

25. ZEHNERIA Endlicher, Prodr. Fl. Norfolk. 69. 1833.

马皎儿属 *ma jiao er shu*

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

Neoachmandra W. J. de Wilde & Duyfjes; *Pilogyne* Ecklon ex Schrader.

Herbs, climbing or trailing, annual or perennial. Leaves petiolate, unlobed or 3–5-lobed or -partite. Tendrils slender, simple. Plants monoecious or dioecious. Male flowers axillary, solitary or few, long pedicellate, or in a raceme-cyme or subumbel; calyx campanulate, 5-lobed; corolla campanulate, white or yellow-white, often becoming cream colored with age; segments 5; stamens 3, inserted at bottom or on upper part of tube; filaments shorter to longer than anthers; anthers all 2-celled or sometimes two 2-celled and one 1-celled, oblong or ovoid-oblong; anther cells straight or slightly curved; connective produced or not produced; rudimentary ovary variable in form. Female flowers solitary or paired or a few in a cyme, often coaxillary with male flowers; calyx and corolla as in male flowers; ovary globose to ellipsoid-fusiform, 3-locular; ovules few to numerous, horizontal; style surrounded at base by an annular disk; stigmas 3. Fruit globose or ellipsoid to fusiform, indehiscent. Seeds few to numerous, ovate, compressed, not sculptured.

About 55 species: Old World tropics; four species in China.

- 1a. Stamens inserted at bottom of tube; filaments longer than anthers.
2a. Plants monoecious; fruit globose or ovoid, red 1. *Z. bodinieri*
2b. Plants dioecious; fruit oblong, purplish black 2. *Z. guamensis*
1b. Stamens inserted on upper part of tube; filaments not longer than anthers.
3a. Fruit globose or oblong, less than 1.8 cm 3. *Z. japonica*
3b. Fruit fusiform, attenuate, 3–4 cm, 1–1.5 cm in diam. 4. *Z. wallichii*

1. *Zehneria bodinieri* (H. Léveillé) W. J. de Wilde & Duyfjes, Thai Forest Bull., Bot. 32: 17. 2004.

钮子瓜 *niu zi gua*

Melothria bodinieri H. Léveillé, Fl. Kouy-Tchéou, 122. 1914–1915; *M. perpusilla* Cogniaux var. *subtruncata* Cogniaux; *Pilogyne bodinieri* (H. Léveillé) W. J. de Wilde & Duyfjes.

Plants scandent. Stem and branches slender, sulcate-angular, glabrous or sparsely pubescent. Petiole slender, 2–5 cm, glabrous; leaf blade broadly ovate or rarely triangular-ovate, 4–12 × 3–10 cm, membranous, abaxially subglabrous, adaxially scabrous, basal sinus semicircular, rarely subtruncate, margin undulate-denticulate, undivided or sometimes shortly 3–5-lobed, apex acute or shortly acuminate. Tendrils filiform, simple, glabrous. Plants monoecious. Male flowers often 3–9 in a subcapitate or cymose inflorescence; peduncle slender, 1–4 cm, glabrous; pedicels 1–4 mm; calyx tube campanulate, 2–3 × 1–2 mm, glabrous or puberulent; segments narrowly triangular, ca. 0.5 mm; corolla white; segments ovate or ovate-oblong, 2–2.5 mm, abaxially puberulent, apex subacute; stamens two 2-celled, one 1-celled, sometimes all 2-celled, inserted at base of calyx tube; filaments ca. 2 mm, puberulent; anthers ovoid, 0.6–0.7 mm. Female flowers solitary, rarely a few in an umbel; ovary ovoid. Fruiting pedicel slender, 0.5–1 cm, glabrous; fruit red when ripe, baccate, globose, 1–1.4 cm in diam., smooth. Seeds ovate-oblong, compressed, smooth, ca. 5 × 3–3.5 mm, marginate. Fl. Apr–Aug, fr. Aug–Nov.

Forest margins or roadsides on mountain slopes; 500–1000 m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Jiangxi, Sichuan, Yunnan [India, Indonesia, Laos, Myanmar, Sri Lanka, Thailand, Vietnam].

The Chinese record of *Zehneria maysorensis* (Wight & Arnott)

Arnott (FRPS 73(1): 173. 1986) is based on a misidentification of *Z. bodinieri*.

2. *Zehneria guamensis* (Merrill) Fosberg, Smithsonian Contr. Bot. 45: 15. 1980.

台湾马皎儿 *tai wan ma jiao er*

Melothria guamensis Merrill, Philipp. J. Sci., C, 9: 151. 1914; *M. kelungensis* (Hayata) Hayata ex Makino & Nemoto; *M. liukuensis* Nakai; *Zehneria kelungensis* Hayata; *Z. liukuensis* (Nakai) E. H. Walker.

Plants scandent. Stems and branches slender, elongate, sulcate-angular, glabrous or rarely puberulent. Tendrils filiform, simple. Petiole slender, 1.5–5 cm; leaf blade abaxially pale green, adaxially deep green, broadly ovate, 4–8 × 4–8 cm, membranous, scabrous, basal sinus semicircular, rarely hastate, undivided or somewhat 3–5-lobed, margin irregularly denticulate or crenate-dentate, apex acute and shortly mucronate or shortly acuminate. Plants dioecious. Male peduncle slender, 1.5–5 cm, apex 10–30-flowered; pedicels spreading, 3–6 mm; calyx tube broadly campanulate, ca. 3 mm, base acute; segments subulate, ca. 0.5 mm; corolla pale yellow, puberulent; segments ovate, ca. 2.5 mm, 3-veined, acute; filaments short, ca. 1 mm, puberulent; anthers ovoid, 0.8–1 mm. Female flowers solitary or sometimes in few-flowered fascicle; pedicels 1–1.5 cm; ovary oblong. Fruit purplish black when ripe, baccate, ovate-oblong, 1–1.5(–3) cm × 7–10 mm, smooth, glabrous, both ends obtuse. Seeds gray-white, ovate-oblong, 2–3 × ca. 2 mm, base slightly attenuate, marginate. Fl. and fr. Mar–Dec.

