

2. SLOANEA Linnaeus, Sp. Pl. 1: 512. 1753.

猴欢喜属 hou huan xi shu

*Echinocarpus* Blume.

Trees or shrubs. Buds usually pubescent. Leaves alternate or clustered at twig apices, simple, petiolate, margin entire or serrate, pinnately veined; stipules caducous. Flowers solitary or in racemes, axillary, long stalked, usually bisexual. Sepals 4 or 5, valvate or imbricate, ovate, slightly connate at base. Petals 4 or 5, rarely absent, obovate, imbricate, margin entire or dentate at apices. Stamens numerous, inserted on disk; filaments short; anthers opening by vertical slit, connective usually elongated as beak. Disk broad, thick. Ovary 3–7-loculed; ovules several per locule, furrowed, pubescent; style free or connate, subulate. Capsule globose or ovoid, prickly, septically dehiscent into 3–7 valves; exocarp woody, thick; endocarp thin, leathery, usually detached from exocarp when dry. Seeds 1 to several, pendulous, usually arillate in lower 1/2; endosperm fleshy, copious. Cotyledons flat.

About 120 species: primarily in the tropics and subtropics; 14 species (seven endemic) in China.

*Echinocarpus cavaleriei* H. Léveillé (Repert. Spec. Nov. Regni Veg. 10: 474. 1912), *E. erythrocarpus* H. Léveillé (loc. cit., “*erythrocarpa*”), *E. esquirolii* H. Léveillé (loc. cit.), and *E. hederirhizus* H. Léveillé (loc. cit., “*hederaerhiza*”) are synonyms of, respectively, *Euonymus acanthoxanthus* Pitard, *E. acanthocarpus* Franchet, *E. acanthoxanthus*, and *E. aculeatus* Hemsley, all in the Celastraceae (see Fl. China 11).

- 1a. Prickles of capsule shorter than 7 mm, very dense.
  - 2a. Branchlets and leaf blade glabrous.
    - 3a. Leaf blade elliptic or orbicular, thickly leathery, more than 12 cm wide ..... 1. *S. cordifolia*
    - 3b. Leaf blade oblong or obovate, membranous or papery, less than 8 cm wide ..... 3. *S. dasycarpa*
  - 2b. Branchlets tomentose; leaf blade abaxially pubescent at least when young.
    - 4a. Leaf blade not less than 9 cm wide, lateral veins not less than 9 per side ..... 2. *S. tomentosa*
    - 4b. Leaf blade less than 8 cm wide, lateral veins to 8 per side.
      - 5a. Leaf blade lanceolate or oblanceolate, to 3.5 cm wide ..... 6. *S. leptocarpa*
      - 5b. Leaf blade oblong, elliptic, or obovate, more than 4 cm wide.
        - 6a. Branchlets and petiole glabrous or sparsely pilose ..... 4. *S. chingiana*
        - 6b. Branchlets and petiole densely yellow-brown tomentose.
          - 7a. Leaf margin entire, base rounded or slightly cordate; prickles on capsule shorter than 2.5 mm ..... 5. *S. integrifolia*
          - 7b. Leaf margin sparsely and minutely dentate, base acute; prickles on capsule 5–7 mm ..... 7. *S. sichouensis*
- 1b. Prickles of capsule longer than 7 mm, not dense.
  - 8a. Leaf blade abaxially pubescent at least on veins.
    - 9a. Leaf blade broadest above middle, usually attenuate to base, base narrow and rounded ..... 8. *S. sterculiacea*
    - 9b. Leaf blade broadest below middle, base broad and rounded ..... 9. *S. mollis*
  - 8b. Leaf blade glabrous or with tufts of hairs in vein axils only.
    - 10a. Leaf blade ovate-lanceolate or ovate-oblong, lateral veins sparse ..... 10. *S. changii*
    - 10b. Leaf blade not ovate-lanceolate or ovate-oblong, lateral veins dense.
      - 11a. Branchlets pilose at least when young ..... 12. *S. hainanensis*
      - 11b. Branchlets glabrous.
        - 12a. Leaf blade narrowly obovate or oblanceolate, usually attenuate to base, lateral veins 7–9 per side ..... 13. *S. hemsleyana*
        - 12b. Leaf blade oblong, obovate, or elliptic, lateral veins 5–7 per side.
          - 13a. Leaf blade with angle between midvein and lateral veins ca. 30°, lateral veins adaxially conspicuous; capsule ca. 6 cm ..... 14. *S. sigun*
          - 13b. Leaf blade with angle between midvein and lateral veins more than 50°, lateral veins adaxially inconspicuous; capsule 2–2.5 cm ..... 11. *S. sinensis*

