

12. **MERREMIA** Dennstedt ex Endlicher, Gen. Pl. 1: 1403. 1841, nom. cons.

鱼黄草属 *yu huang cao shu*

*Skinneria* Choisy; *Spiranthera* Bojer.

Herbs or shrubs, often twining, sometimes prostrate. Leaves usually petiolate, rarely sessile, margin entire, dentate, or palmately or pedately lobed or compound. Flowers axillary, solitary or in few- to many-flowered, variously branched cymose inflorescences; bracts usually small. Sepals variable in shape, often convex, subequal or outer 2 smaller, persistent, often enlarged in fruit. Corolla often yellow or white, sometimes with a darker center, funnelform or campanulate, usually glabrous, or midpetaline bands ± sericeous, sometimes only at apex; limb entire or ± 5-angled. Stamens included, often unequal; anthers often spirally twisted; filaments dilated basally, filiform distally; pollen 3–12-colpate or polyrugate, not spiny. Disc ringlike. Pistil included; ovary (imperfectly 2–)4-loculed, 4-ovuled. Style 1, filiform; stigmas 2-globular. Capsule 1–4-loculed, usually 4-valved or ± irregularly dehiscent. Seeds 4 or fewer, glabrous or pubescent to villous especially at margin.

Approximately 80 species: tropical regions of Africa, Asia, Australia, North and South America; 19 species in China.

The generic name *Merremia* was published as a *nomen nudum* by Dennstedt (Schlüssel Hortus Malab. 12, 23, 34. 1818). Several modern floras attribute the valid publication of the name to H. Hallier (Bot. Jahrb. Syst. 16: 581. 1893), but Endlicher (1841) actually validated the name.

*Merremia* is often confused with *Ipomoea*, which has pantoporate, spiny pollen, straight anthers and very few species with yellow corollas. It is also confused with *Operculina*, which consistently has a fruit with a circumscissile lid that detaches first, leaving a fragile endocarp that shatters irregularly. The distribution of hairs on the corolla is taxonomically important in *Merremia*; this is most easily discerned on mature flower buds.

- 1a. Leaves ± palmately (3–)5–7-lobed or palmately compound, with 5 leaflets.
  - 2a. Leaves palmately compound, leaflets 5, entire ..... 6. *M. quinata*
  - 2b. Leaves ± palmately lobed, lobes entire, undulate-lobate, to dentate.
    - 3a. Leaves palmately divided nearly to base, lobes 5 or 7; corolla white, throat purple-red ..... 7. *M. dissecta*
    - 3b. Leaves palmately angled or lobed; corolla yellow.
      - 4a. Leaves palmately 5–7-angled or -lobed nearly to middle; outer sepals 14–18 mm, hirsute abaxially; anthers spirally twisted ..... 8. *M. vitifolia*
      - 4b. Leaves deeply 3-lobed to below the middle; outer sepals 6–7 mm, glabrous; anthers straight ..... 14. *M. caloxantha*
- 1b. Leaves entire, irregularly coarsely crenate or serrulate, sometimes 3-lobed.
  - 5a. Corolla glabrous outside.
    - 6a. Peduncle very short or absent; flowers 1–3 per axil; leaves reniform to broadly ovate, 0.5–3.5 mm ..... 5. *M. emarginata*
    - 6b. Peduncle distinct; flowers and leaves not as above.
      - 7a. Sepals acuminate or subulate, subequal.
        - 8a. Corolla pink, pale purplish, or white, 1.2–1.9 cm; sepals 5–7 mm, subulate-mucronate; leaves ovate-cordate, 3–13 × 1.7–7.5 cm, apex attenuate or caudate ..... 9. *M. sibirica*
        - 8b. Corolla pale yellow, ca. 3 cm; sepals 10–15 mm, acuminate; leaves oblong-elliptic to ovate-lanceolate, 1.8–5 × 0.8–2.5 cm, apex rounded to acute ..... 10. *M. collina*
      - 7b. Sepals rounded, obtuse (and apiculate in *M. hainanensis*), or emarginate, outer 2 clearly shorter than inner ones (± unequal in *M. gemella*).
        - 9a. Inner sepals 8–10 mm; corolla 1.8–2.2 cm.
          - 10a. Pedicel terete; outer 2 sepals abaxially smooth; petiole 1.5–3 cm; Hainan ..... 3. *M. hainanensis*
          - 10b. Pedicel verruculose apically; outer 2 sepals verruculose abaxially; petiole 3–8 mm; Guangxi ..... 17. *M. verruculosa*
        - 9b. Inner sepals 5–7 mm; corolla 0.6–1.5(–2) cm.
          - 11a. Sepal margins purplish; leaves linear, oblong-lanceolate, ovate-oblong, or ovate, entire, base truncate, rounded, ± auriculate, or hastate ..... 4. *M. hirta*
          - 11b. Sepal margins not colored; leaves ovate or ovate-cordate, entire, coarsely crenate, or 3-lobed, base cordate or broadly cordate.
            - 12a. Outer sepals glabrous, all sepals broadly obovate to spatulate or oblong, apex emarginate and distinctly mucronate, mucro directed outward; corolla 0.6–1 cm; stems, petioles, and pedicels tuberculate ..... 1. *M. hederacea*
            - 12b. Outer sepals usually ± pilose abaxially, all sepals broadly obovate to ± circular, apex emarginate, not or only slightly mucronulate; corolla 1.5–2 cm; stems,

