

14. SCHIZOPEPON Maximowicz, Mém. Acad. Imp. Sci. St.-Pétersbourg Divers Savans 9 [Prim. Fl. Amur.]: 110. 1859.

裂瓜属 lie gua shu

Lu Anmin (路安民 Lu An-ming); Charles Jeffrey

Herbs, scandent. Stem and branches slender. Tendrils 2-fid. Leaves long petiolate; leaf blade ovate-cordate or broadly ovate-cordate, rarely hastate, margin irregularly dentate, usually 5–7-lobed. Plants dioecious or monoecious; flowers small, unisexual or rarely bisexual. Male flowers usually in a raceme; female flowers solitary or few in a raceme; calyx tube cupular or campanulate; segments 5, lanceolate or subulate; corolla segments 5, white, ovate; stamens 3, free or connate; filaments short; anthers: one 1-celled, two 2-celled; anther cells erect; connective produced or not; ovary ovoid or conical, 3-locular or irregularly 3-locular, 1 ovule in each locule; ovule pendulous; style short, 3-fid or sometimes 5-fid; stigma slightly expanded, 2-lobed. Fruit small, ovoid or conical, smooth or punctate, apex acute or long acuminate, 3-valved or indehiscent, 1–3-seeded. Seeds pendulous, ovate, compressed, margin irregularly dentate.

Eight species: E Asia to the Himalaya; eight species (five endemic) in China.

- 1a. Fruit conical, apex acuminate, rostrate; connective produced, subulate, rarely not produced; ovary irregularly 3-locular, ovule pendulous from middle of locule.
- 2a. Connective not produced 6. *S. bomiensis*
- 2b. Connective produced, appendage subulate.
- 3a. Leaf blade ovate-cordate, usually unlobed, papery 7. *S. bicirrhosus*
- 3b. Leaf blade hastate, 5-lobed, membranous 8. *S. xizangensis*
- 1b. Fruit ovoid or ovate, apex acute; connective not produced; ovary 3-locular, ovule pendulous from apex of locule.
- 4a. Flowers bisexual; stamens free 1. *S. bryoniifolius*
- 4b. Flowers unisexual; plant monoecious or dioecious; stamens connate.
- 5a. Plants monoecious; male and female flowers in same inflorescence, with many male flowers above and 1 or 2 female flowers below; filaments connate, anthers free; ovary and fruit smooth 2. *S. monoicus*
- 5b. Plants dioecious.
- 6a. Filaments and anthers both connate; flowers larger; calyx segments ca. 3 mm; corolla segments ca. 9 mm 5. *S. macranthus*
- 6b. Filaments connate, anthers free or connate at base.
- 7a. Pedicels 2–5 mm; flowers small; calyx segments ca. 1 mm; corolla segments 2–3.5 mm; fruit punctate 3. *S. dioicus*
- 7b. Pedicels 5–10 mm; flowers slightly larger; calyx segments ca. 2 mm; corolla segments 3–5 mm 4. *S. longipes*

1. *Schizopepon bryoniifolius* Maximowicz, Mém. Acad. Imp. Sci. St.-Pétersbourg Divers Savans 9 [Prim. Fl. Amur.]: 111. 1859.

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Schizopepon bryoniifolius var. *japonicus* Cogniaux; *S. bryoniifolius* var. *paniculatus* Komarov.

Plants annual. Stem 2–3 m. Branches slender, subglabrous or slightly puberulent. Tendrils filiform, glabrous. Petiole slender, 4–13 cm, sometimes puberulent; leaf blade ovate or broadly ovate-cordate, 6–10 × 5–9 cm, membranous, puberulent, palmately 5–7-veined, 3–7-angular or -lobed, margin irregularly dentate, apex acuminate; sinus semicircular. Flowers very small, bisexual, solitary or in 3–5-flowered racemes; peduncle filiform, 1–1.5 cm, puberulent; calyx segments lanceolate, ca. 1.5 mm, 1-veined, entire; corolla rotate; segments white, ca. 2 × 0.8–1 mm, 3-veined; stamens inserted at base of calyx tube, free, ca. 1 mm, glabrous; filaments linear; anthers ca. 0.5 mm; anther cells erect, connective not produced; ovary ovoid, 3-locular; style short; stigmas 3. Fruit broadly ovoid, 10–15 mm, apex acute, 3-valved, 1–3-seeded. Seeds ovate, ca. 9 × 5.5 mm, compressed, margin irregularly dentate, apex truncate. Fl.

and fl. Jun–Nov.

