94. **UNCARIA** Schreber, Gen. Pl. 125. 1789, nom. cons.

**钩藤属** gou teng shu

Chen Tao (陈涛); Charlotte M. Taylor

*Agylophora* Necker ex Rafinesque; *Ouroparia* Aublet.

Woody vines or lianas, climbing by recurved, usually paired spines generally 1–2 cm. Raphides absent. Leaves opposite, usually with domatia; stipules persistent or caducous, interpetiolar, generally ovate to ligulate in outline, entire to 2-lobed, usually reflexed. Inflorescences axillary and sometimes also terminal, capitate with heads globose and 1 to several in cymes or fascicles, pedunculate, bracteate; peduncles usually articulate in middle or upper portion, often with stipuliform bracts at articulation; bracts enclosing heads sometimes caducous, involucral, stipuliform. Flowers sessile and bracteolate or pedicellate and bracteolate or ebracteolate, bisexual, monomorphic. Calyx limb 5-lobed. Corolla white to yellow, salverform or funnelform, inside glabrous or pubescent; lobes 5, imbricate in bud. Stamens 5, inserted in corolla tube near throat, exserted; filaments short; anthers dorsifixed. Ovary 2-celled, ovules numerous in each cell attached in upper third of septum; stigma globose or clavate, exserted. Fruiting heads globose, with fruiting pedicels when present often elongating notably. Fruit capular, fusiform to ovoid, loculicidally dehiscent into 2 valves that usually remain attached at both ends, thinly to thickly papery or cartilaginous, with calyx limb persistent; seeds numerous, small to medium-sized, fusiform, flattened, winged, wing deeply bifid.

About 34 species: 29 in tropical Asia through Australia, three in Africa and Madagascar, two in tropical America; 12 species (five endemic) in China.

Ridsdale (Blumea 24: 43–46. 1978) presented an extensive consideration of the morphology, branching, and architecture of *Uncaria*. The characteristic hooked spines have been interpreted variously as modified plagiotropic shoots (Ridsdale, loc. cit.), peduncles that are modified into spines (e.g., Steyermark in Lasser, Fl. Venezuela 9: 32. 1974), and short shoots modified into thorns (Robbrecht, Opera Bot. Belg. 1: 1–271. 1988). By any name, these structures function to support the plants as they climb and sometimes bear a terminal inflorescence. Ridsdale (loc. cit.: 69) described the corolla lobe aestivation as valvate or thinly imbricate at their apices; other authors described them as imbricate. *Uncaria* was reviewed in detail for China by How (Sunyatsenia 6: 231–262. 1946), who emended the circumscriptions of several species, and then by Hsue and Wu (J. S. China Agric. Coll. 2(8): 21–32. 1981), who recognized ten species. The arrangement of the flowers and fruit, whether sessile or pedicellate, is taxonomically important; however, the pedicels usually elongate shortly before the flowers open and then continue to elongate as the fruit develop, often marked, so the pedicel length at anthesis may be difficult to discern from inflorescences in bud.

*Uncaria* is considered medicinally useful, with uses ranging from general tonics to supposedly curing HIV-AIDS (e.g., K. C. Hsia & X. M. Liu, Acta Phytotax. Sin. 20: 319–320. 1982). Various parts of the plants are apparently used, with the materials generally wild-collected. *Uncaria gambir* (W. Hunter) Roxburgh, found from the Malay Peninsula through Borneo, is apparently both cultivated and wild-harvested as the source of gambir or gambier (Ridsdale, loc. cit.: 82; Mabbberley, Mabbberley’s Pl-Book, ed. 3, 885–886. 2008), a yellowish dry resin chewed together with the betel nut and sometimes used in tanning. How (loc. cit.) noted that the Chinese drug Kou-T’eng is derived from the “hardened sterile peduncle with attached short shoots modified into thorns” (Robbrecht, Opera Bot. Belg. 1: 1–271. 1988), and short shoots modified into thorns (Robbrecht, Opera Bot. Belg. 1: 1–271. 1988).

About 34 species: 29 in tropical Asia through Australia, three in Africa and Madagascar, two in tropical America; 12 species (five endemic) in China.