1. *Sloanea cordifolia* K. M. Feng ex Hung T. Chang, Acta Phytotax. Sin. 17(1): 58. 1979.

心叶猴欢喜 xin ye hou huan xi

Trees 15–26 m tall. Branches brown, glabrous; branchlets robust, 6–8 mm in diam., brown puberulent. Petiole 2.5–5 cm, robust, glabrous; leaf blade broadly elliptic or nearly orbicular, 6–25 × 12–18 cm, thickly leathery, glabrous, midvein prominently raised on both surfaces, 2–3 mm wide, lateral veins 8–10 per side, very prominently raised abaxially, prominent adax-

ially, veinlets prominently raised abaxially, base rounded or truncate, rarely cordate, margin entire, reflexed when dry, apex rounded, acumen short, 1–2 cm. Flowers unknown. Capsule dehiscent into 4 valves; valves 3.5–4 × ca. 2 cm, 4–5 mm thick, woody; prickles yellow, 3–4 mm; endocarp reddish, ca. 1 mm thick, usually separated from mesocarp when dry. Seeds black-brown, shiny, ellipsoid, ca. 1.5 × 0.8 cm; aril yellow-brown when dry, to 7 mm. Fl. Jun–Jul, fr. Nov.

- Forests; 1400–1600 m. SE Yunnan.

2. *Sloanea tomentosa* (Benth) Rehder & E. H. Wilson in Sargent, Pl. Wilson. 2: 362. 1915.

绒毛猴欢喜 rong mao hou huan xi

*Echinocarpus tomentosus* Benth, J. Proc. Linn. Soc., Bot. 5(Suppl. 2): 73. 1861.

Trees evergreen, to 26 m tall, to 1.2 m d.b.h. Bark brown, exfoliating; branchlets rust-brown tomentose. Petiole robust, terete, 2–10 cm, rust-colored tomentose; leaf blade broadly elliptic or obovate-elliptic, 15–30 × 9–18 cm, leathery, abaxially densely brown tomentose, adaxially pubescent only on mid-vein, lateral veins 9–12 per side, prominently raised abaxially, conspicuous adaxially, base rounded, rarely obtuse or slightly cordate, margin entire or toothed near apex, apex rounded with acumen ca. 1 cm. Flowers axillary at twig apices. Pedicel 2–3 cm, slightly robust, brown pubescent, upper 1/2 usually curved downward. Sepals 4 or 5, ovate, pubescent, apex obtuse. Petals slightly shorter than sepals, broader than long, incised at apices. Anthers ca. as long as filaments. Ovary ovoid, brown pubescent. Capsule 4- or 5-valved; valves 3–4 × 1–1.3 cm, 5–6 mm thick; exocarp ca. 1.5 mm thick, slightly woody, with many short prickles; prickles easily deciduous, brown, ca. 2 mm; mesocarp ca. 4 mm thick, woody; endocarp purple-red adaxially, thin. Seeds ca. 1.5 cm. Fl. May–Jun, fr. Oct.

Evergreen forests; 1000–1600 m. S Yunnan [Bhutan, E and NE India, Myanmar, Nepal, Thailand].

3. *Sloanea dasycarpa* (Benth) Hemsley, Hooker's Icon. Pl. 27: sub t. 2628. 1900.

毛果猴欢喜 mao guo hou huan xi

*Echinocarpus dasycarpus* Benth, J. Proc. Linn. Soc., Bot. 5(Suppl. 2): 73. 1861 ["*dasycarpa*"]; *Sloanea formosana* H. L. Li.