- petioles, and pedicels without tubercles ..... 2. *M. gemella*
- 5b. Corolla with midpetaline bands densely sericeous outside at least apically, sometimes throughout.
- 13a. Pedicel with a thick lobed ring immediately below calyx; stems and leaves densely pubescent or mealy, especially when young; extreme S Taiwan ..... 19. *M. similis*
- 13b. Pedicel without a thick lobed ring below calyx; stems and leaves glabrous, or tomentose and later glabrescent; mainland or Hainan (*M. umbellata* rare in Taiwan).
- 14a. Corolla lilac, pink, or white; seeds glabrous.
- 15a. Leaves rhombic, rhombic-ovate, or nearly circular, base cuneate; corolla narrowly campanulate, 3.5–4 cm ..... 11. *M. yunnanensis*
- 15b. Leaves cordate, base cordate; corolla funnellform, 2–2.5 cm ..... 16. *M. longipedunculata*
- 14b. Corolla yellow or white; seeds pubescent, at least on margins (unknown in *M. caloxantha*).
- 16a. Outer 2 sepals shorter than inner ones.
- 17a. Inflorescences lax cymes, usually 2- to several flowered, rarely flowers solitary; outer sepals elliptic, glabrous; plants with tubers ..... 13. *M. hungaiensis*
- 17b. Inflorescences dense umbelliform or corymbose cymes, flowers few to many; outer sepals broadly ovate or broadly elliptic to nearly circular; tubers absent.
- 18a. Leaves usually nearly circular, rarely broadly ovate; inflorescence a many-flowered corymbiform cyme; corolla 1.4–2(–3.2) cm, yellow, midpetaline bands densely sericeous ..... 18. *M. boisiiana*
- 18b. Leaves usually ovate or ovate-oblong to oblong-lanceolate; inflorescence a few- to many-flowered umbelliform cyme; corolla 2.5–5.5 cm, white (or ?yellow), midpetaline bands pubescent only at apex ..... 12. *M. umbellata*
- 16b. All sepals ± equal.
- 19a. Woody climber, pubescent to tomentose (older parts glabrous); corolla 1.4–2(–3.2) cm, midpetaline bands sericeous throughout their length ..... 18. *M. boisiiana*
- 19b. Herbaceous twiner, subglabrous or glabrescent (petioles pilose apically); corolla 3–4 cm, midpetaline bands hairy at apex only.
- 20a. Leaf blade deeply 3-lobed, 3–3.5 cm; petiole 1.3–2.2 cm; sepals 6–7 mm, all obovate ..... 14. *M. caloxantha*
- 20b. Leaf blade entire, cordate, 5–7 cm; petiole 3–6 cm; sepals ca. 10 mm, outer 2 elliptic, inner 3 obovate ..... 15. *M. cordata*

**1. *Merremia hederacea*** (N. L. Burman) H. Hallier, Bot. Jahrb. Syst. 18: 118. 1894.

篱栏网 li lan wang

*Evolvulus hederaceus* N. L. Burman, Fl. Indica 77. t. 30, f. 2. 1768; *Convolvulus acetosellifolius* Desrousseau; *C. chryseides* (Ker Gawler) Sprengel; *C. dentatus* Vahl; *C. flavus* Willdenow; *C. lapathifolius* Sprengel; *Ipomoea acetosellifolia* (Desrousseau) Choisy; *I. chryseides* Ker Gawler; *I. dentata* (Vahl) Roemer & Schultes; *I. subtriflora* Zollinger & Moritz; *Lepistemon glaber* Handel-Mazzetti; *L. muricatum* Spanoghe; *Merremia chryseides* (Ker Gawler) H. Hallier; *M. convolvulacea* Dennstedt ex H. Hallier.

Herbs, twining or prostrate; axial parts often minutely tuberculate. Stems glabrous or sparsely hirsute, rooting at nodes. Petiole 0.5–5 cm, glabrous or pubescent; leaf blade cordate-ovate, 1.5–7.5 × 1–5 cm, subglabrous to sparsely puberulent, base cordate or broadly cordate, margin entire, irregularly crenate, or 3-lobed. Inflorescences (1-) or few to many flowered, umbelliform, cymose in fruit; peduncle (0.3–)0.8–5 cm, thicker than petiole; bracts early deciduous, narrowly obovate. Pedicel 2–5 mm. Sepals broadly obovate to spatulate or oblong, reflexed in fruit, unequal; outer 2 sepals 3.5–4 mm; inner 3 ca. 5 mm, glabrous, apex emarginate and

distinctly mucronate, mucro directed outward. Corolla yellow, campanulate, 6–10 mm, outside glabrous, inside villous basally. Stamens ca. as long as corolla; filaments sparsely villous basally. Ovary globose, glabrous; stigma globose. Capsule depressed globose or broadly conical, 5–6 mm, reticulate (but not coarsely) wrinkled. Seeds trigonous-globose, 2.5–3.5 mm, puberulent to glabrous or woolly along angles and at hilum.  $2n = 30^*$ .

Scrub, grassy roadsides in tropical areas; 100–800 m. Fujian, Guangdong, Guangxi, Hainan, Jiangxi, Taiwan, Yunnan [?Bangladesh, Cambodia, India, Indonesia, Japan (Ogasawara and Ryukyu Islands), Laos, Malaysia, Myanmar, Nepal, New Guinea, Pakistan, Philippines, Sri Lanka, Thailand, Vietnam; Africa, N Australia, Pacific Islands].

Used medicinally for treating acute tonsillitis.

**2. *Merremia gemella*** (N. L. Burman) H. Hallier, Bot. Jahrb. Syst. 16: 552. 1893.

金花鱼黄草 jin hua yu huang cao

*Convolvulus gemellus* N. L. Burman, Fl. Indica 46, t. 21. 1768; *Ipomoea gemella* (N. L. Burman) Roth; *I. polyantha* Miquel.

Herbs, twining or prostrate; axial parts smooth,

appressed yellowish pubescent. Stems often rooting at nodes and internodes. Petiole 1.5–6 cm, rarely minutely tuberculate; leaf blade often ovate, 2.5–6.5 × 1.5–4.3 cm, glabrous or short pilose, base broadly cordate, proximal margin entire, undulate or coarsely crenate, sometimes 3-lobed, apex ± attenuate, mucronulate. Inflorescences umbelliform or forked with short racemelike branches, few flowered; peduncle 2.5–10 cm; bracts early deciduous, minute. Pedicel 3–6 mm. Sepals broadly obovate to ± circular, ± unequal, margin scarious, emarginate, slightly mucronulate or not, slightly enlarged in fruit; outer 2 abaxially ± pilose, 4–6 mm; inner 3 subglabrous, 6–7 mm. Corolla yellow, campanulate to funnelform, 1.5–2 cm, midpetaline bands dark, glabrous outside; limb shallowly 5-lobed; lobes emarginate and mucronulate. Filaments pubescent basally. Ovary glabrous. Capsule depressed-globose, ca. 7 mm, coarsely wrinkled. Seeds trigonous, dark gray or brownish puberulent.  $2n = 58$ .

Thickets, roadsides, waste places; 0–200 m. Taiwan [?Cambodia, Indonesia, ?Laos, Malaysia, ?Myanmar, New Guinea, Philippines, Sri Lanka, Thailand, Vietnam; Australia].

**3. *Merremia hainanensis*** H. S. Kiu, Fl. Hainan. 3: 587. 1974.

海南山猪菜 hai nan shan zhu cai

Herbs twining. Stems dull yellow hirsute. Petiole 1.5–3 cm, sparsely villous; leaf blade ovate, 3.5–7.5 × 2–4 cm, glabrous, base cordate, margin entire, apex acute or acuminate, mucronulate. Inflorescences few to many flowered; peduncle 2–3.5 cm, glabrous; bracts persistent, ovate, concave, 3–4 mm, apex acuminate. Pedicel slender, 0.5–1.5 cm. Sepals unequal, glabrous, apex obtuse, apiculate; outer 2 elliptic, ca. 9 mm; inner ones oblong, ca. 1 cm. Corolla pale yellow, broadly funnelform, 1.8–2 cm, midpetaline bands brown veined, outside glabrous. Stamens included; filaments ca. 1 cm, slightly dilated basally, fimbriately scaled; anthers twisted, 3–4 mm. Ovary ovoid-conical, ca. 2 mm, glabrous. Style ca. 3 mm. Capsule unknown.