Ridsdale (Blumea 24: 43–46. 1978) presented an extensive consideration of the morphology, branching, and architecture of *Uncaria*. The characteristic hooked spines have been interpreted variously as modified plagiotropic shoots (Ridsdale, loc. cit.), peduncles that are modified into spines (e.g., Steyermark in Lasser, Fl. Venezuela 9: 32. 1974), and short shoots modified into thorns (Robbrecht, Opera Bot. Belg. 1: 1–271. 1988). By any name, these structures function to support the plants as they climb and sometimes bear a terminal inflorescence. Ridsdale (loc. cit.: 69) described the corolla lobe aestivation as valvate or thinly imbricate at their apices; other authors described them as imbricate. *Uncaria* was reviewed in detail for China by How (Sunyatsenia 6: 231–262. 1946), who emended the circumscriptions of several species, and then by Hsue and Wu (J. S. China Agric. Coll. 2(8): 21–32. 1981), who recognized ten species. The arrangement of the flowers and fruit, whether sessile or pedicellate, is taxonomically important; however, the pedicels usually elongate shortly before the flowers open and then continue to elongate as the fruit develop, often marked, so the pedicel length at anthesis may be difficult to discern from inflorescences in bud.

*Uncaria* is considered medicinally useful, with uses ranging from general tonics to supposedly curing HIV-AIDS (e.g., K. C. Hsia & X. M. Liu, Acta Phytotax. Sin. 20: 319–320. 1982). Various parts of the plants are apparently used, with the materials generally wild-collected. *Uncaria gambir* (W. Hunter) Roxburgh, found from the Malay Peninsula through Borneo, is apparently both cultivated and wild-harvested as the source of gambir or gambier (Ridsdale, loc. cit.: 82; Mabbberley, Mabbberley’s Pl-Book, ed. 3, 885–886. 2008), a yellowish dry resin chewed together with the betel nut and sometimes used in tanning. How (loc. cit.) noted that the Chinese drug Kou-T’eng is derived from the “hardened sterile peduncle with attached portions of the stem” of a species that is probably *U. rhynchophylla*.

1a. Flowers subsessile to pedicellate, fruit pedicellate.

2a. Stipules suborbicular, 14–16 mm, entire ................................................................. 12. *U. yunnanensis*

2b. Stipules ovate, 6–12 mm, shallowly to deeply 2-lobed.

3a. Leaves drying papery, 2–8 cm wide; flowers subsessile; fruit 1–3 mm wide ..................................................... 5. *U. lanosa*

3b. Leaves drying thinly leathery, 6–12 cm wide; flowers with well-developed pedicels; fruit 4–5 mm wide ................................................................. 6. *U. macrophylla*

1b. Flowers and fruit sessile to sub sessile.

4a. Leaf blade abaxially strigillose, strigose, puberulent, and/or hisurate on lamina (but sometimes with different pubescence on veins); stems strigillose, tomentillose, strigose, hirtellous, hisurate, or pilosulous; stipules 2-lobed.

5a. Flowering heads 18–25 mm in diam. across calyces; stipule lobes ovate to lanceolate; calyx limb with tube 2–4 mm, lobes 2–3 mm ...................................................................................................................... 1. *U. hirsuta*

5b. Flowering heads 9–12 mm in diam. across calyces; stipule lobes narrowly triangular, lanceolate, or ovate; calyx limb deeply lobed, lobes 0.75–2 mm.

6a. Corolla lobes ca. 1.25 mm; leaves 2.5–4 cm wide ................................................................. 2. *U. homomalla*

6b. Corolla lobes ca. 2 mm; leaves 3–5.5 cm wide .................................................................................. 9. *U. scandens*

4b. Leaf blade abaxially glabrous to puberulent on lamina; stems glabrous, puberulent, sparsely hisurate, or sparsely hirtellous; stipules entire or 2-lobed.

7a. Stipules entire or shallowly emarginate, broadly triangular, ovate, or suborbicular ........................................ 11. *U. sinensis*

7b. Stipules 2-lobed, elliptic-oblong, ligulate, lanceolate, or ovate, with lobes narrowly triangular, linear, ovate, lanceolate, or triangular-ovate.

8a. Leaf blade drying thinly leathery; calyx lobes 0.1–0.3 mm.

