

**60. SMITHIA** Aiton, Hort. Kew. 3: 496. 1789, nom. cons., not Scopoli (1777).

坡油甘属 po you gan shu

*Damapana* Adanson.

Herbs or shrublets. Stems herbaceous or often slightly woody, bristly to glabrescent. Stipules spurred below point of insertion, scarious, persistent, basal portion 1- or 2-auriculate. Leaves opposite, paripinnate, subsessile, few to 12-foliolate, sensitive; rachis often ending in a spine; leaflet blades usually linear-oblong, bristly on abaxial side and margins, apex mucronate. Inflorescences axillary, dense racemes or ± scorpioid cymes, sometimes reduced to a solitary flower; bracts stipule-shaped, scarious, striate, caducous. Flowers small. Bracteoles scarious, persistent. Hypanthium short, much reduced. Calyx membranous or scarious, persistent and often accrescent at fruit, 2-lipped, lips usually entire. Corolla white, purple, yellow, or blue, longer than calyx; standard orbicular to oblong; wings and keel almost as long as standard; keel inflexed, lateral appendages nearly as long as claws, apex blunt. Stamens usually diadelphous (5+5); anthers uniform. Intrastaminal disk present. Ovary linear, with numerous ovules; style filiform, inflexed, persistent to fruit; stigma terminal, small. Legume a loment, plicate within calyx, shortly stipitate, with few to many articles. Seeds orbicular or reniform, compressed; hilum eccentric.

About 20 species: tropics of Asia and Africa; five species in China.

- 1a. Shrubby ..... 1. *S. blanda*
- 1b. Annual herbs.
  - 2a. Calyx lips membranous, with reticulate veins.
    - 3a. Leaflet blades 0.6–1.2 cm; inflorescences often with more than 12 flowers; corolla slightly longer than calyx; fruit divided into 6–8 articles ..... 2. *S. ciliata*
    - 3b. Leaflet blades 1.5–2 cm; inflorescences with 5 or 6 flowers; corolla ca. 1.5 × as long as calyx; fruit divided into 10–12 articles ..... 4. *S. salsuginea*
  - 2b. Calyx lips scarious, with parallel veins.
    - 4a. Floral nodes congested apically on inflorescence axis; scorpioid cymes and leaves clustered at branch tips ..... 3. *S. conferta*
    - 4b. Floral nodes not congested apically on inflorescence axis; racemes and leaves not clustered at branch tips ..... 5. *S. sensitiva*

**1. *Smithia blanda*** Wallich ex Wight & Arnott, Prodr. Fl. Ind. Orient. 221. 1834.

黄花合叶豆 huang hua he ye dou

*Smithia blanda* var. *paniculata* (Arnott) Baker; *S. blanda* var. *racemosa* (Wight & Arnott) Baker; *S. bodinieri* H. Léveillé; *S. paniculata* Arnott; *S. racemosa* Wight & Arnott; *S. yunnanensis* Franchet.

Shrublets, 40–60 cm tall. Stems densely golden setose. Stipules lanceolate, villous. Leaves 4–10-foliolate; petiolules less than 1 mm; leaflet blades oblong to obovate-lanceolate, 6–12 × 2.5–3 mm, papery, midvein setose, base oblique, margin setose, apex obtuse to rounded and with a spinelike mucro. Inflorescences axillary, scorpioid cymes, with flowers usually clustered at apical part; peduncle 1.5–4 cm, setose; bracts ovate-orbicular. Flowers ca. 1 cm. Pedicel 1–3 mm; bracteoles suborbicular, 2.5–3.5 mm, membranous. Corolla yellow; standard orbicular, with short claw, base acuminate, apex cuneate to slightly emarginate; wings smaller than standard, with an auricle; keels ± as long as wings, with an auricle. Stamens diadelphous. Ovary with trichomes; style filiform; stigma terminal. Legume a plicate loment, 2.5–3 mm wide, shortly stipitate, divided into 5 or 6 articles; articles with reticulate veins. Seeds not seen. Fl. Aug–Sep, fr. Sep–Oct.

Mountains, plains; 1000–2100 m. Guizhou, SW Sichuan, Yunnan [India, Laos, Sri Lanka, Thailand].

**2. *Smithia ciliata*** Royle, Ill. Bot. Himal. Mts. 201. 1835.

缘毛合叶豆 yuan mao he ye dou

*Smithia japonica* Maximowicz; *S. nagasawae* Hayata.