River valleys, forests; 500–1500 m. Hebei, Heilongjiang, Jilin, Liaoning [E Russia].

2. *Schizopepon monoicus* A. M. Lu & Zhi Y. Zhang, Acta Phytotax. Sin. 23: 112. 1985.

峨眉裂瓜 e mei lie gua

Plants slender. Stem and branches glabrous, angular-sulcate. Tendrils filiform. Petiole slender, 3–4 cm, glabrous; leaf blade ovate-cordate, 5–7 × 3–4 cm, membranous, palmately 5–7-lobed; median lobe triangular, apex long acuminate; lateral lobes acute, margin irregularly dentate, palmately 7-veined, both surfaces setose at first; sinus semicircular. Plants monoecious. Male and female flowers in same racemose inflorescence; peduncle slender, 2–4 cm, glabrous. Male flowers: pedicel filiform, 1–2 mm; calyx tube broadly campanulate; segments subulate, ca. 1.5 mm; corolla segments ovate, ca. 5 mm, 1-veined; filaments connate, ca. 0.3 mm; anthers free, ca. 0.4 mm; anther cells erect. Female flowers: pedicel ca. 2 mm; calyx segments ovate, ca. 0.8 mm; ovary ovoid, ca. 0.8 mm, glabrous; style 3-fid; stigma expanded. Fruiting pedicel ca. 1 cm, slender; fruit

subglobose, 3-locular with 1 seed in each locule. Fl. and fr. May–Nov.

- Roadsides on mountain slopes. Sichuan (Emei Shan).

3. Schizopepon dioicus Cogniaux ex Oliver, Hooker's Icon. Pl. 23: t. 2224. 1892.

湖北裂瓜 hu bei lie gua

Plants annual. Stem and branches slender. Tendrils filiform. Petiole 3.5–7.5 cm; leaf blade broadly ovate-cordate, 5–9 × 3–7 cm, membranous, usually 2- or 3-angled on each side, both surfaces glabrous, palmately 5–7-veined, margin dentate, apex acuminate; sinus semicircular. Plants dioecious. Male flowers in a raceme; peduncle filiform, 5–10 cm; pedicels filiform, 2–3 mm; calyx segments linear-subulate or narrowly lanceolate, 1–1.2 × 0.5–0.8 mm; corolla white, rotate; segments lanceolate or oblong-lanceolate, 2–3.5 × 1.5–2 mm, 1-veined; filaments connate, ca. 0.8 mm; anthers free or united only at base, ca. 0.5 mm; connective not produced. Female flowers solitary or a few aggregated at apex of a short peduncle; ovary ovoid, glabrous or pubescent, apex shortly acuminate, 3-locular, 1 ovule in each locule; styles 3-fid; stigma slightly expanded. Fruiting pedicel filiform, 1–2 cm; fruit pale brown to black-brown when mature, broadly ovoid, ca. 1.2 cm × 8 mm, glabrous or pubescent, smooth or verrucose, base rounded, apex acute, 3-valved from apex, usually with 2 seeds. Seeds pale brown when mature, ovoid, ca. 8 × 5 mm, base slightly wider, ca. 2 mm thick, irregularly dentate, contracted above, apex truncate.

- Grasslands, thickets, and roadsides on mountain slopes; 1000–2400 m. Guizhou, W Hubei, NW Hunan, S Shaanxi, E and W Sichuan.