9a. Leaf blade not glaucescent abaxially, with tertiary venation mostly reticulate and not strongly scalariform on adaxial surface; peduncles simple; corolla lobes externally glabrous; fruit
sessile, obovoid, 5–9 mm (not including persistent calyx limb), obtuse to rounded. Fruiting heads 30–35 mm in diam. Fruit substrigillose; tube 7–10.5 mm; lobes oblong to elliptic, 2–2.5 mm, lose, with tube 2–4 mm; lobes linear-oblong, 2–3 mm. Corolla conic, ca. 2 mm, densely pilose to strigose; limb densely strigillose to pilose; tube 5–8.5 mm; lobes ligulate to elliptic, 6–10 × 2.5–4 cm, adaxially rather sparsely but evenly puberulent to strigillose on lamina and densely tomentose on costa, abaxially moderately to densely hisrate or strigose with trichomes produced mostly along veins, base rounded, apex acuminate or caudate; secondary veins 6–8 pairs, usually with well-developed pilosulous domatia; stipules generally deciduous, deeply 2-lobed, lobes narrowly triangular, 4–5 mm, acute. Inflorescences axillary and sometimes also terminal, densely hirtellous to strigose; peduncles simple, 2.5–3 cm, at articulation with narrowly triangular bracts 2–3 mm; flowering heads 7–10 mm in diam. across calyces, 25–30 mm in diam. across corollas; bracteoles apparently absent. Flowers sessile. Calyx with hypanthium portion obconic, ca. 1.2 mm; limb deeply lobed; lobes linear to narrowly triangular, 0.75–1 mm, densely pilosulous, acute. Corolla yellow [to pale green], outside densely strigose to strigillose; tube 5–8.5 mm; lobes ligulate to elliptic-oblong, ca. 1.25 mm, obtuse to rounded. Fruiting heads 12–20 mm in diam. Fruit sessile, obovoid, ca. 4 × 2 mm, strigose to pilosulous; seeds 2–3 mm. Fl. Apr, May.

Evergreen to seasonal forests; 200–600 m. Guangxi, Yunnan [Bangladesh, Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Thailand, Vietnam].

H. H. Hsue and H. Wu (in FRPS 71(1): 258. 1999) described the leaves as up to 5.5 cm wide, but this has not been seen on specimens studied nor reported by other authors. Ridsdale (Blumea 24: 95. 1978) reported this species from Guangdong and Hainan but without vouchers. The separation here of Uncaria homomalla and U. scandens follows previous Chinese authors, but the separation of these species (or possibly the application of these names to the Chinese plants) needs further study. Ridsdale (loc. cit.) separated U. homomalla from U. scandens based on the size of the flowering heads and leaves; however, Chinese specimens included previously in U. scandens (e.g., Henry 11868, MO!) have flowering heads and leaves similar in size to those of U. homomalla.

8b. Leaf blade drying thickly papery to thinly papery; calyx lobes 0.5–2 mm.
10a. Corollas 7–9 mm; leaf blade often drying reddish brown or dark red, often glaucous abaxially; calyx limb ca. 1 mm .................................................................................. 7. U. rhynchophylla
10b. Corollas 10.5–14.5 mm; leaf blade drying brown, grayish brown, or green, not glaucous abaxially; calyx limb 1.5–4 mm.
11a. Calyx limb ca. 1.5 mm ........................................................................................................... 8. U. rhynchophylloides
11b. Calyx limb 2–4 mm.
12a. Flowering heads 13–15 mm across calyces; leaves glabrous .............................................................................................................. 4. U. lancifolia
12b. Flowering heads 18–20 mm across calyces; leaves glabrous or usually puberulent at least on veins abaxially ................................................................. 5. U. lanosa

1. Uncaria hirsuta Haviland, J. Linn. Soc., Bot. 33: 88. 1897. 毛钩藤 mao gou teng


3. Uncaria laevigata Wall. ex G. Don, Gen. Hist. 3: 470. 1834. 平滑钩藤 ping hua gou teng

North Hook Teng

Uncaria tonkinensis Haviland.