• Forests on mountain slopes. Hainan.

**4. *Merremia hirta*** (Linnaeus) Merrill, Philipp. J. Sci. 7: 224. 1912.

毛山猪菜 mao shan zhu cai

*Convolvulus hirtus* Linnaeus, Sp. Pl. 1: 159. 1753; *C. caespitosus* Roxburgh; *C. reptans* Linnaeus, p.p.; *Ipomoea linifolia* Blume; *I. philippinensis* Choisy; *Lepistemon decurrens* Handel-Mazzetti; *Merremia caespitosa* (Roxburgh) H. Hallier; *M. decurrens* (Handel-Mazzetti) H. S. Kiu; *Skinneria caespitosa* (Roxburgh) Choisy.

Herbs, twining or prostrate. Stems rooting at nodes or internodes, spreading hirsute to glabrous. Petiole 1–5(–20) mm; leaf blade linear, oblong-lanceolate, ovate-oblong, or ovate, 1.9–6 × 0.5–2.5 cm, sparsely appressed hirsute or glabrous, base truncate, rounded, ± auriculate to hastate, margin entire, apex obtuse, acute or slightly emarginate and mucronulate. Inflorescences 1–4(–8)-flowered; peduncle filiform, 1.5–3.5(–7.5) cm, glabrous or sparsely pubescent basally; bracts persistent, ovate, 1–2 mm, glabrous. Pedicel 5–

10 mm, glabrous. Sepals elliptic or elliptic-oblong, unequal; outer 2 sepals 3–5 mm; inner 3 ca. 6 mm, margin purplish, apex obtuse. Corolla pale yellow or whitish, broadly funnelform, 0.9–1.1(–1.8) cm, midpetaline bands dark veined, glabrous outside. Stamens included; filaments dilated and pubescent basally. Ovary glabrous. Capsule broadly ovoid to globose, 6–7 mm, thinly papery, glabrous. Seeds brownish black, trigonous-ellipsoid, ca. 3 mm, glabrous or sparsely floccose at margin and hilum.

Open grasslands, cultivated fields, roadsides, thickets, forest margins; 0–1000 m. Guangdong, Guangxi, Taiwan, Yunnan [India, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand, Vietnam; N Australia].

Used medicinally to treat arthritis.

**5. *Merremia emarginata*** (N. L. Burman) H. Hallier, Bot. Jahrb. Syst. 16: 552. 1893.

肾叶山猪菜 shen ye shan zhu cai

*Evolvulus emarginatus* N. L. Burman, Fl. Indica 77. 1768; *Convolvulus reniformis* Roxburgh; *Ipomoea reniformis* (Roxburgh) Choisy.

Herbs perennial, prostrate; axial parts sparsely hirtellous or glabrescent. Stems rooting at nodes, becoming tuberculate. Petiole 0.2–3.7 cm; leaf blade reniform to broadly ovate, 0.5–3.5 × 0.6–3.5 mm, glabrous or sparsely appressed pilose, base cordate, margin entire or coarsely crenate, apex obtuse to broadly rounded or slightly emarginate. Inflorescences subsessile, 1(–3)-flowered; bracts unequal, ovate to linear, pubescent, apex acute. Pedicel 2–4 mm. Sepals obovate to circular or subquadrate, ± pubescent abaxially, margin long ciliate; outer 2 sepals 2.5–3 mm, apex obtuse, hoodlike and distinctly mucronate; inner 3 sepals 3–6 mm, deeply emarginate. Corolla yellow, tubular-campanulate, 5–9 mm, midpetaline bands distinctly 5-veined, purplish tinged outside, inside pubescent basally; limb slightly 5-lobed. Filaments pubescent basally. Ovary glabrous. Capsule enclosed by persistent calyx, brown-black, ± globular, 5–6 mm, longitudinally grooved, glabrous, apiculate. Seeds grayish brown, ca. 2.5 mm, glabrous.  $2n = 30$ .

Weedy in fields, roadsides, grasslands, on clay to sandy soils, forest floors; 0–200 m. Guangdong, Hainan [India, Indonesia, Malaysia, Myanmar, Nepal, Philippines, Sri Lanka, Thailand; Africa].

**6. *Merremia quinata*** (R. Brown) van Oostroom, J. Arnold Arbor. 29: 417. 1948.

指叶山猪菜 zhi ye shan zhu cai

*Ipomoea quinata* R. Brown, Prodr. 486. 1810; *Convolvulus quinatus* (R. Brown) Sprengel; *I. pentadactylis* Choisy.

Herbs twining; axial parts ± hirsute with erect yellowish hairs, or glabrous. Stems slender, to 2 m. Petiole 1–2.5 cm; leaf blade palmately compound; leaflets 5, linear, lanceolate, or oblong-elliptic, 1.5–4.2 cm × 2.5–15 mm, often glabrous, sometimes hirsute along midvein and margin abaxially, base attenuate, margin entire, apex obtuse and mucronulate. Pedicel 3–6(–9) mm. Flowers 1 or 2; peduncle shorter to

longer than leaves, glabrous or hirsute basally; bracts ovate-deltate, 3–4 mm, apex acuminate. Sepals elliptic to ovate-oblong, unequal; outer 2 sepals 8–10 mm; inner ones ca. 1.5 cm, glabrous, apex obtuse, mucronulate. Corolla white, campanulate or funnelform, ca. 4 cm. Filaments inserted 6–7 mm above base of corolla. Ovary glabrous. Capsule ovoid, 1–1.3 cm, apex ± acuminate. Seeds oblong, 4–6 mm, pale yellow pubescent.

Open mountain slopes. Guangxi, Hainan, Hong Kong, Taiwan, Yunnan [Indonesia, Myanmar, New Guinea, Philippines, Thailand; N Australia].

Van Ooststroom (Fl. Malesiana, ser. I., 4: 447. 1953) expressed doubt that plants occurring in Myanmar, S China, and southeast Asia are conspecific with those in New Guinea and Australia. We apply the name provisionally, pending consideration of the range of variation in populations throughout the region, and examination of type specimens for the names involved.