Trees evergreen, 8–12 m tall. Branchlets glabrous. Petiole 2–3 cm, slender, glabrous; leaf blade oblong or obovate-oblong, broadest at middle or above, 12–20 × 4–7 cm, membranous or papery, glabrous or sparsely pilose at first, glabrescent, or pubescent only in vein axils, lateral veins 4 or 5 per side, prominent abaxially, conspicuous adaxially, veinlets conspicuous, more so abaxially, tapered into narrow and obtuse or rounded base, margin entire or minutely denticulate, apex acuminate or acute. Flowers axillary in upper part of twigs. Pedicel 2–4 cm, puberulent. Sepals 4 or 5, broadly ovate, ca. 5 mm, puberulent, apex rounded. Petals unequal in length, 6–8 mm, abaxially puberulent, incised at apices. Stamens shorter than petals. Ovary roughly pubescent; style 6–8 mm, glabrous. Capsule globose, 2–2.5 cm in diam., 3- or 4-valved; valves ca. 2 mm thick; prickles brown, 6–8 mm. Seeds black, shiny, ca. 8 mm; aril thin. Fl. Apr–May, fr. Sep–Oct.

Forests; 1400–2100 m. Fujian, Hainan, Taiwan, Xizang, Yunnan [Bhutan, E India, Myanmar, Vietnam].

4. *Sloanea chingiana* Hu, J. Arnold Arbor. 11: 49. 1930.

白色猴欢喜 bai se hou huan xi

Trees evergreen, to 14 m tall, to 30 cm d.b.h. Bark gray, smooth; branches with numerous lenticels; branchlets robust,

puberulent at first, glabrescent or with rudimentary minute hairs. Petiole 2.5–5 cm, relatively robust, glabrous or minutely puberulent; leaf blade oblong, 12–20 × 4–7.5 cm, leathery, abaxially pubescent only in vein axils, adaxially glabrous, lateral veins 6–8 per side, prominently raised abaxially, conspicuous or slightly impressed adaxially, veinlets conspicuous, base obtuse or slightly rounded, margin entire, shrunk when dry, apex acuminate. Capsules solitary or several fascicled, terminal, globose, 1.5–2 cm in diam., 3- or 4-valved; stipe of fruit 3–5 cm, brown pubescent; valves adaxially purple-red, ca. 1.5 mm thick; prickles brown, 1–2 mm. Seeds dark brown, shiny, ellipsoid, ca. 8 mm; aril yellowish, covering 1/2 of seed. Fl. May, fr. Sep–Oct.

• Forests on limestone; 600–1100 m. SW Guangxi.

5. *Sloanea integrifolia* Chun & F. C. How, Acta Phytotax. Sin. 7: 12. 1958.

全缘叶猴欢喜 quan yuan ye hou huan xi

*Sloanea chingiana* Hu var. *integrifolia* (Chun & F. C. How) Hung T. Chang.

Trees. Branchlets densely dark brown tomentose. Petiole 1–5 cm, densely tomentose; leaf blade ovate to elliptic-obovate or oblong, 6.5–15 × 2.5–7 cm, leathery, abaxially puberulent on veins, adaxially glabrous, lateral veins and veinlets prominently raised abaxially, inconspicuous or slightly impressed adaxially, base cuneate, nearly rounded, or slightly cordate, margin entire, apex acute or acuminate. Inflorescences and flowers unknown. Fruiting pedicel 1.5–2 cm; capsule axillary, solitary, ovoid-globose, 2.5–3 cm in diam.; valves adaxially purple, ca. 2 cm, with dense prickles to 2.5 mm. Seed usually 1 per locule, ellipsoid-ovoid, ca. 6 × 4–5 mm. Fl. and fr. unknown.

?Guangdong, Guangxi, Hainan [N Vietnam].

6. *Sloanea leptocarpa* Diels, Notizbl. Bot. Gart. Berlin-Dahlem 11: 214. 1931.