Lianas, climbing to 25 m tall. Young stems quadrate, sparsely to densely, usually ferruginous tomentulose or -hirtellous. Petiole 3–6 mm, hirtellous to strigose; leaf blade drying thickly papery to thinly papery; elliptic, lanceolate, elliptic-lanceolate, or ovate-lanceolate, 6–10 × 2.5–4 cm, adaxially rather sparsely but evenly puberulent to strigillose on lamina and densely tomentulose on costa, abaxially moderately to densely hisrate or strigose with trichomes produced mostly along veins, base rounded, apex acuminate or caudate; secondary veins 6–8 pairs, usually with well-developed pilosulous domatia; stipules generally deciduous, deeply 2-lobed, lobes narrowly triangular, 4–5 mm, acute. Inflorescences axillary and sometimes also terminal, densely hirtellous to strigose; peduncles simple, 2.5–3 cm, at articulation with narrowly triangular bracts 2–3 mm; flowering heads 7–10 mm in diam. across calyces, 25–30 mm in diam. across corollas; bracteoles apparently absent. Flowers sessile. Calyx with hypanthium portion obconic, ca. 1.2 mm; limb deeply lobed; lobes linear to narrowly triangular, 0.75–1 mm, densely pilosulous, acute. Corolla yellow [to pale green], outside densely strigose to strigillose; tube 5–8.5 mm; lobes ligulate to elliptic-oblong, ca. 1.25 mm, obtuse to rounded. Fruiting heads 12–20 mm in diam. Fruit sessile, obovoid, ca. 4 × 2 mm, strigose to pilosulous; seeds 2–3 mm. Fl. Apr, May.

Evergreen to seasonal forests; 200–600 m. Guangxi, Yunnan [Bangladesh, Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Thailand, Vietnam].

H. H. Hsue and H. Wu (in FRPS 71(1): 258. 1999) described the leaves as up to 5.5 cm wide, but this has not been seen on specimens studied nor reported by other authors. Ridsdale (Blumea 24: 95. 1978) reported this species from Guangdong and Hainan but without vouchers. The separation here of Uncaria homomalla and U. scandens follows previous Chinese authors, but the separation of these species (or possibly the application of these names to the Chinese plants) needs further study. Ridsdale (loc. cit.) separated U. homomalla from U. scandens based on the size of the flowering heads and leaves; however, Chinese specimens included previously in U. scandens (e.g., Henry 11868, MO!) have flowering heads and leaves similar in size to those of U. homomalla.

3. Uncaria laevigata Wall. ex G. Don, Gen. Hist. 3: 470. 1834. 平滑钩藤 ping hua gou teng

North Hook Teng
Nauclea laevigata (Wallich ex G. Don) Walpers.

Lianas, height unknown. Young stems slender, quadrangular, glabrous [to puberulent]. Petiole 7–11 mm, glabrous; leaf blade drying thinly leathery, elliptic, lanceolate, or elliptic-oblong, 8.5–12 × 3–6 cm, glabrous on both surfaces or puberulent on veins abaxially, base rounded to cuneate, apex acute or acuminate; secondary veins 4–7 pairs, usually with hirtellous domatia; stipules caducous, elliptic-oblong to ovate, 4–6 mm, 1-lobed for 1/2 or more, glabrous or sparsely puberulent, lobes narrowly triangular, acute. Inflorescences axillary and sometimes in terminal groupings, glabrous; peduncles 2.5–6 cm, simple; bracts 2–4 mm; flowering heads 8–10 mm in diam. across calyces, 25–35 mm in diam. across corollas; bracteoles linear or subspatulate, 2–3 mm. Flowers sessile. Calyx with hypanthium portion obconic, 1–1.5 mm, densely sericeous or strigose; limb densely puberulent to strigillose, with tube 1–1.5 mm; lobes ligulate, 0.1–0.3 mm, obtuse. Corolla color unknown, salverform, glabrous outside; tube 7–10 mm; lobes oblong, ca. 2 mm, obtuse to rounded. Fruiting head 25–30 mm in diam. Fruit sessile, fusiform, 6–8 mm, strigate to strigillose; seeds not seen. Fl. and fr. May–Nov.

Forests; 600–1300 m. Guangxi, Taiwan, Yunnan [Bangladesh, India, Laos, Myanmar, Thailand, Vietnam].


