

11. CANTHIUM Lamarck, Encycl. 1: 602. 1785.

鱼骨木属 *yu gu mu shu*

Chen Tao (陈涛); Charlotte M. Taylor, Henrik Lantz

Meyna Roxburgh ex Link.

Shrubs or small trees, sometimes dioecious, sometimes with short shoots, unarmed or sometimes with paired straight supra-axillary thorns. Raphides absent. Leaves opposite, with or without domatia; stipules persistent or caducous, interpetiolar, shortly united around stem, or fused to petiole bases, triangular, internally (i.e., adaxially) sometimes sericeous to pilose. Inflorescences axillary, cymose to fasciculate, few to several flowered, sessile to pedunculate, bracteate with bracts sometimes fused in calyculate pairs. Flowers subsessile to pedicellate, bisexual and monomorphic (*Canthium* s.s.) or sometimes unisexual. Calyx with ovary portion often subglobose to hemispherical; limb very short, truncate or 4- or 5-lobed. Corolla green to white or pale yellow, tubular, urceolate, or funnelliform, with tube often constricted at top, inside variously pubescent but usually with ring of introrse hairs in tube; lobes 4 or 5, often long acuminate or aristate at apex, in bud valvate and often with apices held erect and pressed together forming apiculate projection, at anthesis notably reflexed. Stamens 4 or 5, inserted at corolla throat, partially to fully exerted; filaments short or reduced; anthers dorsifixed near base, elliptic to ovate, at anthesis reflexed. Ovary 2–5-celled, ovules 1 in each cell, pendulous from apical placenta; stigma included or exerted, capitate to cupular, entire to variously lobed, usually with style attachment recessed. Fruit brown, yellow, orange, or red, drupaceous, subglobose, ellipsoid, or often dicocous when fully developed or reniform with only 1 seed, fleshy, with calyx limb caducous or infrequently persistent; pyrenes 2–5, 1-celled with 1 seed in each cell, ellipsoid to reniform, bony or crustaceous; seeds medium-sized to large, ellipsoid, cylindrical, or plano-convex; testa membranous; endosperm fleshy; radicle ascending.

About 30 species: tropical and subtropical Africa and Asia; four species (one endemic) in China.

The circumscription and separation of genera of Vanguerieae and especially *Canthium*, *Meyna*, *Psydrax*, *Pyrostria* Commerson ex Jussieu, *Vangueria* Jussieu, and their closely related genera are problematic, controversial, and far from a full resolution. Lantz and Bremer (Bot. J. Linn. Soc. 146: 257–283. 2004) provided revised circumscriptions of several genera; in particular, they synonymized *Meyna* with *Canthium* and moved some species from *Canthium* to *Psydrax*. The Asian lineages have not yet been studied deeply, and the Chinese species may yet be reclassified.

The name *Canthium cavaleriei* H. Léveillé (Repert. Spec. Nov. Regni Veg. 10: 434. 1912) is based on a specimen from Guizhou; this name was not treated in FRPS. As the specimen has not been seen and its description is scanty, its identity is unknown. It has been suggested to be related to *Lasianthus*, but according to Lauener and Ferguson (Notes Roy. Bot. Gard. Edinburgh 32: 103. 1972) that is incorrect.

- 1a. Plants unarmed or usually armed with thorns; flowers borne in fascicles on peduncles 1–2 mm 3. *C. horridum*
- 1b. Plants without thorns; flowers borne in fascicles on peduncles 4–8 mm, or in cymes with peduncles 8–25 mm and pedicels 2–8 mm.
 - 2a. Leaves 9–19 × 4–8.5 cm; inflorescences corymbiform to cymose, 2.5–3 × ca. 2 cm in flower, to 7 × 9 cm in fruit; fruit 10–20 × 9–15 mm 4. *C. simile*
 - 2b. Leaves 3–9 × 1.5–5 cm; inflorescences fasciculate to subumbelliform, 1–3.5 cm in flower and fruit; fruit 8–10 mm in diam.
 - 3a. Flowers unisexual on dioecious plants; secondary leaf veins 3 or 4 pairs; stipules persistent; corolla tube ca. 1.5 mm and lobes 2–6 mm; ovary locules and pyrenes 2 1. *C. gynochthodes*
 - 3b. Flower bisexual; secondary leaf veins 5 or 6 pairs; stipules caducous; corolla tube ca. 3 mm and lobes ca. 3 mm; ovary locules and pyrenes 3 or 4 2. *C. hainanense*

1. *Canthium gynochthodes* Baillon, Adansonia 12: 199. 1878.

