both surfaces, base cuneate to broadly cuneate, margin serrulate, apex bluntly acuminate to caudate. Flowers axillary or subterminal, solitary, 2–3 cm in diam. Pedicel 2–8(–15) mm, thickened toward apex; bracteoles 3 or 4, persistent, ovate to semiorbicular, 1–2.5 mm, abaxially glabrous, pubescent, or puberulent. Calyx cupular, 2.5–10 mm; lobes 5, persistent, unequal, broadly ovate, semiorbicular to suborbicular, 2–5(–8) × 2–5.5, thinly leathery, outside glabrous, pubescent, or puberulent, inside puberulent, basally connate for 1–5(–7) mm, margin membranous, apex obtuse. Petals 5–7, white or pale red, obovate or elliptic to suborbicular, 1.3–2.5(–5) × 1–1.6(–3.5) cm, basally connate for 3–3.7 mm and adnate to androecium, apex truncate to emarginate. Stamens 1.5–1.8 cm; filaments glabrous or inner whorl sparsely pubescent; outer filament whorl basally connate into a 3–8 mm tube. Ovary ovoid, ca. 1.5 mm, glabrous, 3-loculed; style 1.5–2.2 cm, apically 3-lobed for 2–3 mm. Capsule globose, 1–2 cm in diam., 1-loculed with 1 seed; pericarp green or reddish, becoming brown when dry, ca. 1 mm thick. Seed brown, globose, ca. 1 cm in diam. Fl. Dec–Apr, fr. Aug–Oct. $2n = 30^*$.

• Forests, thickets, thickets along riverbanks; (100–)500–1500(–2200) m. S Anhui, Fujian, N Guangdong, N Guangxi, Guizhou, Hubei, Hunan, Jiangxi, S Shaanxi, Sichuan, S Yunnan, Zhejiang.

- 1a. Bracteoles and sepals outside pubescent to puberulent 34d. var. *chekiangensis*
 1b. Bracteoles and sepals outside glabrous.
 2a. Inner filament whorl sparsely pubescent 34c. var. *trichandra*
 2b. Filaments glabrous.
 3a. Pedicel 2–3 mm; calyx 2.5–4 mm; sepals basally slightly connate for ca. 1 mm; petals 1.3–2.2 × ca. 1.6 cm; capsule 1–1.2 cm in diam. 34a. var. *cuspidata*
 3b. Pedicel 5.5–8 mm; calyx 6–10 mm; sepals basally connate for 2.5–5(–7) mm; petals 2.5–3.5 cm; capsule ca. 2 cm in diam. 34b. var. *grandiflora*

34a. *Camellia cuspidata* var. *cuspidata*

连蕊茶(原变种) lian rui cha (yuan bian zhong)

Thea cuspidata Kochs, Bot. Jahrb. Syst. 27: 586. 1900; *Camellia parvicuspidata* Hung T. Chang; *T. rosiflora* (Hooker) Kuntze var. *glabra* Kochs.

Pedicel 2–3 mm. Flowers 2–3 cm in diam. Bracteoles and sepals outside glabrous. Sepals 2.5–4 mm, basally connate for ca. 1 mm. Petals 1.3–2.2 × 1–1.6 cm, basally connate for ca. 3 mm. Stamens 1.5–1.8 cm, glabrous; outer filament whorl connate for 3–4 mm. Capsule globose, 1–1.2 cm in diam. Fl. Feb–Mar, fr. Sep–Oct.

• Forests, thickets; (300–)500–1500(–2200) m. S Anhui, Fujian, N Guangdong, N Guangxi, Guizhou, Hubei, Hunan, Jiangxi, S Shaanxi, Sichuan, S Yunnan, Zhejiang.

34b. *Camellia cuspidata* var. *grandiflora* Sealy, Kew Bull. 4: 216. 1949.

大花连蕊茶 da hua lian rui cha

Camellia acutissima Hung T. Chang; *C. longicuspis* S. Ye Liang ex Hung T. Chang; *C. macrosepala* Hung T. Chang; *C. septempetala* Hung T. Chang & L. L. Qi; *C. septempetala* var. *rubra* Hung T. Chang & L. L. Qi.

Pedicel 5.5–8(–15) mm. Flowers ± slightly reddish in bud. Bracteoles and sepals outside glabrous. Sepals 6–10 mm, basally connate for 2.5–7 mm. Petals 2.5–3.5 cm. Capsule ca. 2 cm in diam. Fl. Feb–Apr, fr. Aug–Oct.

• Forests, thickets; 700–1100 m. N Guangdong, N Guangxi, S Hunan, W Jiangxi.

34c. *Camellia cuspidata* var. *trichandra* (Hung T. Chang) T. L. Ming, Acta Bot. Yunnan. 21: 153. 1999.

毛丝连蕊茶 mao si lian rui cha

Camellia trichandra Hung T. Chang, Taxon. Gen. *Camellia*, 168. 1981.

Outer filament whorl connate for basal 1/2 into a tube, glabrous; inner filaments pubescent. Capsule 3-loculed with 1 seed per locule. Fl. Dec, fr. Sep–Oct.

• Thickets along riverbanks; ca. 1100 m. Guangxi (Bose, Lingyun).

34d. *Camellia cuspidata* var. *chekiangensis* Sealy, Rev. Gen. *Camellia*, 58. 1958.

浙江连蕊茶 zhe jiang lian rui cha

Camellia campanisepala Hung T. Chang; *C. jiuyishanica* Hung T. Chang & L. L. Qi; *C. lancilimba* Hung T. Chang.

Bracteoles and sepals outside yellow pubescent to puberulent. Fl. Dec–Mar, fr. Aug–Oct.

• Forests, thickets; (300–)400–1000(–1200) m. Fujian, N Guangdong, N Guangxi, Hunan, Jiangxi, Zhejiang.

35. *Camellia viridicalyx* Hung T. Chang & S. Ye Liang in Hung T. Chang, Taxon. Gen. *Camellia*, 164. 1981.

绿萼连蕊茶 lü e lian rui cha

Shrubs 1–3 m tall. Young branches grayish brown, slender, glabrous; current year branchlets reddish brown, puberulent. Petiole 2–3 mm, puberulent; leaf blade lanceolate to linear-lanceolate, 3.5–5.5(–7) × 0.9–1.7 cm, leathery or papery, abaxially pale green and glabrous, adaxially dark green, not

shiny, and hirtellous along midvein, midvein abaxially raised and adaxially visible, secondary veins obscure on both surfaces, base broadly cuneate, margin serrulate, apex acuminate to caudate. Flowers axillary, solitary or paired, 1–2 cm in diam. Pedicel 2–5 mm; bracteoles 4 or 5, sometimes covering pedicel, green or becoming purplish red, suborbicular to broadly ovate, 0.5–2 mm, outside farinose-puberulent or glabrous, inside puberulent, margin ciliolate. Sepals 5, green or becoming purplish red, broadly ovate to suborbicular, 1–5 mm, leathery, outside farinose-puberulent, inside puberulent or glabrous, basally connate for 1–2 mm into a shallow cup, margin ciliolate. Petals only seen in bud, obovate in bud, outside farinose-puberulent. Outer filament whorl connate for basal $\pm 1/2$, distinct parts and inner filaments sparsely pilose or glabrous. Ovary glabrous, 3-loculed; style apically 3-lobed. Capsule globose, ca. 1.8 cm in diam., 1-loculed with 1 or 2 seeds. Fl. Jan–Mar.

• Forests, thickets, thickets along riverbanks; 100–900 m. NE Guangxi, Guizhou (Luodian), S Hunan.

- 1a. Leaf blade lanceolate to narrowly lanceolate, 3.5–5.5(–7) \times 1.2–1.7 cm, leathery; flowers 1.5–2 cm in diam.; pedicel 2–3 mm; bracteoles 1–2 mm, covering pedicel; sepals 4–5 mm, outside farinose-puberulent, inside puberulent; filaments pilose 35a. var. *viridicalyx*
- 1b. Leaf blade linear-lanceolate, ca. 5 \times 0.9–1.2 cm, papery; flowers ca. 1 cm in diam.; pedicel 4–5 mm, slender; bracteoles ca. 0.5 mm, not covering pedicel; sepals 1–1.5 mm, glabrous; filaments glabrous 35b. var. *linearifolia*

35a. *Camellia viridicalyx* var. *viridicalyx*

绿萼连蕊茶(原变种) lǜ e lian rui cha (yuan bian zhong)

Leaf blade lanceolate to narrowly lanceolate, 3.5–5.5(–7) \times 1.2–1.7 cm, leathery. Flowers 1.5–2 cm in diam. Pedicel 2–3 mm; bracteoles 1–2 mm, covering pedicel. Sepals 4–5 mm, outside farinose-puberulent, inside puberulent. Filaments pilose. Fl. Jan–Mar.

• Forests, thickets; 400–900 m. NE Guangxi, S Hunan.

35b. *Camellia viridicalyx* var. *linearifolia* T. L. Ming, Acta Bot. Yunnan. 21: 158. 1999.

线叶连蕊茶 xian ye lian rui cha

Leaf blade linear-lanceolate, ca. 5 \times 0.9–1.2 cm, papery. Flowers ca. 1 cm in diam. Pedicel 4–5 mm, slender; bracteoles ca. 0.5 mm, not covering pedicel. Sepals 1–1.5 mm, glabrous. Filaments glabrous. Fl. Jan.

• Thickets along riverbanks; 100–200 m. Guizhou (Luodian).

36. *Camellia glabricostata* T. L. Ming, Acta Bot. Yunnan. 21: 159. 1999.

秃肋连蕊茶 tu le lian rui cha

Shrubs or trees, 1–5 m tall. Young branches slender; current year branchlets purplish red, glabrous. Petiole 3–5 mm,

glabrous; leaf blade oblong, 5–9.5 \times 2–3.5 cm, papery, abaxially pale green, adaxially dark green, both surfaces glabrous, midvein abaxially elevated and adaxially impressed, secondary veins 6–9 on each side of midvein and adaxially slightly raised or obscure on both surfaces, base broadly cuneate, margin serrulate, apex caudate. Flowers axillary, solitary. Pedicel ca. 2 mm; bracteoles ca. 5, covering pedicel, broadly ovate, 0.5–1.5 mm, margin ciliolate. Sepals 5, nearly distinct, ovate to elliptic-ovate, 2–2.5 mm, outside apically white pubescent, margin ciliolate. Petals 5, white, pink in bud, obovate-elliptic 7–8 mm, basally connate for ca. 2 mm. Stamens ca. 6 mm; outer filament whorl basally connate into a tube, distinct part densely white villous. Ovary glabrous, 3-loculed; style ca. 6 mm, apically 3-lobed. Capsule not seen. Fl. Jan.

Forests; 200–300 m. Guangxi (Pingxiang) [N Vietnam].

37. *Camellia longicalyx* Hung T. Chang, Taxon. Gen. *Camellia*, 136. 1981.

长萼连蕊茶 chang e lian rui cha

Camellia lanceispala L. K. Ling.

Shrubs 1–4 m tall. Young branches grayish brown; current year branchlets straw colored, slender, glabrous. Petiole 2–4 mm, adaxially hirtellous; leaf blade oblong-elliptic, ovate-elliptic, or oblong, 3.7–7.5 \times 1.3–3 cm, leathery, abaxially pale green and glabrous, adaxially dark green, shiny, and hirtellous along midvein, secondary veins slightly raised or obscure on both surfaces, base broadly cuneate, margin serrate, apex caudate-acuminate to caudate. Flowers axillary, solitary or paired, 3–3.5 cm in diam. Pedicel 3–8 mm, glabrous, thickened toward apex; bracteoles 4 or 5, linear-lanceolate, 2.5–5 mm, glabrous. Sepals 5, persistent, linear-lanceolate, 5–10 mm, glabrous, margin membranous and ciliolate, apex caudate-acuminate. Petals 5, white, obovate to obovate-lanceolate, 1.5–2 cm, basally slightly connate. Stamens 1.3–1.8 cm, glabrous; outer filament whorl basally connate into a tube. Ovary glabrous, 3-loculed; style ca. 1.5 cm, apically 3-lobed. Capsule not seen. Fl. Feb–Mar.

• Forests; 200–300 m. Fujian (Taining), Guangxi (Quanzhou).

38. *Camellia synaptica* Sealy, Kew Bull. 4: 221. 1949.

川滇连蕊茶 chuan dian lian rui cha

Shrubs or trees, 1–6 m tall. Young branches grayish brown, glabrescent; current year branchlets grayish yellow pubescent. Petiole 2–5 mm, pubescent; leaf blade elliptic to oblong-elliptic, 5–9(–12) \times 2–4.5 cm, thinly leathery, abaxially pale green and sparsely pubescent along midvein or glabrescent, adaxially dark green and hirtellous along midvein, midvein raised on both surfaces, secondary veins 7 or 8 on each side of midvein and obscure on both surfaces, base cuneate to broadly cuneate, margin serrulate, apex caudate to long caudate. Flowers axillary or subterminal, solitary or paired, 2–2.5 cm in diam. Pedicel 5–7 mm, thickened toward apex, glabrous; bracteoles 4 or 5, triangular-ovate to semiorbicular, 0.5–1.5 mm, outside glabrous, margin ciliolate. Calyx shallowly cupular, 4–5 mm; lobes 5, broadly ovate to suborbicular, 2–2.5 mm, glabrous or inside sericeous, margin membranous and ciliolate.

Petals 5 or 6, white, ovate-elliptic to broadly obovate, 1.5–2.3 × 1–1.7 cm, basally connate for 3–5 mm, apex emarginate. Stamens 1.5–1.8 cm; outer filament whorl basally connate into a fleshy tube, distinct part and inner filaments glabrous or sparsely pilose. Ovary ca. 1.5 mm, glabrous; style 1.4–1.8 cm, apically 3-parted for ca. 1 mm. Capsule elliptic-globose, 1.5–2 × 1.2–1.5 cm, 1-loculed with 1 seed; pericarp ca. 1 mm thick. Seed brown, globose, 1.1–1.4 cm in diam. Fl. Feb–Mar, fr. Sep–Oct.

- Forests, thickets; 500–1700 m. W Hunan, Sichuan, NE Yunnan.

- 1a. Petiole 3–5 mm; sepals inside glabrous; filaments glabrous 38a. var. *synaptica*
 1b. Petiole 2–3 mm; sepals inside sericeous; filaments sparsely pilose 38b. var. *parviovata*

38a. *Camellia synaptica* var. *synaptica*

川滇连蕊茶(原变种) chuan dian lian rui cha (yuan bian zhong)

Camellia longicarpa Hung T. Chang; *C. tsaii* Hu var. *synaptica* (Sealy) Hung T. Chang; *Thea chinensis* Sims var. *androxantha* H. Léveillé.

Petiole 3–5 mm. Sepals inside glabrous. Filaments glabrous.

- Forests, thickets; 500–1700 m. W Hunan, Sichuan, NE Yunnan.

38b. *Camellia synaptica* var. *parviovata* (Hung T. Chang & S. S. Wang) T. L. Ming, Acta Bot. Yunnan. 21: 154. 1999.

毛蕊川滇连蕊茶 mao rui chuan dian lian rui cha

Camellia parviovata Hung T. Chang & S. S. Wang in Hung T. Chang, Taxon. Gen. *Camellia*, 163. 1981.

Petiole 2–3 mm. Sepals inside sericeous. Filaments sparsely pilose.

- Forests; 900–1000 m. Sichuan (Emei Shan).

39. *Camellia costei* H. Léveillé, Repert. Spec. Nov. Regni Veg. 10: 148. 1911.

贵州连蕊茶 gui zhou lian rui cha

Camellia dubia Sealy; *C. subacutissima* Hung T. Chang; *Thea costei* (H. Léveillé) Rehder.

Shrubs or trees, 1.5–5(–8) m tall. Young branches grayish brown, slender; year-old branchlets glabrous or glabrescent; current year branchlets grayish yellow shortly pubescent. Petiole 2–5 mm, pubescent; leaf blade elliptic to oblong-elliptic, 5–8 × 1.5–3.5 cm, papery to thinly leathery, abaxially pale green and strigose or glabrescent, adaxially dark green, slightly shiny, and hirtellous along midvein, midvein raised on both surfaces, secondary veins 6–8 on each side of midvein, abaxially slightly raised, and adaxially visible, base cuneate, broadly cuneate, or obtuse, margin serrulate to crenulate-serrulate, apex bluntly acuminate to caudate. Flowers axillary, solitary. Pedicel 2–5 mm, elongating in fruit, pubescent; bracteoles 4 or 5, semiobovate to triangular-ovate, 0.5–1.5 mm, outside apically densely pubescent, margin ciliolate. Calyx cupular, 3–4.5 mm;

lobes triangular-ovate to ovate, 1.5–3 mm, outside apically densely pubescent, inside glabrous, margin ciliolate. Petals 5(–7), white or pale purplish red in bud, obovate to broadly obovate, 1–2.5 cm, basally connate for 3–5 mm, apex emarginate. Stamens 1.2–1.8 cm, glabrous; outer filament whorl basally connate into fleshy tube for (4–)5–9 mm. Ovary ovoid, ca. 1 mm, glabrous; style 1–1.7 cm, apically 3-lobed, lobes ca. 0.5 mm. Capsule subglobose, 1–1.5 cm in diam., 1-loculed with 1 seed; pericarp green to purplish red, leathery, becoming dark brown and crustaceous when dry. Seed chestnut brown, subglobose, 0.9–1.3 cm in diam., smooth. Fl. Feb–Mar, fr. Sep–Oct. $2n = 30^*$.

- Forests, thickets; 400–1500(–2000) m. N Guangxi, Guizhou, W Hubei, W Hunan, E and W Sichuan, NE and SE Yunnan.

40. *Camellia tsaii* Hu, Bull. Fan Mem. Inst. Biol., Bot. 8: 132. 1938.

窄叶连蕊茶 zhai ye lian rui cha

Camellia callidonta Hung T. Chang; *C. crassipetala* Hung T. Chang; *C. pseudoelongata* Hung T. Chang & S. X. Ren; *Thea fusiger* Gagnepain; *T. tsaii* (Hu) Gagnepain.

Shrubs or trees, 1–7.5(–10) m tall. Older branches grayish brown, glabrous; young branches slender; current year branchlets gray, densely appressed-pubescent. Petiole 3–5 mm, pubescent; leaf blade oblong-lanceolate, lanceolate, or narrowly lanceolate, 5–10 × 1.5–3 cm, papery, abaxially pale green and sparsely villous along midvein, adaxially dark green, shiny, and hirtellous along midvein, midvein abaxially raised and adaxially impressed, secondary veins 8–10 pairs and slightly raised on both surfaces, base cuneate to broadly cuneate, margin minutely serrulate, apex long acuminate to caudate. Flowers axillary, solitary or paired, ca. 2.5 cm in diam. Pedicel 2–5 mm, glabrous; bracteoles (3 or)4 or 5, semiobovate to broadly ovate, 0.5–1.5 mm, outside pubescent, margin ciliolate. Calyx shallowly cupular, 2.5–5 mm; lobes 5, broadly ovate to suborbicular, 2–2.5 mm, thinly leathery, outside appressed pubescent, inside sericeous, margin narrowly membranous and ciliolate, apex with a dark point. Petals 5, white, obovate to broadly obovate, 1.5–1.7 cm, basally connate for 2–3 mm, apex rounded to emarginate. Stamens 1.1–1.4 cm, glabrous; outer filament whorl basally irregularly connate for 4–7 mm into a cup. Gynoecium 1.4–1.7 cm, glabrous. Ovary ovoid, ca. 1.5 mm in diam., 3-loculed; style 1.2–1.5 cm, apically 3-parted for 4–5 mm. Capsule ovoid, ca. 1.5 cm in diam., 1-loculed with 1 seed, apex apiculate; pericarp thinly leathery, splitting into 3 valves. Seed chestnut brown, globose, ca. 1.3 cm in diam. Fl. Feb–Mar, fr. Sep–Oct. $2n = 30$, 60.

- Evergreen broad-leaved forests, thickets; 1500–2600 m. SE and SW Yunnan [N Myanmar, N Vietnam].

41. *Camellia lutchuensis* T. Itô, J. Coll. Sci. Imp. Univ. Tokyo 12: 332. 1899.

台湾连蕊茶 tai wan lian rui cha

Shrubs or rarely trees, 2–3(–6) m tall. Young branches grayish brown, spreading villous and pubescent or puberulent, indumentum persisting 2–3 years. Petiole 1–3 mm, pubescent; leaf blade oblong-elliptic, oblong, or lanceolate, 2–4.5 ×

(0.6–)1–1.8 cm, thinly leathery, abaxially pale green and pilose along midvein or glabrescent, adaxially bright green and hirtellous along midvein, midvein raised on both surfaces, secondary veins 6–8 on each side of midvein and slightly raised on both surfaces, base cuneate to broadly cuneate, margin serrulate, apex bluntly acute to acuminate. Flowers solitary, fragrant. Pedicel 1–2.5 mm; bracteoles 4–8, covering pedicel, broadly ovate to semiorbicular, 0.5–2 mm, glabrous, margin ciliolate. Sepals 5, nearly distinct, ovate, broadly ovate, or lanceolate, (1–)2.5–3 mm, glabrous, margin ciliolate, apex rounded. Petals 5 or 6, white, obovate to broadly obovate, (0.6–)1–1.5 × (0.4–)0.9–1.2 cm, basally connate for 2–4 mm, apex emarginate. Stamens (0.5–)1–1.2 cm, glabrous; outer filament whorl basally connate for (2–)5–6 mm into a tube. Gynoecium 6–13 mm, glabrous. Ovary ovoid, ca. 1.5 mm in diam., 3-loculed; style (0.5–)1–1.2 cm, apically 3-parted for ca. 1.5 mm. Capsule subglobose, ca. 1 cm in diam., 1-loculed with 1 seed; pericarp thin, splitting into 3 valves. Seed dark brown, globose, ca. 7 mm in diam. Fl. Jan–Mar, fr. Sep–Oct. $2n = 30, 90$.

Forests, thickets; (below 100–)400–1400(–2400) m. S Guangxi, Hong Kong, Taiwan [Japan (Ryukyu Islands)].

- 1a. Current year branchlets spreading villous and pubescent; leaf blade oblong-elliptic to oblong, 2.5–4.5 × 1–1.8 cm; pedicel ca. 2.5 mm, bracteoles 4–8; sepals ovate to broadly ovate, 2.5–3 mm; petals 1–1.5 × 0.9–1.2 cm; stamens 1–1.2 cm 41a. var. *lutchuensis*
- 1b. Current year branchlets puberulent; leaf blade lanceolate, 2–3.5 × 0.6–0.9 cm; pedicel 1–2 mm, bracteoles 4 or 5; sepals lanceolate, 1–1.5 mm; petals 0.6–0.8 × 0.4–0.6 cm; stamens 5–7 mm 41b. var. *minutiflora*

41a. *Camellia lutchuensis* var. *lutchuensis*

台湾连蕊茶(原变种) tai wan lian rui cha (yuan bian zhong)

Camellia transnokoensis Hayata; *Thea transnokoensis* (Hayata) Makino & Nemoto; *Theopsis transnokoensis* (Hayata) Nakai.

Current year branchlets spreading villous and pubescent. Leaf blade oblong-elliptic to oblong, 2.5–4.5 × 1–1.8 cm. Pedicel ca. 2.5 mm; bracteoles 4–8, 0.5–2 mm. Sepals ovate to broadly ovate, 2.5–3 mm. Petals 1–1.5 × 0.9–1.2 cm. Stamens 1–1.2 cm. Gynoecium ca. 1.3 cm. Fl. Jan–Mar, fr. Sep–Oct.

Forests, thickets; (below 100–)400–1400(–2400) m. Taiwan [Japan (Ryukyu Islands)].

41b. *Camellia lutchuensis* var. *minutiflora* (Hung T. Chang) T. L. Ming, Acta Bot. Yunnan. 21: 154. 1999.

微花连蕊茶 wei hua lian rui cha

Camellia minutiflora Hung T. Chang, Taxon. Gen. *Camellia*, 140. 1981.

Current year branchlets puberulent. Leaf blade lanceolate, 2–3.5 × 0.6–0.9 cm. Pedicel 1–2 mm; bracteoles 4 or 5, 0.3–0.7

mm. Sepals lanceolate, 1–1.5 mm. Petals 6–8 × 4–6 mm. Stamens 5–7 mm. Gynoecium ca. 7 mm. Fl. Jan–Feb.

- Forests; 300–500 m. S Guangxi, Hong Kong.

42. *Camellia rosthorniana* Handel-Mazzetti, Anz. Akad. Wiss. Wien, Math.-Naturwiss. Kl. 61: 108. 1924.

川鄂连蕊茶 chuan e lian rui cha

Camellia buxifolia Hung T. Chang; *C. lipoensis* Hung T. Chang & Z. R. Xu; *Thea rosthorniana* (Handel-Mazzetti) Handel-Mazzetti.