倒挂金钩 dao gua jin gou

Large lianas, height unknown. Young stems quadrangular, glabrous. Petiole 3–5 mm, glabrous; leaf blade drying papery, oblong-lanceolate or ovate-lanceolate, 9–12 × 3–6 cm, glabrous on both surfaces, base rounded to truncate or subcordate, apex acute or acuminate; secondary veins 5–10 pairs, without domatia; stipules often persistent, ovate, 5–8 mm, 2-lobed for 1/3–1/2, glabrous, lobes lanceolate, acute. Inflorescences axillary and terminal, glabrous; peduncles 4–7 mm, simple; bracts 2–4 mm; flowering heads 8–10 mm in diam. across calyces, 25–35 mm in diam. across corollas; bracteoles linear or subspatulate, 2–3 mm. Flowers sessile. Calyx with hypanthium portion obconic, 1–1.5 mm, densely sericeous or strigose; limb densely puberulent to strigillose, with tube 1–1.5 mm; lobes ligulate, 0.1–0.3 mm, obtuse. Corolla color unknown, salverform, glabrous outside; tube 7–10 mm; lobes oblong, ca. 2 mm, obtuse to rounded. Fruiting head 25–30 mm in diam. Fruit sessile, fusiform, 6–8 mm, strigate to strigillose; seeds not seen. Fl. and fr. May–Nov.

Forests; 600–1300 m. Guangxi, Taiwan, Yunnan [Bangladesh, India, Laos, Myanmar, Thailand, Vietnam].


Woody vines, height not noted. Young stems quadrangular, sparsely hisrate to glabrescent. Petiole 4–10 mm, sparsely hisrate to glabrescent; leaf blade drying papery, ovate, lanceolate, or lanceolate-oblong, 7–11 × 3.5–8 cm, axially shiny and glabrous except sparsely hisrate along veins, abaxially glabrescent except sparsely hisrate along veins, base rounded, truncate, or cordulate, apex acute to acuminate; secondary veins 6–9 pairs, usually with domatia in axils of secondary and often also tertiary veins; stipules persistent or caducous, ovate, 6–10 × 8–10 mm, 2-lobed for 1/3–1/2, lobes narrowly triangular, acute to acuminate. Inflorescences axillary and frequently also terminal, strigose to hisrate or glabrescent; peduncle 2.5–4.5 cm; bracts ca. 10 mm; flowering heads solitary (or 2), 18–20 mm in diam. across calyces, 30–37 mm in diam. across corollas; bracteoles apparently absent. Flowers sessile or subsessile. Calyx densely strigillose; hypanthium portion fusiform, ca. 2 mm; limb deeply lobed; lobes linear, ca. 2 mm, obtuse. Corolla color unknown, salverform, externally sparsely sericeous to glabrescent; tube ca. 12 mm; lobes oblong, ca. 2.5 mm, obtuse. Fruiting heads 30–40 mm in diam.; pedicels 5–9 mm. Fruit pedicellate, fusiform, 9–27 × 1–3 mm, strigose; seeds 2.5–3 mm. Fl. Feb, perhaps Oct, fr. Feb.

Forests; ca. 300 m. S Taiwan [Indonesia (Sulawesi), Philippines].

Ridsdale (loc. cit.: 70) keyed Uncaria lanosa based on its stipules that are subentire, but in our plants as well as the type of U. philippinensis, treated by him as a synonym of U. lanosa (NY, Web!), they are markedly 2-lobed.

Uncaria lanosa var. lanosa occurs in Australia, Borneo, Indonesia, Malaysia, Myanmar, New Guinea, Pacific islands (Caroline Islands, Palau, Solomon Islands), Philippines, and Thailand.


大叶钩藤 da ye gou teng

Large lianas, height not noted. Young stems weakly to markedly quadrangular, pilosulous, tomentulose, or glabrescent. Petiole 3–25 mm, glabrous to densely tomentulose; leaf blade drying thinly leathery and yellowish brown adaxially, ovate or broadly elliptic, 10–16 × 6–12 cm, axially glabrous except strigillose along veins, abaxially sparsely to densely hirsutulous with pubescence denser along veins, base rounded, subcordate, or cordate, apex acute or shortly acuminate; secondary veins 6–9 pairs, usually with pubescent domatia; stipules caducous, ovate, 6–12 × 6–15 mm, 2-lobed for 1/2 or 2/3, lobes triangular to ovate. Inflorescences axillary, tomentulose to glabrescent; peduncle 3–7 cm; bracts triangular, 6–8 mm; flowering heads solitary, 15–20 mm in diam. across calyces, 40–50 mm in diam. across corollas; bracteoles absent; pedicels 2–5 mm. Flowers pedicellate. Calyx densely strigillose; hypanthium portion obconic, 2–2.5 mm; limb deeply lobed; lobes linear-oblong, 3–4 mm, obtuse to rounded. Corolla pale green to white, salverform, outside strigillose to tomentulose; tube 9–10 mm; lobes oblong...
to ligulate, ca. 2 mm, obtuse to rounded. Fruiting head 8–10 cm in diam.; pedicels 6–18 mm. Fruit pedicellate, fusiform, 14–20 × 4–5 mm, densely strigillose; seeds 6–8 mm. Fl. Jul, Sep, Dec, fr. Mar–Apr, Sep–Nov.