**7. *Merremia dissecta*** (Jacquin) H. Hallier, Bot. Jahrb. Syst. 16: 552. 1893.

多裂鱼黄草 *duo lie yu huang cao*

*Convolvulus dissectus* Jacquin, Obs. Bot. 2: 4. 1767; *Ipomoea dissecta* (Jacquin) Persoon; *I. sinuata* Ortega; *Operculina dissecta* (Jacquin) House.

Twining, semi-woody; axial parts ± yellowish spreading hirsute. Stems woody basally, tuberculate, glabrescent, herbaceous when young. Petiole 2.5–7 cm; leaf blade palmately 5–7-divided nearly to base; segments lanceolate, middle 2.5–10 × 0.5–3 cm, lateral ones smaller, glabrous or pubescent along veins abaxially, margin coarsely dentate to irregularly pinnately lobed, apex mucronulate. Inflorescences 1- to several flowered; peduncle 5–10 cm. Pedicel 1.5–2 cm, thicker distally, minutely tuberculate, glabrous. Sepals ovate-lanceolate, subequal, 2–2.5 cm, enlarged and leathery in fruit, glabrous, margin narrowly scarious, apex acute, mucronulate. Corolla white, with purple-red throat, funnelform, midpetaline bands distinct. Anthers spirally twisted. Ovary glabrous. Capsule globose, glabrous, 2-loculed. Seeds black, glabrous.  $2n = 30, 32$ .

Cultivated and escaped. Guangdong [India, Indonesia, Myanmar, Pakistan, Sri Lanka, Thailand; native in North and South America].

**8. *Merremia vitifolia*** (N. L. Burman) H. Hallier, Bot. Jahrb. Syst. 16: 552. 1893.

掌叶鱼黄草 *zhang ye yu huang cao*

*Convolvulus vitifolius* N. L. Burman, Fl. Indica 45. 1768; *C. angularis* N. L. Burman; *Ipomoea vitifolia* (N. L. Burman) Blume; *I. vitifolia* var. *angularis* (N. L. Burman) Choisy.

Herbs twining or prostrate; axial parts spreading hirsute with yellowish hairs, or glabrous. Stems purplish, terete, striate when old, to 4 m. Petiole 1–3(–19) cm; leaf blade circular in outline, (2.5–)5–18 × (2.5–)4–15.5 cm, base cordate, palmately (3–)5–7-angled or lobed; lobes broadly triangular or ovate-lanceolate, ± yellowish appressed hirtellous, abaxially more densely so, margin coarsely serrate or subentire, apex acuminate to obtuse. Inflorescences 1–3- or

several flowered; peduncle 2–5(–15) cm; bracts subulate, 1.5–2 mm. Pedicel 1–1.6 cm, thicker distally. Sepals oblong or ovate-oblong, 1.4–1.8 cm, enlarged in fruit, ± leathery, ± shiny, pitted adaxially, pellucid glandular, apex obtuse or ± acute; outer 2 hirsute abaxially; inner ones glabrous. Corolla yellow, paler in tube, funnelform, 2.5–5.5 cm, glabrous outside; limb ± 5-angled. Stamens ca. 1.1 cm; anthers spirally twisted. Ovary glabrous. Capsule straw colored, ± globose, ca. 1.2 cm, papery. Seeds black-brown, trigonous-ovoid, ca. 7 mm, glabrous.

Roadsides, thickets, forests; (100–)400–1600 m. Guangdong, Guangxi, Hainan, Yunnan [India, Indonesia, Laos, Malaysia, Myanmar, Nepal, Sri Lanka, Thailand, Vietnam].

Used medicinally to treat bladder infections and stomach aches.

**9. *Merremia sibirica*** (Linnaeus) H. Hallier, Bot. Jahrb. Syst. 16: 552. 1893.

北鱼黄草 *bei yu huang cao*

Herbs twining, subglabrous. Stems striate. Petiole 2–7 cm; leaf blade ovate-cordate, 3–13 × 1.7–7.5 cm, base cordate, margin entire or undulate, apex attenuate-acuminate or caudate. Inflorescences (1–)3–7(–20)-flowered; peduncle often shorter than petiole, 1–6.5 cm, angular or narrowly winged; bracts linear, small. Pedicel 3–15 mm, thicker distally. Sepals elliptic, subequal, 5–7 mm, glabrous, distinctly subulate-mucronate. Corolla pink, pale purplish, or occasionally white, campanulate, 1.2–1.9 cm, glabrous; limb 5-lobed, lobes deltate or nearly circular. Stamens included; anthers not twisted. Ovary glabrous. Capsule ± globose, broadly ovoid, or conical-ovoid, 5–14 mm, apex rounded or acute. Seeds ellipsoid-trigonous or oblong-trigonous, 3–8 mm, glabrous, puberulent, scurfy-scaly, or with swollen-based hairs, apex obtuse or acute.

Roadsides, open sunny places; 600–2900 m. Anhui, Gansu, NW Guangxi, Guizhou, Hebei, Hunan, Jiangsu, Jilin, Liaoning, Shaanxi, Shandong, Shanxi, Sichuan, Yunnan, Zhejiang [Mongolia, NE Russia].

Used medicinally to treat trauma and external infections.

- 1a. Seeds glabrous; capsule broadly ovoid or subglobose.
- 2a. Seeds 3–4 mm; capsule subglobose, apex rounded ..... 9a. var. *sibirica*
- 2b. Seeds 4–7 mm; capsule broadly ovoid, apex acute ..... 9b. var. *macrosperma*
- 1b. Seeds with indumentum; capsule conical-ovoid.
- 3a. Seeds 6–8 mm, densely covered by swollen-based hairs; capsule 0.9–1.4 cm high; corolla pink ..... 9c. var. *vesiculosa*
- 3b. Seeds 3–4 mm, whitish puberulent or ± densely scaly; capsule mostly smaller; corolla white or pale purplish.
- 4a. Seeds densely scurfy-scaly; corolla often white ..... 9d. var. *trichosperma*
- 4b. Seeds densely whitish puberulent; corolla pale purplish ..... 9e. var. *jiuhuaensis*

**9a. *Merremia sibirica* var. *sibirica***

北鱼黄草 (原变种) *bei yu huang cao* (yuan bian zhong)

*Convolvulus sibiricus* Linnaeus, Mant. Pl. 2: 203. 1771; *Ipomoea sibirica* (Linnaeus) Persoon.

Corolla pink. Capsule subglobose, apex rounded. Seeds 3–4 mm, glabrous.

Roadsides, fields, grassy or shrubby mountain slopes; 600–2800 m. Anhui, Gansu, NW Guangxi, Guizhou, Hebei, Hunan, Jiangsu, Jilin, Shaanxi, Shandong, Shanxi, Sichuan, Yunnan, Zhejiang [Mongolia, NE Russia].