Shrubs 1.5–3 m tall. Older branches reddish brown, glabrous; young branches slender; current year branchlets densely grayish yellow pubescent, indumentum ± persistent. Petiole 1–2 mm, pubescent; leaf blade oblong-elliptic, elliptic, or ovate, 2.5–4.5 × 1–2 cm, thinly leathery, abaxially pale green and glabrous, adaxially dark green, shiny, and hirtellous along midvein, midvein raised on both surfaces, secondary veins 6 or 7 on each side of midvein, abaxially obscure, and adaxially slightly impressed, base broadly cuneate, margin crenate-serrulate, apex acuminate and with a blunt tip. Flowers solitary, 1.2–1.5 cm in diam. Pedicel 2–4 mm, thick, glabrous; bracteoles 3–5, not covering pedicel, ovate to broadly ovate, 0.5–1.5 mm, glabrous, margin ciliolate. Calyx shallowly cupular, 2.5–3 mm; lobes broadly ovate to suborbicular, 2–2.5 mm, both surfaces glabrous or outside apically sparsely pubescent, margin ciliolate. Petals 5–7, white, broadly obovate, 8–14 × 5–8 mm, basally connate for ca. 3 mm, apex emarginate. Stamens ca. 1 cm, glabrous; outer filament whorl basally connate for 3.5–4 mm. Gynoecium 1–1.4 cm, glabrous. Ovary ovoid, ca. 1.5 mm; style 0.9–1.3 cm, apically 3-parted for ca. 1 mm. Capsule subglobose, 1–1.4 cm in diam., usually 1-loculed with 1 seed; pericarp green to brown, thinly leathery, splitting into 3 valves. Seed brown, globose, 7–10 mm in diam. Fl. Feb–Mar, fr. Sep–Oct.

• Forests, thickets; (100–)600–1400 m. N Guangxi, N Guizhou, W Hubei, W Hunan, E Sichuan.

43. *Camellia euryoides* Lindley, Bot. Reg. 12: t. 983. 1826.

桉叶连蕊茶 ling ye lian rui cha

Shrubs or rarely trees, 1–4(–6) m tall. Older branches purplish brown, glabrous; young branches reddish brown, sparsely pubescent; current year branchlets slender, densely grayish yellow pubescent. Petiole 1–3 mm, pubescent; leaf blade elliptic, elliptic-ovate, or lanceolate, 2–4.7 × 0.8–2 cm, thinly leathery, abaxially pale green and sparsely appressed villous or glabrescent, adaxially dark green and hirtellous along midvein, midvein ± raised on both surfaces, secondary veins 5–7 on each side of midvein and obscure on both surfaces, base cuneate to broadly cuneate, margin serrulate, apex bluntly acuminate. Flowers axillary or subterminal, solitary, ca. 1.5 cm in diam. Pedicel 4–10 mm, elongating to 1.5 cm in fruit, slender, glabrous, thickened toward apex; bracteoles (3 or)4 or 5, not covering pedicel, triangular to broadly ovate, 0.5–1.5 mm, outside puberulent near apex, margin ciliolate. Calyx shallowly cupular, 2–2.5 mm; lobes 5, broadly ovate to semiorbicular, 1–1.5 mm, outside puberulent near apex, inside sericeous, margin

ciliolate. Petals 5, white, obovate to broadly obovate, 1–1.8 cm, basally connate for 3–5 mm, apex emarginate to truncate. Stamens 0.9–1.5 cm, glabrous or villous; outer filament whorl basally connate for 3–9 mm into a cup. Ovary ovoid, 1.5–2 mm, glabrous; style 1–1.9 cm, apically 3-parted for ca. 1 mm. Capsule subglobose, 1–1.5 cm in diam., 1-loculed with 1 seed; pericarp green to brown, thinly leathery. Seed brown, globose, ca. 1 cm in diam. Fl. Mar–May, fr. Aug–Oct.

• Forests, thickets; 300–1500 m. Fujian, N Guangdong, SE Hunan, Jiangxi, Sichuan, Taiwan.

- 1a. Leaf blade elliptic to elliptic-ovate, 2–4.5 × 0.8–2 cm; pedicel 6–10 mm; stamens ca. 1.5 cm, glabrous; outer filament whorl basally connate for 7–9 mm 43a. var. *euryooides*
 1b. Leaf blade lanceolate, 3–4.7 × 1–1.8 cm; pedicel 4–5 mm; stamens ca. 0.9 cm, villous; outer filament whorl basally connate for ca. 3 mm 43b. var. *nokoensis*

43a. *Camellia euryoides* var. *euryooides*

桉叶连蕊茶(原变种) ling ye lian rui cha (yuan bian zhong)

Camellia parvilimba Merrill & F. P. Metcalf; *C. parvilimba* var. *brevipes* Hung T. Chang; *C. theiformis* Hance; *Thea euryoides* (Lindley) Booth; *T. theiformis* (Hance) Kuntze; *Theopsis parvilimba* (Merrill & F. P. Metcalf) Nakai.

Leaf blade elliptic to elliptic-ovate, 2–4.5 × 0.8–2 cm. Pedicel 6–10 mm, slender. Stamens ca. 1.5 cm, glabrous; outer filament whorl basally connate for 7–9 mm. Fl. Mar–May, fr. Sep–Oct.

• Forests, thickets; 300–900 m. Fujian, N Guangdong, Jiangxi.

43b. *Camellia euryoides* var. *nokoensis* (Hayata) T. L. Ming, Acta Bot. Yunnan. 21: 154. 1999.

毛蕊桉叶连蕊茶 mao rui ling ye lian rui cha

Camellia nokoensis Hayata, Icon. Pl. Formosan. 8: 10. 1919; *C. tsofui* S. S. Chien; *Thea nokoensis* (Hayata) Makino & Nemoto; *Theopsis nokoensis* (Hayata) Nakai.

Leaf blade lanceolate, 3–4.7 × 1–1.8 cm. Pedicel 4–5 mm. Stamens ca. 9 mm, villous; outer filament whorl basally connate for ca. 3 mm. Fl. Mar–May, fr. Aug–Oct.

• Forests, thickets; 500–1500 m. SE Hunan, Jiangxi, Sichuan, Taiwan.

44. *Camellia trichoclada* (Rehder) S. S. Chien, Contr. Biol. Lab. Sci. Soc. China, Bot. Ser. 12: 100. 1939.

毛枝连蕊茶 mao zhi lian rui cha

Thea trichoclada Rehder, J. Arnold Arbor. 8: 176. 1927; *Camellia trichoclada* f. *leucantha* P. L. Chiu; *Theopsis trichoclada* (Rehder) Nakai.

Shrubs 1–2 m tall, many branched. Young branches grayish brown, glabrous; year-old branchlets reddish brown, indumentum persistent; current year branchlets slender, with small leaves set closely together and distichously arranged, densely

yellow spreading villous. Petiole 1–1.5 mm, villous; leaf blade ovate to elliptic-ovate, 1.2–2.5 × 0.6–1.3(–1.7) cm, thinly leathery, abaxially pale green and glabrous, adaxially dark green and hirtellous along midvein, midvein raised on both surfaces, secondary veins ca. 6 on each side of midvein, abaxially obscure, and adaxially slightly raised, base rounded to subcordate, margin crenulate-serrulate, apex obtuse to slightly emarginate. Flowers axillary or subterminal, solitary or paired, ca. 2 cm in diam. Pedicel 2–4 mm, glabrous; bracteoles 4 or 5, semiorbicular to broadly ovate, 0.5–1 mm, glabrous. Calyx shallowly cupular, 2–2.5 mm; lobes broadly ovate to suborbicular, 1–2 mm, glabrous, margin ciliolate. Petals 5 or 6, white, pink in bud, obovate to obovate-elliptic, 0.8–1.5 cm, basally connate for 3–4 mm. Stamens 1–1.2 cm, glabrous; outer filament whorl basally connate for 5–6 mm into a cup. Ovary ovoid, 1.5–3 cm, glabrous, 3-loculed; style 0.9–1.2 cm, apically 3-lobed. Capsule subglobose, ca. 3 cm in diam., 1-loculed with 1 seed; pericarp green to pink, thinly leathery. Seed pale brown, globose 7–8 mm in diam. Fl. Nov–Dec, fr. Sep–Oct.

• Forests, thickets; 200–800 m. E Fujian, S Zhejiang.

45. *Camellia fraterna* Hance, Ann. Sci. Nat., Bot., sér. 4, 18: 218. 1862.

毛花连蕊茶 mao hua lian rui cha

Thea fraterna (Hance) Kuntze; *Theopsis fraterna* (Hance) Nakai.

Shrubs 1–4 m tall. Young branches purplish brown, glabrous; year-old branchlets with indumentum ± persistent; current year branchlets densely spreading villous and hirsute. Petiole 3–5 mm, villous; leaf blade elliptic to oblong-elliptic, 4–8 × (1.5–)2–3.5 cm, thinly leathery, abaxially pale green and sparsely appressed villous, adaxially dark green, shiny, and hirtellous along midvein, midvein abaxially raised and adaxially impressed, secondary veins 7–9 on each side of midvein, abaxially slightly raised, and adaxially slightly impressed, base cuneate to broadly cuneate, margin serrulate, apex bluntly acuminate. Flowers axillary, solitary or paired, 2.5–4 cm in diam. Pedicel 3–4 mm, thick, villous; bracteoles 4 or 5, covering pedicel, ovate, 1–2 mm, outside densely yellowish brown villous. Calyx cupular, 4–5 mm; lobes 5, broadly ovate to suborbicular, 2–3.5 mm, outside densely yellowish brown villous, inside yellow sericeous. Petals 5 or 6, white or sometimes pale pink, obovate to broadly obovate, 2–2.5 cm, basally connate for 3–5 mm, outside glabrous or puberulent toward apex. Stamens 1.5–2 cm, glabrous; outer filament whorl basally connate for 0.8–1.2 cm. Ovary ovoid, 1–2 mm, glabrous, 3-loculed; style 1.4–1.8 cm, apically 3-parted for 1–2 mm. Capsule globose, 1.5–2 cm in diam., 1-loculed with 1 seed; pericarp thinly leathery. Seed chestnut brown, globose, 1.3–1.8 cm in diam. Fl. Feb–Mar, fr. Sep–Oct. 2n = 90*.

• Forests, thickets; (below 100–)300–1100 m. Anhui, Fujian, Henan, S Jiangsu, Jiangxi, Zhejiang.

46. *Camellia transarisanensis* (Hayata) Cohen-Stuart, Bull. Jard. Bot. Buitenzorg, sér. 3, 1: 320. 1919.

毛萼连蕊茶 mao e lian rui cha

Thea transarisanensis Hayata, Icon. Pl. Formosan. 5: 10. 1915, based on *T. parvifolia* Hayata, Icon. Pl. Formosan. 3: 45. 1913, not Salisbury (1796); *Camellia handelii* Sealy; *C. parvifolia* Cohen-Stuart; *Theopsis transarisanensis* (Hayata) Nakai.

Shrubs 1.5–3 m tall, many branched. Young branches grayish brown, glabrous; year-old branchlets purplish brown, with indumentum ± persistent; current year branchlets yellow spreading villous and hirsute. Petiole 1.5–3 mm, spreading villous and hirsute; leaf blade elliptic, oblong-elliptic, or ovate-lanceolate, (1.6–)2–4.8 × 1–1.7 cm, thinly leathery, abaxially pale green and sparsely appressed villous or glabrescent, adaxially dark green and hirtellous along midvein, midvein raised on both surfaces, secondary veins obscure, base broadly cuneate, margin crenulate-serrulate, apex obtuse, bluntly acute, or acuminate. Flowers axillary, solitary or paired, ca. 2.5 cm in diam. Pedicel 2.5–4 mm, thickened toward apex; bracteoles 3–5, triangular to broadly ovate, 0.5–1.5 mm, outside yellow villous. Calyx cupular, ca. 4 mm; lobes 5, broadly ovate to suborbicular, 2–3 mm, outside densely yellow villous, inside glabrous, margin ciliolate. Petals 5 or 6, white, obovate to broadly obovate, 1.1–1.8 × 0.8–1.3 cm, basally connate for 3–6 mm, apex rounded to emarginate. Stamens 1.3–1.6 cm, glabrous; outer filament whorl basally connate for ca. 1 cm. Ovary ovoid, 1–2 mm, glabrous; style 1.1–1.4 cm, apically 3-parted for ca. 1 mm. Capsule subglobose, ca. 1.5 cm in diam., 1-loculed with 1 seed; pericarp thinly leathery. Seed brown, globose, 1–1.2 cm in diam. Fl. Mar, fr. Oct.

• Thicket; below 100–500 m. Fujian, N Guangxi, S Guizhou, Hunan, Jiangxi, Taiwan, SE Yunnan.

47. *Camellia tsingpienensis* Hu, Bull. Fan Mem. Inst. Biol., Bot. 8: 129. 1938.

屏边连蕊茶 ping bian lian rui cha

Shrubs or trees, 2–6 m tall. Young branches grayish brown; current year branchlets spreading villous and pubescent, indumentum ± persistent. Petiole 3–5 mm, spreading villous and pubescent; leaf blade lanceolate, oblong, or ovate-lanceolate, 5–8.5(–12) × (1.5–)2–3.5 cm, papery, abaxially pale green and sparsely villous but densely villous along midvein, adaxially dark green and hirtellous along midvein, midvein raised on both surfaces, secondary veins 6–8 on each side of midvein and slightly raised on both surfaces, base rounded to obtuse, margin serrulate, apex caudate to acuminate. Flowers axillary, solitary or paired. Pedicel ca. 2 mm; bracteoles 4 or 5, covering pedicel, lunate to semiorbicular, 1–2 mm, glabrous or pubescent. Sepals 5, nearly distinct, orbicular to suborbicular, 2–3.5 mm, glabrous or pubescent, margin ciliolate, apex rounded. Petals 5, white, obovate to broadly obovate, 10–15 × 0.6–0.7 cm, basally connate for 2–3 mm, apex rounded to slightly emarginate. Stamens 0.8–1.3 cm; outer filament whorl basally connate for 5–7 mm, distinct part white pilose. Ovary ovoid, glabrous, 3-loculed; style 0.9–1.2 cm, apically 3-parted for ca. 1 mm. Capsule globose, ca. 1.5 cm in diam., 1-loculed with 1 seed; pericarp thinly leathery, splitting into 3 valves. Seed brown, globose, ca. 1.3 cm in diam. Fl. Oct–Dec, fr. Aug–Sep. $2n = 30$.

Forests, thickets; 800–1900 m. Guangxi, SE Guizhou, SE Yunnan [N Vietnam].

- 1a. Sepals outside glabrous 47a. var. *tsingpienensis*
 1b. Sepals outside ± pubescent.
 2a. Sepals outside pubescent; leaf blade 5–8.5 × 2–3 cm 47b. var. *pubisepala*
 2b. Sepals outside only apically pubescent; leaf blade 8.5–12 × 2.5–3.5 cm 47c. var. *macrophylla*

47a. *Camellia tsingpienensis* var. *tsingpienensis*

屏边连蕊茶(原变种) ping bian lian rui cha (yuan bian zhong)

Current year branchlets spreading villous and pubescent. Leaf blade lanceolate to ovate-lanceolate, 5–8.5 × 2–3 cm. Bracteoles and sepals outside glabrous. Fl. Oct–Dec, fr. Aug–Sep.

Evergreen broad-leaved forests, thickets; 800–1900 m. Guangxi, SE Yunnan [N Vietnam].

47b. *Camellia tsingpienensis* var. *pubisepala* Hung T. Chang, Taxon. Gen. *Camellia*, 163. 1981.

毛萼屏边连蕊茶 mao e ping bian lian rui cha

Camellia lancicalyx Hung T. Chang; *C. parvicaudata* Hung T. Chang.

Current year branchlets spreading villous and pubescent. Leaf blade lanceolate to ovate-lanceolate, 5–8.5 × 2–3 cm. Bracteoles and sepals outside pubescent. Petals outside ± puberulent. Fl. Oct–Nov, fr. Aug–Sep.

• Evergreen broad-leaved forests, thickets; 1000–1700 m. N Guangxi, SE Guizhou, SE Yunnan.

47c. *Camellia tsingpienensis* var. *macrophylla* T. L. Ming, Acta Bot. Yunnan. 19: 222. 1997.

大叶屏边连蕊茶 da ye ping bian lian rui cha

Current year branchlets pubescent. Leaf blade oblong, 8.5–12 × 2.5–3.5 cm. Sepals outside apically pubescent. Fl. Nov.

• Forests; ca. 1500 m. SE Yunnan (Maguan).

48. *Camellia cupiformis* T. L. Ming, Acta Bot. Yunnan. 19: 222. 1997.

滇南连蕊茶 dian nan lian rui cha

Shrubs ca. 3 m tall. Young branches grayish brown; year-old branchlets reddish brown, glabrous; current year branchlets grayish yellow pubescent. Petiole 2–3 mm, grayish yellow pubescent; leaf blade oblong-elliptic to elliptic, 5–7.5 × 1.8–2.5 cm, leathery, abaxially pale green and sparsely villous along midvein or glabrescent, adaxially dark green and hirtellous along midvein, midvein raised on both surfaces, secondary veins slightly raised on both surfaces or adaxially obscure, base broadly cuneate, margin serrulate, apex caudate. Flowers axillary, solitary or paired. Pedicel ca. 7 mm, ca. 3 mm thick, glabrous or sparsely pubescent, thickened toward apex; bracteoles 3, ovate, 0.5–1 mm, outside pubescent, margin ciliolate. Calyx narrowly campanulate, 5–5.6 mm; lobes 5, unequal, semi-orbicular to suborbicular, 1.5–2.5 mm, outside apically puberulent.

lent, margin ciliolate. Petals and stamens not seen. Ovary globose, ca. 2.5 mm in diam., glabrous, 3-loculed; style ca. 1 cm, apically 3-lobed. Capsule not seen. Fl. Jan.

- Forests in ravines; ca. 1600 m. Yunnan (Lincang).

49. *Camellia elongata* (Rehder & E. H. Wilson) Rehder, J. Arnold Arbor. 3: 224. 1922.

长管连蕊茶 chang guan lian rui cha

Thea elongata Rehder & E. H. Wilson in Sargent, Pl. Wilson. 2: 392. 1915; *T. caudata* (Wallich) Seemann var. *faberi* Kochs; *Theopsis elongata* (Rehder & E. H. Wilson) Nakai.

Shrubs or small trees, 2–6 m tall. Older branches dark brown; young branches slender, ascending; current year branchlets grayish yellow, glabrous. Petiole 2–4 mm, glabrous; leaf blade narrowly oblong to oblong-lanceolate, 4–6.5 × 1–1.8 cm, thinly leathery, abaxially pale green, adaxially dark green, both surfaces glabrous, midvein abaxially raised and adaxially impressed, secondary veins 6–8 on each side of midvein and visi-

ble or slightly raised on both surfaces, base cuneate, margin basal 1/2 entire and apical 1/2 shallowly and bluntly serrulate, apex long acuminate to caudate. Flowers solitary. Pedicel 0.8–1.2 cm, slender, glabrous, thickened toward apex; bracteoles 3 or 4, broadly triangular to ovate, 0.5–1.5 mm, margin ciliolate, apex obtuse. Calyx narrowly campanulate, 4–5 mm; lobes 5, semiorbicular to bluntly triangular, 1.5–2 mm, outside glabrous, inside puberulent, margin ciliolate. Corolla white, 2–2.5 cm, basally connate into a 0.8–1.4 cm a tube; lobes 5–7, oblong-oblancheolate, 10–13 × 6–8 mm, apex obtuse to rounded. Stamens 1.6–1.8 cm; outer filament whorl basally connate into a 1.3–1.5 cm tube; inner filaments sparsely pubescent. Gynoecium 1.8–1.9 cm, glabrous. Ovary ovoid, 3-loculed; style 1.7–1.8 cm, apically 3-parted for ca. 1 mm. Capsule ellipsoid to subglobose, 1.5–2 cm in diam., 1-loculed with 1 seed; pericarp thinly leathery, splitting into 3 valves. Seed chestnut brown, subglobose, 1.5–1.8 in diam. Fl. Oct–Dec, fr. Aug.

- Broad-leaved forests, thickets; 1000–1800 m. Sichuan (Emei Shan).

6. *Camellia* sect. *Eriandria* Cohen-Stuart, Meded. Proefstat. Thee 40: 69. 1916.

毛蕊茶组 mao rui cha zu

Camellia sect. *Camelliopsis* (Pierre) Sealy; *Camelliastrum* Nakai; *Thea* sect. *Camelliopsis* Pierre.

Leaf blade small, thinly leathery, abaxially hirtellous along midvein. Flowers small. Petals white, outside farinose-puberulent. Stamens pilose or glabrous; filaments in 2 whorls; outer filament whorl connate for basal 2/3 into a tube. Ovary and style tomentellate. Capsule small, only 1 locule developed; pericarp splitting into 3 valves; columella nearly abortive.

Nine species: Bhutan, China, NW India, N Myanmar, N Vietnam; nine species (eight endemic) in China.

- 1a. Filaments (at least outer ones) glabrous; style apically glabrous.
 - 2a. Young branches white maculate; sepals outside glabrous, margin broadly membranous 50. *C. punctata*
 - 2b. Young branches not maculate; sepals outside glabrous, apically puberulent, pubescent, or tomentose, margin not membranous.
 - 3a. Calyx cupular, 7–8 mm, densely pubescent to tomentose 53. *C. assimiloides*
 - 3b. Calyx shallowly cupular, 1.5–3.5 mm, glabrous, sparsely pubescent, or puberulent.
 - 4a. Leaf blade 4–8 × 2–3 cm; calyx lobes 3–3.5 mm; style ca. 1.3 cm 51. *C. lawii*
 - 4b. Leaf blade 2–3.5 × 1–1.5 cm; calyx lobes 1.5–2 mm; style 0.8–0.9 cm 52. *C. villicarpa*
- 1b. Filaments densely villous; style densely pubescent.
 - 5a. Current year branchlets pubescent.
 - 6a. Pedicel 7–10 mm; bracteoles not covering pedicel 54. *C. candida*
 - 6b. Pedicel 2–4 mm; bracteoles ± covering pedicel.
 - 7a. Calyx 7–8 mm; inner petals basally connate for ca. 6 mm; outer filament whorl basally connate for 1–1.8 cm, distinct part glabrous 53. *C. assimiloides*
 - 7b. Calyx 3–3.5(–5) mm; inner petals basally connate for 2–3 mm; outer filament whorl basally connate for 0.6–0.8 cm, distinct part densely villous 55. *C. caudata*
 - 5b. Current year branchlets spreading villous.
 - 8a. Bracteoles and sepals lanceolate to narrowly lanceolate, apex long acuminate 56. *C. salicifolia*
 - 8b. Bracteoles and sepals ovate, suborbicular, or semiorbicular, apex rounded.
 - 9a. Leaf blade 2.5–4.5 cm, base rounded, apex bluntly acuminate 57. *C. melliana*
 - 9b. Leaf blade 4–10 cm, base shallowly cordate to subtruncate, apex acuminate to caudate 58. *C. cordifolia*

50. *Camellia punctata* (Kochs) Cohen-Stuart, Meded. Proefstat. Thee 40: 68. 1916.

斑植毛蕊茶 ban zhi mao rui cha

Thea punctata Kochs, Bot. Jahrb. Syst. 27: 584. 1900.

Shrubs 1–4 m tall. Young branches grayish brown with

white macula, glabrescent; current year branchlets slender, densely white appressed pubescent. Petiole 2–4 cm, densely puberulent; leaf blade elliptic to oblong-ovate, 4–8 × 1.7–2.5 cm, papery to thinly leathery, abaxially pale green and villous along midvein, adaxially dark green and hirtellous along midvein, base broadly cuneate, margin shallowly undulate serrulate, apex bluntly acuminate to caudate. Flowers axillary, soli-

tary or paired. Pedicel ca. 3 mm; bracteoles 5, covering pedicel, semiorbicular, 0.5–1.5 mm, glabrous. Sepals 5, suborbicular, 3–4 mm, crustaceous, glabrous, margin membranous. Petals 5–7, white, broadly obovate, 7–12 × 6–10 mm, outside white farinose-puberulent, basally connate for 2–3 mm, apex rounded. Stamens ca. 1.1 cm, glabrous; outer filament whorl basally connate for 4–6 mm into a fleshy tube. Gynoecium 1.5–1.7 cm. Ovary densely white tomentose; style 1–1.3 cm, glabrous, apically 3-parted for 3–5 mm. Capsule globose, 1–1.5 cm in diam., 1-loculed and 1-seeded; pericarp ca. 1 mm thick, thinly leathery, splitting into 3 valves; columella abortive. Seed brown, globose, ca. 1 cm in diam. Fl. Feb, fr. Oct.

- Forest margins, thickets; (400–)1500–2700 m. W Sichuan.

51. *Camellia lawii* Sealy, Kew Bull. 6: 180. 1951.

四川毛蕊茶 si chuan mao rui cha

Shrubs 1–3 m tall. Young branches grayish brown; current year branchlets slender, densely white pubescent, glabrescent. Petiole 2–4 mm, densely pubescent; leaf blade elliptic or oblong-elliptic, 4–8 × (1.5–)2–3 cm, leathery, abaxially pale green and villous along midvein, adaxially dark green, shiny, and hirtellous along midvein, midvein abaxially elevated and adaxially slightly impressed, secondary veins ca. 6 on each side of midvein, abaxially obscure, and adaxially slightly impressed, base cuneate to broadly cuneate, margin shallowly and bluntly serrulate, apex bluntly acuminate to caudate. Flowers axillary, solitary. Pedicel 1–2 mm; bracteoles ca. 4, semiorbicular, 0.5–1 mm, outside apically pubescent, margin densely ciliolate. Calyx cupular, 3–3.5 mm; lobes 5, suborbicular, 2–3 mm, outside glabrous or sparsely pubescent near apex, margin ciliolate. Petals 5, white, obovate to broadly obovate, 1–1.6 × 0.8–1.2 cm, basally connate for 2–3 mm, apex rounded to emarginate. Stamens ca. 1.3 cm, glabrous; outer filament whorl basally connate for 5–6 mm into a cup. Ovary ovoid, white tomentose; style ca. 1.3 cm, glabrous, apically 3-parted for 4–5 mm. Fruit and seeds not seen. Fl. Feb–Mar.

- Forest margins, thickets; ca. 1000 m. W Guizhou, W Hubei, E and W Sichuan.