朴菜木 *po lai mu*

Canthium cumingii Vidal; *Plectronia cumingii* (Vidal) Merrill; *P. gynochthodes* (Baillon) Merrill; *P. moluccana* Merrill; *P. umbellata* K. Schumann.

Small trees, height not noted, often rather succulent; branches flattened becoming subterete, glabrous. Petiole 1–5 mm, glabrous; leaf blade drying thinly leathery, elliptic to elliptic-oblong or obovate, 3–8 × 1.5–5 cm, glabrous on both surfaces, base acute to obtuse, apex obtuse to shortly acute; secondary veins 3 or 4 pairs, in abaxial axils with foveolate and sometimes also pilosulous domatia; stipules persistent, shortly united around stem, triangular to ovate, 2–4.5 mm, glabrous,

aristate to cuspidate. Inflorescences glabrous, 1–3.5 cm, several flowered; peduncles 0.8–2.5 cm, terminating in a pair of bracteoles, these triangular, ca. 1 mm, shortly fused; pedicels 4–7 mm. Flowers unisexual on dioecious plants. Calyx glabrous; ovary portion of pistillate flowers ca. 1.2 mm; limb ca. 0.5 mm, truncate to undulate. Corolla white to pale green, outside glabrous; tube ca. 1.5 mm; lobes 4, 2–2.5(–6) mm, acute. Ovary 2-celled; stigma ca. 0.3 mm. Drupes orangish yellow, obovate or obovoid to dicocous, ca. 8 × 10 mm, smooth, glabrous, with calyx limb persistent; pyrenes 2. Fl. Aug.

Forests on mountain ridges. Taiwan [Philippines].

Only very young flower buds have been seen so far from China; the descriptions here of the mature flowers and the fruit are based in large part on the description by Liu and Yang (Fl. Taiwan, ed. 2, 4: 247–

248. 1998) and on Philippine specimens. The synonymy here is taken from Merrill (Enum. Philipp. Pl. 3: 536–537. 1923). The accepted species epithet was incorrectly spelled as “*gynochodes*” by Liu and Yang (loc. cit.: 247).

Canthium dicoccum var. *obovatifolium* should probably be compared with this species. The variety is poorly known and is here included with the species in which it was described, now called *Psydrax dicocca*; but its inclusion in that species is questionable, and its description suggests it is very similar to *C. gynochthodes*.

2. *Canthium hainanense* (Merrill) Lantz, comb. nov.

琼梅 qiong mei

Basionym: *Meyna hainanensis* Merrill, Lingnan Sci. J. 14: 57. 1935.

Small trees, 3–6 m tall; branches weakly flattened to subterete, glabrous or puberulent, at nodes with stipule bases together with bases of petioles usually markedly thickened with thickened portion sometimes tardily splitting interpetiolarly, usually with stout lateral short shoots 0.5–1 cm, these densely covered with scalelike old stipule bases. Leaves borne at nodes near apex of developed stems or clustered on short shoots; petiole 5–8 mm, glabrous, sometimes weakly articulate near base; blade drying papery or thinly papery, ovate, oblong-ovate, or elliptic-oblong, 3–9 × 1.5–5 cm, adaxially glabrous or rarely strigillose, abaxially strigillose or strigose, base obtuse to rounded, apex acute or acuminate; secondary veins 5 or 6 pairs, in abaxial axils with pilosulous domatia; stipules shortly united around stem with basal portion persistent becoming thickened and upper portion caducous, triangular to lanceolate, 2–5 mm, often keeled, acuminate to aristate. Inflorescences fasciculate to subumbelliform and subsessile, 1–1.5 cm, few to several flowered, puberulent or hirtellous to glabrescent; peduncles 4–8 mm; bracts reduced. Calyx puberulent; ovary portion obconic, ca. 0.5 mm; limb with lobes (4 or)5, triangular, 0.5–0.8 mm, acute. Corolla color not noted, funnellform, outside glabrous; tube ca. 3 mm, inside pubescent in upper half; lobes (4 or)5, lanceolate to spatulate-triangular, ca. 3 mm, acute to acuminate. Ovary 3- or 4-celled; stigma ca. 0.8 mm. Drupes with color not noted, subglobose, 8–10 mm in diam., puberulent to glabrescent, with calyx limb persistent; pyrenes 3 or 4. Fl. Apr–Aug, fr. Jun.

- Broad-leaved forests; 200–300 m. Hainan.

The illustration of this species presented by W. C. Ko (in FRPS 71(2): 8, t. 3. 1999) shows four calyx lobes and four corolla lobes; however, these structures both were described as five in the protologue, and the specimens seen have five calyx lobes.

3. *Canthium horridum* Blume, Catalogus, 45. 1823.