On canopy crowns in secondary forests; 300–900 m. Guangdong, Guangxi, Hainan, Yunnan [Bangladesh, Bhutan, India, Laos, Myanmar, N Thailand, Vietnam].


Lianas, height unknown. Young stems slender, weakly to markedly quadrangular, glabrous, sometimes glaucous. Petiole 5–15 mm, glabrous; leaf blade drying papery and often red-brown or dark red, elliptic, lanceolate, or elliptic-oblong, 5–12 × 3–7 cm, glabrous on both surfaces, often glaucous abaxially, base cuneate, obtuse, or rounded, apex acute to usually acuminate; secondary veins 4–8 pairs, sometimes with pilosulous domatia; stipules generally persistent, lanceolate or ovate, ca. 2 mm – 4.5 cm, deeply 2-lobed, strigillose, puberulent, or glabrous; lobes triangular, lanceolate, or elliptic-ovate, 5–9 × 2.5–4.5 cm, both surfaces puberulent to glabrescent, base cuneate to obtuse, rounded, or cordulate, apex acuminate; secondary veins 5–7 pairs, usually with pilosulous domatia; stipules generally persistent, ovate, deeply 2-lobed, glabrous to puberulent, lobes triangular to ovate, 3–4 mm, acute to acuminate. Inflorescences axillary and often in terminal groups of 3–5, puberulent to glabrescent; peduncles 3.5–6 cm, simple but sometimes with 2 articulations; bracts 3–4 mm; flowering heads 9–11 mm in diam. across calyces, 25–30 mm in diam. across corollas; bracteoles linear or linear-spatulate, 2.5–3.5 mm. Flowers sessile. Calyx with hypanthium portion obconic, ca. 1.5 mm, densely sericeous or strigose; limb deeply lobed, densely strigillose; lobes oblong to spatulate, ca. 1.5 mm, obtuse to rounded. Corolla color unknown, salverform, outside puberulent; tube ca. 12 mm; lobes obovate or oblong-obovate, 2–2.5 mm, rounded. Fruiting head 16–20 mm in diam. Fruit sessile, obovate-ellipsoid, 8–10 × 3–3.5 mm, sericeous to strigillose; seeds not seen. Fl. and fr. May–Dec.

- Forests, forest margins; 500–800 m. Guangdong, Guangxi.

This species was illustrated by How (loc. cit.: 257, f. 31). Ridsdale (Blumea 24: 93. 1978) included Uncaria rhynchophylloides as a synonym of U. rhynchophylla; however, these do appear to be distinct.


侯钩藤 hou gou teng

Lianas, to 13 m tall. Young stems quadrangular, puberulent to glabrescent. Petiole 5–7 mm, puberulent to glabrous; leaf blade drying thickly papery and dark brown to grayish brown, ovate, lanceolate, or elliptic-ovate, 5–9 × 2.5–4.5 cm, both surfaces puberulent to glabrescent, base cuneate to obtuse, rounded, or cordulate, apex acuminate; secondary veins 5–7 pairs, usually with pilosulous domatia; stipules generally persistent, ovate, deeply 2-lobed, glabrous to puberulent, lobes triangular to ovate, 3–4 mm, acute to acuminate. Inflorescences axillary and often in terminal groups of 3–5, puberulent to glabrescent; peduncles 3.5–6 cm, simple but sometimes with 2 articulations; bracts 3–4 mm; flowering heads 9–11 mm in diam. across calyces, 25–30 mm in diam. across corollas; bracteoles linear or linear-spatulate, 2.5–3.5 mm. Flowers sessile. Calyx with hypanthium portion obconic, ca. 1.5 mm, densely sericeous or strigose; limb deeply lobed, densely strigillose; lobes oblong to spatulate, ca. 1.5 mm, obtuse to rounded. Corolla color unknown, salverform, outside puberulent; tube ca. 12 mm; lobes obovate or oblong-obovate, 2–2.5 mm, rounded. Fruiting head 16–20 mm in diam. Fruit sessile, obovate-ellipsoid, 8–10 × 3–3.5 mm, sericeous to strigillose; seeds not seen. Fl. and fr. May–Dec.