52. *Camellia villicarpa* S. S. Chien, Contr. Biol. Lab. Sci. Soc. China, Bot. Ser. 12: 99. 1939.

小果毛蕊茶 xiao guo mao rui cha

Camellia obscurinervis H. T. Tsai & K. M. Feng.

Shrubs 2–4 m tall. Young branches grayish brown, glabrous; year-old branchlets with indumentum ± persistent; current year branchlets densely grayish brown pubescent and spreading villous. Petiole 1–2 mm, densely pubescent and spreading villous; leaf blade elliptic to oblong-elliptic, 2–3.5 × 1–1.5 cm, thinly leathery, abaxially pale green and villous along midvein when young but soon glabrescent, adaxially dark green and hirtellous along midvein, midvein raised on both surfaces, secondary veins ca. 5 on each side of midvein and adaxially visible or obscure on both surfaces, base cuneate to broadly cuneate, margin serrulate, apex bluntly acute to shortly acuminate. Flowers solitary, 1–1.5 cm in diam. Pedicel 2–3 mm, thickened toward apex; bracteoles ca. 4, semiorbicular, 0.5–1

mm, outside puberulent, margin ciliolate. Sepals 5, semiorbicular, 1.5–2 mm, crustaceous, outside apically puberulent, margin membranous and ciliolate. Petals 5, white, broadly obovate, 8–10 × 4–6 mm, basally connate for ca. 2 mm. Stamens 8–9 mm, glabrous; outer filament whorl connate for basal 1/3 into a fleshy cup. Ovary white tomentose, 3-loculed; style 8–9 mm, glabrous, apically 3-parted. Capsule globose, 1–1.5 cm in diam., 1-loculed with 1 seed; pericarp thinly leathery, splitting into 3 valves; columella abortive. Seed brown, globose, ca. 1 cm in diam. Fl. Feb–Mar, fr. Oct.

- Thickets; (400–)900–1100 m. W Sichuan.

53. *Camellia assimiloides* Sealy, Kew Bull. 4: 215. 1949.

大萼毛蕊茶 da e mao rui cha

Camellia cratera Hung T. Chang; *C. trigonocarpa* Hung T. Chang.

Shrubs or trees, 3–8 m tall. Young branches grayish brown; year-old branchlets grayish white, glabrescent; current year branchlets slender, puberulent. Petiole 2–4 mm, puberulent; leaf blade oblong to oblong-lanceolate, 5–9 × 1.5–2.5 cm, thinly leathery, abaxially pale green and glabrous, adaxially olive green, shiny, and hirtellous along midvein, secondary veins 6 or 7 on each side of midvein and obscure on both surfaces, base cuneate to broadly cuneate, margin serrulate, apex long caudate. Flowers axillary, solitary or paired. Pedicel ca. 2 mm, elongating to 5 mm in fruit; bracteoles 4 or 5, ± covering pedicel, semiorbicular, 1–2.5 mm, both surfaces densely puberulent, margin ciliolate. Calyx cupular, 7–8 mm; lobes 5, obovate to suborbicular, 4–5 × ca. 5 mm, both surfaces densely gray puberulent. Petals 5–8, white or rarely purplish white in bud, farinose-puberulent; outer 2 or 3 petals distinct, suborbicular, 1–1.5 × 1–1.5 cm; inner 5 petals broadly obovate, ca. 2 cm, basally connate for ca. 6 mm. Stamens 1.5–1.8 cm; outer filament whorl basally connate for 1–1.8 cm, glabrous; inner filaments sparsely pubescent to subglabrous. Ovary densely white tomentose, 3-locular; style ca. 1.6 cm, base pubescent, apically 3-parted. Capsule subglobose, 1.5–1.8 cm in diam., 1-loculed with 1 seed; pericarp ca. 1 mm thick, thinly leathery, splitting into 2 valves. Seed brown, subglobose, 1–1.4 cm in diam. Fl. Dec, fr. Sep–Oct. $2n = 30^*$.

- Dense forests, thickets; ca. 800 m. E and N Guangdong, SE Hunan.

54. *Camellia candida* Hung T. Chang, Taxon. Gen. *Camellia*, 177. 1981.

白毛蕊茶 bai mao rui cha

Shrubs or trees, 1–5 m tall. Year-old branchlets glabrescent; current year branchlets slender, yellow pubescent. Petiole 3–5 mm, pubescent; leaf blade oblong to oblong-lanceolate, 10–12.5 × 2.5–3.8 cm, thinly leathery to papery, abaxially pale green and sparsely appressed pubescent when young or pubescent only along midvein, adaxially dark green and hirtellous along midvein, secondary veins 7–9 on each side of midvein and raised on both surfaces, base broadly cuneate, margin serrulate, apex caudate to long caudate. Flowers axillary, solitary. Pedicel 7–10 mm, elongating to 1.5 cm in fruit, slender; brac-

teoles 5 or 6, broadly ovate, 1–1.5 mm, outside puberulent, margin ciliolate, apex acute. Calyx shallowly cupular, ca. 4 mm; lobes 5, broadly ovate to suborbicular, 3–3.5 mm, outside puberulent, inside glabrous, margin ciliolate. Petals 5 or 6, white, obovate to obovate-elliptic, 10–13 × 6–8 mm, outside farinose-puberulent, basally connate for ca. 2 mm. Stamens 8–9 mm; outer filament whorl basally connate for ca. 4 mm, distinct part white villous. Ovary white tomentose, 3-loculed; style densely white pubescent, apically 3-parted. Capsule globose, 1.5–2 cm in diam., 1-loculed with 1 seed, apex apiculate; pericarp thinly leathery, ca. 1 mm thick. Seed brown, globose, ca. 1.5 cm in diam. Fl. Nov, fr. Sep.

- Mixed forests; 100–200 m. Yunnan (Malipo).

55. *Camellia caudata* Wallich, Pl. Asiat. Rar. 3: 36. 1832.

长尾毛蕊茶 chang wei mao rui cha

Shrubs or trees, 2–8 m tall. Young branches grayish brown; year-old branchlets straw colored, glabrous; current year branchlets pubescent and villous. Petiole 3–7 mm, villous or pubescent; leaf blade elliptic, oblong-elliptic, oblong, lanceolate, or narrowly lanceolate, 3.5–12 × 0.8–4(–5) cm, papery or thinly leathery, abaxially pale green, sparsely appressed pubescent but densely villous along midvein when young, soon glabrescent except along midvein, and becoming grayish white when dry, adaxially dark green, shiny, and hirtellous along midvein, secondary veins 8–10 on each side of midvein, abaxially raised, and adaxially obscure to slightly impressed, base cuneate to broadly cuneate, margin serrulate to crenulate-serrulate, apex long caudate to caudate. Flowers axillary, solitary or to 3 in a cluster. Pedicel 2–4 mm, thickened toward apex; bracteoles 4 or 5, semiorbicular to broadly ovate, 1–2 mm, ± covering pedicel, outside pubescent, margin ciliolate. Calyx cupular, 3–3.5(–5) mm; lobes 5, broadly ovate to suborbicular, 2–3.5 mm, leathery, outside pubescent to densely villous, inside glabrous, margin membranous and ciliolate. Petals 5–7, white, broadly obovate to obovate, outside farinose-puberulent; outer 2 petals distinct, 8–10 mm; remaining petals 1.3–2 cm, basally connate for 2–3 mm, apex rounded to subtruncate. Stamens 1–1.5 cm; outer filament whorl basally connate for 6–8 mm, distinct part densely villous. Ovary densely white tomentose; style 0.9–1.3 cm, white tomentose, apically 3-parted for 1–2 mm. Capsule ellipsoid-globose, 1–1.7 × 1–2 cm, 1-loculed with 1 seed, apex apiculate; pericarp thinly leathery; columella abortive. Seed brown, globose. Fl. Oct–Jan, fr. Sep–Oct. $2n = 30, 60$.

Evergreen broad-leaved forests, thickets; (200–)400–1400(–2200) m. Fujian, Guangdong, Guangxi, Hainan, Hubei, Hunan, Taiwan, Xizang (Médog), SE Yunnan [NE India, N Myanmar, Nepal, N Vietnam].

The published occurrence of *Camellia caudata* var. *caudata* in Bhutan (Sealy, Rev. Gen. *Camellia*, 105. 1958; Ming, Monogr. Gen. *Camellia*, 202. 2000) is based on *T. J. Booth s.n.* 1 Nov and 20 Dec at K. However, Thomas Jonas Booth's collections referring to "Bootan" were made east of Bhutan, in SE Xizang or NE India, in 1850–1851 (Grierson & Long, Fl. Bhutan 1: 8. 1983).

- 1a. Leaf blade elliptic, oblong-elliptic, or oblong, 7–12 × 2.5–4(–5) cm, thinly leathery; petals to 2 cm; capsule 1.5–2 cm in diam. 55a. var. *caudata*

- 1b. Leaf blade lanceolate to narrowly lanceolate, 3.5–5 × 0.8–1.5 cm, papery; petals less than 1 cm; capsule ca. 1 cm in diam. 55b. var. *gracilis*

55a. *Camellia caudata* var. *caudata*

长尾毛蕊茶(原变种) chang wei mao rui cha (yuan bian zhong)

Camellia assimilis Champion; *C. axillaris* Griffith; *C. membranacea* Hung T. Chang; *C. parvilapidea* Hung T. Chang; *C. percuspidata* Hung T. Chang; *C. triantha* Hung T. Chang; *Camelliastrum assimile* (Champion) Nakai; *C. caudatum* (Wallich) Nakai; *Thea assimilis* (Champion) Seemann; *T. caudata* (Wallich) Seemann; *Theopsis caudata* (Wallich) Hu.

Leaf blade elliptic, oblong-elliptic, or oblong, 7–12 × 2.5–4(–5) cm, thinly leathery. Petals to 2 cm. Capsule 1.5–2 cm in diam. Fl. Dec–Jan, fr. Sep–Oct.

Evergreen broad-leaved forests, thickets; (200–)400–1200(–2200) m. Fujian, Guangdong, Guangxi, Hubei, Hunan, Xizang (Médog), SE Yunnan [NE India, N Myanmar, Nepal, N Vietnam].

55b. *Camellia caudata* var. *gracilis* (Hemsley) Yamamoto ex H. Keng, Taiwania 1: 234. 1950.

小长尾毛蕊茶 xiao chang wei mao rui cha

Camellia gracilis Hemsley, Ann. Bot. (London) 9: 146. 1895; *C. edentata* Hung T. Chang; *C. subglabra* Hung T. Chang; *C. tubiformis* Hung T. Chang & S. X. Ren; *Camelliastrum gracile* (Hemsley) Nakai; *Thea gracilis* (Hemsley) Hayata.

Leaf blade lanceolate to narrowly lanceolate, 3.5–5 × 0.8–1.5 cm, papery. Petals less than 1 cm. Capsule ca. 1 cm in diam. Fl. Oct–Dec, fr. Sep–Oct.

- Evergreen broad-leaved forests, thickets; 400–1400(–2000) m. Guangdong, Guangxi, Hainan, Taiwan.

56. *Camellia salicifolia* Champion, Hooker's J. Bot. Kew Gard. Misc. 3: 309. 1851.

柳叶毛蕊茶 liu ye mao rui cha

Camellia salicifolia var. *longisepala* H. Keng; *Camelliastrum salicifolium* (Champion) Nakai; *Thea salicifolia* (Champion) Seemann.

Shrubs or trees, 3–6 m tall. Young branches grayish brown; year-old branchlets with indumentum ± persistent; current year branchlets spreading villous. Petiole 2–3 mm, densely villous; leaf blade oblong-lanceolate to lanceolate, 4.5–10 × 1.5–3 cm, papery, abaxially pale green, sparsely appressed villous with indumentum more dense along midvein, and becoming grayish white when dry, adaxially dark green, and becoming grayish green when dry, hirtellous along midvein, midvein abaxially elevated and adaxially slightly impressed, secondary veins 7 or 8 on each side of midvein, abaxially raised, and adaxially obscure, base rounded, margin serrulate, apex long acuminate to caudate. Flowers axillary, solitary. Pedicel 4–5 mm, densely villous; bracteoles 4 or 5, outside white villous, inside glabrous, apex long acuminate; basal 2 bracteoles ovate, ca. 1.5

cm; apical 2 or 3 bracteoles lanceolate, 5–6 mm. Sepals 5, lanceolate to narrowly lanceolate, 8–10 mm, outside densely white villous, inside glabrous, apex long acuminate. Petals 5 or 6, white, obovate to obovate-elliptic, 1.5–2 × 0.8–1.6 cm, outside farinose-puberulent, basally connate for 2–4 mm. Stamens ca. 1.5 cm; outer filament whorl basally connate for ca. 1 cm, distinct part white villous. Ovary white tomentose, 3-loculed; style ca. 1.5 cm, densely pubescent, apically 3-parted for 1–2 mm. Capsule globose, 1.5–2.5 cm in diam., 1-loculed with 1 seed, apex shortly conic; pericarp ca. 1 mm thick. Seed brown, subglobose. Fl. Nov, fr. Sep–Oct. $2n = 30^*$.

• Forests, thickets; 300–800(–1400) m. Fujian, Guangdong, E Guangxi, S Jiangxi, Taiwan.

57. *Camellia melliana* Handel-Mazzetti, Anz. Akad. Wiss. Wien, Math.-Naturwiss. Kl. 59: 58. 1922.

广东毛蕊茶 guang dong mao rui cha

Thea melliana (Handel-Mazzetti) Merrill.

Shrubs 1–1.7 m tall. Young branches grayish brown; year-old branchlets with indumentum ± persistent; current year branchlets slender, densely spreading villous. Petiole 1–2 mm, densely villous; leaf blade oblong to oblong-lanceolate, 2.5–4.5(–6.5) × 1–1.5 cm, thinly leathery, abaxially pale green and sparsely villous with indumentum more dense along midvein, adaxially dark green and hirtellous along midvein, base rounded, margin undulate-denticulate, apex bluntly acuminate. Flowers axillary, solitary, ca. 1.5 cm in diam. Pedicel 2–3 mm; bracteoles 4, ovate, 0.5–1.5 mm, outside villous. Sepals 5, broadly ovate to suborbicular, 2–2.5 mm, outside villous, inside glabrous. Petals 5 or 6, white, obovate, 7–12 × 6–10 mm, outside farinose-puberulent, basally connate for 1–3 mm, apex rounded. Stamens 7–10 mm; outer filament whorl basally connate for 4–7 mm, distinct part densely white villous. Ovary yellow tomentose, 3-loculed; style 8–10 mm, densely pubescent, apically 3-parted for ca. 1 mm and glabrous. Capsule subglobose, 1–1.2 × 0.9–1 cm, 1-loculed with 1 seed, apex shortly conic; pericarp thin; columella abortive. Seed brown, subglobose. Fl. Mar–Apr, fr. Nov.

• Thickets; 400–700 m. C Guangdong.

58. *Camellia cordifolia* (F. P. Metcalf) Nakai, J. Jap. Bot. 16: 692. 1940.

心叶毛蕊茶 xin ye mao rui cha

Shrubs or trees, 1–8 m tall. Young branches grayish brown; year-old branchlets with indumentum ± persistent; current year branches densely pale yellow to brown spreading villous

and pubescent. Petiole 2–5 cm, villous; leaf blade oblong-lanceolate to oblong-ovate, 4–10 × 1.5–3.5 cm, thinly leathery, abaxially pale green, sparsely villous especially along midvein, and becoming pale brown to reddish brown when dry, adaxially dark green, shiny, and hirtellous along midvein, midvein raised on both surfaces, secondary veins 6–8 on each side of midvein and slightly raised to obscure on both surfaces, base shallowly cordate to subtruncate, margin serrulate, apex acuminate to caudate. Flowers axillary, solitary. Pedicel 2–3 mm; bracteoles 4 or 5, covering pedicel, semiorbicular to broadly ovate, 0.3–3 mm, outside appressed pubescent except margin or glabrous, inside glabrous. Sepals 5, ovate to suborbicular, (2–)4–5 mm, outside appressed pubescent except margin or glabrous, inside glabrous, margin ciliolate. Petals 5–7, white, obovate to broadly obovate, 1–2 × 0.6–1.2 cm, outside farinose-puberulent or glabrous, basally connate for 3–5 mm, apex rounded to emarginate. Stamens 1–1.7 cm; outer filament whorl basally connate for 1–1.4 cm, distinct part densely white villous. Ovary white tomentose, 3-loculed; style 1.3–1.9 cm, densely white villous, apically 3-parted for ca. 2 mm and glabrous. Capsule subglobose, 1–1.5 cm in diam., 1(or 2)-loculed with 1 seed per locule; pericarp thinly leathery, pubescent. Seed brown, globose, 8–10 mm in diam. Fl. Nov–Jan, fr. Sep–Oct. $2n = 30^*$.

• Forests, thickets; (200–)300–1700(–2000) m. SW Fujian, Guangdong, Guangxi, Guizhou, S and SW Hunan, S Jiangxi, SE Yunnan.

- 1a. Bracteoles and sepals villous, petals outside farinose-puberulent 58a. var. *cordifolia*
 1b. Bracteoles, sepals, and petals glabrous 58b. var. *glabrisepala*

58a. *Camellia cordifolia* var. *cordifolia*

心叶毛蕊茶(原变种) xin ye mao rui cha (yuan bian zhong)

Thea cordifolia F. P. Metcalf, Lingnan Sci. J. 11: 17. 1932; *Camellia wenshanensis* Hu.

Bracteoles and sepals outside villous. Petals outside farinose-puberulent. Fl. Dec–Jan, fr. Sep–Oct.

• Forests, thickets; (200–)300–900(–2000) m. SW Fujian, Guangdong, Guangxi, Guizhou, S Hunan, S Jiangxi, SE Yunnan.

58b. *Camellia cordifolia* var. *glabrisepala* T. L. Ming, Acta Bot. Yunnan. 19: 222. 1997.

光萼心叶毛蕊茶 guang e xin ye mao rui cha

Bracteoles, sepals, and petals glabrous. Fl. Nov.

• Forests, thickets; 500–1700 m. SW Guizhou, SW Hunan, SE Yunnan.

2. *Camellia* subg. *Camellia*

山茶亚属 shan cha ya shu

Flowers axillary, solitary or sometimes to 3 in a cluster, apparently sessile, actually with a short stout pedicel completely covered by bracteoles and sepals at anthesis. Bracteoles following closely by and undifferentiated from sepals, caducous. Sepals caducous or persistent in young fruit, crustaceous, margin membranous.

About 44 species: Bhutan, Cambodia, China, NE India, Indonesia, S Japan, S Korea, Laos, Malaysia, Myanmar, Nepal, Philippines, Thailand, Vietnam; 39 species (31 endemic) in China.

Camellia sect. *Calpandria* (Blume) Pierre (*Calpandria* Blume) is an additional section in *C.* subg. *Camellia*, with *C. lanceolata* (Blume) Seemann in Indonesia, Malaysia, and the Philippines and *C. connata* (Craib) Craib in Thailand (Ming, Monogr. Gen. *Camellia*, 1–352. 2000).

- 1a. Styles completely distinct.
 - 2a. Ovary and fruit surface not tuberculate (species nos. 59–71) 7. *C.* sect. *Heterogenea*
 - 2b. Ovary and fruit surface tuberculate (species nos. 74–79) 9. *C.* sect. *Tuberculatae*
- 1b. Styles connivent or connate although sometimes only connate at very base.
 - 3a. Bracteoles and sepals \pm persistent in young fruit; styles 3–5, connivent (species nos. 72–73) 8. *C.* sect. *Stereocarpus*
 - 3b. Bracteoles and sepals caducous or only sepals \pm persistent; styles connate, although sometimes only connate at very base.
 - 4a. Petals basally connate; androecium and gynoecium subequal to petal length (species nos. 80–91) .. 10. *C.* sect. *Camellia*
 - 4b. Petals distinct or nearly so; androecium and gynoecium ca. 1/3 of petal length (species nos. 92–97) 11. *C.* sect. *Paracamellia*

7. *Camellia* sect. **Heterogenea** Sealy, Rev. Gen. *Camellia*, 152. 1958.

离蕊茶组 li rui cha zu

Camellia sect. *Furfuraceae* Hung T. Chang; *C.* subg. *Protocamellia* Hung T. Chang; *C.* sect. *Pseudocamellia* Sealy; *Glyptocarpa* Hu; *Kailosocarpus* Hu.

Flowers axillary or subterminal, solitary, subsessile. Bracteoles and sepals 7–11(–17), imbricate; outer 2–5(or 6) bracteoles and sepals caducous after anthesis. Bracteoles small, lunate, semiorbicular, or broadly ovate; inner 5 or 6 bracteoles \pm persistent on young fruit, sepaloid, suborbicular, margin membranous. Sepals \pm persistent on young fruit. Petals 5–8(–12), white, basally connate. Stamens numerous; outer filament whorl basally connate. Ovary 3–5-loculed; styles 3–5, distinct. Capsules 3–5-loculed; pericarp surface smooth or furfuraceous.

Fourteen species: S and SW China, Laos, N Myanmar, Philippines, Vietnam; 13 species (ten endemic) in China.

- 1a. Leaf blade abaxially not punctate.
 - 2a. Current year branchlets glabrous 62. *C. szechuanensis*
 - 2b. Current year branchlets pubescent or villous.
 - 3a. Current year branchlets and petioles spreading villous; capsule pericarp furfuraceous 59. *C. pubifurfuracea*
 - 3b. Current year branchlets and petioles pubescent, villous, or hirtellous; capsule pericarp not furfuraceous.
 - 4a. Leaf blade 4–6.5(–11.5) cm, apex acute, shortly acuminate, or caudate; flowers 3–5 cm in diam.; capsule 4–6 cm in diam., 3–5-loculed 60. *C. yunnanensis*
 - 4b. Leaf blade 2.5–3.5 cm, apex obtuse to bluntly acute; flowers ca. 1.5 cm in diam.; capsule 1–1.2 cm in diam., 1- or 2-loculed 61. *C. tenii*
- 1b. Leaf blade abaxially punctate or punctulate.
 - 5a. Outer filament whorl basally connate for 9–14 mm; capsule 1.2–1.5 cm in diam. 71. *C. mileensis*
 - 5b. Outer filament whorl basally connate for 2–6 mm; capsule 2–7 cm in diam.
 - 6a. Leaf blade apex rounded to obtuse.
 - 7a. Bracteoles and sepals outside glabrous, inside velutinous; ovary glabrous; capsule pericarp smooth 63. *C. paucipunctata*
 - 7b. Bracteoles and sepals outside velutinous, inside glabrous; ovary tomentose; capsule pericarp furfuraceous 64. *C. gaudichaudii*
 - 6b. Leaf blade apex variously acute, acuminate, caudate, or cuspidate.
 - 8a. Leaf blade veins adaxially deeply impressed, surface rugose; bracteoles and sepals 12–17, inside velutinous 65. *C. granthamiana*
 - 8b. Leaf blade veins adaxially raised or slightly impressed, surface not rugose; bracteoles and sepals fewer than 10 (7–13 in *C. crapnelliana*), inside glabrous or yellowish sericeous.
 - 9a. Leaf blade midvein and secondary veins adaxially slightly impressed (sometimes raised in *C. furfuracea*); capsule pericarp furfuraceous.
 - 10a. Young branches reddish brown; flowers 4–10 cm in diam.; capsule 5–7(–12) cm in diam., pericarp 5–10 mm thick 66. *C. crapnelliana*
 - 10b. Young branches grayish yellow to grayish brown; flowers 2–3.5 cm in diam.; capsule 2–4 cm in diam., pericarp 2–4 mm thick 67. *C. furfuracea*
 - 9b. Leaf blade midvein and secondary veins visible or raised on both surfaces; capsule pericarp smooth.
 - 11a. Bracteoles and sepals glabrous; fruit yellowish green; capsule pericarp ca. 1.5 mm thick 70. *C. pachyandra*

- 11b. Bracteoles and sepals densely pubescent; fruit reddish, purplish red, or brown; capsule pericarp 5–7 mm thick.
 12a. Petiole ca. 10 mm, leaf blade papery to thinly leathery, margin sharply pointed serrulate, apex caudate; petals 2–2.5 cm 68. *C. wardii*
 12b. Petiole 3–5 mm, leaf blade leathery, margin serrulate, apex acute; petals 0.9–1.1 cm 69. *C. szemaensis*

59. *Camellia pubifurfuracea* Y. C. Zhong, *Guihaia* 3: 203. 1983.

毛糙果茶 mao cao guo cha

Camellia furfuracea (Merrill) Cohen-Stuart var. *yaoshanica* S. Ye Liang & Y. C. Zhong.

Shrubs or trees, 2–5 m tall. Current year branchlets densely spreading villous, indumentum ± persistent to following year. Petiole 5–7 mm, densely spreading villous; leaf blade elliptic to oblong-elliptic, 8–15 × 3.5–6 cm, leathery, abaxially pale green and sparsely appressed pubescent and spreading villous along midvein, adaxially dark green and glabrous, midvein and secondary veins abaxially raised and adaxially impressed, base broadly cuneate to rounded, margin serrulate, apex caudate and with an obtuse tip. Flowers axillary or subterminal, solitary, subsessile. Bracteoles and sepals 8–10, caducous in fruit, semiorbicular to suborbicular, 4–12 × 4–15 mm, outside densely yellowish brown villous, inside glabrous. Petals 5–7(–10), white, obovate-oblong, 2–2.5 × 0.8–1.2(–1.5) cm, apex rounded; inner 5 petals basally connate for 2–3 mm. Stamens 1.2–1.5 cm, glabrous; outer filament whorl basally connate for ca. 3 mm. Ovary globose, ca. 3 mm in diam., tomentose, 5-loculed; styles 5, distinct, ca. 1.2 cm, densely pubescent. Capsule subglobose, 4–7 cm in diam., 5-loculed with 1 seed per locule; pericarp 6–10 mm thick, furfuraceous, splitting into 5 valves. Seeds brown, globose to subglobose, glabrous. Fl. Oct–Nov, fr. Sep.