猪肚木 zhu du mu

Canthium hebecladum Candolle; *C. pauciflorum* Blanco; *Plectronia horrida* (Blume) Benth & J. D. Hooker.

Shrubs, 2–3 m tall; branches flattened to subterete, often rather slender, strigillose to strigose or pilosulous, sometimes with lateral short shoots to 0.5 cm; thorns slender to stout, 3–30 mm, straight, or sometimes absent. Leaves paired along devel-

oped stems or sometimes clustered on lateral short shoots; petiole 2–3 mm, strigillose to pilosulous; blade drying papery, ovate to lanceolate or elliptic, 2–6 × 1–3.5 cm, adaxially glabrous or strigillose to hispidulous along principal veins or throughout, abaxially puberulent to strigillose or hispidulous, base rounded or obtuse, apex obtuse, acute, or weakly acuminate; secondary veins 2 or 3 pairs, in abaxial axils with pilosulous and/or foveolate domatia; stipules deciduous after distalmost several nodes, triangular to ovate, 2–3 mm, densely strigillose to strigose, acute. Inflorescences fasciculate, 0.5–1 cm, few flowered, strigillose to glabrescent; peduncles 1–3 mm, each with a pair of triangular bracteoles ca. 1 mm and fused in pairs. Calyx puberulent to glabrous; ovary portion obconic, ca. 0.8 mm; limb 0.5–0.8 mm, truncate to undulate. Corolla white, funnellform, outside glabrous; tube suburceolate, ca. 2 mm; lobes 5, triangular-oblong, ca. 3 mm, acuminate. Ovary 2-locular; stigma ca. 0.5 mm. Drupes yellow, ovoid to subglobose, obovoid, or somewhat dicoccous, laterally somewhat flattened, 15–25 × 10–20 mm, smooth, glabrous, with calyx limb persistent; pyrenes 2, weakly tuberculate. Fl. Apr–Jun, fr. Jul–Nov.

Thickets at low elevations; near sea level to 500 m. Guangdong, Guangxi, Hainan, Yunnan [India, Malaysia, Thailand, Vietnam].

The name *Canthium parvifolium* Roxburgh has sometimes been applied to the Chinese plants that are here called *C. horridum*. W. C. Ko (in FRPS 71(2): 10. 1999) considered it a misapplied name, listing it as “*Canthium parvifolium* auct. non Roxb.”

4. *Canthium simile* Merrill & Chun, Sunyatsenia 2: 19. 1934.

大叶鱼骨木 da ye yu gu mu

Erect shrubs to small trees, 4–10(–18) m tall, unarmed; branches glabrous, somewhat compressed becoming terete. Leaves borne along developed stems; petiole 5–8 mm, glabrous; blade drying thinly to thickly papery, ovate to ovate-oblong or elliptic-oblong, 9–19 × 4–8.5 cm, adaxially shiny and glabrous or sometimes pustulose, abaxially glabrous to pilosulous or pilose, base obtuse to rounded, apex shortly acuminate; secondary veins 6–8 pairs, in abaxial axils with small foveolate domatia; stipules deciduous, shortly united around stem, triangular, 2–8 mm, sparsely pilosulous to glabrous, keeled, cuspidate to acuminate. Inflorescences corymbiform to cymose, 2.5–3 × ca. 2 cm, several flowered, puberulent to hirtellous; peduncle 10–14 mm; bracts reduced; pedicels 2–3 mm. Calyx puberulent to glabrous; ovary portion obconic to hemispherical, 1–1.5 mm; limb ca. 0.5 mm, 5-lobed; lobes broadly ovate-triangular, acute. Corolla white, urceolate-tubular, outside glabrous; tube 1.5–2 mm, inside villous in throat; lobes 5, triangular to spatulate, 1.5–3 mm, acute. Ovary 2-locular; stigma ca. 1.2 mm. Inflorescences expanded, to 7 × 9 cm; fruiting pedicels to 12 mm. Drupes with color not noted, obovoid, laterally compressed, often somewhat dicoccous, 10–20 × 9–15 mm, glabrescent, with calyx limb deciduous; pyrenes 2, plano-convex. Fl. Jan–Mar, fr. Jun–Jul.

Broad-leaved forests at low to middle elevations; 200–1500 m. Guangdong, Guangxi, Hainan, Yunnan [Vietnam].

This species is newly reported here from Vietnam, based on *Thorel 1294* (GH).

Fl. China 19: 83–85. 2011.

The measurements of the flower parts given by Merrill and Chun in the protologue do not agree with the measurements inferred from their figure 2; their figure seems to have been reproduced at twice the size they planned.

Fl. China 19: 83–85. 2011.