

21. MIMULUS Linnaeus, Sp. Pl. 2: 634. 1753.

沟酸浆属 *gou suan jiang shu*

Herbs, annual or perennial, erect, diffusely prostrate, or creeping, glabrous or glandular hairy, sometimes viscid. Stems simple or branched, terete or quadrangular and winged. Leaves opposite, margin entire to toothed. Flowers axillary and solitary or in terminal racemes. Bracteoles present or absent. Calyx tubular to campanulate, often inflated in fruit, glabrous to villous, 5-ribbed, with veins sometimes narrowly winged, 5-lobed; lobes short, regular or irregular. Corolla 2-lipped; tube cylindric, longer than calyx, palate with 2 bulging plaits; lower lip 3-lobed, lobes often spreading flat; upper lip 2-lobed, lobes erect or reflexed. Stamens 4, didynamous, inserted on corolla tube, included. Stigma 2-lamellate. Capsule compressed, loculicidal. Seeds numerous, ovoid to oblong, minute; seed coat smooth or reticulate.

About 150 species: worldwide; five species in China.

- 1a. Flowers with 2 linear bracteoles 1. *M. bracteosus*
- 1b. Flowers without bracteoles.
 - 2a. Plants 4–25 cm; stems prostrate or decumbent; upper leaves sessile and amplexicaul; pedicel often longer than leaves 2. *M. bodinieri*
 - 2b. Plants usually taller than 25 cm; stems erect or diffuse; upper leaf bases truncate, cuneate, or subrounded; pedicel often shorter than leaves.
 - 3a. Leaves orbicular, margin double serrate 3. *M. tibeticus*
 - 3b. Leaves ovate, ovate-triangular, or ovate-oblong, margin not double serrate.
 - 4a. Leaf base cuneate; calyx 1–1.5 cm; seeds reticulate 4. *M. szechuanensis*
 - 4b. Leaf base truncate; calyx ca. 0.5 cm; seeds papillose 5. *M. tenellus*

1. *Mimulus bracteosus* P. C. Tsoong, Acta Phytotax. Sin. 3: 415. 1955.

小苞沟酸浆 *xiao bao gou suan jiang*

Annuals, to 55 cm tall. Stems 1, smooth, basally ribbed, apically narrowly winged. Leaves 7–9 pairs, sessile, lower leaves spatulate-obovate, ca. 3.5 cm, middle leaves narrowly ovate to spatulate-oblong, 6–10 × 2–3 cm, margin irregularly serrate distally, apex caudate-acute. Flowers solitary from upper leaf axils. Pedicel ca. 3.5 cm, to 6 cm in fruit, ribbed. Bracteoles 2, inserted near pedicel apex, linear, ca. 8 mm. Calyx tubular, ca. 20 × 7 mm, with somewhat winglike ribs, hirtellous; lobes spinescent, ca. 5 mm. Corolla yellow with red dots, 3.5–4.5 cm; tube subcylindric, 3–3.5 cm; lower lip slightly longer than upper lip; lobes ovate-orbicular, margin yellow ciliate. Filaments glabrous. Fl. Jun–Jul.

• Edge of forests, along streams, meadows; 1000–1500 m. W Sichuan.

2. *Mimulus bodinieri* Vaniot, Bull. Acad. Int. Géogr. Bot. 15: 86. 1905.

匍生沟酸浆 *pu sheng gou suan jiang*

Perennials, glabrous. Stems prostrate to decumbent, 4–25 cm, simple or branched, rooting from nodes; branches short, quadrangular, narrowly winged. Leaves sometimes short petiolate below, sessile and amplexicaul above; leaf blade broadly ovate, 0.8–3 × 0.4–1.5 cm, larger ones at middle of stem, margin sparsely serrulate, apex acute to apiculate, pinnately veined. Flowers few, solitary in upper leaf axils. Pedicel slender, often longer than leaves. Bracteoles

absent. Calyx campanulate, 5–10 mm; lobes broadly triangular, short, margin sparsely ciliate, apex apiculate. Corolla yellow with a purple patch at throat, 1–2 cm; tube slightly longer than calyx. Capsule obovoid to oblong, ca. 8 mm. Seeds subglobose. Fl. Apr–May, fr. May–Jun.

• Beside streams and lakes; 1900–2400 m. Yunnan.

3. *Mimulus tibeticus* P. C. Tsoong & H. P. Yang, Fl. Reipubl. Popularis Sin. 67(2): 399. 1979.

西藏沟酸浆 *xi zang gou suan jiang*

Herbs, to 1 m tall, sparsely villous. Stems erect or basally prostrate, stout, quadrangular, unbranched, rooting from lower nodes. Petiole ca. 3 cm lower on stem, upper leaves sessile; leaf blade orbicular, 3–5 cm, papery, base rounded, margin double serrate, apex rounded to emarginate, veins palmate. Flowers solitary in upper leaf axils. Pedicel 2–3.5 cm, nearly as long as leaf blade. Bracteoles absent. Calyx broadly campanulate, ca. 1 cm, apex truncate; lobes broad, to 1 mm, upper lobe largest, apex apiculate. Corolla golden yellow, ca. 2 cm; lower lip longer than upper, middle lobe larger than others; upper lip erect, lobes suborbicular. Style exserted from corolla. Fl. Sep.

• Shady wet places; below 3700 m. S Xizang (Lhasa Shi).

4. *Mimulus szechuanensis* Pai, Contr. Inst. Bot. Natl. Acad. Peiping 2: 119. 1934.

四川沟酸浆 *si chuan gou suan jiang*

Mimulus szechuanensis var. *glandulosa* Pai.