- Forests; 600–800 m. Guangxi (Dayao Shan).

60. *Camellia yunnanensis* (Pitard ex Diels) Cohen-Stuart, *Meded. Proefstat. Thee* 40: 68. 1916.

猴子木 hou zi mu

Shrubs or trees, 1–5(–7.5) m tall. Young branches rusty to grayish brown; year-old branchlets purplish brown; current year branchlets pale brown, pubescent to villous. Petiole 2–5 mm, pubescent to villous; leaf blade ovate, ovate-elliptic, elliptic, long ovate, or ovate-lanceolate, 4–6.5(–11.5) × 1.5–3.5(–4.5) cm, thinly leathery, abaxially pale green and sparsely villous or only villous along midvein, adaxially dark green and hirtellous along midvein, midvein reddish, abaxially elevated, and adaxially slightly raised, secondary veins 5–9 on each side of midvein and raised on both surfaces or adaxially obscure, base broadly cuneate, rounded, or truncate, margin serrulate, apex acute, shortly acuminate, or caudate. Flowers axillary or subterminal, solitary, 3–5 cm in diam., subsessile. Bracteoles and sepals 9–11, ± persistent after anthesis, green to brown, ovate to suborbicular, 2–12 mm, concave, leathery, outside glabrous, inside white finely sericeous, margin broadly scarious. Petals 7–12, white, broadly obovate to elliptic, 2–4(–5.3) × 1.5–3 cm;

inner petals connate for 2–6 mm. Stamens 1.5–2.5 cm, glabrous; outer filament whorl basally connate for 2–5 mm. Ovary discoid, ca. 1 × 3–3.5 mm, glabrous or ± pilose to tomentose, (3–)5-loculed, apically slightly (3–)5-lobed; styles (3–)5, distinct, ca. 1.5 cm. Capsule purplish red but becoming purplish brown when dry, globose to oblate, 4–6 cm in diam., (3–)5-loculed with 2 or 3 seeds per locule, apex with 5 conic lobes, 5 valves dehiscent; pericarp ca. 1 cm thick and fleshy when fresh, 1–5 mm thick when dry. Seeds brown, globose to semiglobose, 1–1.6 cm in diam., rufous pilose or glabrescent. Fl. Nov–Mar, fr. Aug–Oct. *2n* = 30*.

- Forests, thickets; (800–)1100–3200 m. SW Guizhou, SW Sichuan, Yunnan.

- 1a. Leaf blade ovate, elliptic-ovate, or long ovate, 2–3.5(–4) cm wide; ovary glabrous 60a. var. *yunnanensis*
 1b. Leaf blade ovate, long ovate, or ovate-lanceolate, 1.5–2.3 cm wide; ovary ± pilose to tomentose 60b. var. *camellioides*

60a. *Camellia yunnanensis* var. *yunnanensis*

猴子木(原变种) hou zi mu (yuan bian zhong)

Thea yunnanensis Pitard ex Diels, *Notes Roy. Bot. Gard. Edinburgh* 5: 284. 1912; *Camellia acutiserrata* Hung T. Chang; *C. henryana* Cohen-Stuart; *C. scariosisepala* Hung T. Chang; *Thea henryana* (Cohen-Stuart) Rehder.

Leaf blade usually ovate or broadly ovate, sometimes elliptic-ovate or long ovate, 2–3.5(–4) cm wide. Ovary and style glabrous. Fl. Nov–Dec, fr. Aug–Sep.

- Forests, thickets; 1100–3200 m. SW Guizhou, SW Sichuan, Yunnan.

60b. *Camellia yunnanensis* var. *camellioides* (Hu) T. L. Ming, *Acta Bot. Yunnan.* 21: 155. 1999.

毛果猴子木 mao guo hou zi mu

Pyrenaria camellioides Hu, *Bull. Fan Mem. Inst. Biol., Bot.* 8: 136. 1938; *Camellia henryana* var. *pilocarpa* T. L. Ming; *C. henryana* var. *trichocarpa* (Hung T. Chang) T. L. Ming; *C. liberistyla* Hung T. Chang; *C. liberistylodes* Hung T. Chang; *C. skogiana* C. X. Ye; *C. trichocarpa* Hung T. Chang; *C. yunnanensis* var. *trichocarpa* (Hung T. Chang) T. L. Ming; *Glyptocarpa camellioides* (Hu) Hu; *Kailosocarpus camellioides* (Hu) Hu.

Leaf blade very variable in shape, ovate, long ovate, or ovate-lanceolate, 1.5–2.3 cm wide. Ovary ± pilose to tomentose. Fl. Dec–Mar, fr. Sep–Oct.

- Forests, thickets; (800–)1200–2700 m. C, S, and W Yunnan.

61. *Camellia tenii* Sealy, Kew Bull. 4: 221. 1949.

小糙果茶 xiao cao guo cha

Shrubs 1–3 m tall. Young branches grayish brown; current year branchlets red, slender, pubescent, indumentum persisting to following year. Petiole 2–3 mm, pubescent; leaf blade ovate-elliptic, elliptic, or oblong-elliptic, 2.5–3.5(–4.2) × (1.2–)1.5–2.3 cm, thinly leathery, abaxially pale green and glabrous, adaxially dark green, shiny, and hirtellous along midvein, midvein abaxially elevated and adaxially slightly raised, secondary veins visible or slightly raised on both surfaces, base broadly cuneate, margin serrulate, apex obtuse to bluntly acute. Flowers axillary, solitary or paired, ca. 1.5 cm in diam., subsessile. Bracteoles and sepals 9 or 10, semiorbicular to suborbicular, leathery, outside ± pubescent, inside glabrous, margin broadly membranous. Petals 6 or 7, white, obovate to obovate-elliptic, 6–10 × 5–6 mm, basally connate for 1.5–3 mm, apex rounded. Stamens ca. 30, 6–9 mm, glabrous; outer filament whorl basally connate for ca. 3 mm. Gynoecium 8–9 mm. Ovary ovoid, white tomentose; styles 3, distinct, 5–7 mm, glabrous. Capsule oblate, 1–1.2 cm in diam., 1- or 2-loculed with 1 seed per locule; pericarp ca. 1 mm thick, leathery. Seeds pale brown, pubescent. Fl. Oct–Nov, fr. Aug–Sep.

- Thickets; 400–1500 m. Yunnan (Dayao).

62. *Camellia szechuanensis* C. W. Chi, Sunyatsenia 7: 17. 1948.

四川离蕊茶 si chuan li rui cha

Shrubs 1–4 m tall. Young branches grayish brown; current year branchlets grayish yellow, slender, glabrous. Petiole 0.6–1.5 cm, abaxially glabrous, adaxially hirtellous; leaf blade oblong to oblanceolate, 6–12.5 × 2–4 cm, thinly leathery, abaxially pale green, adaxially dark green, both surfaces glabrous, midvein raised on both surfaces, secondary veins 6 or 7 on each side of midvein, abaxially obscure, and adaxially visible to slightly raised, base cuneate, margin widely spinulose-denticulate, apex long acuminate to caudate. Flowers axillary, solitary or paired, 4–5 cm in diam., subsessile. Bracteoles and sepals 9 or 10, ± persistent after anthesis, crustaceous, outside white pubescent, inside glabrous, margin broadly membranous; outer 4 or 5 bracteoles and sepals lunate, 1.5–3 mm; inner 5 bracteoles and sepals suborbicular, 5–10 mm. Petals 6–8, white, obovate, 2.5–3.5 × 2–3 cm, outside apically white pubescent, basally connate for ca. 8 mm. Stamens numerous, ca. 2.5 mm; filaments glabrous; outer filament whorl basally connate for 5–10 mm. Ovary subglobose, ca. 2 mm, densely tawny tomentose; styles 3(or 4), distinct, 2–2.5 cm, basal 2/3 to 3/4 sparsely white pilose. Capsule dark brown, subglobose, 1.5–2 cm in diam., 3-loculed with 1 seed per locule; pericarp ca. 1 mm thick, white pilose. Seeds brown, reddish brown pubescent. Fl. Jan–Mar, fr. Sep.

- Forests; 1200–1800 m. Sichuan (Emei Shan).

63. *Camellia paucipunctata* (Merrill & Chun) Chun, Sunyatsenia 4: 187. 1940.

腺叶离蕊茶 xian ye li rui cha

Thea paucipunctata Merrill & Chun, Sunyatsenia 2: 285. 1935.

Trees 6–12 m tall. Young branches grayish yellow; current year branchlets brown, thick, glabrous. Petiole 4–7 mm, glabrous, becoming yellowish when dry; leaf blade elliptic to broadly elliptic-obovate, 5.5–10.5 × 3.5–5.5 cm, rigidly leathery, abaxially pale green and brown glandular punctate, adaxially dark green and shiny, both surfaces glabrous, midvein abaxially yellowish and elevated and adaxially impressed, secondary veins ca. 6 on each side of midvein and raised on both surfaces, base broadly cuneate, margin widely and bluntly serrate, apex obtuse to rounded. Flowers axillary, solitary, subsessile. Bracteoles 2, persistent, green, lunate, 2–3 × 2.5–4 mm, leathery, outside glabrous, inside velutinous. Sepals 5, persistent, green, suborbicular, 6–8 × 8–10 mm, leathery, outside glabrous, inside yellow velutinous. Petals 6 or 7, white or slightly yellowish white, broadly obovate, 2–2.5 × 1.5–1.8 cm, basally connate for ca. 2 mm, apex rounded. Stamens ca. 1.5 cm; filaments glabrous; outer filament whorl basally connate for ca. 2 mm. Ovary ovoid, ca. 3 mm in diam., glabrous, 3-loculed; styles 3, distinct, to 1 cm. Capsule subglobose, ca. 3 cm in diam., 3-loculed with 1 or 2 seeds per locule; pericarp ca. 5 mm thick, woody. Seeds brown, semiglobose to subglobose, ca. 1.2 cm in diam. Fl. Dec–Jan, fr. Aug–Sep.

- Forests; ca. 300 m. S Hainan (Sanya).

64. *Camellia gaudichaudii* (Gagnepain) Sealy, Kew Bull. 4: 217. 1949.

硬叶糙果茶 ying ye cao guo cha

Thea gaudichaudii Gagnepain, Notul. Syst. (Paris) 10: 127. 1942.

Shrubs or trees, 3–5 m tall. Young branches grayish brown; current year branchlets straw colored, thick, glabrous. Petiole 6–7 mm, glabrous; leaf blade elliptic to ovate-elliptic, 5–7 × 2.5–3 cm, rigidly leathery, abaxially pale green and brown glandular punctate, adaxially dark green, both surfaces glabrous, midvein abaxially elevated and adaxially impressed, secondary veins abaxially raised and adaxially obscure, base broadly cuneate, margin widely and shallowly denticulate, apex obtuse to rounded. Flowers axillary or subterminal, solitary or paired, subsessile. Bracteoles and sepals nearly all caducous after anthesis, leathery, outside yellow velutinous, inside glabrous. Petals and stamens not seen. Ovary ovoid, ca. 3 mm in diam., densely tomentose, 3-loculed; styles 3, distinct, 7–9 mm, whitish woolly almost to apex. Capsule grayish, subglobose, ca. 3 cm in diam., 3-loculed; pericarp ca. 2.5 mm thick when dry, furfuraceous, splitting into 3 valves; columella persistent, stout. Seeds dark brown, semiglobose, ca. 1.5 cm in diam. Fl. Dec–Jan, fr. Aug–Sep.

- Forests. Guangxi (Fangcheng), Hainan (Wenchang) [N Vietnam].

65. *Camellia granthamiana* Sealy, J. Roy. Hort. Soc. 81: 182. 1956.

大苞白山茶 da bao bai shan cha

Camellia albogigas Hu.

Shrubs or trees, 3–9 m tall. Young branches grayish brown; current year branchlets brown, pubescent. Petiole 5–10 mm, pubescent; leaf blade oblong-elliptic, obovate-elliptic, or oblong, 7–11.5 × 3–4.5 cm, leathery and adaxially rugose, abaxially pale green, brown glandular punctate, and spreading villous along midvein and secondary veins, adaxially dark green, shiny, and glabrous, midvein and secondary veins abaxially elevated and adaxially deeply impressed, reticulate veins abaxially raised and adaxially deeply impressed, base rounded to obtuse, margin serrulate, apex bluntly acuminate to caudate-acuminate. Flowers axillary or subterminal, solitary, 10–14 cm in diam., sessile. Bracteoles and sepals 12–17, ± persistent, crustaceous, outside gray tomentose, inside velutinous, margin membranous; outer bracteoles and sepals semiorbicular, 4–8 × 8–14 mm; inner bracteoles and sepals suborbicular, 3.5–4 × 4–4.5 cm. Petals 8–10, white, broadly obovate, 4.5–7 × 3.8–5 cm, apex emarginate; inner 5 petals basally connate for 5–6 mm. Stamens numerous, 2.5–3 cm, glabrous; outer filament whorl basally connate for 5–6 mm. Gynoecium 2.5–3 cm, densely white tomentose to apex of styles. Ovary globose, 4–5 mm in diam., 5-loculed; styles 5, distinct but basally connivent, apically dividing into 5 recurved arms. Capsule subglobose, ca. 6 cm in diam., surrounded by persistent sepals, 5 valves dehiscent; pericarp 7–10 mm thick, furfuraceous. Seeds dark brown, semiglobose, ca. 1.3 × 1.3 cm. Fl. Dec–Jan, fr. Aug–Sep. $2n = 60^*$.

• Forests; 100–300 m. E Guangdong.

66. *Camellia crapnelliana* Tutcher, J. Linn. Soc., Bot. 37: 63. 1904.

红皮糙果茶 hong pi cao guo cha

Camellia gigantocarpa Hu & T. C. Huang; *C. latilimba* Hu; *C. multibracteata* Hung T. Chang; *C. octopetala* Hu; *Thea crapnelliana* (Tutcher) Rehder.

Shrubs or trees, 2–10 m tall. Year-old branchlets reddish brown; current year branchlets green, glabrous. Petiole 6–12 mm, glabrous, adaxially channeled; leaf blade elliptic to oblong-elliptic, 7–19 × 3–6 cm, rigidly leathery, abaxially pale green and brown glandular punctate, adaxially dark green, midvein abaxially elevated and adaxially impressed, secondary veins 7–9 on each side of midvein, abaxially raised, and adaxially obscure, base cuneate to broadly cuneate, margin widely and obscurely denticulate, apex bluntly cuspidate. Flowers axillary or subterminal, solitary or paired, 4–10 cm in diam., sessile. Bracteoles and sepals 7–13, ± persistent, semiorbicular to suborbicular, 0.3–2 cm, outside tawny tomentellate, inside glabrous. Petals 6–8, white, obovate to obovate-oblong, 3.5–6.5 × 2–4 cm, basally connate for 2–5 mm, apex rounded to emarginate. Stamens very numerous, 1.5–1.7 cm; filaments glabrous; outer filament whorl basally connate for ca. 5 mm. Ovary ca. 2 mm in diam., densely tomentose, 3–5-loculed; styles 3–5, distinct, ca. 1.5 cm, basally pubescent to tomentose. Capsule grayish brown, subglobose, 5–7(–12) cm in diam., 3(–5)-loculed with 3–5 seeds per locule; pericarp 5–10 mm thick, woody, furfuraceous, splitting into 3–5 valves; columella persistent, thick. Seeds brown, semiglobose, 1.5–2 cm in diam., glabrous. Fl. Dec–Jan, fr. Sep–Oct. $2n = 30^*$.

• Forests; 100–800 m. Fujian, Guangdong, S Guangxi, E Jiangxi, S Zhejiang.

67. *Camellia furfuracea* (Merrill) Cohen-Stuart, Bull. Jard. Bot. Buitenzorg, sér. 3, 1: 240. 1919.

糙果茶 cao guo cha

Shrubs or trees, 2–7 m tall. Year-old branchlets grayish yellow to grayish brown; current year branchlets stout, glabrous. Petiole 5–10 mm, thick, glabrous, adaxially canaliculate; leaf blade elliptic-ovate, elliptic, oblong-elliptic, or oblong, 8–15 × 3–5.5 cm, leathery to thickly leathery, abaxially pale green and brown glandular punctate, adaxially dark green and shiny, both surfaces glabrous, midvein and secondary veins abaxially raised and adaxially slightly impressed or raised, reticulate veins adaxially obscure or raised, base cuneate, broadly cuneate, rounded, or slightly cordate, margin serrulate to undulate-denticulate, apex acuminate, shortly acuminate, or falcately acuminate. Flowers axillary or subterminal, solitary or paired, 2–3.5 cm in diam., sessile. Bracteoles and sepals 9 or 10, lunate, semiorbicular, or orbicular, 2–10 mm, leathery, outside yellow tomentose in median part, inside glabrous, margin membranous and ciliolate. Petals 7–10, white, obovate, 1.5–2 × 1–1.5 cm, basally connate for 2–4 mm, apex rounded. Stamens ca. 1.5 cm; filaments glabrous; outer filament whorl basally connate for 4–6 mm. Ovary tomentose, 3-loculed; styles 3, distinct, ca. 1.3 cm, densely pubescent. Capsule globose to oblate, 2–4 cm in diam., 3-loculed with 2–5 seeds per locule; pericarp 2–4 mm thick when dry, furfuraceous, splitting into 3 valves; columella persistent. Seeds dark brown, semiglobose, 1.1–1.8 cm in diam. Fl. Nov–Dec, fr. Sep–Oct. $2n = 30$.

Forests, forests along streams; 100–1000 m. Fujian, Guangdong, Guangxi, Hainan, S Hunan, S Jiangxi, Taiwan [Laos, Vietnam].

- 1a. Leaf blade elliptic-ovate, thickly leathery, secondary and reticulate veins adaxially raised, apex falcately acuminate and with an apiculate tip 67c. var. *shanglinensis*
- 1b. Leaf blade elliptic to oblong-elliptic, leathery, secondary veins adaxially slightly impressed, reticulate veins obscure, apex acuminate or shortly acuminate and with an obtuse tip.
 - 2a. Petiole 6–10 mm, leaf blade base cuneate to broadly cuneate 67a. var. *furfuracea*
 - 2b. Petiole 5–6 mm, leaf blade base rounded to slightly cordate 67b. var. *latipetiolata*

67a. *Camellia furfuracea* var. *furfuracea*

糙果茶(原变种) cao guo cha (yuan bian zhong)

Thea furfuracea Merrill, Philipp. J. Sci. 13: 149. 1918; *Camellia furfuracea* var. *lutea* Hu; *C. oblata* Hung T. Chang; *C. parafurfuracea* Liang ex Hung T. Chang; *C. polypetala* Hung T. Chang; *C. pubisepala* D. Fang; *C. suaveolens* C. X. Ye et al.; *T. bolovenssis* Gagnepain; *Theopsis furfuracea* (Merrill) Nakai.

Petiole 6–10 mm; leaf blade elliptic to oblong-elliptic, base cuneate to broadly cuneate, apex acuminate to shortly acuminate and with an obtuse tip. Fl. Nov–Dec, fr. Sep–Oct.

Forests; 200–1000 m. Fujian, Guangdong, Guangxi, Hainan, S Hunan, S Jiangxi, Taiwan [Laos, Vietnam].

67b. *Camellia furfuracea* var. *latipetiolata* (C. W. Chi) T. L. Ming, Acta Bot. Yunnan. 21: 155. 1999.

阔柄糙果茶 *kuo bing cao guo cha*

Camellia latipetiolata C. W. Chi, Sunyatsenia 7: 18. 1948.

Petiole 5–6 mm; leaf blade elliptic to oblong-elliptic, leathery, base rounded to slightly cordate, apex acuminate to shortly acuminate and with an obtuse tip. Fl. Dec, fr. Sep–Oct.

• Forests along streams; 100–200 m. NW Guangdong, E Guangxi.

67c. *Camellia furfuracea* var. *shanglinensis* T. L. Ming, Acta Bot. Yunnan. 21: 159. 1999.

上林糙果茶 *shang lin cao guo cha*

Leaf blade elliptic-ovate, 7.5–11.5 × 3.5–5 cm, thickly leathery, abaxially glaucescent, secondary and reticulate veins adaxially raised, base broadly cuneate to subrounded, apex falcately acuminate and with an apiculate tip. Fl. Dec, fr. Sep–Oct.

• Forests along streams; 400–500 m. Guangxi (Shanglin).

68. *Camellia wardii* Kobuski, Brittonia 4: 114. 1941.

滇缅离蕊茶 *dian mian li rui cha*

Shrubs or trees, 2–6 m tall. Young branches grayish brown; current year branchlets purplish brown, glabrous or pubescent. Petiole yellowish, ca. 1 cm, glabrous or villous; leaf blade oblong-elliptic to oblong, 6–12 × 2–4.5 cm, papery to thinly leathery, abaxially pale green, red glandular punctate, and glabrous or villous along midvein, adaxially dark green and glabrous, midvein and secondary veins yellowish and visible or slightly raised on both surfaces, base broadly cuneate, margin sharply pointed serrulate, apex caudate. Flowers axillary or subterminal, solitary, 3.5–4.5 cm in diam., subsessile. Bracteoles and sepals 9 or 10; outer 4 or 5 bracteoles and sepals caducous after anthesis, bracteolate, semiorbicular to broadly ovate, 1.5–5 mm; inner 5 bracteoles and sepals ± persistent, orbicular, 1–1.2 cm in diam., subleathery, both surfaces puberulent, margin broadly scariosus. Petals 6–8, white, obovate-elliptic to broadly elliptic, 2–2.5 × 1.3–1.7 cm, basally connate for 2–3 mm, apex rounded to emarginate. Stamens ca. 1.3 cm; filaments glabrous; outer filament whorl basally connate for 4–5 mm. Ovary densely tomentose, 3-loculed; styles 3, distinct, 6–8 mm, glabrous or basal 1/2 pubescent. Capsule globose to subglobose, 3–4 × 3.5–4.5 cm, 3-loculed with 2 seeds per locule; pericarp 5–7 mm thick, surface brown glandular punctate, splitting into 3 valves; columella persistent. Seeds brown, semiglobose, 1–1.5 cm in diam. Fl. Nov–Dec, fr. Sep. $2n = 30$.

Forests, thickets; 400–2600 m. SW and W Yunnan [N Myanmar].

- 1a. Current year branchlets, abaxial surface of leaf blades, and petioles glabrous 68a. var. *wardii*
 1b. Current year branchlets, midvein of leaf blade abaxial surface, and petioles villous 68b. var. *muricatulata*

68a. *Camellia wardii* var. *wardii*

滇缅离蕊茶(原变种) *dian mian li rui cha (yuan bian zhong)*

Current year branchlets, abaxial surface of leaf blades, and petioles glabrous.

Forests, thickets; 1300–2600 m. W Yunnan [N Myanmar].

68b. *Camellia wardii* var. *muricatulata* (Hung T. Chang) T. L. Ming, Fl. Yunnan. 8: 292. 1997.

毛滇缅离蕊茶 *mao dian mian li rui cha*

Camellia muricatulata Hung T. Chang, Taxon. Gen. *Camellia*, 93. 1981.

Current year branchlets, midvein of leaf blade abaxial surface, and petioles villous.

Forests; 400–1700 m. SW Yunnan [N Myanmar].

69. *Camellia szemaensis* Hung T. Chang, Taxon. Gen. *Camellia*, 94. 1981.

斑叶离蕊茶 *ban ye li rui cha*

Shrubs or trees, 2–5 m tall. Young branches brown, glabrescent; current year branchlets grayish yellow pubescent. Petiole 3–5 mm, pubescent; leaf blade oblong-elliptic, elliptic, or ovate, 5–9 × 2–3.5 cm, leathery, abaxially pale green, brown glandular punctate, and sparsely appressed villous when young but later glabrescent, adaxially dark green and shiny but hirtellous along midvein, midvein abaxially elevated and adaxially raised, secondary veins ca. 7 on each side of midvein, abaxially raised, and adaxially slightly raised, base broadly cuneate to obtuse, margin serrulate, apex bluntly acute. Flowers axillary or subterminal, solitary, subsessile. Bracteoles and sepals ca. 9, leathery, margin membranous; outer 4 bracteoles and sepals bracteolate, semiorbicular to broadly ovate, 2–2.5 mm, outside gray pubescent, inside yellowish sericeous; inner 5 bracteoles and sepals ± persistent, sepaloid, broadly elliptic, 6–7 mm, outside gray pubescent, inside yellowish sericeous. Petals ca. 7, white; outer 2 petals small; inner 5 petals obovate-elliptic, 9–11 × 6–7 mm, base slightly connate. Stamens ca. 8 mm; filaments glabrous; outer filament whorl basally connate for ca. 3 mm. Ovary globose, densely tomentose, 3-loculed; styles 3, distinct, glabrous. Capsule reddish when mature, oblate, ca. 2 × 3–3.5 cm, 3-loculed with 2 seeds per locule; pericarp 5–7 mm thick, splitting into 3 valves; columella persistent. Seeds brown, semiglobose, 1.2–1.5 cm in diam., pubescent. Fl. Feb–Mar, fr. Oct.

• Forests on mountain slopes or in valleys; 700–2000 m. SW Yunnan.

70. *Camellia pachyandra* Hu, Bull. Fan Mem. Inst. Biol., Bot. 8: 131. 1938.

滇南离蕊茶 *dian nan li rui cha*

Camellia taheishanensis F. C. Zhang.