- 1a. Ovary and fruit densely pubescent 3c. var. *trichogynus*
- 1b. Ovary and fruit glabrous.
 - 2a. Leaf blade ovate-cordate, apex acuminate 3a. var. *dioicus*
 - 2b. Leaf blade narrowly ovate-cordate, apex caudate-acuminate 3b. var. *wilsonii*

3a. Schizopepon dioicus var. **dioicus**

湖北裂瓜(原变种) hu bei lie gua (yuan bian zhong)

Leaf blade ovate-cordate, apex acuminate. Ovary and fruit glabrous; fruit pale brown when mature, verrucose.

- Grasslands and roadsides on mountain slopes; 1000–2400 m. W Hubei, NW Hunan, S Shaanxi, E Sichuan.

3b. Schizopepon dioicus var. **wilsonii** (Gagnepain) A. M. Lu & Zhi Y. Zhang, Acta Phytotax. Sin. 23: 113. 1985.

四川裂瓜 si chuan lie gua

Schizopepon wilsonii Gagnepain, Bull. Mus. Natl. Hist. Nat. 24: 378. 1918.

Leaf blade narrowly ovate-cordate, 3–5 lobed, apex caudate-acuminate. Ovary and fruit glabrous; fruit black-brown, smooth.

- Roadsides and thickets on mountain slopes; 1500–2400 m. NW

Guizhou, E and W Sichuan.

3c. Schizopepon dioicus var. **trichogynus** Handel-Mazzetti, Oesterr. Bot. Z. 85: 219. 1936.

毛蕊裂瓜 mao rui lie gua

Ovary and fruit densely pubescent.

- Guizhou, W Hubei.

4. Schizopepon longipes Gagnepain, Bull. Mus. Natl. Hist. Nat. 24: 378. 1918.

长柄裂瓜 chang bing lie gua

Stem and branches slender. Tendrils filiform. Petiole 4–7 cm, slightly puberulent; leaf blade ovate, 4–6 × 3–5 cm, irregularly 3–5-lobed; median lobe larger, triangular, apex acuminate; lateral lobes smaller, both surfaces puberulent, palmately 5-veined, margin dentate; sinus semicircular. Male flowers many in a raceme, flowers on upper part of peduncle; rachis filiform, 10–15 cm; pedicels linear, 0.5–1 cm, glabrous or puberulent; calyx segments lanceolate, 1.8–2 mm; corolla segments narrowly ovate, 3–5 × 1.5–2.5 mm, 1-veined, apex acuminate; filaments united, ca. 0.5 mm; anthers free, 0.8–1 mm; connective not produced; cells erect, linear. Fl. Jul–Oct.

Valleys, roadsides; 2000–3000 m. W Sichuan, NW Yunnan [Bhutan, NE India (Darjeeling)].

This species was recorded from Bhutan and India in Fl. Bhutan (2(1): 260. 1991).

5. Schizopepon macranthus Handel-Mazzetti, Symb. Sin. 7: 1064. 1936.

大花裂瓜 da hua lie gua

Plants annual. Stem and branches slender, sulcate-angular. Tendrils filiform, glabrous. Petiole slender, 6–9 cm, subglabrous; leaf blade broadly ovate-cordate, 8–10 × 6–8 cm, membranous, both surfaces puberulent, palmately 7-veined, margin irregularly dentate, apex caudate-acuminate; sinus subquadrate, 1–1.5 cm deep, 1.5–2 cm wide. Plants dioecious. Male flowers in a raceme; peduncle slender, 6–8 cm; pedicels filiform, 2–5 cm; calyx segments lanceolate-subulate, ca. 3 mm; corolla pale yellow, rotate, glandular hairy at base; segments broadly lanceolate, ca. 9 mm, 1-veined, apex acuminate; filaments free, ca. 0.8 mm, glabrous; anthers connate at base, elliptic; cells erect, puberulent; rudimentary ovary absent. Fl. Jul–Sep.

- Roadsides on mountain slopes; 2300–3000 m. W Sichuan, NW Yunnan.