薄果猴欢喜 bo guo hou huan xi

*Sloanea austrosinica* Hu ex Tang; *S. elegans* Chun; *S. emeiensis* W. P. Fang & P. C. Tuan; *S. tsiangiana* Hu; *S. tsinyunensis* S. S. Chien.

Trees evergreen, to 27 m tall, to 60 cm d.b.h. Branches glabrous; branchlets yellow-brown puberulent. Petiole 1–3 cm, ± slender, brown puberulent, glabrescent, swollen at end; leaf blade lanceolate or oblanceolate, rarely narrowly oblong, 7–14 × 2–3.5 cm, leathery, puberulent or at least on veins at first, abaxially pubescent on veins and in vein axils in mature leaves, adaxially glabrescent, base narrow, obtuse, margin entire, usually shrunken when dry, apex acuminate. Flowers axillary in upper twigs, solitary or fascicled. Pedicel 1–2 cm, slender, puberulent. Sepals 4 or 5, ovate-orbicular, unequal in size, 4–5 × 3–4 mm, puberulent. Petals 4 or 5, 6–7 mm, unequal in width, puberulent, incised at apices. Stamens numerous, 6–7 mm, sometimes shorter; filaments 3–4 mm; anthers pubescent. Ovary brown pubescent; style slender. Capsule globose, 1.5–2 cm, 3- or 4-valved; valves thin; prickles short, 1–2 mm, puberulent. Seed black, ca. 1 cm; aril yellowish, covering 1/2 of

seed. Fl. Apr–May, fr. Sep.

• Evergreen forests; 700–1000 m. Fujian, Guangdong, Guangxi, Guizhou, Hunan, Sichuan, Yunnan.

**7. *Sloanea xichouensis*** Feng ex Y. Tang & Y. C. Hsu, Bull. Bot. Res., Harbin 8(3): 97. 1988.

西畴猴欢喜 xi chou hou huan xi

Trees to 15 m tall, to 40 cm d.b.h. Branchlets densely yellow-brown tomentose, two-year-old branches sometimes pubescent. Petiole 2–4.5 cm, densely yellow-brown tomentose, slender, swollen at ends; leaf blade obovate to elliptic, 12–14 × (4–)5–6 cm, papery, abaxially pubescent, adaxially glabrous or pubescent only on midvein, midvein prominently raised abaxially, impressed adaxially, lateral veins 6 per side, ascending, prominently raised abaxially, impressed adaxially, veinlets conspicuous abaxially, base acute, margin sparsely dentate, apex acuminate. Flowers unknown. Capsule dark red adaxially, subglobose, ca. 2 cm in diam., 3- or 4-valvate, abaxially densely prickly; prickles filiform, 5–7 mm, sparsely setose; stipe of capsule 2.5–3 cm, densely pubescent. Fl. unknown, fr. Aug–Sep.

• Evergreen forests; ca. 1300 m. S Yunnan.

**8. *Sloanea sterculiacea*** (Benth.) Rehder & E. H. Wilson in Sargent, Pl. Wilson. 2: 362. 1915.

贡山猴欢喜 gong shan hou huan xi

Trees to 20 m tall. Branches black-brown when dry; branchlets brown pubescent. Petiole 1.5–4 cm, brown pubescent; leaf blade obovate-oblong, broadest from middle upward, 13–25(–35) × (5–)7–9(–15) cm, thinly leathery, abaxially brown puberulent, becoming sparsely so on older leaves, or rarely glabrescent and pubescent in vein axils only, adaxially glabrous, lateral veins 7–9(–12) per side, prominently raised abaxially, slightly impressed adaxially, veinlets conspicuous on both surfaces, base very narrow, rounded, margin minutely serrulate, apex acute. Flowers solitary. Pedicel 2–3 cm, pubescent. Sepals 4, broadly ovate, 7–8 mm, both surfaces tomentose. Petals 4, broadly ovate, both surfaces sparsely pilose, margin slightly 3–5-dentate at apices. Stamens ca. 80; filaments ca. 4 mm, puberulent; anthers puberulent, awned at apices. Disk cushion-shaped, thick. Ovary tomentose, 4-loculed; style subulate, 8–10 mm, pubescent in lower 1/2. Capsule 2–3 × ca. 2 cm; prickles 1.5–2 mm; valves 2–3 cm, 2–3 mm thick. Seeds black, shiny, ca. 1 cm; aril yellow when dry, covering 1/2 of seed. Fl. Apr, fr. Sep–Nov.