Shrubs or trees, 5–12 m tall. Year-old branchlets grayish brown; current year branchlets green to yellowish green, glabrous. Petiole 5–7 mm, abaxially pubescent; leaf blade oblong-elliptic, elliptic, or oblong, 6.5–11 × 3–4.5 cm, thinly leathery,

abaxially pale green, ferruginous glandular punctulate, and sparsely villous along midvein, adaxially green and glabrous, midvein abaxially elevated and adaxially slightly raised, secondary and reticulate veins \pm raised on both surfaces, base cuneate to obtuse, margin serrulate, apex shortly caudate and with a blunt tip. Flowers axillary, solitary, subsessile. Bracteoles and sepals ca. 6; outer 2 bracteoles and sepals semi-orbicular to broadly ovate, 1.5–2.5 \times 2.5–3.5 mm; inner 4 bracteoles and sepals suborbicular, 4–6 mm in diam., subleathery, glabrous, margin membranous and ciliolate. Petals 5, white or pink, obovate, 8–9 \times 5–6 mm, basally connate for ca. 2 mm, apex rounded. Stamens ca. 6 mm; filaments glabrous; outer filament whorl connate for 2–3 mm. Ovary ovoid, ca. 2 mm, densely tomentose; styles 3(or 4), distinct, glabrous. Capsule globose to subglobose, 3.5–5 \times 2.5–4 cm, 3-loculed with 2 seeds per locule, apex sunken; pericarp yellow and smooth, ca. 1.5 mm thick when dry. Seeds grayish brown, semiglobose, 1–2 cm in diam., smooth. Fl. Apr, fr. Oct–Nov.

- Forests; 1400–1900 m. S Yunnan.

71. *Camellia mileensis* T. L. Ming, Acta Bot. Yunnan. 19: 221. 1997.

弥勒糙果茶 mi le cao guo cha

Shrubs to 2 m tall. Year-old branchlets grayish brown, glabrescent; current year branchlets slender, hispidulous. Petiole 3–5 mm, hirtellous; leaf blade elliptic, oblong, or lanceolate, 3–6.5 \times 1–3 cm, leathery, abaxially pale green, brown glandular punctate, and sparsely villous along midvein, adaxially dark green and hirtellous along midvein, midvein abaxially elevated, secondary veins 6 or 7 on each side of midvein, abaxially slightly raised, and adaxially visible, base cuneate to broadly cuneate, margin serrulate, apex bluntly and shortly caudate. Flowers axillary or subterminal, solitary, 2–3 cm in diam., subsessile. Bracteoles and sepals 9 or 10, \pm persistent, green, semi-

orbicular to broadly ovate, 2–5 mm, leathery, outside gray pubescent, inside glabrous, margin membranous. Petals 7 or 8, white or pale pink, obovate, 2–2.5 \times 1.4–1.8 cm, apex rounded; inner 5 petals connate for 4–5 mm. Stamens ca. 1.8 cm; filaments glabrous; outer filament whorl basally connate for 0.9–1.4 cm. Ovary globose, white tomentose, 3-loculed; styles 3, distinct, ca. 1.7 cm, glabrous or basally pilose. Capsule globose, 1.2–1.5 cm in diam., 3-loculed; pericarp ca. 1.5 mm thick, furfureous, splitting into 3 valves. Seeds brown. Fl. Mar, fr. Nov.

- Thickets in river valleys; 1100–1300 m. Yunnan (Mile).

- 1a. Leaf blade elliptic, 6–6.5 \times 2.5–3 cm; flowers ca. 3 cm in diam.; outer filament whorl connate for basal ca. 3/4 71a. var. *mileensis*
 1b. Leaf blade oblong to lanceolate, 3–4 \times 1–1.4 cm; flowers ca. 2 cm in diam.; outer filament whorl connate for basal ca. 1/2 71b. var. *microphylla*

71a. *Camellia mileensis* var. *mileensis*

弥勒糙过茶(原变种) mi le cao guo cha (yuan bian zhong)

Leaf blade elliptic, 6–6.5 \times 2.5–3 cm. Flowers ca. 3 cm in diam. Outer filament whorl connate for basal ca. 3/4. Fl. Mar, fr. Nov.

- Thickets in river valleys; 1100–1200 m. Yunnan (Mile).

71b. *Camellia mileensis* var. *microphylla* T. L. Ming, Acta Bot. Yunnan. 19: 222. 1997.

小叶弥勒糙果茶 xiao ye mi le cao guo cha

Leaf blade oblong to lanceolate, 3–4 \times 1–1.4 cm. Flowers ca. 2 cm in diam. Outer filament whorl connate for basal ca. 1/2. Fl. Mar.

- Thickets in river valleys; ca. 1300 m. Yunnan (Mile).

8. *Camellia* sect. *Stereocarpus* (Pierre) Sealy, Rev. Gen. *Camellia*, 45. 1958.

实果茶组 shi guo cha zu

Thea sect. *Stereocarpus* Pierre, Fl. Forest. Cochinch. t. 119. 1887; *Camellia* sect. *Luteofoerae* Hung T. Chang; *Stereocarpus* (Pierre) H. Hallier.

Flowers axillary or subterminal, solitary, subsessile. Bracteoles and sepals persistent. Petals yellow, basally \pm connate. Stamens in 3 or 4 whorls; outer filament whorl connate for basal ca. 1/3. Ovary 3–5-loculed; styles 3–5, \pm connate, longitudinally 3–5-grooved, 3–5-lobed or 3–5-parted to middle.

Three species: S China, Vietnam; two species (both endemic) in China.

- 1a. Current year branchlets spreading villous; flowers 5–6 cm in diam.; outside of bracteoles, sepals, and petals gray puberulent; filaments pilose; capsule ca. 3.5 cm in diam., 3-loculed 72. *C. pubipetala*
 1b. Current year branchlets glabrous; flowers 1–1.8 cm in diam.; outside of bracteoles, sepals, and petals glabrous or white pubescent; filaments glabrous; capsule 1.8 \times 1.5 cm, 1(or 2)-loculed 73. *C. luteofoera*

72. *Camellia pubipetala* Y. Wan & S. Z. Huang, Acta Phytotax. Sin. 20: 316. 1982.

毛瓣金华茶 mao ban jin hua cha

Shrubs or trees, 1.5–5.5 m tall. Second-year branches brown hirsute; current year branchlets gray spreading villous. Petiole 5–10 mm, yellowish brown villous to brown hirsute;

leaf blade elliptic-ovate, elliptic, or oblong-elliptic, 10–17 \times 5–8 cm, leathery, abaxially pale green, brown glandular punctate, appressed villous but densely spreading villous along midvein, and becoming yellowish brown to brown when dry, adaxially dark green, shiny, and glabrous, midvein abaxially elevated and adaxially impressed, secondary veins 8–10 on each side of midvein, abaxially raised, and adaxially slightly impressed, base

rounded to subtruncate, margin serrulate, apex acuminate to caudate-acuminate. Flowers axillary or subterminal, solitary, 5–6 cm in diam., subsessile. Bracteoles (4–)6–8, lunate to semi-orbicular, 2.5–7 mm, crustaceous, outside gray puberulent, inside glabrous, margin scarious and ciliolate. Sepals 5 or 6, ± persistent, broadly ovate to suborbicular, 1.3–1.5 cm, crustaceous, outside gray puberulent, inside glabrous, margin scarious and ciliolate. Petals 9–13, lemon yellow; outer 4 or 5 petals broadly obovate, 2–2.5 cm; inner petals obovate-elliptic to long obovate, 3–4 cm, outside gray puberulent, basally connate for 3–5 mm. Stamens numerous, 2.5–3 cm; outer filament whorl connate for basal ca. 1/3, distinct part pilose. Ovary yellowish tomentose, 3(or 4)-loculed; style 3 or 4 grooved, apically 3(or 4)-lobed to 3-parted for 5–10 mm. Capsule oblate with 3 longitudinal grooves, ca. 3.5 cm in diam., 3-loculed with 1 or 2 seeds per locule. Seeds dark brown, semiglobose to globose. Fl. Jan–Feb, fr. Oct. $2n = 30^*$.

• Forests on calcareous hill; 200–400 m. Guangxi (Daxin, Long'an).

73. *Camellia luteoflora* Y. K. Li ex Hung T. Chang & F. A. Zeng, Acta Sci. Nat. Univ. Sunyatseni 21(3): 72. 1982.

小黄花茶 xiao huang hua cha

Shrubs or trees, 1.2–5.5 m tall. Young branches grayish

brown; current year branchlets yellowish brown, glabrous. Petiole ca. 1 cm, glabrous; leaf blade elliptic to oblong-elliptic, (6.5–)9–17 × (1.7–)3–5.4 cm, leathery, abaxially glaucescent, reddish brown glandular punctate, and sparsely gray appressed pubescent, adaxially dark green and glabrous, midvein abaxially elevated and adaxially impressed, secondary veins 6–8 on each side of midvein, secondary and reticulate veins abaxially raised and adaxially slightly impressed, base broadly cuneate to subrounded, margin undulate-serrate, apex bluntly acuminate to bluntly shortly caudate. Flowers axillary or subterminal, solitary, 1–1.8 cm in diam., subsessile. Bracteoles 4, semi-orbicular to orbicular, 1.5–2.5 mm, crustaceous, outside sparsely white pubescent, inside glabrous, margin scarious and ciliolate. Sepals 5, ± persistent, suborbicular, 5–6 mm, crustaceous, outside sparsely white pubescent, inside glabrous, margin scarious. Petals 7–9, pale yellow, obovate, 1–1.5 cm, inner petals basally connate for ca. 4 mm. Stamens ca. 1.2 cm; filaments glabrous; outer filament whorl basally connate for ca. 8 mm. Ovary densely tomentose, 3-loculed; style ca. 1.2 cm, basally tomentose, apically 3-parted to middle. Capsule ovoid, ca. 1.8 × 1.5 cm, 1(or 2)-loculed with 1 seed per locule; pericarp thin, splitting into 3 valves. Seed brown, ovoid, ca. 1.3 cm in diam., reddish brown pilose. Fl. Oct–Nov, fr. Aug. $2n = 30^*$.

• Thickets, rock slopes; 900–1100 m. Guizhou (Chishui).

9. *Camellia* sect. **Tuberculatae** Hung T. Chang, Taxon. Gen. *Camellia*, 47. 1981 [*“Tuberculata”*].

瘤果茶组 liu guo cha zu

Flowers subterminal, solitary, subsessile. Pedicel covered by bracteoles; bracteoles and sepals imbricate, ± caducous after anthesis, crustaceous, margin scarious. Petals white or rarely red. Stamens glabrous; outer filament whorl ± connate. Ovary tuberculate, 3–5-loculed; styles 3–5, distinct. Capsule tuberculate, 3–5-loculed, apex sunken. Seeds pilose.

• Six species: China.

- 1a. Leaf blade 4–8 × 1.5–2.5 cm, adaxially hirtellous along midvein; flowers ca. 3 cm in diam.; fruit ca. 1.5 cm in diam. 79. *C. parvimuricata*
- 1b. Leaf blade 4.5–15.5(–16) × 1.5–6 cm, adaxially glabrous; flowers 4–6 cm in diam.; fruit 1.8–3.5(–4) cm in diam.
- 2a. Ovary and style glabrous 77. *C. ilicifolia*
- 2b. Ovary and style tomentose or villous (sometimes glabrous in *C. tuberculata* and *C. anlungensis*).
- 3a. Leaf blades oblong to lanceolate, abaxially sparsely pilose along midvein 78. *C. rhytidocarpa*
- 3b. Leaf blades elliptic, obovate-elliptic, oblong-elliptic, or oblong, glabrous or hirtellous near base especially along midvein.
- 4a. Current year branchlets yellowish brown; leaf blade abaxially hirtellous near base especially along midvein but glabrescent, adaxially glabrous 74. *C. tuberculata*
- 4b. Current year branchlets reddish brown; leaf blade glabrous on both surfaces.
- 5a. Flowers 5–6 cm in diam.; sepals 1.5–2.5 cm; fruit ca. 3.5 cm in diam. 75. *C. pyxidiacea*
- 5b. Flowers 4–5 cm in diam.; sepals ca. 1 cm; fruit 2–3 cm in diam. 76. *C. anlungensis*

74. *Camellia tuberculata* S. S. Chien, Contr. Biol. Lab. Sci. Soc. China, Bot. Ser. 12: 94. 1939.

瘤国茶 liu guo cha

Shrubs or trees, 1–5 m tall. Year-old branchlets grayish brown; current year branchlets pale yellowish brown, glabrous. Petiole 0.8–1.2 cm, glabrous; leaf blade elliptic to oblong-elliptic, 7–12(–16) × 2.5–4.5(–5.5) cm, leathery, abaxially pale green, brown glandular punctate, hirtellous near base especially along midvein but glabrescent, and becoming yellowish brown

when dry, adaxially dark green, ± rugulose, and glabrous, midvein, secondary, and reticulate veins abaxially raised and adaxially impressed, secondary veins 8 or 9 on each side of midvein, base broadly cuneate to obtuse, margin bluntly denticulate, apex shortly acuminate to acuminate. Flowers subterminal, solitary, ca. 4 cm in diam., subsessile. Bracteoles 4–6, semi-orbicular to ovate, 2–6 mm, glabrous or subglabrous, margin ciliolate. Sepals 5 or 6, broadly ovate to suborbicular, 1–1.5 cm, outside gray pubescent near middle, inside brown and glabrous, margin ciliolate. Petals 7 or 8, white, obovate to long obovate,

2–3 × 1–1.8 cm, basally connate for 3–5 mm, apex rounded to truncate. Stamens 1.5–2 cm, glabrous; outer filament whorl basally connate for ca. 5 mm. Ovary flattened globose, minutely rugulose, glabrous or white erect bristlelike tomentose, 3–5-loculed; styles 3–5, distinct, 1.5–2 cm, glabrous or grayish white tomentose from base to middle or apical part. Capsule black, oblate, ca. 2 cm in diam., 3–5-loculed with 2 seeds per locule; pericarp tuberculate, splitting into 3–5 valves. Seeds brown, semiglobose, ca. 1 cm in diam., tawny villous. Fl. Nov–Dec, fr. Sep.

- Forests, thickets; 500–800 m. N Guizhou, S Sichuan.

- 1a. Ovary and styles bristlelike tomentose 74a. var. *tuberculata*
 1b. Ovary and styles glabrous 74b. var. *atuberculata*

74a. *Camellia tuberculata* var. *tuberculata*

瘤果茶(原变种) liu guo cha (yuan bian zhong)

Camellia chungkingensis Hung T. Chang; *C. rhytidophylla* Y. K. Li & M. Z. Yang.

Ovary white erect bristlelike tomentose; style grayish white bristlelike tomentose from base to middle or apical part. Fl. Nov–Dec, fr. Sep.

- Forests, thickets; 500–800 m. N Guizhou, S Sichuan.

74b. *Camellia tuberculata* var. *atuberculata* (Hung T. Chang) T. L. Ming, Acta Bot. Yunnan. 15: 128. 1993.

秃蕊瘤果茶 tu rui liu guo cha

Camellia atuberculata Hung T. Chang, Acta Sci. Nat. Univ. Sunyatseni 30(4): 90. 1991.

Ovary and styles glabrous. Fl. Nov, fr. Sep.

- Forests, thickets; ca. 700 m. N Guizhou (Chishui).

75. *Camellia pyxidiacea* Z. R. Xu et al., Guihaia 7: 19. 1987.

三江瘤果茶 san jiang liu guo cha

Shrubs or trees, 2–5 m tall. Young branches brown; current year branchlets reddish brown, ribbed, glabrous. Petiole ca. 1.2 cm, glabrous; leaf blade elliptic, oblong-elliptic, or oblong, 9–15.5 × 3–5.5 cm, thinly leathery, abaxially pale green, brown glandular punctate, and becoming pale brown when dry, adaxially dark green and shiny, both surfaces glabrous, midvein abaxially elevated and adaxially slightly raised, secondary veins 8–10 on each side of midvein and raised on both surfaces, base broadly cuneate to obtuse, margin sparsely denticulate, apex acute to acuminate. Flowers axillary or subterminal, solitary or paired, 5–6 cm in diam., subsessile. Bracteoles ca. 4, semiorbicular to broadly ovate, 3–8 mm, gray pubescent or glabrescent. Sepals 5 or 6, ± persistent, broadly ovate to suborbicular, 1.5–2.5 cm, densely gray sericeous. Petals 6–8, white flushed with red or red, broadly obovate, 3–4 × 2–3 cm, apex emarginate; inner 5 petals connate for ca. 3 mm. Stamens 2–3 cm; filaments glabrous; outer filament whorl basally connate for 0.8–1.2 cm. Ovary depressed globose, minutely rugulose, basally glabrous, apically white tomentose, 4- or 5-loculed; styles 4 or 5, distinct, 2–3 cm, grayish white villous. Capsule

globose to oblate, 2.7–3.3 × ca. 3.5 cm, usually 5-loculed with 1 or 2 seeds per locule; pericarp ca. 5 mm thick, tuberculate, splitting into 4 or 5 valves. Seeds brown, globose to semiglobose, 1–1.5 cm in diam., reddish brown villous. Fl. Nov–Dec, fr. Sep–Oct. $2n = 30^*$.

- Forests, forests along rivers; 700–1200 m. Guizhou (Qinglong, Xingyi), Yunnan (Luoping).

- 1a. Leaf blade elliptic to oblong-elliptic;
 petals white flushed with red 75a. var. *pyxidiacea*
 1b. Leaf blade oblong-elliptic to
 oblong; petals red 75b. var. *rubituberculata*

75a. *Camellia pyxidiacea* var. *pyxidiacea*

三江瘤果茶(原变种) san jiang liu guo cha (yuan bian zhong)

Leaf blade elliptic to oblong-elliptic. Petals white flushed with red.

- Forests along rivers; 700–800 m. Guizhou (Xingyi), Yunnan (Luoping).

75b. *Camellia pyxidiacea* var. *rubituberculata* (Hung T. Chang ex M. J. Lin & Q. M. Lu) T. L. Ming, Acta Bot. Yunnan. 15: 129. 1993.

红花三江瘤果茶 hong hua san jiang liu guo cha

Camellia rubituberculata Hung T. Chang ex M. J. Lin & Q. M. Lu, Acta Sci. Nat. Univ. Sunyatseni 23(2): 82. 1984.

Leaf blade oblong to oblong-elliptic. Petals red.

- Forests; 1000–1200 m. Guizhou (Qinglong).

76. *Camellia anlungensis* Hung T. Chang, Taxon. Gen. *Camellia*, 48. 1981.

安龙瘤果茶 an long liu guo cha

Shrubs or trees, 2–5 m tall. Young branches grayish brown; current year branchlets reddish brown, glabrous. Petiole 5–10 mm, glabrous; leaf blade elliptic to obovate-elliptic, 7–14.5 × 3–6 cm, thinly leathery, abaxially pale green, brown glandular punctate, and becoming pale brown when dry, adaxially dark green, both surfaces glabrous, midvein abaxially elevated and adaxially raised, secondary veins 7–9 on each side of midvein and raised on both surfaces, reticulate veins visible, base broadly cuneate to obtuse, margin apiculate-serrulate, apex acute to acuminate. Flowers axillary or subterminal, solitary, 4–5 cm in diam., subsessile. Bracteoles 4, semiorbicular to broadly ovate, 2.5–5 mm, glabrous or subglabrous. Sepals 5 (or 6), ± persistent, ovate, broadly ovate, or suborbicular, ca. 1 cm, crustaceous, both surfaces gray sericeous, margin scarious, apex rounded to acute. Petals 9–10, white, obovate, 2.5–3 × 1.5–2 cm, apex emarginate; outer 4 or 5 petals nearly distinct; inner 5 petals basally connate for ca. 5 mm. Stamens ca. 2 cm, glabrous; outer filament whorl basally connate for ca. 7 mm. Ovary ovoid, minutely rugulose, glabrous or apically densely white villous, 3 (or 4)-loculed; styles 3 (or 4), distinct, glabrous or basally white villous. Capsule globose to oblate, 1.5–2 × 2–3 cm, 3 (or 4)-loculed with 1 or 2 seeds per locule; pericarp tuberculate. Seeds brown, globose to semiglobose, 1–1.3 cm in diam., reddish brown pilose. Fl. Nov–Dec, fr. Sep. $2n = 30^*$.

• Forests on mountain slopes or in valleys; 400–1300 m. NW Guangxi, SW Guizhou, SE Yunnan.

- 1a. Sepals broadly ovate to suborbicular, both surfaces densely gray sericeous, apex rounded; ovary and styles pilose 76a. var. *anlungensis*
 1b. Sepals ovate, glabrous, apex acute; ovary and styles glabrous 76b. var. *acutiperculata*

76a. *Camellia anlungensis* var. *anlungensis*

安龙瘤果茶(原变种) an long liu guo cha (yuan bian zhong)

Camellia leyeensis Hung T. Chang & Y. C. Zhong; *C. obovatifolia* Hung T. Chang.

Sepals broadly ovate to suborbicular, both surfaces densely gray sericeous, apex rounded. Ovary and styles pilose.

• Forests on mountain slopes or in valleys; 400–1300 m. NW Guangxi, SW Guizhou, SE Yunnan.

76b. *Camellia anlungensis* var. *acutiperculata* (Hung T. Chang & C. X. Ye) T. L. Ming, *Acta Bot. Yunnan.* 15: 127. 1993.

尖苞瘤果茶 jian bao liu guo cha

Camellia acutiperculata Hung T. Chang & C. X. Ye, *Acta Sci. Nat. Univ. Sunyatseni* 23(2): 79. 1984; *C. acuticalyx* Hung T. Chang; *C. acutisepala* Hung T. Chang (1991), not H. T. Tsai & K. M. Feng (1951).

Sepals ovate, glabrous, apex acute. Ovary and styles glabrous.

• Forests on mountain slopes; 900–1200 m Guangxi (Longlin).

Chang (FRPS 49(3): 44. 1998) used the name *Camellia acuticalyx*, giving the same author and place of publication as the later homonym, *C. acutisepala* Hung T. Chang (*Acta Sci. Nat. Univ. Sunyatseni* 30(4): 89. 1991). Although Chang did not actually indicate that he was proposing a new name, a nomen novum was nevertheless validly published under Art. 33.4 of the *Vienna Code*.

77. *Camellia ilicifolia* Y. K. Li & Hung T. Chang in Hung T. Chang, *Taxon. Gen. Camellia*, 46. 1981.

冬青叶瘤果茶 dong qing ye liu guo cha

Shrubs or trees, 2–10 m tall. Young branches brown to grayish brown; current year branchlets reddish brown, 4-ribbed, glabrous. Petiole 5–10 mm, glabrous; leaf blade oblong, oblong-elliptic, oblong-ovate, or narrowly lanceolate, 6–11 × 1.5–3.8 cm, leathery, abaxially pale green, with sparse appressed trichomes but especially dense along midvein, and becoming pale brown to reddish brown when dry, adaxially dark green, shiny, glabrous, and becoming pale brown when dry, secondary veins 6–8 on each side of midvein and visible or slightly raised on both surfaces, reticulate veins adaxially slightly impressed, base broadly cuneate to rounded, margin apiculate-serrulate or serrulate only at apex, apex acuminate. Flowers axillary or subterminal, solitary, subsessile. Bracteoles 4, caducous, semiorbicular to suborbicular, 1.5–3.5 mm, crustaceous, outside glabrous or yellowish sericeous near apex, margin scarious and ciliolate. Sepals 5 or 6, ± persistent, orbicular, 0.8–1.2 cm, outside gray sericeous, inside glabrous. Petals 5 or 6, white or

rarely red, obovate to long obovate, 1.7–2.2 cm, basally connate for 4–5 mm, apex emarginate. Stamens 1–1.5 cm, glabrous; outer filament whorl basally connate for ca. 5 mm. Ovary minutely rugulose, glabrous, 3(or 4)-loculed; styles 3(or 4), distinct, 1–1.5 cm, glabrous. Capsule subglobose, 1.8–2 cm in diam., 3-loculed with usually 1 seed per locule; pericarp tuberculate, splitting into 3 valves. Seeds brown, globose to semiglobose, ca. 1.4 cm in diam., pale yellowish villous. Fl. Dec–Jan, fr. Sep.

• Forests, thickets; 700–1300 m. N and S Guizhou.

- 1a. Leaf blade oblong, oblong-elliptic, or oblong-ovate, 6–9.5 × 2.5–3.8 cm, margin apiculate-serrulate for most of length 77a. var. *ilicifolia*
 1b. Leaf blade narrowly lanceolate, 7–11 × 1.5–2.5 cm, margin serrulate only near apex 77b. var. *neriifolia*

77a. *Camellia ilicifolia* var. *ilicifolia*

冬青叶瘤果茶(原变种) dong qing ye liu guo cha (yuan bian zhong)

Camellia ilicifolia f. *rubimuricata* (Hung T. Chang & Z. R. Xu) T. L. Ming; *C. litchi* Hung T. Chang; *C. rubimuricata* Hung T. Chang & Z. R. Xu.

Leaf blade oblong, oblong-elliptic, or oblong-ovate, 6–9.5 × 2.5–3.8 cm, margin apiculate-serrulate for most of length. Fl. Dec–Jan, fr. Sep.

• Forests, thickets; 700–1300 m. N and S Guizhou.

77b. *Camellia ilicifolia* var. *neriifolia* (Hung T. Chang) T. L. Ming, *Acta Bot. Yunnan.* 15: 126. 1993.

狭叶瘤果茶 xia ye liu guo cha

Camellia neriifolia Hung T. Chang, *Acta Sci. Nat. Univ. Sunyatseni* 23(2): 79. 1984.