**9b. *Merremia sibirica* var. *macrosperma*** C. C. Huang, Rep. Stud. Pl. Trop. Subtrop. Yunnan 1: 112. 1965.

大籽鱼黄草 *da zi yu huang cao*

Corolla color unknown. Capsule broadly ovoid, apex acute. Seeds 4–7 mm, glabrous.

- Forests; 2000–2800 m. Sichuan, Yunnan.

**9c. *Merremia sibirica* var. *vesiculosa*** C. Y. Wu, Rep. Stud. Pl. Trop. Subtrop. Yunnan 1: 111. 1965.

囊毛鱼黄草 *nang mao yu huang cao*

Corolla pink. Capsule conical-ovoid, 0.9–1.4 mm. Seeds 6–8 mm, with dense swollen-based hairs.

- Scrub in valleys; 2400–2900 m. SW Sichuan, NW Yunnan.

**9d. *Merremia sibirica* var. *trichosperma*** C. C. Huang, Rep. Stud. Pl. Trop. Subtrop. Yunnan 1: 112. 1965.

毛籽鱼黄草 *mao zi yu huang cao*

Corolla often (?always) white. Capsule conical-ovoid, 8–10 mm. Seeds ca. 4 mm, with dense scurfy scales.

- Forests, mixed valley forests; 600–2800 m. Hebei, Jilin, Liaoning, Shaanxi, Sichuan, Yunnan.

**9e. *Merremia sibirica* var. *jiuhuaensis*** B. A. Shen & X. L. Liu, Bull. Bot. Res., Harbin 7(3): 83. 1987.

九华北鱼黄草 *jiu hua bei yu huang cao*

Inflorescences 7–20-flowered. Corolla pale purplish. Capsule 5–6 mm. Seeds ca. 3.5 mm, ± densely whitish puberulent. Fl., fr. Oct.

- Thickets; 800–1000 m. Anhui (Jiuhua Shan).

**10. *Merremia collina*** S. Y. Liu, Guihaia 4: 199. 1984.

丘陵鱼黄草 *qiu ling yu huang cao*

Herbs perennial, ± twining; axial parts ± densely hirsute. Stems prostrate, tips twining. Petioles 3–8 mm; leaf blade oblong-elliptic to ovate-lanceolate, 1.8–5 × 0.8–2.5 cm, sparsely hirsute, more densely so along veins, ciliate, base rounded, shallowly cordate or broadly cuneate, margin entire, apex rounded to acute, mucronulate. Inflorescences usually 1(–3)-flowered; peduncle ca. 5 mm; bracts ovate. Sepals lanceolate, subequal, 1–1.5 cm, ± hirsute to glabrous

abaxially, apex acuminate. Corolla pale yellow, funnelform, ca. 3 cm, glabrous; limb shallowly 5-lobed. Stamens included, unequal; filaments fimbriate-scaly basally; anthers twisted. Ovary glabrous. Capsule ovoid or globose, ca. 1 cm. Seeds trigonous-ovoid, glabrous. Fl. Sep-Oct, fr. Oct-Dec.

- Hillside thickets; ca. 100 m. Guangxi (Yongning Xian).

**11. *Merremia yunnanensis*** (Courchet & Gagnepain) R. C. Fang, Fl. Reipubl. Popularis Sin. 64(1): 74. 1979.

蓝花土瓜 *lan hua tu gua*

Herbs perennial, with fusiform tubers; axial parts densely pubescent. Stems twining, striate. Petiole 0.4–2 cm; leaf blade rhombic, rhombic-ovate, or nearly circular, 3–10.5 × 1.5–10 cm, densely dull yellow sericeous, glabrescent, base cuneate, margin entire, apex abruptly acuminate or acute, rarely obtuse and mucronulate. Inflorescences 1- to many flowered; peduncle 2–12.5 cm; bracts scalelike, 2–3 mm, pubescent. Pedicel 7–10 mm, thicker than peduncle, glabrous. Sepals unequal; outer 2 obovate-oblong, 0.8–1.2 cm, abaxially pubescent, mucronulate; inner ones obovate or elliptic, 1.3–1.4 cm, apex obtuse. Corolla lilac or pink to white, narrowly campanulate, 3.5–4 cm; limb shortly 5-lobed; lobes dull yellow ciliate, mucronulate. Stamens unequal; filaments dilated basally, pubescent. Ovary glabrous. Capsule oblong, 7–9 mm. Seeds black, ca. 5 mm, glabrous.

- Grassy, shrubby mountain slopes, thickets, forests; 1400–3000 m. Sichuan, Yunnan.

In the original description, the corolla of *Merremia yunnanensis* was said to be pale blue, but it is described here as lilac, pink, or white. Specimens at A and K, apparently this species, have labels indicating corolla colors as pale yellow, pale yellow tinged rose, canary yellow, or even blue (*Wilson 4183* at K). Yellow or white corollas are common in *Merremia*, but lilac, pink, and rose are unusual, and blue is unheard of. Such a wide variation of corolla color in a single species is anomalous in the genus and warrants further investigation. Until a critical study is made, the original concept for *M. yunnanensis* is here maintained. It is possible that some early collections have incorrect label data with respect to flower color.

- 1a. Corolla pink to white; leaves rhombic or rhombic-ovate ..... 11c. var. *pallescens*
- 1b. Corolla lilac; leaves broadly rhombic to nearly circular.
  - 2a. Leaf blade densely dull yellowish sericeous ..... 11a. var. *yunnanensis*
  - 2b. Leaf blade subglabrous or sparsely sericeous ..... 11b. var. *glabrescens*

**11a. *Merremia yunnanensis* var. *yunnanensis***

蓝花土瓜 (原变种) *lan hua tu gua* (yuan bian zhong)

*Ipomoea yunnanensis* Courchet & Gagnepain, Notul. Syst. (Paris) 3: 151. 1915; *I. yunnanensis* var. *uniflora* C. Y. Wu.

Leaf blade rhombic or rhombic-ovate, 3–9 × 1.5–4.5 cm, densely dull yellowish sericeous. Peduncle 2–10 cm. Corolla

lilac.

• Grassy, shrubby mountain slopes, pine forest floors; 1400–3000 m. Sichuan, Yunnan.

**11b. *Merremia yunnanensis* var. *glabrescens*** (C. Y. Wu) R. C. Fang, Fl. Reipubl. Popularis Sin. 64(1): 74. 1979.

近无毛蓝花土瓜 jin wu mao lan hua tu gua

*Ipomoea yunnanensis* var. *glabrescens* C. Y. Wu, Rep. Stud. Pl. Trop. Subtrop. Yunnan 1: 119. 1965.