Forests; 1400–2500 m. SE Xizang, NW Yunnan [Bhutan, India, Myanmar, Nepal].

- 1a. Leaf blade abaxially pubescent at least on veins ..... 8a. var. *sterculiacea*  
 1b. Leaf blade abaxially glabrous except for tufts of hairs in vein axils ..... 8b. var. *assamica*

**8a. *Sloanea sterculiacea* var. *sterculiacea***

贡山猴欢喜(原变种) gong shan hou huan xi (yuan bian)

zhong)

*Echinocarpus sterculiaceous* Benth., J. Proc. Linn. Soc., Bot. 5(Suppl. 2): 72. 1861; *Sloanea forrestii* W. W. Smith; *S. rotundifolia* Hung T. Chang.

Leaf blade abaxially pubescent at least on veins.

Forests; 1400–2500 m. SE Xizang, NW Yunnan [Bhutan, India, Myanmar, Nepal].

**8b. *Sloanea sterculiacea* var. *assamica*** (Benth.) Coode, Kew Bull. 38: 387. 1983.

长叶猴欢喜 chang ye hou huan xi

*Echinocarpus assamicus* Benth., J. Proc. Linn. Soc., Bot. 5(Suppl. 2): 72. 1861; *Sloanea assamica* (Benth.) Rehder & E. H. Wilson.

Leaf blade abaxially glabrous except for tufts of hairs in vein axils.

Forests; 1400–2500 m. SE Xizang, NW Yunnan [Bhutan, NE India (Assam)].

**9. *Sloanea mollis*** Gagnepain, Notul. Syst. (Paris) 1: 195. 1910.

滇越猴欢喜 dian yue hou huan xi

*Sloanea mollis* var. *chinghsiensis* Chun & F. C. How.

Trees to 25 m tall, to 1 m d.b.h. Bark brown; branchlets brown-yellow tomentose. Petiole terete, 3–6 cm or longer, robust, tomentose; leaf blade ovate or narrowly elliptic, 11–15 × 6–12 cm, thinly leathery, abaxially yellow-brown tomentose, adaxially glabrous, lateral veins 8–10 per side, prominently raised abaxially, ascending and intermixed 3–4 mm from margin, conspicuous adaxially, veinlets conspicuous abaxially, base broad and rounded, or slightly cordate, margin minutely denticulate or minutely crenulate, apex acuminate, rarely acute, acumen ca. 2.5 cm. Pedicel 2–3 cm, tomentose. Sepals 4 or 5, narrowly ovate, 7–9 × 6–7 mm, both surfaces tomentose. Petals ca. as long as sepals, both surfaces puberulent, large toothed at apices. Stamens numerous; filaments ca. 4 mm, puberulent; anthers ca. 3 mm, puberulent. Ovary tomentose; style 8–10 mm, pointed at tip, pubescent in lower half. Capsule 4-valved; valve 2–2.5 cm, ca. 3 mm thick; prickles usually yellow, 1–1.5 mm; endocarp purple-red. Seeds black, shiny, 1–1.2 cm, enclosed by yellowish aril in lower 1/2. Fl. Apr–May, fr. Oct–Dec.

Evergreen forests; 1200–1400 m. S Guangxi, SE Yunnan [N Vietnam].

One of us (Chamlong Phengklai) considers *Sloanea sterculiacea* as possibly synonymous with this species.

**10. *Sloanea changii*** Coode, Kew Bull. 38: 402. 1983.

樟叶猴欢喜 zhang ye hou huan xi

*Sloanea laurifolia* Hung T. Chang, Acta Phytotax. Sin. 17(1): 59. 1979, not Benth. (1861).