- Forests, broad-leaved forests; 100–1500 m. Guangdong, Guangxi, Hainan, Sichuan, Xizang, Yunnan.

This species was illustrated by How (Sunyatsenia 6: t. 42. 1946), as Uncaria wangii. See comments about the separation of this species under U. homomalla.


攀茎钩藤 pan jing gou teng

Nauclea scandens Smith in Rees, Cycl. 24: Nauclea no. 9. 1813; Cephalanthus cavaleriei H. Léveillé; Uncaria wangii F. C. How.

Large lianas, height not noted. Young stems slender, weakly to markedly quadrangular, densely hirtellous or pilosulous. Petiole 3–6 mm, hirtellous to pilosulous; leaf blade drying papery, ovate, ovate-oblong, lanceolate, elliptic, or elliptic-oblong, 10–15 × 3–5.5 cm, adaxially sparsely to moderately strigillose or scabrous-puberulent on lamina and densely puberulent to strigillose on veins, abaxially moderately to densely pilosulous, hirtellous, and/or strigillose usually with at least some pubescence spreading, base rounded to truncate, subcordate, or cordulate, apex acute or usually acuminate; secondary veins 7–10 pairs, usually with pilosulous domatia; stipules deciduous, ovate, 6–10 mm, deeply 2-lobed, strigillose, puberulent, or glabrescent, lobes lanceolate, ovate, or narrowly triangular, acute. Inflorescences axillary and often in terminal groups of 5–7 heads, densely pilosulous to tomentulose; peduncles 3–7 cm, simple; bracts 4–9 mm; flowering heads 9–12 mm in diam. across calyces, 25–30 mm in diam. across corollas; bracteoles linear or linear-spatulate, 1–3 mm, sparsely pubescent. Flowers sessile. Calyx with hypanthium portion obconic, 1–1.5 mm, densely strigose or pilose; limb 2–3 mm, lobed for up to 2/3, densely grayish white strigillose; lobes linear or linear-spatulate, 1.5–2 mm, obtuse. Corolla pale yellow sometimes flushed with pink, salverform, outside sparsely to densely hirtellous; tube 8–10 mm; lobes obovate to elliptic, ca. 2 mm, rounded. Fruiting head 20–25 mm in diam. Fruit sessile, obovoid to ob-lanceoloid, 6–9 mm, hirtellous; seeds orange-yellow, ca. 2 mm. Fl. Feb, Apr, fr. Jul, Nov.

- Sparse forests, broad-leaved forests; 100–1500 m. Guangdong, Guangxi, Hainan, Sichuan, Xizang, Yunnan.

This species was illustrated by How (Sunyatsenia 6: t. 42. 1946), as Uncaria wangii. See comments about the separation of this species under U. homomalla.

10. Uncaria sessilifructus Roxburgh, Fl. Ind. 2: 130. 1824.
白钩藤  bai gou teng

*Nauclea sessilifructus* (Roxburgh) D. Dietrich.