Leaf blade narrowly lanceolate, 7–11 × 1.5–2.5 cm, margin serrulate only near apex. Fl. Jan, fr. Sep. $2n = 30^*$.

• Forests; 900–1000 m. N and S Guizhou.

78. *Camellia rhytidocarpa* Hung T. Chang & S. Ye Liang in Hung T. Chang, *Taxon. Gen. Camellia*, 49. 1981.

皱果茶 zhou guo cha

Shrubs or trees, 3–10 m tall. Current year branchlets pale brown, ribbed, glabrous. Petiole 0.8–1.2 cm, glabrous; leaf blade oblong to lanceolate, 4.5–12 × 1.5–3.5 cm, leathery, abaxially pale green, sparsely pilose along midvein, and becoming pale brown when dry, adaxially dark green, shiny, and glabrous, secondary veins 7–9 on each side of midvein, midvein and secondary veins raised on both surfaces, reticulate veins adaxially ± impressed, base broadly cuneate to obtuse, margin apiculate-serrulate, apex long acuminate to caudate-acuminate. Flowers axillary or subterminal, solitary or paired, 2.5–4 cm in diam., subsessile. Bracteoles ca. 3, caducous, lunate to semiorbicular, both surfaces gray sericeous. Sepals 5 or 6, ± caducous, broadly ovate to suborbicular, ca. 1.5 cm, both surfaces gray

sericeous. Petals 5 or 6, white, obovate to long obovate, 2.5–4 × ca. 1.5 cm, basally connate for 8–10 mm, apex emarginate. Stamens 2–3 cm, glabrous; outer filament whorl basally connate for 1–1.3 cm. Ovary minutely rugulose, apically white tomentose, 3-loculed; styles 3, distinct, 2–3 cm, white tomentose except apex. Capsule globose or 2-coccal, 2–2.5 cm in diam. or less, 1- or 2-loculed with 1 or 2 seeds per locule; pericarp tuberculate. Seeds brown, globose to semiglobose, 1–1.3 cm in diam., reddish brown villous. Fl. Nov, fr. Sep.

• Forests; 500–1500 m. N and NE Guangxi, SE Guizhou, SW Hunan.

- 1a. Leaf blade oblong, 7–12 × 2.5–3.5 cm; flowers 3.5–4 cm in diam.; capsule 2–2.5 cm in diam. 78a. var. *rhytidocarpa*
 1b. Leaf blade lanceolate, 4.5–6 × 1.5–1.8 cm; flowers ca. 2.5 cm in diam.; capsule less than 2 cm in diam. 78b. var. *microphylla*

78a. *Camellia rhytidocarpa* var. *rhytidocarpa*

皱果茶(原变种) zhou guo cha (yuan bian zhong)

Camellia lipingensis Hung T. Chang; *C. zengii* Hung T. Chang.

Leaf blade oblong, 7–12 × 2.5–3.5 cm. Flowers 3.5–4 cm in diam. Capsule 2–2.5 cm in diam.

• Forests; 500–1100 m. NE Guangxi, SE Guizhou, SW Hunan.

78b. *Camellia rhytidocarpa* var. *microphylla* Y. C. Zhong, Acta Bot. Yunnan. 15: 127. 1993.

小叶皱果茶 xiao ye zhou guo cha

Leaf blade lanceolate, 4.5–6 × 1.5–1.8 cm. Flowers ca. 2.5 cm in diam. Capsule less than 2 cm in diam.

• Forests; 1300–1500 m. N Guangxi (Leye).

79. *Camellia parvimuricata* Hung T. Chang, Taxon. Gen. *Camellia*, 51. 1981.

小瘤国茶 xiao liu guo cha

Shrubs 1.5–3 m tall. Young branches grayish brown; current year branchlets glabrous or densely yellowish pubescent with indumentum ± persistent to following year. Petiole 3–5 mm, pubescent; leaf blade ovate, long ovate, elliptic-ovate, or lanceolate, 4–8 × 1.5–2.5 cm, leathery, abaxially pale green or brown, sparsely pilose along midvein, and turning brown when dry, adaxially dark green and hirtellous along midvein, midvein raised on both surfaces, secondary veins 6 or 7 on each side of midvein, base broadly cuneate to rounded, margin serrulate, apex acuminate to caudate-acuminate. Flowers axillary or subterminal, solitary or paired, ca. 3 cm in diam., subsessile. Bracteoles 5 or 6, caducous, semiorbicular to suborbicular, 2–10 mm, outside pale yellow sericeous, inside glabrous, margin

ciliolate. Sepals 5, caducous, broadly ovate to suborbicular, 0.7–1.5 cm, crustaceous, outside pale yellow sericeous, inside glabrous, margin scarios and ciliolate. Petals 7, white, obovate, 2–2.5 cm, basally connate for ca. 5 mm, apex emarginate. Stamens ca. 1.5 cm, glabrous; outer filament whorl basally connate for ca. 1 cm. Ovary glabrous, 3(or 4)-loculed; styles 3(or 4), distinct, ca. 1.5 cm, glabrous. Capsule subglobose, ca. 1.5 cm in diam., 1- or 2-loculed with 1 seed per locule, apex sunken; pericarp tuberculate. Seeds brown, globose, ca. 1 cm in diam., sparsely yellow pilose. Fl. Dec–Feb, fr. Sep.

• Forests, thickets; 500–1100 m. Chongqing, NE Guizhou, W Hubei, SW Hunan.

- 1a. Bracteoles 5–10 mm; sepals 1–1.5 cm 79c. var. *hupehensis*
 1b. Bracteoles 2–4 mm; sepals 0.7–0.8 cm.
 2a. Current year branchlets densely pubescent; leaf blade ovate, long ovate, or elliptic-ovate, 4–6.5 × 1.5–2.5 cm 79a. var. *parvimuricata*
 2b. Current year branchlets glabrous; leaf blade lanceolate, 5.5–8 × 1.7–2.2 cm 79b. var. *songtaoensis*

79a. *Camellia parvimuricata* var. *parvimuricata*

小瘤果茶(原变种) xiao liu guo cha (yuan bian zhong)

Current year branchlets densely pubescent. Leaf blade ovate, long ovate, or elliptic-ovate, 4–6.5 × 1.5–2.5 cm. Bracteoles 2–4 mm. Sepals 7–8 mm. Fl. Jan–Feb, fr. Sep.

• Forests, thickets; 500–1100 m. Chongqing, NE Guizhou, W Hubei, SW Hunan.

79b. *Camellia parvimuricata* var. *songtaoensis* K. M. Lan & H. H. Zhang ex T. L. Ming, Acta Bot. Yunnan. 15: 125. 1993.

光枝小瘤果茶 guang zhi xiao liu guo cha

Current year branchlets glabrous. Leaf blade lanceolate, 5.5–8 × 1.7–2.2 cm. Bracteoles 2–4 mm. Sepals 7–8 mm. Fl. Jan–Feb, fr. Sep.

• Forests; ca. 700 m. NE Guizhou (Songtao).

79c. *Camellia parvimuricata* var. *hupehensis* (Hung T. Chang) T. L. Ming, Acta Bot. Yunnan. 21: 156. 1999.

大萼小瘤果茶 da e xiao liu guo cha

Camellia hupehensis Hung T. Chang, Acta Sci. Nat. Univ. Sunyatseni 30(4): 90. 1991.

Current year branchlets pubescent. Leaf blade long ovate, 5–6.5 × 1.7–2.5 cm. Bracteoles 5–10 mm. Sepals 1–1.5 cm. Fl. Dec–Jan, fr. Sep.

• W Hubei.

10. *Camellia* sect. *Camellia*

山茶组 shan cha zu

Desmitus Rafinesque; *Kemelia* Rafinesque; *Tsubaki* Kaempfer ex Adanson; *Yunnanea* Hu.

Flowers axillary or subterminal, solitary or paired, large, subsessile. Bracteoles and sepals imbricate, caducous or sepals \pm persistent after anthesis. Petals red or white, basally connate and strongly adnate to androecium. Stamens numerous; outer filament whorl connate for basal 1/2–3/4. Styles basally connate, apically 3-parted, rarely distinct (only in *C. hongkongensis*).

Twelve species: China, S Japan, S Korea; 12 species (11 endemic) in China.

- 1a. Bracteoles and sepals caducous after anthesis (\pm persistent in young fruit in *C. polyodonta*).
- 2a. Leaf blade secondary veins adaxially strongly impressed; filaments densely villous.
- 3a. Leaf blade margin pectinately serrulate; bracteoles and sepals ca. 15, \pm persistent in young fruit 90. *C. polyodonta*
- 3b. Leaf blade margin densely apicately serrulate; bracteoles and sepals 8–10, caducous after anthesis 91. *C. mairei*
- 2b. Leaf blade secondary veins adaxially visible or raised, rarely slightly impressed, sometimes obscure; filaments glabrous or subglabrous.
- 4a. Leaf blade slightly inflexed, 2.5–5.5 \times 1–2.2 cm, apex acute to obtuse; flowers ca. 3 cm in diam.; fruit ca. 2.5 cm in diam. 87. *C. saluenensis*
- 4b. Leaf blade not inflexed, 6.5–14 \times 3–6 cm, apex acuminate, caudate, acute, or shortly acuminate and sometimes with an obtuse tip; flowers 4–10 cm in diam.; fruit 3–6 cm in diam.
- 5a. Current year branchlets glabrous; leaf blade abaxially glabrous, apex acuminate to caudate 88. *C. pitardii*
- 5b. Current year branchlets pubescent but glabrescent; leaf blade abaxially pubescent at least when young, apex acute to shortly acuminate and with an obtuse tip 89. *C. reticulata*
- 1b. Bracteoles and sepals \pm persistent in young fruit.
- 6a. Ovary tomentose.
- 7a. Current year branchlets spreading villous; leaf blade ovate, long ovate, or lanceolate, base rounded to cordate; sepal apices acuminate to long acuminate 86. *C. edithae*
- 7b. Current year branchlets pubescent or glabrous; leaf blade oblong, oblong-elliptic, elliptic, or oblong-lanceolate, base cuneate, broadly cuneate, or obtuse; sepal apices rounded.
- 8a. Leaf blade 6–12.5 \times 2–4 cm, margin entire or obscurely undulate-denticulate; styles 3, distinct; capsule pericarp furfuraceous 80. *C. hongkongensis*
- 8b. Leaf blade 9–15 \times 4–7(–9) cm, margin entire on basal 1/2 and serrate on apical 1/2; style basally connate and apically 3–5-parted; capsule pericarp smooth 85. *C. semiserrata*
- 6b. Ovary glabrous.
- 9a. Leaf blade margin entire, subentire, or sparsely denticulate near apex.
- 10a. Petiole 6–10(–15) mm; leaf blade apex rounded to emarginate; bracteoles and sepals outside glabrous; style 3(or 4)-parted 81. *C. azalea*
- 10b. Petiole 10–18 mm; leaf blade apex acuminate; bracteoles and sepals outside densely pubescent; style 3–5-lobed 82. *C. subintegra*
- 9b. Leaf blade margin serrulate.
- 11a. Petiole 1–1.5 cm; leaf blade abaxially not glandular punctate, adaxially green becoming yellowish green when dry; bracteoles and sepals brown at anthesis; outer filament whorl basally connate for 0.5–1 cm 83. *C. chekiangoleosa*
- 11b. Petiole 0.5–1 cm; leaf blade abaxially brown glandular punctate, adaxially dark green; bracteoles and sepals green at anthesis; outer filament whorl basally connate for 1.5–2.5 cm 84. *C. japonica*

80. *Camellia hongkongensis* Seemann, Trans. Linn. Soc. London 22: 342. 1859.

香港山茶 xiang gang shan cha

Camellia integerrima Hung T. Chang; *Thea hongkongensis* (Seemann) Pierre.

Shrubs or trees, 2–10 m tall. Year-old branchlets grayish brown; current year branchlets reddish brown, glabrous. Petiole 0.7–1.3 cm, glabrous, adaxially grooved; leaf blade oblong, oblong-elliptic, or oblong-lanceolate, 6–12.5 \times 2–4 cm, leathery, abaxially pale green, adaxially dark green and shiny, both surfaces glabrous, midvein abaxially raised and adaxially impressed, secondary veins 7–10 on each side of midvein, abaxially raised, and adaxially visible to slightly raised, base cuneate to obtuse, margin entire or obscurely undulate-denticulate, apex acuminate to shortly acuminate. Flowers subterminal, solitary, subsessile. Bracteoles and sepals 9–11, imbricate; outer 4–6 bracteoles and sepals caducous after anthesis, lunate to subor-

bicular, 3–10 mm, both surfaces gray velutinous; inner 5 bracteoles and sepals caducous or persistent in fruit, sepals, broadly obovate to obovate, ca. 2 cm, crustaceous, both surfaces gray velutinous. Petals 6 or 7, red, broadly obovate, 3–3.5 \times 1.5–2.3 cm, basally connate, apex emarginate. Stamens 2.5–3 cm, glabrous; outer filament whorl basally connate for 1.3–2 cm. Ovary globose, ca. 2 mm in diam., densely tomentose, 3-loculed; styles 3, distinct, 2.8–3.3 cm, glabrous. Capsule brown, globose to obovate, 2–2.5 \times 2.5–3.5 cm, 3-loculed with 1 or 2 seeds per locule; pericarp 2–3 mm thick when dry, furfuraceous, splitting into 3 valves. Seeds brown, semiglobose to globose, ca. 1.5 cm in diam., glabrous. Fl. Dec–Jan, fr. Aug–Sep. $2n = 30^*$.

• Forests; 200–300 m. Guangdong.

81. *Camellia azalea* C. F. Wei, Bull. Bot. Res., Harbin 6(4): 141. 1986.

杜鹃叶山茶 du juan ye shan cha

Camellia changii C. X. Ye.

Shrubs 1–2.5 m tall. Young branches grayish brown; current year branchlets reddish brown, glabrous. Petiole 6–10(–15) mm, glabrous; leaf blade obovate to long obovate, 5.5–12 × 2–4 cm, leathery, abaxially pale green or glaucescent, adaxially dark green, both surfaces glabrous, midvein thick and elevated on both surfaces, secondary veins 6–8 on each side of midvein, slender, and visible on both surfaces, base cuneate, margin entire and slightly revolute, apex broadly obtuse to rounded and sometimes emarginate. Flowers subterminal, solitary or to 5 in a cluster, 8–10 cm in diam., subsessile. Bracteoles and sepals 8–11; outer 3–6 bracteoles and sepals semiorbicular to broadly ovate, 3–8 mm; inner 5 bracteoles and sepals persistent, ovate, 1.5–2 cm, outside glabrous, inside silvery sericeous, margin ciliolate. Petals 6–9, roseate, nearly distinct, obovate to long obovate, 3–8.5 × 2–4.5 cm, basally attenuate, apex emarginate. Stamens 3.5–4 cm, in ca. 4 whorls, glabrous; outer filament whorl basally connate for 1.5–1.8 cm. Ovary ovoid, glabrous, 3(or 4)-loculed; style ca. 3.5 cm, glabrous, 3(or 4)-parted for ca. 1 cm. Capsule ovoid, 2–2.5 × ca. 2 cm, 3-loculed with 2 seeds per locule; pericarp ca. 2 mm thick when dry, smooth, glabrous, splitting into 3 valves. Seeds brown, semiglobose, 1.5–2 cm in diam., glabrous. Fl. Oct–Dec, fr. Aug–Sep.

• Forests in hilly areas, among boulders by rivers; 100–500 m. Guangdong (Yangchun).

82. *Camellia subintegra* T. C. Huang ex Hung T. Chang, *Taxon. Gen. Camellia*, 83. 1981.

全缘叶山茶 *quan yuan ye shan cha*

Camellia lienshanensis Hung T. Chang.

Shrubs or trees, 3–8 m tall. Young branches grayish white; current year branchlets reddish brown, glabrous. Petiole 1–1.8 cm, glabrous; leaf blade oblong-elliptic, obovate-oblong, or lanceolate, 5–10.5(–12) × 2–3.5 cm, leathery, abaxially pale green or glaucescent, adaxially dark green, shiny, and becoming yellowish green when dry, both surfaces glabrous, midvein thick and raised on both surfaces, secondary veins 6 or 7 on each side of midvein and visible on both surfaces or abaxially obscure, base cuneate, margin entire or sparsely denticulate near apex, apex acuminate. Flowers axillary or subterminal, solitary, 5–8 cm in diam., subsessile. Bracteoles and sepals ca. 10, leathery; outer 4 or 5 bracteoles and sepals lunate to semi-orbicular, 1.5–7 mm; inner bracteoles and sepals orbicular to obovate, sepals, 1–2 cm, outside densely pubescent, inside sericeous. Petals 5–7, roseate, obovate, 3.5–5.7 cm, apex emarginate; inner 5 petals basally connate for ca. 5 mm. Stamens ca. 2.8 cm, glabrous; outer filament whorl basally connate for ca. 3.5 mm. Ovary globose, glabrous, 3(or 4)-loculed; style ca. 2.6 cm, glabrous, apically 3–5-lobed. Capsule ovoid, 3–6 × 3–6 cm, 3(or 4)-loculed with 1–3 seeds per locule; pericarp yellowish green to brown, ca. 4 mm thick when dry, splitting into 3 or 4 valves. Seeds brown, globose to semiglobose, ca. 2 cm in diam., glabrous. Fl. Nov–Dec, fr. Sep.

• Forests; 700–1100 m. NW Guangdong, S Hunan, W Jiangxi.

83. *Camellia chekiangoleosa* Hu, *Acta Phytotax. Sin.* 10: 131. 1965.

浙江山茶 *zhe jiang shan cha*

Camellia chekiangoleosa f. *tanglii* P. L. Chiu; *C. crassissima* Hung T. Chang & W. J. Shi; *C. liberistamina* Hung T. Chang & J. S. Kiu; *C. lucidissima* Hung T. Chang.

Shrubs or trees, 3–8 m tall. Year-old branchlets grayish white; current year branchlets reddish brown, glabrous. Petiole 1–1.5 cm, glabrous; leaf blade elliptic to oblong-elliptic, 7–13 × 3–6 cm, leathery to thickly leathery, abaxially pale green to yellowish green, adaxially green, shiny, and becoming yellowish green when dry, both surfaces glabrous, midvein abaxially elevated and adaxially level or slightly raised, secondary veins 7 or 8 on each side of midvein and slightly raised on both surfaces, base cuneate to broadly cuneate, margin serrulate, apex acute to acuminate. Flowers solitary or paired, subterminal or axillary, 7–10 cm in diam., subsessile. Bracteoles and sepals 9–11, brown at anthesis; outer 4 bracteoles and sepals semi-orbicular, 4–8 mm; inner 5 or 6 bracteoles and sepals ± persistent in young fruit, orbicular, 2–2.5 cm in diam., outside silvery gray villous, inside silvery sericeous, margin membranous. Petals 6–8, roseate or rarely white, broadly obovate, 4–6 × 3–4.5 cm, apex emarginate; inner petals basally connate for 5–8 mm. Stamens 2.5–3 cm, glabrous; outer filament whorl basally connate for 5–10 mm. Ovary ovoid, ca. 2 mm, glabrous, 3-loculed but sometimes to 5-loculed in cultivation; style ca. 2.5 cm, glabrous, apically 3-lobed. Capsule globose, 4–7.5 cm in diam., 3-loculed with 3–8 seeds per locule; pericarp to 1 cm thick, woody, splitting into 3 valves. Seeds brown, glabrous. Fl. Nov–Dec, fr. Oct. $2n = 30^*$, 90^* .

• Forests, thickets; 500–1300 m. Anhui, N Fujian, E Hunan, E and W Jiangxi, Zhejiang.

84. *Camellia japonica* Linnaeus, *Sp. Pl.* 2: 698. 1753.

山茶 *shan cha*

Shrubs or trees, 1.5–6(–11) m tall. Young branches grayish brown; current year branchlets purplish brown, glabrous. Petiole 5–10 mm, glabrous or adaxially pubescent; leaf blade broadly elliptic, elliptic, or oblong-elliptic, 5–10.5(–12) × 2.5–6(–7) cm, leathery, abaxially pale green and brown glandular punctate, adaxially dark green, both surfaces glabrous, midvein yellowish green, thick, and elevated on both surfaces, secondary veins 6–9 on each side of midvein, slender, and visible on both surfaces, base cuneate to broadly cuneate, margin serrulate, apex shortly acuminate and with an obtuse tip. Flowers axillary or subterminal, solitary or paired, 6–10 cm in diam., subsessile. Bracteoles and sepals ca. 9, green at anthesis; outer 4 bracteoles and sepals lunate to semi-orbicular, 2–5 mm, glabrous, subglabrous, or grayish white velutinous; inner bracteoles and sepals green, persistent to young fruit, orbicular to broadly ovate, 1–2 cm, thinly leathery, both surfaces grayish white velutinous or subglabrous, margin membranous. Petals 6 or 7 but often more for cultivars, rose or white, obovate to broadly obovate, 3–4.5 × 1.5–2.5 cm, apex emarginate; inner 5 petals basally connate for 0.5–1.5 cm. Stamens 2.5–3.5 cm, glabrous; outer filament whorl basally connate for 1.5–2.5 cm. Gynoecium ca. 3 cm, glabrous. Ovary ovoid, 3-loculed; style ca. 2.8 cm, apically 3-lobed. Capsule globose, 2.5–4.5 cm in diam., 3-loculed with 1 or 2 seeds per locule; pericarp 5–8 mm

thick when dry, woody. Seeds brown, semiglobose to globose, 1–2 cm in diam., glabrous. Fl. Jan–Mar, fr. Sep–Oct. $2n = 30$, 45, 75.

Forests; 300–1100 m. Shandong, Taiwan, E Zhejiang [S Japan, S Korea].

- 1a. Petiole ca. 10 mm, glabrous; bracteoles and sepals grayish white velutinous 84a. var. *japonica*
 1b. Petiole ca. 5 mm, adaxially pubescent; bracteoles and sepals glabrous or subglabrous 84b. var. *rusticana*

84a. *Camellia japonica* var. *japonica*

山茶(原变种) shan cha (yuan bian zhong)

Camellia bonnardii Berlese; *C. florida* Salisbury; *C. hozanensis* (Hayata) Hayata; *C. japonica* var. *hozanensis* (Hayata) Yamamoto; *C. japonica* var. *macrocarpa* Masamune; *C. kaempferia* Rebol; *C. mutabilis* Paxton; *C. nakaii* (Hayata) Hayata; *C. planipetala* Lemaire; *C. sylvestris* Berlese; *C. tsu-bakki* Crantz; *Kemelia japonica* (Linnaeus) Rafinesque; *Thea camellia* Hoffmannseg; *T. hozanensis* Hayata; *T. japonica* (Linnaeus) Baillon; *T. japonica* var. *hortensis* Makino; *T. japonica* var. *spontanea* Makino; *T. nakaii* Hayata.

Petiole ca. 1 cm, glabrous. Bracteoles and sepals grayish white velutinous. Fl. Jan–Mar, fr. Sep–Oct.

Forests; 300–1100 m. Shandong, Taiwan, E Zhejiang [S Japan, S Korea].

This taxon is grown as a garden plant throughout S China with many named cultivars. The early introduction of *Camellia japonica* cultivars into Europe in the 18th and early 19th century were mostly from China.

84b. *Camellia japonica* var. *rusticana* (Honda) T. L. Ming, Acta Bot. Yunnan. 20: 132. 1998.

短柄山茶 duan bing shan cha

Camellia rusticana Honda, Biosphaera 1: 97. 1947.

Petiole ca. 5 mm, adaxially pubescent. Bracteoles and sepals outside glabrous or subglabrous. Fl. Jan–Mar, fr. Oct.

Forests; ca. 700 m. Zhejiang (Zhoushan Qundao) [S Japan].

85. *Camellia semiserrata* C. W. Chi, Sunyatsenia 7: 15. 1948.

南山茶 nan shan cha

Trees, 7–15 m tall. Young branches grayish brown; current year branchlets purplish brown, thick, glabrous. Petiole 1–1.5 cm, glabrous, adaxially grooved; leaf blade elliptic to oblong-elliptic, 9–15 × 4–7(–9) cm, rigidly leathery, abaxially pale green and becoming pale brown when dry, adaxially dark green, both surfaces glabrous, midvein yellow, thick, abaxially elevated, and adaxially level or slightly raised, secondary veins 6–9 on each side of midvein, abaxially raised, and adaxially slightly raised, base broadly cuneate to obtuse, margin entire on basal 1/2 and serrate on apical 1/2, apex shortly caudate to caudate and with an obtuse tip. Flowers axillary or subterminal, solitary or paired, 6–8 cm in diam., subsessile. Bracteoles and sepals 9–11 or more; outer 3–5 bracteoles and sepals ± per-

sistent, lunate to semiorbicular, 3–6 mm; inner bracteoles and sepals orbicular to broadly obovate, 1.5–2 cm, thickly leathery, glabrous or grayish white velutinous but glabrescent, margin membranous and ciliolate. Petals 6–8, rose or rarely white, broadly obovate, 4–6 × 3.5–4 cm, apex emarginate; outer 2 or 3 petals almost distinct; inner petals basally connate for 6–8 mm. Stamens 2.5–3.5 cm, glabrous; outer filament whorl basally connate for 1.5–2.5 cm. Ovary ovoid, 3–4 mm in diam., basally pale yellow tomentose or subglabrous, apically glabrous, 3–5-loculed; style 2.5–3 cm, glabrous, apically 3–5-parted. Capsule ovoid, 6–8(–12) × 5–6(–12) cm, 3–5-loculed with 1–3(–5) seeds per locule; pericarp 1–1.5 cm thick, woody. Seeds brown, 1.5–2 × 1.5–2 cm, yellow pilose. Fl. Jan–Mar, fr. Sep–Oct. $2n = 30^*$.