Leaf blade rhombic or rhombic-ovate, to 10.5 × 5 cm, subglabrous or sparsely sericeous. Peduncle slender, 8–12.5 cm. Corolla lilac.

• Shrubby mountain slopes, 1800–2300 m. Yunnan.

**11c. *Merremia yunnanensis* var. *pallescens*** (C. Y. Wu) R. C. Fang, Fl. Reipubl. Popularis Sin. 64(1): 76. 1979.

红花土瓜 hong hua tu gua

*Ipomoea yunnanensis* var. *pallescens* C. Y. Wu, Rep. Stud. Pl. Trop. Subtrop. Yunnan 1: 120. 1965.

Leaf blade broadly rhombic to nearly circular. Peduncles often paired, 7–12 cm. Corolla pink to white.

• Thickets, forests; 1800–2600 m. Sichuan, Yunnan.

**12. *Merremia umbellata*** (Linnaeus) H. Hallier subsp. ***orientalis*** (H. Hallier) van Ooststroom, Fl. Malesiana, ser. 1, 4(4): 449. 1953.

山猪菜 shan zhu cai

*Merremia umbellata* var. *orientalis* H. Hallier, Verslag Staat Lands Plantentuin Buitenzorg 132. 1895 (1896).

Herbs twining or prostrate; axial parts puberulent or glabrous, with milky sap. Stems striate, rooting at nodes. Petiole 1–4(–6) cm; leaf blade ovate, ovate-oblong, or oblong-lanceolate, 3.5–13.5 × 1.3–10 cm, softly whitish puberulent, adaxially more densely so, base cordate, rarely hastate, margin entire, apex emarginate, acute to acuminate. Inflorescences umbelliform cymes, few to many flowered; peduncle (0.5–)2–5(–12) cm; bracts early deciduous, lanceolate, minute. Pedicel 1–2(–3) cm. Sepals strongly concave, slightly unequal; outer 2 broadly elliptic or nearly circular, 0.8–1.4 cm, abaxially pubescent, rounded or emarginate; inner ones usually slightly longer, margin scarious. Corolla white or yellow, funnelform, 2.5–5.5 cm, midpetaline bands with a strip of whitish pubescence apically; limb slightly lobed. Stamens included; anthers not twisted. Ovary glabrous or sparsely pubescent apically. Capsule conical-ovoid, 0.7–1.3 cm × 7–8 mm, glabrous or sparsely pubescent apically, apiculate. Seeds ca. 5 mm, densely spreading long pubescent.

Roadsides, forested valleys, thickets; 0–1600 m. Guangdong, Guangxi, Hainan, Taiwan, Yunnan [?Bangladesh, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Nepal, New Guinea, Philippines, Sri Lanka, Thailand, Vietnam; E Africa, N Australia, Pacific Islands].

Used in Guangxi for treating infections.

Ooststroom (Blumea 3: 341–342. 1939) compared and contrasted the two varieties (later elevated to subspecies) of *Merremia umbellata*. Subspecies *umbellata* is distributed throughout the American tropics (Mexico, Central America, the West Indies, and South America as far south as Paraguay) and in western tropical Africa. It is a more robust plant, typically with more and larger flowers per inflorescence, corollas always yellow, capsules subglobose, with broader ovate valves, and seeds pubescent to shortly tomentose, the hairs only slightly longer on the margins.

*Merremia umbellata* is clearly recognizable in North and South America, Malaysia, tropical Africa, and the Pacific Islands, but the situation is not so clear on mainland Asia. The limits of *M. umbellata* adopted here and in Fl. Reipubl. Popularis Sin. are the same, but these encompass a much greater variation in flower size, color, and number per inflorescence, and density and in distribution of indumentum than do other regional floras that have circumscribed the species more narrowly. Further study of sect. *Xanthips* in mainland Asia is needed before a clearer concept of *M. umbellata* and its relatives in that section can be reached.

**13. *Merremia hungaiensis*** (Lingelsheim & Borza) R. C. Fang, Fl. Reipubl. Popularis Sin. 64(1): 76. 1979.

山土瓜 shan tu gua

Herbs perennial, twining, with globose or ovoid tubers. Stems striate, glabrous. Petiole 0.8–3.5 cm, pubescent; leaf blade elliptic, ovate, oblong, or narrowly elliptic to linear, 2.5–11.5 × (0.4–)0.7–5 cm, glabrous, sparsely ciliate only at base, base obtuse, cuneate, or shallowly cordate, margin entire or minutely erose, apex obtuse, emarginate, acuminate, or acute, mucronulate. Inflorescences lax dichasial cymes, 2- to several flowered, rarely flowers solitary; peduncle 2–6 cm, glabrous; bracts scalelike, ca. 1 mm. Pedicel 0.5–2 cm, thicker than peduncle, glabrous. Sepals elliptic, unequal, outer 2 sepals 0.7–1.4 cm, inner ones 1.2–1.5 cm, glabrous. Corolla yellow, funnelform, 3.5–6 cm, midpetaline bands pubescent apically. Stamens slightly unequal; filaments pubescent basally. Ovary conical, glabrous. Capsule oblong, 1–1.3 cm. Seeds 5.5–7 mm, densely dark brown tomentose.

• Grassy, shrubby mountain slopes, pine forest floors, roadsides, thickets; 1200–3200 m. Guizhou, Sichuan, Yunnan.

Fang and Huang (Fl. Reipubl. Popularis Sin. 64: 76. 1979) listed *Ipomoea kingii* sensu Diels (Notes Roy. Bot. Gard. Edinburgh 7: 142. 1912) as to the specimen *Forrest* 2569, not of Prain (J. Asiat. Soc. Bengal 13(2): 108. 1895), as a misapplied name for *Merremia hungaiensis*. Species delimitation in sect. *Xanthips* of *Merremia* is confused, and Chinese species need to be compared carefully with material of other parts of Asia. A thorough taxonomic revision of *Merremia* in Asia is much desired.

- 1a. Leaf blade elliptic, ovate, or oblong,  
2.5–11.5 × 1.2–5 cm ..... 13a. var. *hungaiensis*  
1b. Leaf blade narrowly elliptic to linear,  
5–10 × 0.4–1.5(–3) cm ..... 13b. var. *linifolia*

**13a. *Merremia hungaiensis* var. *hungaiensis***

山土瓜 (原变种) shan tu gua (yuan bian zhong)

*Ipomoea hungaiensis* Lingelsheim & Borza, Repert.

Spec. Nov. Regni Veg. 13: 389. 1914; *I. wilsonii* Gagnepain, not House; *Merremia wilsonii* Verdcourt.

Leaf blade elliptic, ovate, or oblong, 2.5–11.5 × 1.2–5 cm.

