

12. MOMORDICA Linnaeus, Sp. Pl. 2: 1009. 1753.

苦瓜属 *ku gua shu*

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

Herbs, annual or perennial, scandent or creeping. Tendrils unbranched or 2-fid. Petiole usually glandular; leaf blade suborbicular or ovate-cordate, palmately 3–7-lobed, rarely undivided, entire or dentate. Plants dioecious or monoecious. Male flowers solitary or in a raceme; pedicel often with a large bract; bract orbicular-reniform; calyx tube short, campanulate or cupular; segments ovate, lanceolate, or oblong-lanceolate; corolla yellow or white, rotate or broadly campanulate, 5-lobed; segments obovate, oblong, or ovate-oblong; stamens (2 or)3(or 5); filaments short, free; anthers coherent at first, one 1-celled, other 2-celled; anther cells reflexed, straight, or curved; connective not produced; rudimentary ovary glandular or absent. Female flowers: ovary oblong or fusiform; style elongate; stigmas 3, undivided or 2-lobed; ovules numerous, horizontal. Fruit ovoid, oblong, elliptic, or fusiform, undivided or 3-valved, usually verrucose or spinescent. Seeds few or numerous, ovate or oblong, smooth or reticulate.

Forty-five species: most in tropical Africa, some cultivated in tropical regions; three species (one introduced) in China.

- 1a. Plants monoecious; bract on middle of male pedicel; leaf blade 5–7-partite; stamens 3; fruit fusiform or cylindrical, verrucose 1. *M. charantia*
- 1b. Plants dioecious; bract at apex of male pedicel.
 - 2a. Petiole eglandular; anther cells conduplicate; fruit smaller than 5 cm, ovoid or ovoid-oblong, verrucose or longitudinally sulcate 2. *M. subangulata*
 - 2b. Petiole with 2–5 median glands; anther cells reflexed; fruit larger than 5 cm, ovoid, densely spinescent 3. *M. cochinchinensis*

1. *Momordica charantia* Linnaeus, Sp. Pl. 2: 1009. 1753.

苦瓜 *ku gua*

Cucumis argyi H. Léveillé; *Momordica chinensis* Sprengel; *M. indica* Linnaeus; *M. sinensis* Sprengel; *Sicyos fauriei* H. Léveillé.

Plants annual, scandent, many branched; stem and branches pubescent. Tendrils to 20 cm, puberulent, simple. Petiole slender, 4–6 cm, white pubescent at first, glabrescent; leaf blade ovate-reniform or suborbicular, 4–12 × 4–12 cm, membranous, puberulent on veins, 5–7-partite; lobes ovate-oblong, veins palmate, margin crenate or irregularly lobed, apex obtuse or acute; sinus semicircular. Plants monoecious. Male flowers solitary in axils of leaves; pedicel slender, 3–7 cm, puberulent, with a median bract; bract reniform or orbicular, 5–15 mm, entire, both surfaces puberulent; calyx segments ovate-lanceolate, 4–6 × 2–3 mm, white pubescent, apex acute; corolla yellow; segments obovate, 15–20 × 8–12 mm, pubescent, obtuse or retuse; stamens 3, free; anther cells conduplicate. Female flowers solitary; pedicel 10–12 cm, with a bract at base; ovary fusiform, densely verrucose; stigmas expanded, 2-lobed. Fruit orange when mature, fusiform or cylindrical, 10–20 cm, verrucose, 3-valved from apex. Seeds numerous, oblong, 15–20 × 10–15 cm. Fl. and fr. May–Oct.

Commonly cultivated in China [pantropical, also cultivated in temperate and tropical regions].

The fruit is used as a vegetable; all parts of the plant are used medicinally.

2. *Momordica subangulata* Blume, Bijdr. 928. 1826.

凹萼木鳖 *ao e mu bie*

Plants scandent. Stem and branches sulcate-angular, gla-

brous or puberulent at nodes. Petiole slender, 3–8 cm, glabrous, eglandular; leaf blade ovate-cordate or broadly ovate-cordate, 6–13 × 4–11 cm, membranous, both surfaces puberulent at first, glabrescent, base cordate, sinus subquadrate, margin dentate, usually undivided or sometimes 3–5-lobed, apex acute or acuminate. Tendrils filiform, simple. Plants dioecious. Male flowers solitary in leaf axil; pedicel slender, 5–8(–14) cm, puberulent, apex bracteate; bract orbicular-reniform, 10–30 × 10–40 mm, both surfaces puberulent, glabrescent, base retuse, apex rounded to subacute; calyx segments ovate-oblong or lanceolate, 7–9 × 4–5 mm, pubescent, apex obtuse, retuse, broadly rounded, or acute; corolla yellow; segments oblong or obovate, 20–30 × 15–25 mm, 5-veined, apex obtuse-rounded; stamens 3 or 5; filaments filiform, ca. 3 mm, glabrous; anthers 2.5–3 mm; anther cells conduplicate. Female flowers solitary; pedicel filiform, 5–10 cm, usually with a minute bract at base; calyx and corolla as in male flowers; ovary ovoid-oblong or fusiform, 8–12 × 2–4 mm, ridged or verrucose, base attenuate. Fruiting pedicel slender, glabrous; fruit ovoid or ovoid-oblong, 3–7 × 2.5–4 cm, longitudinally sulcate or with rows of tubercles, both ends attenuate. Seeds gray or yellow-brown, oblong, ovoid, or globose, 7–14 × 5–8 mm, both surfaces slightly sculptured. Fl. Jun–Aug, fr. Aug–Nov.