6. Schizopepon bomiensis A. M. Lu & Zhi Y. Zhang, Acta Phytotax. Sin. 18: 385. 1980.

喙裂瓜 hui lie gua

Stems and branches slender, sulcate-angular, puberulent at first or glabrescent. Tendrils slender. Petiole slender, 1–2(–3) cm, subglabrous; leaf blade ovate-hastate or ovate-triangular, 2.5–5 × 2–3.5 cm, membranous, usually 5-lobed, lobe margin dentate, both surfaces puberulent, apex shortly acuminate; sinus suborbicular, 6–8 mm deep. Plants dioecious. Male flowers in a

raceme; peduncle pale yellow-green, 2.5–7 cm; pedicels ca. 3 mm; calyx tube cupular; segments linear, ca. 1.2 mm; corolla campanulate; segments narrowly ovate, ca. 2 mm; filaments nearly free, ca. 0.4 mm; anthers connate, one 1-celled, other 2-celled, ca. 0.4 mm. Female flowers solitary in leaf axil; pedicels filiform, 5–10 mm, glabrous; calyx segments subulate, 1.2–1.5 mm, apex acuminate; corolla yellow; segments narrowly ovate, ca. 2 × 1 mm, apex acuminate; staminodes glandular; ovary conical, ca. 3 mm, puberulent, base rounded, apex elongate; style filiform. Fruiting pedicel slender, ca. 1 cm; fruit ca. 1.5 × 0.5 cm, glabrous, base rounded, apex rostrate. Fl. and fr. Jul–Oct.

• Forests or thickets on mountain slopes; 2200–2600 m. E and SE Xizang.

7. *Schizopepon bicirrhosus* (C. B. Clarke) C. Jeffrey, Kew Bull. 34: 802. 1980.

新裂瓜 xin lie gua

Melothria bicirrhosa C. B. Clarke in J. D. Hooker, Fl. Brit. India 2: 627. 1879; *Schizopepon wardii* Chakravarty.

Branches ± slender, sulcate-angular, glabrous. Tendrils usually 2-fid, glabrous. Petiole slender, 2–4 cm, glabrous or puberulent; leaf blade 3–10 × 2–7 cm, membranous, both surfaces slightly pubescent, margin undulate or 1- or 2-angled on each side, irregularly dentate, apex caudate-acuminate; sinus semicircular. Plants dioecious. Male flowers 7–16 in a raceme; peduncle 3–7 cm; pedicels slender, 3–10 mm; calyx tube campanulate, 4–5 mm; segments subulate, ca. 2 mm, glandular pubescent; corolla segments lanceolate, ca. 2.5 mm; stamens connate, inserted on base of corolla tube; filaments ca. 1 mm, glabrous; anthers puberulent; anther cells erect, ca. 1.5 mm; connective produced; appendage ca. 1.5 mm. Female flowers solitary; pedicels slender, 2–4 cm; calyx segments subulate, ca. 3 mm; corolla segments lanceolate, 5–6 mm, 3-veined; ovary conical, ca. 8 × 3 mm, pubescent, base obtuse-rounded, apex attenuate; ovules 3, solitary in each locule, pendulous; styles ca. 2 mm, 3-fid, apex expanded. Fruiting pedicel slender, 8–10 cm, glabrous; fruit narrowly conical, ca. 3 cm × 6 mm, white pubescent, apex attenuate, rostrate.

Thickets; 2700–2800 m. S Xizang [Bhutan, N India, Myanmar].

8. *Schizopepon xizangensis* A. M. Lu & Zhi Y. Zhang, Acta Phytotax. Sin. 23: 116. 1985.

西藏裂瓜 xi zang lie gua

Plants glabrous. Branches slender, filiform. Tendrils filiform. Petiole slender, 2–3 cm; leaf blade hastate, 4–6.5 × 3–4 cm, thin, membranous, 5-lobed, lobe margin dentate, apex caudate-acuminate; sinus subquadrate. Plants dioecious. Male flowers solitary, or 2–7 in a short raceme; calyx tube cupular, ca. 3 mm in diam.; segments subulate, ca. 2 mm; corolla yellow; segments triangular-ovate, ca. 6 mm; stamens connate; filaments short, ca. 1 mm; anthers ovoid, one 1-celled, other 2-celled; connective produced; appendage subulate, ca. 1 mm. Female flowers and fruit unknown.

• Herbage on mountain slopes; ca. 2100 m. SE Xizang (Médog).

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