• Forests, forests along river valleys; 200–800 m. Guangdong, E and N Guangxi.

- 1a. Bracteoles and sepals velutinous but glabrescent; ovary tomentose but glabrous near apex; capsule 6–8 cm in diam. 85a. var. *semiserrata*
 1b. Bracteoles and sepals outside glabrous; ovary glabrous or pubescent only near base; capsule to 12 cm in diam. 85b. var. *magnocarpa*

85a. *Camellia semiserrata* var. *semiserrata*

南山茶(原变种) nan shan cha (yuan bian zhong)

Camellia multiperulata Hung T. Chang; *C. phellocapsa* Hung T. Chang & B. K. Lee; *C. semiserrata* f. *albiflora* (Hu & T. C. Huang) T. L. Ming; *C. semiserrata* var. *albiflora* Hu & T. C. Huang; *C. trichosperma* Hung T. Chang.

Bracteoles and sepals velutinous but glabrescent. Ovary tomentose or glabrous near apex. Capsule 6–8 cm in diam.

• Forests along river valleys; 200–800 m. Guangdong, E Guangxi.

85b. *Camellia semiserrata* var. *magnocarpa* Hu & T. C. Huang, Acta Phytotax. Sin. 10: 137. 1965.

大果南山茶 da guo nan shan cha

Camellia magnocarpa (Hu & T. C. Huang) Hung T. Chang; *C. mongshanica* Hung T. Chang & C. X. Ye.

Bracteoles and sepals glabrous. Ovary glabrous or pubescent only near base. Capsule ca. 12 cm in diam.

• Forests; 200–500 m. W Guangdong, E and N Guangxi.

86. *Camellia edithae* Hance, Ann. Sci. Nat., Bot., sér. 4, 15: 221. 1861.

东南山茶 dong nan shan cha

Thea edithae (Hance) Kuntze.

Shrubs or trees, 2–7 m tall. Young branches grayish brown, glabrous; current year branchlets densely yellow spreading villous, indumentum ± persistent. Petiole 2–5 mm, thick, spreading villous; leaf blade ovate, long ovate, or lanceolate, 6–12.5(–15.5) × 2.5–4.5 cm, leathery, abaxially pale green and appressed villous but spreading villous along midvein, adax-

ially dark green, shiny, yellow spreading villous along midvein, and becoming yellowish brown when dry, midvein abaxially raised and adaxially impressed, secondary veins 7–9 on each side of midvein, abaxially raised, and adaxially impressed, base rounded to cordate, margin serrulate, apex acuminate to long acuminate. Flowers subterminal, solitary, 5–6 cm in diam., subsessile. Bracteoles and sepals 9–11; outer 2 or 3 bracteoles and sepals suborbicular, 4–6 mm, apex acute; inner bracteoles and sepals ovate, 1.5–2.5 cm, crustaceous, outside grayish yellow villous, inside white velutinous, margin scarious and ciliate, apex acuminate. Petals 5 or 6, red, obovate, 2.5–4 × 2–3 cm, basally connate for ca. 1.5 cm, apex emarginate. Stamens 2.5–3 cm, glabrous; outer filament whorl basally connate for 1.5–2 cm. Ovary tomentose, 3-loculed; style ca. 2.5 cm, glabrous, apically 3-lobed. Capsule brown, oblate to subglobose, 1.5–2 cm in diam., 3-loculed with 1 or 2 seeds per locule; pericarp 1–2 mm thick when dry. Seeds brown, globose to semiglobose, 1–1.5 cm in diam. Fl. Jan–Mar, fr. Oct. $2n = 30^*$.

- Forests; 200–1000 m. Fujian, NE Guangdong, SE Jiangxi.

87. *Camellia saluenensis* Stapf ex Bean, *Trees & Shrubs Brit. Isles* 3: 66. 1933.

怒江山茶 nu jiang shan cha

Camellia glabripurulata Hung T. Chang; *C. minor* Hung T. Chang; *C. phaeoclada* Hung T. Chang; *C. pitardii* var. *lucidissima* (H. Léveillé) Rehder; *C. saluenensis* f. *minor* Sealy; *C. tenuivalvis* Hung T. Chang; *C. weiningensis* Y. K. Li ex Hung T. Chang; *Thea camellia* Hoffmannsegg var. *lucidissima* H. Léveillé; *T. pitardii* (Cohen-Stuart) Rehder var. *lucidissima* (H. Léveillé) Rehder.

Shrubs 1–4 m tall, many branched, compact. Branches closely and densely leafy; young branches grayish brown; current year branchlets green, pubescent or glabrescent. Petiole ca. 5 mm, pubescent or glabrescent; leaf blade oblong to oblong-elliptic, 2.5–5.5 × 1–2.2 cm, rigidly leathery, abaxially pale green and villous along midvein or glabrescent, adaxially dark green, shiny, and glabrous, midvein elevated on both surfaces, secondary veins 5–7 on each side of midvein, abaxially raised, and adaxially impressed, base cuneate to rounded, margin serrulate, apex acute to obtuse. Flowers axillary or subterminal, solitary or paired, subsessile. Bracteoles and sepals 8–10, caducous after anthesis; outer bracteoles and sepals lunate to semiorbicular, 2–5 mm, increasing in size from outer to inner; inner bracteoles and sepals obovate to broadly obovate, 1.5–2 cm, outside usually glabrous or rarely puberulent, margin ciliate. Petals 5–7, rose, pink, or white, obovate to obovate-elliptic, 2.5–4 × 1.5–3 cm, basally connate for ca. 1.5 cm, apex emarginate. Stamens 1.5–2.5 cm, glabrous; outer filament whorl basally connate for 1–1.8 cm. Ovary white tomentose, 3-loculed; style 1.5–2.5 cm, glabrous or basally tomentose, apically 3-lobed. Capsule subglobose, ca. 2.5 cm in diam., 3-loculed with 1 or 2 seeds per locule; pericarp ca. 2 mm thick, splitting into 3 valves. Seeds brown, globose to semiglobose, ca. 1 cm in diam. Fl. Jan–Mar, fr. Oct. $2n = 30^*$, 60^* .

- Mixed forests on mountain slopes; 1200–2800(–3200) m. W Guizhou, SW Sichuan, C and W Yunnan.

88. *Camellia pitardii* Cohen-Stuart, *Meded. Proefstat. Thee* 40: 72. 1916.

西南山茶 xi nan shan cha

Shrubs or trees, 3–7(–9) m tall. Young branches grayish brown; current year branchlets purplish brown, glabrous. Petiole 7–12 mm, glabrous or sometimes adaxially pubescent; leaf blade elliptic, oblong-elliptic, or oblong-oblong-elliptic, 6–10(–14) × 2.5–3.5(–8.4) cm, thinly to thickly leathery, abaxially pale green, adaxially dark green, both surfaces glabrous, midvein raised on both surfaces, secondary veins 6–8 on each side of midvein, slender, and visible to slightly raised or sometimes obscure on both surfaces or rarely adaxially impressed, base cuneate to broadly cuneate, margin serrulate or apically serrulate, apex acuminate to caudate. Flowers subterminal, solitary, subsessile, 5–6(–10) cm in diam. Bracteoles and sepals 9–10, caducous, membranous, margin ciliate; outer 4 bracteoles and sepals lunate to semiorbicular, 2–5 mm, outside glabrous or glabrescent; inner bracteoles and sepals orbicular to broadly obovate, 1–2 cm, outside pubescent or glabrous, inside glabrous. Petals 5 or 6, rose, pink, or white, obovate to broadly obovate, 3–4.5(–8) × 2–3.5(–4.4) cm, basally connate for ca. 1 cm, apex emarginate. Stamens 2–3(–5.1) cm, glabrous; outer filament whorl basally connate for 1–1.5(–2.8) cm. Ovary globose, tomentose, 3-loculed; style 2–2.7 cm, glabrous or basally tomentose. Capsule oblate, 2.5–3.5(–7) × 3–5(–8) cm, 3-loculed; pericarp 2–3 mm thick when dry, splitting into 3 valves. Seeds brown, globose to semiglobose, 1–1.5 cm in diam., glabrous. Fl. Dec–Mar, fr. Aug–Oct.

- Forests, thickets; 500–2500(–2700) m. N and NE Guangxi, Guizhou, W Hubei, Hunan, Sichuan, NE and SE Yunnan.

- 1a. Leaf blade elliptic, 9–14 × 4–6.4 cm, thickly leathery; flowers 8–10 cm in diam.; capsule 6–7 × ca. 8 cm 88c. var. *compressa*
- 1b. Leaf blade oblong-elliptic or oblong-oblong-elliptic, 6–10(–12) × 2.5–3.5(–4) cm, leathery to thinly leathery; flowers 5–6 cm in diam.; capsule 2.5–3.5 × 3–5 cm.
 - 2a. Leaf blade oblong-elliptic, secondary veins visible on both surfaces, margin densely apiculate-serrulate 88a. var. *pitardii*
 - 2b. Leaf blade oblong-oblong-elliptic, secondary veins usually obscure, margin serrulate except for entire basal 1/4–1/3 88b. var. *cryptoneura*

88a. *Camellia pitardii* var. *pitardii*

西南山茶(原变种) xi nan shan cha (yuan bian zhong)

Camellia cavaleriana (H. Léveillé) Nakai; *C. huiliensis* Hung T. Chang; *C. hunanica* Hung T. Chang & L. L. Qi; *C. microdonta* Hung T. Chang; *C. pitardii* f. *alba* (Hung T. Chang) T. L. Ming; *C. pitardii* var. *alba* Hung T. Chang; *C. pitardii* f. *cavaleriana* (H. Léveillé) Sealy; *C. pitardii* var. *longistaminata* J. L. Liu & Q. Luo; *C. pitardii* var. *panxiensis* J. L. Liu; *C. rubroanthera* Hung T. Chang ex M. J. Lin & Q. M. Lu; *C. tunganica* Hung T. Chang & B. K. Lee; *C. xifongensis* Y. K. Li ex X. C. Chen & F. Z. Zheng; *Thea cavaleriana* H. Léveillé; *T. pitardii* (Cohen-Stuart) Rehder.

Leaf blade oblong-elliptic to elliptic, (4.5–)6–10 × 2.5–3.5 cm, thinly leathery, secondary veins visible on both surfaces, margin densely apiculate-serrulate, apex caudate-acuminate. Flowers 5–6 cm in diam. Petals rose, pink, or white. Capsule obovate, 2.5–3.5 × 3–5 cm. Fl. Dec–Mar, fr. Aug–Oct. $2n = 30^*$.

• Forests, thickets; (700–)1500–2500(–2700) m. N Guangxi, Guizhou, W Hubei, S and W Hunan, Sichuan, NE and SE Yunnan.

88b. *Camellia pitardii* var. *cryptoneura* (Hung T. Chang) T. L. Ming, Acta Bot. Yunnan. 21: 157. 1999.

隐脉西南山茶 yin mai xi nan shan cha

Camellia cryptoneura Hung T. Chang, Taxon. Gen. *Camellia*, 75. 1981; *C. lungshenensis* Hung T. Chang; *C. setiperulata* Hung T. Chang.

Leaf blade oblong-obovate to oblong, 8–12 × 3–4 cm, leathery to thinly leathery, secondary veins usually obscure, margin serrulate except for entire basal 1/4–1/3. Flowers 5–6 cm in diam. Petals red to pink. Capsule globose, ca. 4 cm in diam. Fl. Jan–Mar, fr. Sep–Oct. $2n = 90^*$.

• Forests; 500–1400 m. NE Guangxi, S Hunan.

88c. *Camellia pitardii* var. *compressa* (Hung T. Chang & X. K. Wen) T. L. Ming, **comb. nov.**

多变西南山茶 duo bian xi nan shan cha

Basionym: *Camellia compressa* Hung T. Chang & X. K. Wen in Hung T. Chang, Taxon. Gen. *Camellia*, 76. 1981; *C. compressa* var. *variabilis* Hung T. Chang & X. K. Wen; *C. longituba* Hung T. Chang; *C. magniflora* Hung T. Chang; *C. pitardii* var. *variabilis* (Hung T. Chang & X. K. Wen) T. L. Ming, nom. superfl.

Leaf blade elliptic, 9–14 × 4–6.4 cm, thickly leathery, margin serrate, apex acuminate. Flowers 8–10 cm in diam. Petals red to rose. Capsule obovate, 6–7 × ca. 8 cm. Fl. Jan–Mar, fr. Sep–Oct. $2n = 90^*$, 120^* .

• Forests; 700–1100 m. N Guizhou, W Hubei, NW Hunan.

When Chang and Wen published *Camellia compressa* var. *variabilis* (Acta Phytotax. Sin. 20: 227. 1982) they simultaneously created the autonym *C. compressa* var. *compressa* (Vienna Code, Art. 26.3). When Ming later made the new combination *C. pitardii* var. *variabilis* (Acta Bot. Yunnan. 20: 137. 1998) he included *C. compressa* in synonymy, and the same taxonomy is used here. Under the rules, the combination *C. pitardii* var. *compressa* should be used because the autonym *C. compressa* var. *compressa* (which has the same type as *C. compressa*) has priority over the name that created it: *C. compressa* var. *variabilis* (Art. 11.6). Ming's combination was therefore nomenclaturally superfluous when published (Art. 52.1). Although incorrect, it is not illegitimate because it has a basionym (Art. 52.3), hence "nom. superfl." rather than "nom. illeg. superfl."

89. *Camellia reticulata* Lindley, Bot. Reg. 13: t. 1078. 1827.

滇山茶 dian shan cha

Camellia albescens Hung T. Chang; *C. albosericea* Hung T. Chang; *C. albobillosa* Hung T. Chang; *C. bailinshanica* Hung T. Chang et al.; *C. bambusifolia* Hung T. Chang et al.; *C. borealiyunnanica* Hung T. Chang; *C. brevicolumna* Hung T. Chang et al.; *C. brevignyana* Hung T. Chang; *C. brevipedunculata* Hung T. Chang; *C. chunii* Hung T. Chang; *C. chunii* var. *penta-*

phylax (Hung T. Chang) Hung T. Chang; *C. heterophylla* Hu; *C. jinshajiangica* Hung T. Chang; *C. kangdianica* Hung T. Chang et al.; *C. kweichowensis* Hung T. Chang; *C. oligophlebia* Hung T. Chang; *C. paucipetala* Hung T. Chang; *C. pentapetala* Hung T. Chang; *C. pentaphylacoides* Hung T. Chang; *C. pentaphylax* Hung T. Chang; *C. pitardii* Cohen-Stuart var. *yunnanica* Sealy; *C. reticulata* f. *albescens* (Hung T. Chang) T. L. Ming; *C. reticulata* f. *simplex* Sealy; *C. stichoclada* Hung T. Chang; *C. subliberpetala* Hung T. Chang; *C. xichangensis* Hung T. Chang; *C. xylocarpa* (Hu) Hung T. Chang; *Desmitis reticulata* (Lindley) Rafinesque; *Thea reticulata* (Lindley) Pierre (1887), not Elmer (1915); *Yunnanea xylocarpa* Hu.

Trees or shrubs, (2–)4–15 m tall. Young branches grayish brown; current year branchlets green to pale brown, thick, pubescent but glabrescent. Petiole 6–13 mm, pubescent or glabrescent; leaf blade oblong to oblong-elliptic, rarely elliptic to broadly elliptic, (4–)6–10(–14) × (2.5–)3–5(–6.3) cm, leathery, abaxially pale green and sparsely appressed pubescent or glabrescent, adaxially dark green, shiny, and glabrous, midvein yellowish green, abaxially elevated, and adaxially level, secondary veins 6–8 on each side of midvein and raised on both surfaces, reticulate veins visible to slightly raised on both surfaces or adaxially impressed, base cuneate, broadly cuneate, or rarely rounded, margin serrulate, apex acute to shortly acuminate and with an obtuse tip. Flowers axillary or subterminal, solitary or to 3 in a cluster, 7–10 cm in diam. (to more than 20 cm in diam. for some cultivars), subsessile. Bracteoles and sepals 9–11, caducous after anthesis, green, imbricate, increasing in size from outer to inner, thinly leathery, both surfaces velutinous, margin narrowly membranous; outer bracteoles and sepals orbicular, 3–5 mm; inner bracteoles and sepals broadly ovate, to 2 cm. Petals 5–7 (often more for some cultivars), rose to pink, rarely almost white, obovate to broadly obovate, 4–6 × 3–4.5 cm (larger for some cultivars), apex emarginate; inner petals connate for ca. 1 cm. Stamens 3–4 cm, glabrous; outer filament whorl basally connate for 1–2 cm. Ovary globose, 3–4 mm in diam., tomentose, 3(–5)-loculed; style 2.5–3.5 cm, glabrous or basally with pubescence, apically 3(–5)-lobed or parted. Capsule green turning pale brown, globose to obovate, 3.5–4 × 4–5 cm, 3(–5)-loculed with 1 or 2 seeds per locule; pericarp ca. 1 cm thick and firmly fleshy when fresh but 5–6 mm and stiffly leathery to woody when dry. Seeds brown, semiglobose to globose, 1–1.5 cm in diam. Fl. Jan–Mar, fr. Sep–Oct. $2n = 30^*$, 60^* , 90^* .

• Forests; 1000–3200 m. W Guizhou, SW Sichuan, Yunnan.

This species is cultivated or semicultivated in W Yunnan as a seed oil crop. Selected forms, particularly with large, double or semidouble flowers, have been propagated for hundreds of years as garden plants in Dali, Kunming, Lijiang, Tengchong, and adjacent areas. Some extant cultivars date back to at least the Ming Dynasty (1368–1644 C.E.).

"*Camellia brachygyana*" as given in FRPS (49(3): 74. 1998) was a typographical error for *C. brevignyana* included in synonymy here.

90. *Camellia polyodonta* F. C. How ex Hu, Acta Phytotax. Sin. 10: 135. 1965.

多齿山茶 duo chi shan cha

Shrubs or trees, 3–8 m tall. Young branches grayish

brown; current year branchlets purplish brown, gray pubescent. Petiole 6–13 mm, abaxially pubescent; leaf blade elliptic, oblong-elliptic, narrowly oblong, or lanceolate, 8–14 × (1.5–)2–5(–6) cm, leathery to thickly leathery, abaxially pale green and appressed pubescent, adaxially dark green, shiny, rugulose, and glabrous, midvein abaxially elevated and adaxially level or slightly raised, secondary veins 7–9 on each side of midvein, secondary and reticulate veins abaxially raised and adaxially strongly impressed, base broadly cuneate to rounded, margin pectinately serrulate, apex abruptly shortly caudate to long caudate. Flowers subterminal, solitary, 5–6(–8) cm in diam., subsessile. Bracteoles and sepals ca. 15, ± persistent in young fruit, leathery, margin membranous; outer 4–6 bracteoles and sepals semiorbicular, 2.5–6 mm, outside glabrous or glabrescent; inner bracteoles and sepals orbicular to broadly obovate, 1.2–2(–2.5) cm, outside white or grayish yellow velutinous, inside glabrous. Petals 6 or 7, rose or rarely white; outer 1 or 2 petals distinct, obovate, ca. 2 × 1.5 cm; inner 5 petals broadly obovate, 3–4 × 2.5–3.5 cm, basally connate for 5–8 mm, apex emarginate. Stamens 2.5–3 cm; filaments white villous; outer filament whorl basally connate for 1.5–2 cm. Ovary globose, white velutinous or basally glabrous and apically with pubescence, 3-loculed; style 2–2.5 cm, glabrous or basally white velutinous, apically 3-lobed. Capsule globose, 6–8(–10) cm in diam., 3-loculed with 2 or 3 seeds per locule, apex convex; pericarp ca. 1 cm when dry, woody, furfuraceous. Seeds brown, semiglobose, 1–1.5 cm in diam. Fl. Jan–Feb, fr. Sep–Oct. $2n = 30^*$.

• Forests; (100–)500–1000 m. W Guangdong, E and NE Guangxi, SW Hunan.

- 1a. Leaf blade elliptic to oblong-elliptic, 3.5–5(–6) cm wide, apex shortly caudate or caudate; ovary velutinous, style basal 1/2 velutinous 90a. var. *polyodonta*
 1b. Leaf blade narrowly oblong to lanceolate, (1.5–)2–3 cm wide, apex long caudate; ovary glabrous or only apex velutinous, style glabrous 90b. var. *longicaudata*

90a. *Camellia polyodonta* var. *polyodonta*

多齿山茶(原变种) duo chi shan cha (yuan bian zhong)

Camellia oviformis Hung T. Chang; *C. polyodonta* f. *alba* T. L. Ming; *C. villosa* Hung T. Chang.

Leaf blade elliptic to oblong-elliptic, 8–14 × 3.5–5(–6) cm, apex shortly caudate to caudate. Ovary white velutinous; style basal 1/2 velutinous.

• Forests; (100–)500–1000 m. NE Guangxi, SW Hunan.

90b. *Camellia polyodonta* var. *longicaudata* (Hung T. Chang & S. Ye Liang) T. L. Ming, Acta Bot. Yunnan. 20: 144. 1998.

长尾多齿山茶 chang wei duo chi shan cha

Camellia longicaudata Hung T. Chang & S. Ye Liang in Hung T. Chang, Taxon. Gen. *Camellia*, 83. 1981; *C. apolyodonta* Hung T. Chang & Q. M. Chen.

Leaf blade narrowly oblong to lanceolate, 7–12 × (1.5–)2–3 cm, apex long caudate. Ovary glabrous or only apex velutinous; style glabrous.

• Forests; 700–900 m. W Guangdong, E Guangxi.

91. *Camellia mairei* (H. Lévillé) Melchior in Engler & Prantl, Nat. Pflanzenfam., ed. 2, 21: 129. 1925.

毛蕊山茶 mao rui shan cha

Shrubs or trees, 2–8 m tall. Young branches grayish brown; year-old branchlets with pubescence becoming black and glabrescent; current year branchlets reddish brown, sparsely gray pubescent to subglabrous or yellowish villous. Petiole ca. 1 cm, pubescent or glabrescent; leaf blade elliptic, oblong-elliptic, or oblong-lanceolate, 6–15 × 2.5–6 cm, leathery, abaxially pale green, sparsely appressed villous when young or later glabrescent except densely villous along midvein, and becoming reddish brown when dry, adaxially dark green and glabrous, midvein abaxially elevated and adaxially slightly raised, secondary veins 6–8 on each side of midvein, abaxially raised, and adaxially strongly impressed, base cuneate, broadly cuneate, or obtuse, margin densely apiculate-serrulate, apex acuminate to long caudate. Flowers axillary or subterminal, solitary or paired, 4–6 cm in diam., subsessile. Bracteoles and sepals 8–10, caducous after anthesis, leathery, both surfaces grayish yellow velutinous or inside glabrous, margin membranous; outer 2–4 bracteoles and sepals semiorbicular, 2–6 mm; inner bracteoles and sepals orbicular to broadly obovate, 1–1.5 cm. Petals 7–9, dark red; outer petals 2–4, nearly distinct, orbicular to broadly obovate, 3–3.5 cm, both surfaces white farinose-velutinous; inner 5 petals broadly obovate to ovate, 4–5 cm, glabrous, basally connate for ca. 1 cm, apex emarginate. Stamens ca. 3 cm; filaments villous, slightly pilose, or glabrous; outer filament whorl basally connate for ca. 2 cm. Ovary globose, ca. 2 mm in diam., yellow tomentose, 3-loculed; style ca. 2.5 cm, yellow velutinous, apically 3-lobed. Capsule ovoid with a mucronate apex, 4–5.5 cm in diam., 3-loculed with 2 seeds per locule; pericarp to 1 cm thick and fleshy when fresh but ca. 5 mm and stiffly leathery when dry. Seeds brown, semiorbicular, 1.5–2 cm in diam., glabrous. Fl. Dec–Feb, fr. Sep–Oct.

• Forests, thickets; 400–1800(–2900) m. NW Guangdong, Guangxi, Guizhou, S Hunan, S Sichuan, Yunnan.

- 1a. Current year branchlets densely yellowish villous; year-old branchlets with persistent trichomes becoming black; filaments slightly pilose or glabrous 91c. var. *velutina*
 1b. Current year branchlets sparsely gray pubescent to subglabrous; year-old branchlets glabrous; filaments villous.
 2a. Leaf blade elliptic to oblong-elliptic, 6–12.5 × 2.5–5.5 cm, apex acuminate; bracteoles and sepals velutinous on both surfaces 91a. var. *mairei*
 2b. Leaf blade oblong to oblong-lanceolate, 11–15 × 3–4.5 cm, apex long caudate; bracteoles and sepals inside glabrous 91b. var. *lapidea*

91a. *Camellia mairei* var. *mairei*

毛蕊山茶(原变种) mao rui shan cha (yuan bian zhong)

Thea mairei H. Lévillé, Sert. Yunnan. 2. 1916; *Camellia*

mairei f. *alba* (Hung T. Chang) T. L. Ming; *C. mairei* var. *alba* Hung T. Chang; *C. omeiensis* Hung T. Chang; *Camelliastrum mairei* (H. Léveillé) Nakai.

Year-old branchlets glabrous; current year branchlets sparsely gray pubescent to subglabrous. Leaf blade elliptic to oblong-elliptic, 6–12.5 × 2.5–5.5 cm, apex acuminate. Bracteoles and sepals velutinous on both surfaces. Fl. Jan–Feb, fr. Sep–Oct.

• Forests, thickets; 500–1500(–1800) m. NW Guizhou, S Sichuan, NE Yunnan.

91b. *Camellia mairei* var. *lapidea* (Y. C. Wu) Sealy, Rev. Gen. *Camellia*, 174. 1958.