Large lianas, height unknown. Young stems slender, quadrangular, sparsely puberulent or hirtellous to glabrous. Petiole 5–10 mm, glabrous; leaf blade drying thinly leathery, ovate, elliptic, or elliptic-oblong, 8–12 × 4–6.5 cm, glabrous on both surfaces or abaxially puberulent on principal veins, often glaucous abaxially, base cuneate to rounded, apex acute or acuminate; secondary veins 4–7 pairs, usually with pilosulous domatia; stipules deciduous, ligulate to lanceolate, 7–10 mm, 2-lobed for 2/3 or more, glabrous to densely puberulent, lobes narrowly triangular, acute. Inflorescences axillary or terminal, solitary or in groups of 5–15, strigillose to glabrescent; peduncles 3–5.5 cm, simple or often branched to 1 order; flowering heads 5–10 mm in diam. across calyces, 25–35 mm in diam. across corollas; bracteoles linear or subspatulate, 2–3 mm. Flowers sessile. Calyx with hypanthium portion obconic, 1.5–2 mm, densely strigose to sericeous; limb densely strigillose to pilosulous; lobes oblong to triangular, 0.25–1 mm, obtuse to acute. Corolla yellowish white, salverform; tube 6–10 mm, outside glabrous, pilosulous, or sericeous; lobes oblong, 1–2 mm, outside sericeous or hirtellous, rounded to truncate or sometimes shallowly emarginate. Fruiting head 25–35 mm in diam. Fruit sessile, fusiform, 10–14 mm, sericeous; seeds not seen. Fl. and fr. Mar–Dec.

Dense forests or thickets in valleys; 300–1500 m. Guangxi, Yunnan [Bangladesh, Bhutan, India, Laos, Myanmar, Nepal, Vietnam].

This species was illustrated by Ridsdale (Blumea 24: 91, f. 11. 1978).


华钩藤  hua gou teng

*Nauclea sinensis* Oliver, Hooker’s Icon. Pl. 20: t. 1956. 1891; *Uncaria membranifolia* F. C. How.

Lianas, height unknown. Young stems slender, quadrangular, glabrous. Petiole 6–10 mm, glabrous; leaf blade drying thinly papery, elliptic to ovate, 9–14 × 5–8.5 cm, both surfaces sparsely puberulent to glabrous, base obtuse to rounded, apex acuminate; secondary veins 6–8 pairs, without domatia; stipules often persistent, broadly triangular, ovate, or orbicular, 3–10 mm, glabrous, rounded to truncate or sometimes shallowly emarginate. Inflorescences axillary, heads solitary or sometimes in terminal groups of 3–5, glabrous; peduncles 3–7 cm, rather slender; bracts 2–3 mm; flowering heads 10–15 mm in diam. across calyces, ca. 30 mm in diam. across corollas; bracteoles linear or subspatulate, 2–3 mm. Flowers subsessile. Calyx with hypanthium portion ca. 2 mm, densely strigose to strigillose; limb deeply lobed, densely strigillose; lobes linear-oblong, 1–1.5 mm, obtuse to rounded. Corolla color unknown, salverform; tube 7–8 mm, outside glabrous; lobes ligulate to triangular, ca. 2 mm, outside puberulent, acute to obtuse. Fruiting head 20–30 mm in diam. Fruit sessile, ellipsoid, 8–10 mm, strigillose to strigose; seeds not seen. Fl. and fr. Jun–Oct.

- Sparse forests or wet secondary forests at middle elevations; 900–1100 m. Gansu, Guangxi, Guizhou, Hubei, Hunan, Shaanxi, Sichuan, Yunnan.

This species was illustrated by How (Sunyatsenia 6: 254, f. 30. 1946, as *Uncaria membranifolia*).


云南钩藤  yun nan gou teng

Woody vines or lianas, to 15–25 m tall. Young branches weakly quadrangular, ferruginous villous. Petiole glabrous or ferruginous hirtellous; leaf blade drying leathery, ovate, elliptic, or elliptic-oblong, 9–18 × 5–8 cm, both surfaces glabrous, base obtuse, apex shortly acuminate; secondary veins ca. 4 pairs; stipules caducous, suborbicular, 14–16 mm, rounded. Inflorescences axillary and sometimes terminal, with heads solitary, brown hirtellous; peduncle 30–35 mm; flowering heads 15–20 mm in diam. in bud. Flowers not seen. Fruiting head ca. 40 mm in diam.; pedicels 6–8 mm. Fruit pedicellate, fusiform, ca. 10 mm, brown hirtellous. Fl. Jul, fr. Jan.

- Forest margins, thickets. Yunnan (Xishuangbanna).

H. H. Hsue and H. Wu (in FRPS 71(1): 249. 1999) described the petioles as ferruginous pubescent, but the protologue description of this species says “petioli glabri nitiduli,” though these “petioli” are described as structures belonging to “pedunculus communis” and may be pedicels rather than petioles.

The possibility cannot be completely excluded based on the information available that this name will be found synonymous with *Uncaria gambir*.