Trees evergreen, to 28 m tall, to 50 cm d.b.h. Branches with lenticels; branchlets glabrous, 4–5 mm in diam. Petiole 2–6 cm, glabrous; leaf blade ovate-lanceolate or ovate-oblong,

10–17 × 4–7 cm, leathery, glabrous, lateral veins 6 or 7 per side, lowermost pair very strong, prominently raised abaxially, conspicuous adaxially, veinlets prominent abaxially, inconspicuous adaxially, base rounded, margin entire, apex acuminate. Flowers axillary in upper twigs. Pedicel 2–4 cm, puberulent. Sepals, petals, and stamens unknown. Ovary conical, brown pubescent; style 5–7 mm, pubescent. Capsule globose, 3–4 cm in diam., 3- or 4-valved; valves 3–3.5 cm, 4–5 mm thick; prickles 6–8 mm. Seeds 1.5–2 cm. Fl. Mar–Apr, fr. Sep–Dec.

- Forests on limestone; 1000–1600 m. W Guangxi, SE Yunnan.

**11. *Sloanea sinensis*** (Hance) Hemsley, Hooker's Icon. Pl. 27: sub t. 2628. 1900.

猴欢喜 hou huan xi

*Echinocarpus sinensis* Hance, J. Bot. 22: 108. 1884; *Castanopsis cavaleriei* H. Léveillé; *Sloanea chinensis* Hu (1925), not *Sloanea sinensis* (Hance) Hemsley (1900); *S. hongkongensis* Hemsley; *S. kweichowensis* Hu; *S. oligophlebia* Chun & K. C. Ting; *S. parvifolia* Chun & F. C. How.

Trees to 20 m tall. Branchlets glabrous. Petiole 1–4 cm, glabrous; leaf blade variable, usually oblong or narrowly obovate, rarely orbicular or lanceolate, 6–9(–12) × 3–5 cm, thinly leathery, glabrous, lateral veins 5–7 per side, base cuneate, or narrowed and obtuse-rounded, margin usually entire, rarely sparsely dentate along upper margin, apex acute. Flowers fascicled. Pedicel 3–6 cm, gray pubescent. Sepals 4, broadly ovate, 6–8 × 5–6 mm, both surfaces puberulent. Petals 4, white, 7–9 mm, both surfaces puberulent, 6- or 7-incised at apices. Stamens ca. 82, ca. as long as petals; anthers ca. 3 × as long as filaments, awned at apices. Ovary ovoid, 6-loculed, 4–5 mm, pubescent; style simple, 4–6 mm, puberulent in lower 1/2. Capsule variable in size, 2–5 cm in diam., 3–7-valved; valves variable in size, 2–3.5 cm, 3–5 mm thick; prickles 1–1.5 cm; endocarp purple-red. Seeds black, shiny, 1–1.3 cm; aril yellow, ca. 5 mm. Fl. Jun–Oct, fr. May–Nov, most frequently in Aug–Oct.

Evergreen forests, often in valleys or near streams; 700–1000 m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Jiangxi, Zhejiang [Cambodia, Laos, Myanmar, Thailand, Vietnam].

**12. *Sloanea hainanensis*** Merrill & Chun, Sunyatsenia 5: 123. 1940.

海南猴欢喜 hai nan hou huan xi

Trees to 15 m tall. Branchlets puberulent, glabrescent. Petiole 5–12 mm, puberulent, glabrescent; leaf blade spatulate or obovate, 7–12 × 3–6 cm, becoming narrow from middle downward, thinly leathery, glabrous or abaxially pubescent only in vein axils, lateral veins 6–8 per side, 60° from midvein, prominently raised abaxially, inconspicuous adaxially, veinlets conspicuous abaxially, base narrow and rounded, margin sinuately crenulate in upper 1/2, apex acute. Flowers usually solitary, ca. 1.5 cm in diam. Pedicel 2–3 cm, gray pubescent. Sepals 4, broadly ovate, variable in size, 4–7 mm, puberulent, apex obtuse. Petals 4, broadly ovate, 4–7 mm, both surfaces puberulent, incised at apices. Stamens ca. 5 mm; anthers longer than filaments, pubescent. Ovary ovoid, tomentose; style sim-

ple, ca. as long as ovary, nearly glabrous. Capsule nearly globose, ca. 3.5 cm in diam., 3- or 4-valved; valves ca. 3 mm thick; prickles 1–1.5 cm. Seeds 1.5–2 cm, enclosed by aril in lower 1/2. Fl. May, fr. Jul–Aug.