石果毛蕊山茶 shi guo mao rui shan cha

Camellia lapidea Y. C. Wu, Bot. Jahrb. Syst. 71: 190. 1940; *C. connatistyla* S. L. Mo & Y. C. Zhong; *C. delicata* Y. K. Li; *C. lanosituba* Hung T. Chang; *C. longigynga* Hung T. Chang, nom. illeg. superfl.; *C. longistyla* Hung T. Chang ex F. A. Zeng & H. Zhou; *C. phellogoderma* Hung T. Chang et al.

11. *Camellia* sect. *Paracamellia* Sealy, Rev. Gen. *Camellia*, 192. 1958.

油茶组 you cha zu

Camellia sect. *Oleiferae* Hung T. Chang; *Drupifera* Rafinesque; *Sasanqua* Nees.

Flowers axillary, solitary or paired, subsessile. Bracteoles and sepals caducous. Petals white, rarely pink, distinct or near so, apex emarginate or 2-lobed. Stamens short, 1/3–1/2 as long as petals, distinct or only basally connate. Ovary 3-loculed; style short, apically ± parted.

Seven species: Bhutan, Cambodia, S China, NE India, S Japan, Laos, N Myanmar, Nepal, Thailand, Vietnam; six species (two endemic) in China.

- 1a. Leaf blade abaxially reddish punctate; outer filament whorl connate for ± basal 1/2 92. *C. grijsii*
 1b. Leaf blade not abaxially punctate; outer filament whorl basally slightly connate or nearly distinct.
 2a. Leaf blade lanceolate to narrowly lanceolate 93. *C. fluviatilis*
 2b. Leaf blade elliptic, obovate, or oblong.
 3a. Flowers more than 3.5 cm in diam.; fruit more than 2 cm in diam.
 4a. Current year branchlets, bracteoles, and outside of sepals glabrous; styles 3–5, distinct nearly to base 94. *C. drupifera*
 4b. Current year branchlets pubescent, bracteoles and sepals pubescent to tomentose but outer ones glabrous or subglabrous; style basally connate and apically 3-lobed to 3-parted 95. *C. oleifera*
 3b. Flowers 1.5–3 cm in diam.; fruit 1–2.5 cm in diam.
 5a. Leaf blade oblong, oblong-elliptic, elliptic, or broadly elliptic, 5–13.5 cm, secondary veins adaxially slightly impressed, apex acute, acuminate, or caudate and with a blunt tip; flowers 2–3 cm in diam.; capsule 1.5–2 cm in diam. 96. *C. kissii*
 5b. Leaf blade elliptic, obovate-elliptic, obovate-oblong, or obovate, 1.5–5.5 cm, secondary veins adaxially obscure but sometimes visible to slightly impressed, apex blunt to rounded; flowers 1.5–2.5 cm in diam.; capsule 1–1.8 cm in diam. 97. *C. brevistyla*

92. *Camellia grijsii* Hance, J. Bot. 17: 9. 1897.

长瓣短柱茶 chang ban duan zhu cha

Shrubs 1–4 m tall. Year-old branchlets grayish brown, glabrescent; current year branchlets grayish white pubescent. Petiole 5–10 mm, pubescent or glabrous; leaf blade elliptic to oblong-elliptic, 3.5–9 × 2–4.5 cm, thickly leathery, abaxially pale green, reddish punctate, sparsely appressed pubescent when young but glabrescent except villous along midvein, and becoming yellowish brown when dry, adaxially dark green, shiny, and glabrous, secondary veins 6 or 7 on each side of midvein,

Year-old branchlets glabrous; current year branchlets sparsely gray pubescent to subglabrous. Leaf blade oblong to oblong-lanceolate, 11–15 × 3–4.5 cm, apex long caudate. Bracteoles and sepals inside glabrous. Fl. Jan–Feb, fr. Sep–Oct. 2n = 60*, 90*.

• Forests, thickets; 400–1800(–2300) m. NW Guangdong, Guangxi, Guizhou, S Hunan, S Sichuan, SE Yunnan.

91c. *Camellia mairei* var. *velutina* Sealy, Rev. Gen. *Camellia*, 174. 1958.

滇南毛蕊山茶 dian nan mao rui shan cha

Year-old branchlets with pubescence becoming black; current year branchlets yellowish villous. Leaf blade larger, elliptic to oblong-elliptic, to 15 × 6 cm, secondary veins abaxially visible to rarely slightly raised or impressed. Bracteoles and sepals velutinous on both surfaces. Filaments glabrous or inner ones sparsely pilose. Fl. Dec–Jan, fr. Sep–Oct. 2n = 90*.

• Forests; 1500–2900 m. C Yunnan (Jingdong).

secondary and reticulate veins abaxially raised and adaxially very impressed, base broadly cuneate to obtuse, margin serrulate to sharply serrulate, apex bluntly acute to shortly acuminate. Flowers axillary or subterminal, solitary, fragrant, 3–5 cm in diam., subsessile. Bracteoles and sepals 7 or 8, caducous, brown, thinly leathery, outside white pubescent near apex, inside glabrous, margin ciliolate; outer 2 or 3 bracteoles and sepals lunate to semiorbicular, 2–4 mm; inner 5 bracteoles and sepals sepeloid, suborbicular, 6–10(–12) mm. Petals 5 or 6, white, obovate, 1.5–3.5 × (1–)1.5–2.5 cm, distinct, apically 2-parted for 5–10 mm. Stamens 7–10 mm, glabrous; outer fila-

ment whorl basally unequally connate for 5–7 mm. Ovary globose, yellowish tomentose; style 3–4 mm, glabrous, 3-parted to near base or middle. Capsule obovate, 1.5–2.5 cm in diam., 1–3-loculed with 1 or 2 seeds per locule. Seeds brown, semiorbicular to globose. Fl. Jan–Mar, fr. Sep–Oct.

• Forests, thickets; 100–1500 m. Fujian, NW Guangdong, N Guangxi, Guizhou, W Hubei, Hunan, E Jiangxi, S Shaanxi, Sichuan, Zhejiang.

- 1a. Leaf blade 6–9 × 3–4.5 cm; petals 2–3.5 cm; capsule ca. 2.5 cm in diam. 92a. var. *grijsii*
 1b. Leaf blade 3.5–5 × 2–3 cm; petals ca. 1.5 cm; capsule ca. 1.5 cm in diam. ... 92b. var. *shensiensis*

92a. *Camellia grijsii* var. *grijsii*

长瓣短柱茶(原变种) chang ban duan zhu cha (yuan bian zhong)

Camellia odorata L. S. Xie & Zhan Y. Zhang; *C. yuhsienensis* Hu.

Leaf blade 6–9 × 3–4.5 cm. Petals 2–3.5 cm. Capsule ca. 2.5 cm in diam. Fl. Jan–Mar, fr. Sep–Oct. $2n = 30^*$, 90^* .

• Forests; 100–1500 m. Fujian, NW Guangdong, N Guangxi, Guizhou, W Hubei, Hunan, E Jiangxi, Zhejiang.

92b. *Camellia grijsii* var. *shensiensis* (Hung T. Chang) T. L. Ming, Monogr. Gen. *Camellia*, 291. 2000.

小叶短柱茶 xiao ye duan zhu cha

Camellia shensiensis Hung T. Chang in Hung T. Chang & B. M. Bartholomew, *Camellias*, 56. 1984.

Leaf blade 3.5–5 × 2–3 cm. Petals ca. 1.5 cm. Capsule ca. 1.5 cm in diam. Fl. Jan–Feb, fr. Sep–Oct.

• Thickets; 100–700 m. W Hubei, S Shaanxi, Sichuan.

93. *Camellia fluviatilis* Handel-Mazzetti, Anz. Akad. Wiss. Wien, Math.-Naturwiss. Kl. 59: 57. 1922.

窄叶油茶 zhai ye you cha

Shrubs 1.5–3.5 m tall. Young branches grayish brown; current year branchlets purplish red, puberulent, soon glabrescent. Petiole puberulent; leaf blade lanceolate to narrowly lanceolate, 5–8.5 × 1–2.2 cm, leathery, abaxially pale green, adaxially dark green and shiny, both surfaces glabrous, midvein raised on both surfaces, secondary veins 6 or 7 on each side of midvein, secondary and reticulate veins abaxially obscure and adaxially impressed, base cuneate, margin serrulate, apex long acuminate. Flowers axillary or subterminal, solitary, 1.5–6 cm in diam., subsessile. Bracteoles and sepals 8 or 9, caducous; outer 3 or 4 bracteoles and sepals semiorbicular, 1.5–2 mm; inner bracteoles and sepals ovate, 4–6 mm, outside apically pubescent, inside glabrous, margin ciliolate. Petals 5 or 6, white, almost distinct, oblong-elliptic to oblanceolate, 0.8–3 × 0.4–2 cm, apex rounded to slightly emarginate. Stamens 5–7 mm, glabrous; outer filament whorl basally connate for 1.5–2 mm. Ovary globose, yellow tomentose, 3-loculed; styles 3, ca. 4 mm, glabrous, distinct nearly to base. Capsule ovoid, 1.5–1.7 cm, 1- or 2-loculed with 1 seed per locule; pericarp splitting into

3 valves. Seeds brown, globose, ca. 1 cm in diam. Fl. Oct–Feb, fr. Sep–Oct. $2n = 30$.

Forests, thickets along valleys; below 100–500 m. Guangdong, Guangxi, Hainan [NE India, N Myanmar].

- 1a. Flowers 1.5–2 cm in diam. 93a. var. *fluviatilis*
 1b. Flowers 5–6 cm in diam. 93b. var. *megalantha*

93a. *Camellia fluviatilis* var. *fluviatilis*

窄叶油茶(原变种) zhai ye you cha (yuan bian zhong)

Camellia kissii Wallich var. *stenophylla* (Kobuski) Sealy; *C. stenophylla* Kobuski; *Thea fluviatilis* (Handel-Mazzetti) Merrill.

Leaf blade narrowly lanceolate, 1–1.8 cm wide. Flowers 1.5–2 cm in diam. Fl. Dec–Feb, fr. Sep.

Thickets along valleys; below 100–300 m. Guangdong, Guangxi, Hainan [NE India, N Myanmar].

93b. *Camellia fluviatilis* var. *megalantha* (Hung T. Chang) T. L. Ming, Acta Bot. Yunnan. 21: 157. 1999.

大花窄叶油茶 da hua zhai ye you cha

Camellia kissii var. *megalantha* Hung T. Chang, Taxon. Gen. *Camellia*, 35. 1981; *C. lanceoleosa* Hung T. Chang.

Leaf blade lanceolate to narrowly lanceolate, 1.5–2.2 cm wide. Flowers 5–6 cm in diam. Fl. Oct–Dec, fr. Sep–Oct.

• Forests, thickets along valleys; 100–500 m. E Guangxi.

94. *Camellia drupifera* Loureiro, Fl. Cochinch. 2: 411. 1790.

越南油茶 yue nan you cha

Camellia gauchowensis Hung T. Chang; *C. vietnamensis* T. C. Huang ex Hu; *Drupifera oleosa* Rafinesque; *Thea drupifera* (Loureiro) Pierre.

Shrubs or trees, 2–8 m tall, 9–30 cm d.b.h. Young branches grayish brown; current year branchlets reddish brown, glabrous. Petiole 5–7 mm, glabrous; leaf blade elliptic to broadly elliptic, 5–12 × 3–5 cm, leathery, abaxially pale green and glabrous, adaxially dark green, shiny, and hirtellous along midvein or glabrescent, midvein raised on both surfaces, secondary veins 7–9 on each side of midvein, abaxially slightly raised, and adaxially visible, base rounded to obtuse, margin serrulate, apex acute to shortly acuminate and with an obtuse tip. Flowers solitary, axillary, fragrant, 6–7.5 cm in diam., subsessile. Bracteoles and sepals 10–12 or more, caducous, glabrous, margin ciliolate; outer bracteoles and sepals semiorbicular, 1–2 mm; inner bracteoles and sepals sepeloid, ovate to suborbicular, to 1 cm. Petals 5–8, white, nearly distinct, obovate, 3–6 × 1.5–3.5 cm, apically 2-parted for 7–10 mm. Stamens 1.2–1.7 cm, glabrous; outer filament whorl basally connate for 1–2 mm to nearly distinct. Ovary tomentose, 3–5-loculed; styles 3–5, 1–1.5 cm, glabrous, distinct nearly to base. Capsule globose to ovoid, 4–7 cm in diam., 3–5-loculed with 1–4 seeds per locule; pericarp 6–8 mm thick, woody, splitting into 3–5 valves. Seeds brown. Fl. Dec–Jan, fr. Oct. $2n = 30, 105, 120$.

Forests, thickets; 100–700 m. SW Guangdong, S Guangxi, Hainan [Vietnam].

This species is grown as a seed oil crop. It is often uncertain if particular collections are wild, cultivated, or escaped. As is the case with several other *Camellia* species that are cultivated, the original distribution is uncertain.

The identity of *Camellia drupifera* has long been uncertain. It is an older name than either *C. oleifera* (1818) or *C. kissii* (1820) and has been considered to possibly be conspecific with one or the other of these species. Loureiro stated that for *C. drupifera* the capsule ("*Drupa*") is 4-loculed and the style 4-parted, which features do not agree with either *C. oleifera* or *C. kissii*. All of the characters described by Loureiro as well as its being grown as a seed oil plant are consistent with it being conspecific with *C. gauchowensis* (probably the wild ancestor with $2n = 30$) and *C. vietnamensis* (cultivated plants with $2n = 105, 120$). Although there is no extant type, the Loureiro plant was collected from a cultivated plant in Cochinchina (S Vietnam). To stabilize the nomenclature we are neotypifying the species name here: ***Camellia drupifera*** Loureiro, Fl. Cochinch. 2: 411. 1790. TYPE: China. Guangxi: Liucheng Xian, Satang Forest Station in cultivation, Jul 1956, Huang Iso-Chieh [*Huang Zuo-Jie*] 2042 (neotype designated here, PE) based on the holotype of *C. vietnamensis* T. C. Huang ex Hu (Acta Phytotax. Sin. 10: 138. 1965).

95. *Camellia oleifera* C. Abel, Narr. Journey China, 174. 1818.

油茶 you cha

Camellia oleifera var. *monosperma* Hung T. Chang; *C. drupifera* Loureiro f. *biflora* (Hayata) S. S. Ying; *Thea biflora* Hayata; *T. oleifera* (C. Abel) Rehder & E. H. Wilson; *T. podogyna* H. Léveillé; *T. sasanqua* (Thunberg) Cels var. *loureiroi* Pierre.

Shrubs or trees, 1–5(–8) m tall. Young branches grayish brown; current year branchlets reddish brown, pubescent. Petiole 5–10 mm, pubescent; leaf blade elliptic, oblong-elliptic, or obovate, 3–10(–12) × 2–4(–5) cm, leathery to rigidly leathery, abaxially pale green, sparsely pilose along midvein or glabrous, and becoming yellowish green when dry, adaxially dark green, shiny, and hirtellous along midvein, midvein raised on both surfaces, secondary veins 5–8 on each side of midvein, abaxially obscure, and adaxially raised, base broadly cuneate to cuneate, margin serrate to serrulate, apex acute to acuminate and with an obtuse tip. Flowers axillary or subterminal, solitary or paired, 4–6 cm in diam., subsessile. Bracteoles and sepals 8–11, caducous; outer bracteoles and sepals lunate to semiorbicular, scalelike, 1–3 mm, glabrous or subglabrous; inner bracteoles and sepals obovate to suborbicular, 0.9–1.2 cm, outside yellow tomentose, inside glabrous, margin membranous and ciliolate. Petals 5–7, white, nearly distinct, obovate, oblong-obovate, or oblanceolate, 2.5–3.5(–4.5) × 1.5–2.5(–3) cm, apically 2-parted. Stamens ca. 1.5 cm, glabrous; outer filament whorl basally connate for ca. 5 mm. Ovary globose, 2–3 mm in diam., white tomentose, apically 3-lobed to 3-parted. Capsule globose to ellipsoid, 2–4 cm in diam., 1–3-loculed with 1 or 2 seeds per locule; pericarp 3–6 mm thick, villous, splitting into 2 or 3 valves. Seeds brown to reddish brown, globose to semiglobose, 1.5–2 cm in diam. Fl. Dec–Jan, fr. Sep–Oct. $2n = 30, 45, 60, 90$.

Forests, thickets; (200–)500–1800 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Shaanxi, Sichuan, Yunnan, Zhejiang [N Laos, N Myanmar, N Vietnam].

This species is extensively cultivated as an oil seed. Because of its long cultivation in China, it is often difficult to know if particular collections are wild, cultivated, or escaped. For this reason the original wild distribution is uncertain although it is possibly in the region of S Qin Ling to the Huai He valley. *Camellia oleifera* is the hardiest species in the genus and has the farthest north distribution.

96. *Camellia kissii* Wallich, Asiat. Res. 13: 429. 1820.

落瓣油茶 luo ban you cha

Shrubs or trees, 1.5–5(–9) m tall. Young branches grayish brown, glabrous; current year branchlets densely gray pubescent to villous. Petiole 3–7 mm, densely pubescent to villous; leaf blade oblong, oblong-elliptic, elliptic, or broadly elliptic, 5–13.5 × 1.5–5(–6) cm, thinly leathery, leathery, or rigidly leathery, abaxially pale green and sparsely villous or glabrescent, adaxially dark green and hirtellous along midvein, midvein raised on both surfaces, secondary veins 6–8 on each side of midvein, secondary and reticulate veins abaxially raised, adaxially slightly impressed, or slightly raised on both surfaces, base cuneate, broadly cuneate, or obtuse, margin serrulate, apex acute, acuminate, or caudate and with a blunt tip. Flowers axillary, solitary or paired, subsessile. Bracteoles and sepals 7–9, caducous; outer bracteoles and sepals lunate, 1–2 mm; inner bracteoles and sepals broadly elliptic to suborbicular, to 7 mm, outside velutinous to subglabrous, inside glabrous. Petals 5–8, white, nearly distinct, obovate to ovate, 0.8–3 × 0.6–2 cm, apex emarginate. Stamens 0.6–1.5 cm, glabrous; outer filament whorl basally connate for 1–3 mm. Ovary white tomentose, 3-loculed; styles 3, 3–7 mm, glabrous or basally tomentose, distinct to near base or basally connate and apically 3-parted to 3-lobed. Capsule subglobose to globose-pyriform, 1.4–2.5 × 1.5–2 cm, usually 1–3-loculed with 1 seed per locule; pericarp ca. 1.5 mm thick, splitting into 2 or 3 valves. Seeds brown, globose, 1–1.5 cm in diam. Fl. Nov–Dec, fr. Sep–Oct. $2n = 30$.

Forests, thickets; 300–2000(–3100) m. Guangdong, Guangxi, Hainan, Yunnan [Bhutan, Cambodia, NE India, Laos, Myanmar, Nepal, Thailand, Vietnam].

- 1a. Leaf blade oblong, oblong-elliptic, or elliptic, 5–7 × 1.5–3.5 cm; petals 0.8–1.5 × 0.6–0.8 cm; stamens 0.6–1 cm; capsule usually 1-loculed 96a. var. *kissii*
- 1b. Leaf blade elliptic to broadly elliptic, 8–13.5 × 3.5–5(–6) cm; petals 2–3 × 0.8–2 cm; stamens 1.3–1.5 cm; capsule 3-loculed 96b. var. *confusa*

96a. *Camellia kissii* var. *kissii*

落瓣油茶(原变种) luo ban you cha (yuan bian zhong)

Camellia keina Buchanan-Hamilton ex D. Don; *C. lutescens* Dyer; *C. mastersii* Griffith; *C. simplicifolia* Griffith; *C. symplocifolia* Griffith; *Thea bachmaensis* Gagnepain; *T. brachystemon* Gagnepain; *T. sasanqua* (Thunberg) Cels var. *kissii* (Wallich) Pierre; *Theopsis euonymifolia* Hu.

Leaf blade oblong, oblong-elliptic, or elliptic, 5–7 × 1.5–3.5 cm. Petals 8–15 × 6–8 mm. Stamens 6–10 mm. Capsule usually 1-loculed. Fl. Nov–Dec, fr. Sep.

Forests, thickets; 300–2000(–3100) m. Guangdong, Guangxi, Hai-

nan, Yunnan [Bhutan, Cambodia, NE India, Laos, Myanmar, Nepal, Thailand, Vietnam].

96b. *Camellia kissii* var. *confusa* (Craib) T. L. Ming, Fl. Yunnan. 8: 300. 1997.

大叶落瓣油茶 da ye luo ban you cha

Thea confusa Craib, Bull. Misc. Inform. Kew 1914: 5. 1914; *Camellia oleifera* C. Abel var. *confusa* (Craib) Sealy; *T. oxyanthera* Gagnepain.

Leaf blade elliptic to broadly elliptic, 8–13.5 × 3.5–5(–6) cm. Petals 2–3 × 0.8–2 cm. Stamens 1.3–1.5 cm. Capsule 3-loculed. Fl. Nov–Dec, fr. Sep–Oct.

Forests, thickets; 600–2000 m. SW Guangxi, S Yunnan [NE India, Laos, Myanmar, Thailand].

97. *Camellia brevistyla* (Hayata) Cohen-Stuart, Meded. Proefstat. Thee 40: 67. 1916.

短柱油茶 duan zhu you cha

Shrubs 1–3.5 m tall, rarely trees 5–8 m tall. Young branches grayish brown; current year branchlets purplish brown, gray pubescent to hirtellous. Petiole 3–5 mm, pubescent; leaf blade elliptic, obovate-elliptic, obovate-oblong, or obovate, 1.5–5.5 × 0.7–3 cm, thinly leathery, abaxially pale green and sparsely villous along midvein, adaxially dark green and puberulent along midvein, epidermis verruculose, midvein raised on both surfaces, secondary veins 5 or 6 on each side of midvein and obscure on both surfaces but adaxially sometimes visible to slightly impressed, base cuneate to broadly cuneate, margin crenulate-denticulate, apex blunt to rounded. Flowers axillary, solitary, 1.5–2.5(–3) cm in diam., subsessile. Bracteoles and sepals 7–8(–10), caducous, outside gray pubescent along median portion, inside glabrous, margin ciliolate; outer bracteoles and sepals lunate to semiorbicular, 1–2 mm; inner bracteoles and sepals obovate to suborbicular, 5–9 mm. Petals 5–7, white or pink, nearly distinct, obovate to obovate-spatulate, 1–2.5(–3) × 0.4–1(–1.5) cm, apex retuse to deeply emarginate. Stamens 5–10 mm, glabrous; outer filament whorl basally connate for 2–4 mm. Ovary globose, 1.5–2 mm in diam., yellowish tomentose; styles 3, 2–7 mm, glabrous, distinct near base or basally connate and only apically 3-parted. Capsule subglobose, 1–1.8 cm in diam., usually 1-loculed with 1 seed; pericarp ca. 1 mm thick. Seed brown, globose, 1–1.5 cm in diam. Fl. Oct–Dec, fr. Sep–Oct. $2n = 30^*$.

• Forests, thickets; 200–1100 m. S Anhui, Fujian, NW Guangdong, NE Guangxi, Guizhou, S Hubei, Hunan, Jiangxi, Taiwan, Zhejiang.

- 1a. Leaf blade 3–5.5 × 1.5–3 cm; petals 1.5–2.5(–3) cm; styles 4–7 mm; capsule 1.5–1.8 cm in diam. 97a. var. *brevistyla*
 1b. Leaf blade 1.5–2.5 × 0.7–1.3 cm; petals ca. 1 cm; styles 2–3 mm; capsule 1–1.5 cm in diam. 97b. var. *microphylla*

97a. *Camellia brevistyla* var. *brevistyla*

短柱油茶(原变种) duan zhu you cha (yuan bian zhong)

Thea brevistyla Hayata, J. Coll. Sci. Imp. Univ. Tokyo 25(19): 63. 1908; *Camellia brevissima* Hung T. Chang; *C. brevistyla* f. *rubida* P. L. Chiu; *C. hengchunensis* C. E. Chang; *C. lungyaiensis* (Hu) T. Tuyama; *C. obtusifolia* Hung T. Chang; *C. puniceiflora* Hung T. Chang; *C. tenuiflora* (Hayata) Cohen-Stuart; *C. tuboleifera* Hung T. Chang & S. X. Ren; *T. gnaphalocarpa* Hayata; *T. tenuiflora* Hayata; *Theopsis lungyaiensis* Hu.

Leaf blade elliptic, obovate-elliptic, or obovate-oblong, 3–5.5 × 1.5–3 cm. Flowers 2–2.5(–3) cm in diam. Petals 1.5–2.5(–3) cm. Styles 4–7 mm. Capsule 1.5–1.8 cm in diam. Fl. Nov–Dec, fr. Sep–Oct.

• Forests, thickets; 200–1100 m. S Anhui, Fujian, NW Guangdong, NE Guangxi, Guizhou, S Hubei, Hunan, Jiangxi, Taiwan, Zhejiang.

97b. *Camellia brevistyla* var. *microphylla* (Merrill) T. L. Ming, Acta Bot. Yunnan. 21: 158. 1999.

细叶短柱油茶 xi ye duan zhu you cha

Thea microphylla Merrill, J. Arnold Arbor. 8: 9. 1927; *Camellia microphylla* (Merrill) S. S. Chien; *Theopsis microphylla* (Merrill) Nakai.

Leaf blade obovate, 1.5–2.5 × 0.7–1.3 cm. Flowers ca. 1.5 cm in diam. Petals ca. 1 cm. Styles 2–3 mm. Capsule 1–1.5 cm in diam. Fl. Oct–Dec, fr. Sep.

• Thickets; 300–900 m. S Anhui, Guizhou, Hunan, Jiangxi, Zhejiang.