Mountain slopes, thickets, roadsides; 800–2500 m. Guangdong, Guangxi, Guizhou, Yunnan [Bangladesh, India, Indonesia, Laos, Malaysia, Myanmar, Thailand, Vietnam].

- 1a. Plant slender; bract of male flower 10–20 × 10–20 mm; fruit 3–5 cm with irregularly undulate longitudinal ribs, glabrous or almost so 2a. subsp. *subangulata*
- 1b. Plant more robust; bract of male flower 20–30 × 20–40 mm; fruit 5–7 cm, with longitudinal rows of

flattened tubercles or undulate ridges,
hispid-verrucose 2b. subsp. *renigera*

2a. *Momordica subangulata* subsp. *subangulata*

凹薯木鳖(原亚种) ao e mu bie (yuan ya zhong)

Momordica eberhardtii Gagnepain; *M. laotica* Gagnepain.

Stems slender. Leaf blade puberulent at first on both surfaces, glabrescent. Bract of male flower 10–20 × 10–20 mm. Calyx segments ovate-oblong, pubescent, apex obtuse, retuse. Fruit ovoid or ovoid-oblong, 3–5 cm, longitudinally sulcate, not verrucose, glabrous or almost so. Fl. Jun–Aug, fr. Aug–Oct.

Mountain slopes, roadsides; 800–1500 m. Guangdong, Guangxi, Guizhou, Yunnan [Indonesia, Laos, Malaysia, Myanmar, Thailand, Vietnam].

2b. *Momordica subangulata* subsp. *renigera* (Wallich ex G. Don) W. J. de Wilde, Bot. Zhurn. 87: 147. 2002.

云南木鳖 yun nan mu bie

Momordica renigera Wallich ex G. Don, Gen. Hist. 3: 36. 1834.

Stem robust. Leaf blade abaxially puberulent, yellow-brown pubescent on veins or glabrescent. Bract of male flower 20–30 × 20–40 mm. Calyx segments lanceolate, apex acute. Fruit ovoid or broadly ovoid, 5–7 cm, with longitudinal rows of flattened tubercles or undulate ridges, verrucose. Fl. Jun–Aug, fr. Aug–Nov.

Roadsides on mountain slopes, thickets; 1400–2500 m. Yunnan [Bangladesh, India, Myanmar, Thailand].

The Chinese record of *Momordica dioica* Willdenow (FRPS 73(1): 192. 1986) is based on a misidentification of *M. subangulata* subsp. *renigera*.

3. *Momordica cochinchinensis* (Loureiro) Sprengel, Syst. Veg. 3: 14. 1826.

木鳖子 mu bie zi

Muricia cochinchinensis Loureiro, Fl. Cochinch. 2: 596. 1790; *Momordica macrophylla* Gage; *M. meloniflora* Handel-Mazzetti; *M. mixta* Roxburgh.

Climbers, strong, to 15 m. Root tuberous. Stem and branches glabrous or puberulent, sometimes tomentose at nodes. Tendrils robust, simple. Petiole robust, 5–10 cm, slightly yel-

low-brown pubescent or glabrescent, 2–4-glandular at base or middle; leaf blade cordate or broadly ovate-orbicular, 10–20 × 10–20 cm, 3–5-lobed; median lobe obovate or oblong-lanceolate, 6–10(–15) × 3–6(–9) cm, margin undulate-dentate, apex acute or acuminate; lateral lobes ovate or oblong-lanceolate, 3–7(–11) × 2–4(–7) cm, base cordate. Plants dioecious. Male flowers solitary or in a short raceme; pedicels robust, 3–5 cm, or 6–12 cm when solitary, bracteate at apex; bract orbicular-reniform, 3–5 × 5–8 cm, entire, retuse at apex; calyx tube funnelform; segments broadly lanceolate or oblong, 12–20 × 6–8 mm, apex acute or acuminate; corolla yellow; segments ovate-oblong, 5–6 × 2–3 cm, yellow glandular at base, apex acute or acuminate; stamens 3; anther cells reflexed. Female flower solitary; pedicel 5–10 cm, bracteate at middle; bract ca. 2 mm; calyx and corolla as in male flowers; ovary ovoid-oblong, ca. 1 cm, densely spinescent. Fruit red, ovoid, 12–15 cm in diam., fleshy, densely spinescent, apex rostellate. Seeds numerous, ash gray, ovoid or square, 26–28 × 18–20 mm, 5–6 mm thick, both surfaces sculptured, margin undulate-sublobulate. Fl. Jun–Aug, fr. Aug–Oct.

Forest margins and roadsides on mountain slopes; 400–1100 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hunan, Jiangsu, Jiangxi, Sichuan, Taiwan, Xizang, Yunnan, Zhejiang [Bangladesh, India, Malaysia, Myanmar].

The seeds, roots, and leaves are used medicinally.

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