• Grassy, shrubby mountain slopes, pine forest floors; 1200–3200 m. Guizhou, Sichuan, Yunnan.

**13b. *Merremia hungaiensis* var. *linifolia*** (C. C. Huang) R. C. Fang, Fl. Reipubl. Popularis Sin. 64(1): 77. 1979.

线叶山土瓜 xian ye shan tu gua

*Ipomoea hungaiensis* var. *linifolia* C. C. Huang, Rep. Stud. Pl. Trop. Subtrop. Yunnan 1: 119. 1965.

Leaf blade narrowly elliptic to linear, 5–10 × 0.4–1.5 (–3) cm.

• Roadsides, thickets; 1200–2500 m. Sichuan, Yunnan.

The roots are used externally to treat scabies.

**14. *Merremia caloxantha*** (Diels) Staples & R. C. Fang, Novon 5: 109. 1995.

美花鱼黄草 mei hua yu huang cao

*Ipomoea caloxantha* Diels, Notes Roy. Bot. Gard. Edinburgh 5: 203. 1912.

Herbs perennial, prostrate (and ?twining), 1–3 m, almost completely glabrous. Petiole 1.3–2.2 cm, pilose apically; leaf blade deeply 3-lobed, 3–3.5 × 2–2.5 cm, base cordate; basal lobes entire or undulate-lobate, median lobe longest, lanceolate, long attenuate. Inflorescences 3–5-flowered; peduncle 2.5–4.5 cm; bracts 2, minute scales. Pedicel 6–13 mm. Sepals obovate, concave, subequal, 6–7 mm, glabrous, margin thinner, sometimes recurved above middle, apex rounded to emarginate, mucronulate. Corolla bright yellow, broadly funnelform, 3–4 cm, midpetaline bands hairy at apex only. Stamens unequal; anthers straight. Pistil equal to longest stamens, included; ovary broadly ovoid, 2-locular, glabrous; ovules 4. Stigma 2-globose. Fruit unknown. Fl. Sep.

• Dry exposed rocky slopes; ca. 1400 m. Yunnan (Yongping Xian).

Known only from the type collection, made by George Forrest in 1905 in the valley of the Mekong at “the crossing of the Teng-yueh and Dalifu road.” On first sight, the deeply trilobate leaves of *Merremia caloxantha* suggest *M. gemella* and *M. hederacea* of sect. *Merremia*. However, the anthers that remain straight at dehiscence, the much larger corollas, and the corolla pubescence confined to the apex of the weakly delineated midpetaline bands indicate that this species may belong to sect. *Xanthips*. Further collections are needed to elucidate its relationships.

**15. *Merremia cordata*** C. Y. Wu & R. C. Fang, Fl. Reipubl. Popularis Sin. 64(1): 163. 1979.

心叶山土瓜 xin ye shan tu gua

Herbs twining. Stems striate, glabrescent. Petiole 3–6

cm, pilose distally; leaf blade cordate, 5–7 × 3.5–5.5 cm, base cordate, margin entire or undulate, apex abruptly acuminate or long acuminate. Inflorescences 3–9-flowered; peduncle 6–16 cm, glabrescent; bracts scalelike, 1–1.5 mm. Pedicel 1–2.5 cm, glabrous. Sepals subequal, ca. 1 cm, margin scarious, glabrous; outer 2 elliptic; inner ones obovate, emarginate and with mucro. Corolla yellow, funnelform, 3.5–4 cm, with distinct midpetaline bands with a tuft of hairs apically; limb shallowly 5-lobed; lobes triangular. Stamens unequal; filaments papillate pubescent basally. Ovary conical. Capsule ± globose. Seeds brown, woolly on margin.

• Roadsides and riverside thickets; 1400–1800 m. Sichuan, Yunnan.

**16. *Merremia longipedunculata*** (C. Y. Wu) R. C. Fang, Fl. Reipubl. Popularis Sin. 64(1): 77. 1979.

长梗山土瓜 chang geng shan tu gua

*Ipomoea longipedunculata* C. Y. Wu, Rep. Stud. Pl. Trop. Subtrop. Yunnan 1: 117. 1965.

Herbs climbing, ca. 1.7 m tall; axial parts mostly glabrous. Stems twisted. Petiole 5–15 cm; leaf blade cordate, basal leaves ca. 15 × 14 cm, upper leaves 5–6 × 4–5 cm, sparsely puberulent to glabrescent, base cordate, margin undulate, short ciliate, apex long acuminate. Inflorescences 6–17-flowered; peduncle 6–12 cm, pale yellowish villous distally; bracts and bracteoles persistent, ca. 2.5 mm. Pedicel 1.5–3 cm, thickened distally, pale yellow villous. Sepals purple-brown, elliptic, unequal; outer 2 ca. 7 × 5 mm; inner ones ca. 9 × 6 mm, abaxially glabrous or pale yellow villous, margin scarious, apex rounded or emarginate. Corolla white or pale rose, funnelform, 2–2.5 cm; limb with 5 short triangular lobes, pilose apically. Stamens included, inserted below middle of corolla tube; filaments pilose basally; anthers oblong, ca. 3 mm. Ovary glabrous. Capsule brown, ± globose, ca. 1.2 cm. Seeds black, 5–6 mm, glabrous.

• Open fields, thickets in valleys; 500–1000 m. Guangxi, Guizhou, Yunnan.

**17. *Merremia verruculosa*** S. Y. Liu, Bull. Bot. Res., Harbin 7(2): 133. 1987.

疣萼鱼黄草 you e yu huang cao

Herbs twining. Stems ca. 2 m, axillary buds and lower stems grayish white pubescent, glabrescent distally. Petiole 3–8 mm, pubescent; leaf blade cordate or ovate, 1.5–5 × 1–3.5 cm, adaxially sparsely puberulent, base cordate, margin entire, apex short acuminate, mucronulate. Inflorescences 1–4-flowered; peduncle slender, 1–2.2 cm, whitish pubescent basally; bracts ovate, glabrous. Pedicel 5–7 mm, thicker apically, verruculose. Sepals unequal; outer 2 oblong to ovate-oblong, 5–7 mm, abaxially verruculose, apex rounded to shallowly emarginate; inner 3 oblong to obovate-oblong, 8–10 mm, apex deeply emarginate or irregularly 2-lobed. Corolla yellow, funnelform, 1.8–2.2 cm, midpetaline bands distinct, ?glabrous. Stamens included, subequal; filaments with scalelike fimbriate appendages basally; anthers spirally

twisted. Ovary ovoid, glabrous. Capsule unknown. Fl. Sep-Oct.

- Thickets on hillsides; ca. 100 m. Guangxi (Yongning Xian).