- Evergreen forests; 300–500 m. C and S Hainan.

**13. *Sloanea hemsleyana*** (T. Itô) Rehder & E. H. Wilson in Sargent, Pl. Wilson. 2: 361. 1915.

仿栗 fang li

*Echinocarpus hemsleyanus* T. Itô, J. Coll. Sci. Imp. Univ. Tokyo 12: 349. 1899; *Sloanea chengfengensis* Hu; *S. hanceana* Hemsley; *S. hemsleyana* var. *yunnanica* Coode.

Trees to 25 m tall; terminal buds yellow-brown puberulent. Branches dark brown when dry, lenticels present; branchlets glabrous. Leaves fascicled at twig apices; petiole 1–2.5(–3.5) cm, glabrous; leaf blade variable, usually narrowly obovate or oblanceolate, rarely ovate, 10–15(–20) × 3–5(–7) cm, thinly leathery, glabrous, abaxially rarely pubescent in vein axils only, lateral veins 7–9 per side, base narrow and obtuse, rarely slightly cordate, margin irregularly crenulate, apex acute or acuminate. Flowers terminal in raceme; peduncle and pedicels puberulent. Sepals 4, ovate, 6–7 mm, both surfaces puberulent. Petals white, both surfaces puberulent, ca. as long as sepals or slightly longer, 6- or 7-incised at apices. Stamens ca. 92, ca. as long as petals; filaments 1–2.5 mm, puberulent; anthers ca. 5 mm, puberulent, awn 1–2 mm. Ovary brown tomentose; style extending beyond stamens, 5–6 mm. Disk cushion-shaped. Capsule variable in size, (3 or)4- or 5(or 6)-valved; valves 2.5–5 cm, 3–5 mm thick; endocarp purple-red or yellow-brown; prickles 1–2 cm; stipe of capsule 2.5–6 cm, usually robust. Seeds black-brown, shiny, 1.2–1.5 cm, lower 1/2 enclosed by yellow aril. Fl. Jul, fr. unknown.

• Evergreen forests; 1100–1400 m. Guangxi, Guizhou, Hubei, Hunan, Sichuan, Yunnan.

**14. *Sloanea sigun*** (Blume) K. Schumann in Engler & Prantl, Nat. Pflanzenfam. III(6): 5. 1890.

斜脉猴欢喜 xie mai hou huan xi

*Echinocarpus sigun* Blume, Bijdr. 56. 1825.

Trees to 30 m tall, to 40 cm d.b.h. Branchlets glabrous. Petiole 2–2.5 cm, slender, glabrous, swollen at ends; leaf blade elliptic or obovate, 12–14 × 5–6 cm, papery, abaxially pubescent in vein axils only, adaxially glabrous, lateral veins 5 or 6 per side, 30° from midvein, both prominently raised abaxially, veinlets conspicuous abaxially, base acute or broadly cuneate, margin minutely serrate, apex acuminate. Flowers solitary. Pedicel 1–6 cm, glabrous. Sepals 4, ovate, both surfaces pubescent. Petals 4, yellowish, ovate or obovate, both surfaces sparsely pubescent. Stamens 5–7 mm. Ovary ovoid, sparsely pubescent; style glabrous. Capsule subglobose, ca. 6 cm in diam., 4-valvate; valves woody, with rigid prickles abaxially; prickles subulate, ca. 1.5 cm, sparsely setose, persistent. Fl. and fr. unknown.

Forests; ca. 800 m. S Yunnan [Cambodia, India, Indonesia, Malaysia, Myanmar, Thailand].

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