Perennials, to 60 cm tall, erect. Rhizomes long, rooting from nodes. Stems quadrangular, glabrous or sometimes villous, narrowly 4-winged, often branched. Petiole ca. 1.5 cm; leaf blade ovate, 2–6 × 1–3 cm, base cuneate,

margin sparsely toothed, apex acute. Flowers solitary in upper leaf axils. Pedicel 1–5 cm. Bracteoles absent. Calyx tubular, 1–1.5 cm, ca. 2 cm in fruit, pubescent, narrowly winged, apex oblique; lobes spinelike, upper lobe largest. Corolla yellow; tube ca. 2 cm, slightly longer than calyx; throat with a purple patch; lower lip as long as upper lip. Capsule narrowly ellipsoid, 1–1.5 cm, somewhat compressed, included in persistent calyx. Seeds brown, ovoid; seed coat reticulate. Fl. Jun–Aug.

• Moist places in forests, along streams; 1300–2800 m. Gansu, Hubei, Hunan, Shaanxi, Sichuan, Yunnan.

5. *Mimulus tenellus* Bunge, Enum. Pl. China Bor. 49. 1833.

沟酸浆 *gou suan jiang*

Perennials, to 40 cm tall, glabrous. Stems slender, often diffuse, much branched, basally creeping, quadrangular, narrowly 4-winged or not. Petiole 1–3 cm, slender; leaf blade ovate, ovate-triangular, or ovate-oblong, 1–3 × 0.4–1.5 cm, base truncate, margin sparsely serrate, apex acute; veins pinnate or palmate. Flowers axillary, solitary. Pedicel nearly as long as petiole or whole leaf. Bracteoles absent. Calyx cylindrical to broadly campanulate, 5–10 mm or longer, saccate in fruit, sometimes narrowly winged, apex truncate or suboblique; lobes small, spinelike. Corolla yellow, throat with red spots; tube funnellform, 1.5–3 × as long as calyx, densely barbate. Stamens and style glabrous, included. Capsule ellipsoid, slightly shorter than calyx. Seeds ovoid, papillose. Fl. and fr. Jun–Sep.

Beside water, wet places, forests, trailsides; 500–3000 m. Gansu, Guizhou, Hebei, Henan, Hubei, Hunan, Jiangxi, Jilin, Liaoning, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan, Xizang, Yunnan, Zhejiang [India (Assam), Japan, Nepal, Sikkim, Vietnam].

- 1a. Calyx cylindrical, apex truncate.
 - 2a. Stems often diffuse; pedicel shorter than leaves; calyx ca. 5 mm ... 5a. var. *tenellus*
 - 2b. Stems suberect; pedicel as long as whole leaf; calyx ca. 10 mm or longer 5b. var. *nepalensis*
- 1b. Calyx broadly campanulate, apex suboblique.
 - 3a. Stems not winged; leaves pinnately veined 5c. var. *procerus*
 - 3b. Stems winged; leaves palmately veined 5d. var. *platyphyllus*

5a. *Mimulus tenellus* var. *tenellus*

沟酸浆(原变种) *gou suan jiang* (*yuan bian zhong*)

Stems often diffuse. Pedicel nearly as long as petioles.

Calyx cylindrical, ca. 5 mm, apex truncate.

Beside water; below 1200 m. Hebei, Henan, Jilin, Liaoning, Shaanxi, Shandong, Shanxi.

5b. *Mimulus tenellus* var. *nepalensis* (Benth.) P. C. Tsoong ex H. P. Yang, Fl. Reipubl. Popularis Sin. 67(2): 171. 1979.

尼泊尔沟酸浆 *ni bo er gou suan jiang*

Mimulus assamicus Griffith; *M. formosanus* Hayata; *M. nepalensis* Benth., Scroph. Ind. 29. 1835; *M. tenellus* subsp. *nepalensis* (Benth.) D. Y. Hong ex H. P. Yang.

Stems suberect. Pedicel nearly as long as whole leaf.

Calyx cylindrical, ca. 1 cm or longer, apex truncate.

Beside water, wet places; 500–3000 m. Gansu, Guizhou, Henan, Hubei, Hunan, Jiangxi, Sichuan, Taiwan, Xizang, Yunnan, Zhejiang [India, (Assam), Japan, Nepal, Vietnam].

5c. *Mimulus tenellus* var. *procerus* (Grant) Handel-Mazzetti, Symb. Sin. 7: 832. 1936.

高大沟酸浆 *gao da gou suan jiang*

Mimulus nepalensis Benth. var. *procerus* Grant, Ann.

Missouri Bot. Gard. 11: 207. 1924; *M. tenellus* subsp.

nepalensis var. *procerus* (Grant) D. Y. Hong.

Stems simple, erect, 20–35 cm tall, wingless. Leaves

pinnately veined. Calyx broadly campanulate, apex

suboblique, sometimes upper lobes larger than lower.

Corolla to 3 cm.

Forests, along streams; 200–3800 m. Sichuan, Yunnan [Nepal, Sikkim].

5d. *Mimulus tenellus* var. *platyphyllus* (Franchet) P. C. Tsoong ex H. P. Yang, Fl. Reipubl. Popularis Sin. 67(2): 171. 1979.

南红藤 *nan hong teng*

Mimulus nepalensis Benth. var. *platyphyllus* Franchet,

Nouv. Arch. Mus. Hist. Nat. 10: 103. 1888; *M.*

nepalensis f. *maior* H. Winkler; *M. tenellus* var. *maior*

(H. Winkler) Handel-Mazzetti.

Stems winged. Leaves large, thick, palmately veined,

base broadly cuneate, margin entire or coarsely serrate

above middle. Calyx broadly campanulate, apex

suboblique.

• Forests, trailsides; 1900–2200 m. Sichuan, Yunnan. Used medicinally.