**18. *Merremia boissiana*** (Gagnepain) van Ooststroom, *Blumea* 3: 343. 1939.

金钟藤 jin zhong teng

Twiners woody; axial parts glabrous or grayish yellow tomentose. Stems terete, fistulose. Petiole 4.5–12 cm; leaf blade nearly circular, rarely broadly ovate, 9.5–15.5 × 7–14 cm, glabrous or puberulent along veins abaxially, base cordate, margin entire, apex abruptly acuminate or cuspidate. Inflorescences corymbose cymes, many flowered; peduncle 5–24(–35) cm, terete and glabrous basally, slightly applanate distally, dull yellow pubescent, sometimes entirely grayish yellow tomentose; bracts early deciduous, narrowly triangular, 1.5–2 mm, densely yellowish pubescent. Pedicel 1–2 cm, enlarged in fruit. Sepals ± equal or outer ones slightly shorter, 6–13 mm; outer 2 broadly ovate, abaxially dull yellow pubescent; inner 3 nearly circular, glabrous, apex obtuse. Corolla yellow, broadly funnelform or campanulate, 1.4–2 (–3.2) cm, midpetaline bands yellowish sericeous outside; limb undulate. Stamens included; filaments with 2 longitudinal pubescent lines below insertion; anthers belatedly twisted. Ovary conical, glabrous. Capsule brown, fading to yellow apically, conical-ovoid, 1–1.2 cm, glabrous. Seeds broadly trigonous-ovoid, ca. 5 mm, densely scaly pubescent along angles.

Forests; 100–1300 m. Guangxi, Hainan, Yunnan [Indonesia, Laos, Vietnam].

Superficially similar to *Ipomoea sumatrana* in the dried state, but easily distinguished from it by the non-spiny pollen, pubescent midpetaline bands on the corolla, and the peduncle typically longer than the subtending leaf. Living plants are immediately separable at anthesis because *Merremia boissiana* has a yellow corolla (in Chinese specimens), whereas *I. sumatrana* has a greenish white corolla with a rose-pink center.

- 1a. Branchlets, petioles, leaves, peduncles, and pedicels glabrous or dull yellow pubescent; outer sepals 6–7 mm; corolla 1.4–2 cm  
..... 18a. var. *boissiana*
- 1b. Branchlets, petioles, leaves, peduncles, and pedicels grayish yellow tomentose; outer sepals 10–13 mm; corolla ca. 3.2 cm  
..... 18b. var. *fulvopilosa*

**18a. *Merremia boissiana* var. *boissiana***

金钟藤 (原变种) jin zhong teng (yuan bian zhong)

*Ipomoea boissiana* Gagnepain, *Notul. Syst. (Paris)* 3: 141. 1915.

Branchlets, petioles, leaves, peduncles, and pedicels glabrous or dull yellow pubescent. Outer sepals 6–7 mm.

Corolla 1.4–2 cm.

Moist areas in forests; 100–700 m. Guangxi, Hainan, Yunnan [Indonesia, Laos, Vietnam].

The stem is used medicinally to treat anemia.

**18b. *Merremia boissiana* var. *fulvopilosa*** (Gagnepain) van Ooststroom, *Blumea* 3: 344. 1939.

黄毛金钟藤 huang mao jin zhong teng

*Ipomoea boissiana* Gagnepain var. *fulvopilosa* Gagnepain, *Notul. Syst. (Paris)* 3: 142. 1915; *I. boissiana* var. *rufopilosa* Gagnepain; *Merremia boissiana* var. *rufopilosa* (Gagnepain) C. Y. Wu.

Branchlets, petioles, leaves, peduncles, and pedicels grayish yellow tomentose. Outer sepals 1–1.3 cm. Corolla ca. 3.2 cm.

Forest margins, shaded areas in valleys, riversides; 500–1300 m. S Guangxi, SE Yunnan [Vietnam].

Gagnepain's protologue and also van Ooststroom's diagnosis for *Merremia boissiana* var. *fulvopilosa* (*Blumea* 3: 344. 1939) state that this variety is distinguished by the rufous pilose to tomentose indumentum, the shorter and more crowded inflorescence branches, and the circular to transversely elliptic, glabrous sepals that are 5–7 mm. Chinese specimens differ significantly in these characters, and it is possible that they are a different taxon.

The entire plant is used medicinally to treat arthritis.

**19. *Merremia similis*** Elmer, *Leafl. Philip. Bot.* 1: 335. 1908.

红花姬旋花 hong hua ji xuan hua

?*Convolvulus distillatorius* Blanco; ?*Merremia distillatoria* (Blanco) Merrill, p.p.

Climbers or sprawlers, perennial. Axial parts densely gray or rust-colored pubescent or mealy when young, later glabrescent. Stems terete, fistulose. Petiole 3–17 cm; leaf blade broadly ovate to circular, 8.5–18(–20) × 8–16(–20) cm, densely rust or grayish tomentose when young, later glabrescent adaxially, base cordate, apex abruptly acuminate. Peduncle to 30(–60 ?) cm, branched near apex. Pedicel thickened distally, with a thick lobed ring below sepals, 2–3 cm, 4–4.5 cm in fruit. Sepals obovate to broadly elliptic or circular, concave, ± equal, 1.5–1.8 cm, glabrous, margin membranous, apex obtuse or slightly retuse. Fruiting sepals to 2 cm, forming a cup around capsule. Corolla reddish (white with a tinge of red, according to Elmer's protologue), broadly funnelform, 3–4 cm, midpetaline bands pubescent apically; limb slightly 5-lobed. Stamens 1.6–1.8 cm; filaments with 2 lines of hairs below insertion; anthers spirally twisted. Ovary conical, glabrous. Style ca. 2.8 cm. Fruit ovoid, 1.5–1.8 cm; valves at first brown-black, later straw colored. Seeds black, ca. 6 mm, tomentose-villous.

Taiwan (Hengchun Peninsula) [Philippines].

Chang Ching-en (Fl. Taiwan 4: 385. 1978) recorded *Merremia similis* from the extreme southern portion of Taiwan on the Hengchun Peninsula. This is the first record of the species outside the Philippines.

Van Ooststroom (Blumea 3: 360–361. 1939) has discussed the ambiguity surrounding the taxon Blanco described as *Convolvulus distillatorius*, and whether it was indeed identical with the one Merrill had before him when he made the combination *Merremia distillatoria*. Specimens cited by Merrill disagree in several points with Blanco's original description. Van Ooststroom therefore set aside this ambiguous name and took up Elmer's later-published *M. similis*, for which the typification and original description are quite clear. The correct application of binomial requires further study, including access to types not presently available.