Forests; 400–1400 m. Guangdong, Taiwan, Yunnan [Japan; Pacific islands (Guam)].

De Wilde and Duyfjes (Blumea 51: 75. 2006) recorded *Zehneria repanda* (Blume) C. Simmons (*Pilogyne repanda* (Blume) W. J. de Wilde & Duyfjes) from Taiwan, on the basis of a single collection (*van*

Steenis 20752), which we have not seen. It differs from *Z. guamensis* in its smaller, 0.5–0.8(–1) cm in diam., globose fruit. It is said to be a montane species of forest margins and scrub, at 1400–2700 m.

3. *Zehneria japonica* (Thunberg) H. Y. Liu, Bull. Natl. Mus. Nat. Sci., Taichung 1: 40. 1989.

马蔺儿 ma jiao er

Bryonia japonica Thunberg in Murray, Syst. Veg., ed. 14, 870. 1784; *Melothria argyi* H. Léveillé; *M. formosana* Hayata; *M. indica* Loureiro; *M. japonica* (Thunberg) Maximowicz ex Cogniaux; *M. leucocarpa* (Blume) Cogniaux var. *rubella* Gagnepain; *Neoachmandra indica* (Loureiro) W. J. de Wilde & Duyfjes; *N. japonica* (Thunberg) W. J. de Wilde & Duyfjes; *Zehneria indica* (Loureiro) Keraudren; *Z. omeiensis* Z. Y. Zhu.

Plants scandent. Stems and branches filiform, glabrous. Petiole slender, 2.5–3.5 cm, villous at first, glabrescent; leaf blade abaxially pale green, adaxially dark green, polymorphic, triangular-ovate, ovate-cordate, or hastate, 3–5 × 2–4 cm, membranous, unlobed or 3–5-lobed, abaxially glabrous, adaxially scabrous, apex acute or rarely shortly acuminate. Plants monoecious. Male flowers solitary, or 2 or 3 in a raceme; peduncle slender, very short, glabrous; pedicels filiform, 3–5 mm, glabrous; calyx broadly campanulate, ca. 1.5 mm, base acute or obtuse; corolla pale yellow, puberulent; segments oblong or ovate-oblong, 2–2.5 × 1–1.5 mm; stamens 3, two 2-celled and one 1-celled, sometimes all 2-celled; filaments short, ca. 0.5 mm; anthers ovoid-oblong or oblong, ca. 1 mm, pubescent; anther cells curved, puberulent; connective broad, apex produced. Female flowers solitary or rarely paired in same axil as male flowers; pedicel filiform, 1–2 cm, glabrous; corolla broadly campanulate, ca. 2.5 mm in diam.; segments lanceolate, 2.5–5 × 1–1.5 mm, apex slightly obtuse; ovary narrowly ovoid, 3.5–4 × 1–2 mm; style short, ca. 1.5 mm; stigmas 3; staminodes glandular. Fruit orange or red, oblong or attenuately ovoid, 1–1.5 cm × 5–8(–10) mm, both ends obtuse. Seeds gray-white, ovate, 3–5 × 3–4 mm, base attenuate, margin obscure. Fl. Apr–Jul, fr. Jul–Oct.

Moist places in forests, roadsides, thickets; 500–1600 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangsu, Jiangxi, Sichuan, Taiwan, Yunnan, Zhejiang [India, Indonesia, Japan, Korea, Nepal, Philippines, Vietnam].

4. *Zehneria wallichii* (C. B. Clarke) C. Jeffrey, Kew Bull. 34: 802. 1980.

锤果马蔺儿 chui guo ma jiao er

Melothria wallichii C. B. Clarke in J. D. Hooker, Fl. Brit. India 2: 626. 1879; *Neoachmandra wallichii* (C. B. Clarke) W. J. de Wilde & Duyfjes.

Plants slender. Stems and branches glabrous. Tendrils filiform, glabrous, simple. Petiole slender, 3–4 cm, sparsely white hirsute; leaf blade ovate or triangular, 6–7 × 6–7 cm, membranous, abaxially more scabrous, white punctate, adaxially sparsely hirsute on veins, base truncate or with ca. 5 mm deep sinus, margin sparsely dentate, apex acute. Plants dioecious. Male flowers usually 7–10 in a raceme, or solitary; rachis filiform, 1–2 cm, puberulent; pedicels slender, 0.5–1 cm; calyx tube campanulate, 1–2 × ca. 2 mm, glabrous; segments subulate, ca. 0.5 mm; corolla yellow-white; segments explanate,

ovate or oblong, apex acute or slightly obtuse; stamens 3, two 2-celled, one 1-celled, inserted on base of calyx tube; filaments short; anthers oblong, 1–1.2 mm, glabrous; anther cells erect; connective narrow, not produced. Female flowers solitary; pedicels slender, 1–1.5 cm, puberulent; ovary fusiform, ca. 1 × 0.2 cm, subglabrous, both ends attenuate. Fruiting pedicel 1–2 cm, sparsely hirsute; fruit fusiform, 3–4 × 1–1.5 cm, both ends attenuate. Seeds gray-white, oblong or ovate, compressed, 5–7 × 3–4 mm, smooth, marginate. Fl. Jun–Aug, fr. Aug–Nov.

Mountain slopes; 800–1000 m. Yunnan [India, Myanmar, Thailand].

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