Herbs, annual, 15–60 cm tall. Stems and branchlets slender, glabrous. Stipules lanceolate, ca. 8 mm, membranous, glabrous. Leaves 10–14-foliolate; petiole 1.5–2 cm, glabrous; rachis 1.5–3 cm; petiolules less than 1 mm, glabrous; leaflet blades oblanceolate to linear-oblong, 6–12 × 2–4 mm, midvein and margin bristly, apex obtuse to rounded. Inflorescences axillary or terminal, scorpioid cymes, often with 12 or more flowers in cluster; peduncle 1–2 mm; bracts stipule-shaped, almost as long as calyx, margin ciliate. Bracteoles lanceolate, 4–5 mm, with trichomes. Calyx 4–8 mm, membranous, with reticulate veins, margin densely setose. Corolla yellow or white, slightly longer than calyx; standard obovate, ca. 5 mm wide; wings and keels small, straight, auriculate. Stamens diadelphous. Ovary with a short stipe, with trichomes. Legume a plicate loment, shortly stipitate, divided into 6–8 articles; articles almost globose, 1–1.5 mm, densely papillate. Seeds not seen. Fl. Aug–Sep, fr. Oct–Nov.

Roadsides, mountains, wetlands; 100–2800 m. Fujian, N Guangdong, N Guangxi, SW Guizhou, Hunan, S Jiangxi, Taiwan, Yunnan, Zhejiang [Bhutan, India, Japan, Malaysia, Nepal, Philippines, Thailand, Vietnam].

This species has been reported to have staminodes alternate with stamens (P. K. Basu, Current Science 47(3): 94. 1978).

**3. *Smithia conferta*** Smith in Rees, Cycl. 33: *Smithia* n. 2. 1816.

密节坡油甘 mi jie po you gan

*Smithia conferta* var. *geminiflora* (Roth) Cooke; *S. geminiflora* Roth; *S. geminiflora* var. *conferta* (Smith) Baker.

Herbs, annual, 15–90 cm tall. Stems slender, many branched, glabrous; nodes congested apically on stems. Stipules lanceolate, ca. 1 cm. Leaves 6–12-foliolate; petiole 2–4 mm; rachis sparsely long hirsute; leaflets sessile; leaflet blades linear-oblong, 6–12 × 2–3 mm, thickly papery, abaxially hirsute, adaxially glabrous, secondary veins 5 on each side of midvein, apex obtuse-rounded. Inflorescences axillary, scorpioid cymes, many flowered in a cluster; peduncle short; bracts ovate, 5–8 mm, membranous. Flowers 6–8 mm. Pedicel ca. 1 cm; bracteoles ovate, membranous. Calyx 6–8 mm, thickly papery, bristly, with parallel veins. Corolla yellow, ± as long as calyx; standard oblong-obovate; wings and keels ± equal, smaller than standard. Stamens diadelphous. Ovary with a short stipe, pubescent. Legume a plicate loment, inflated, shortly stipitate, divided into 4–6 articles; articles papillate. Seeds not seen. Fl. Jul–Aug, fr. Sep–Dec.  $2n = 38$ .

Sandy areas, trailsides, mountain valleys; 200–400 m. Fujian, Guangdong, Guangxi [India, Indonesia, Laos, Malaysia, Nepal, Sri Lanka, Vietnam; N Australia].

4. *Smithia salsuginea* Hance, J. Bot. 7: 164. 1869.

盐碱土坡油甘 yan jian tu po you gan

*Smithia dichotoma* Dalzell ex Baker.

Herbs, annual, 30–45 cm tall. Stems slender, rarely branched, sparsely setose. Stipules ovate-lanceolate, ca. 3 mm. Leaves 2- or 4-foliolate; petiole ca. 1 mm; rachis 1–1.5 cm; leaflet blades oblong-oblancheolate, 1.5–2 × 0.6–0.7 cm, membranous, both surfaces glabrous, apex obtuse. Inflorescences shortly scorpioid cymes, with 5 or 6 flowers; peduncle upward spreading, 3–7 mm; bracts ovate-lanceolate. Bracteoles linear, 1/4–1/3 as long as calyx, membranous. Calyx 1–1.2 cm, membranous, dry, almost glabrous, with reticulate veins, abaxial lip apex acute, adaxial lip longer and apex acute to slightly emarginate. Corolla yellow, ca. 1.5 × as long as calyx. Stamens diadelphous. Ovary with a short stipe. Legume a plicate loment, shortly stipitate, divided into 10–12 articles; articles globose, outside smooth or papillate. Seeds not seen. Fl. and fr. Aug–Oct.

Beaches. Guangdong [India].

5. *Smithia sensitiva* Aiton, Hort. Kew. 3: 496. 1789.

坡油甘 po you gan

*Smithia javanica* Benth.

Herbs, annual, 15–100 cm tall, ascending to decumbent. Stems slender, many branched, glabrous; nodes congested apically on stems. Stipules membranous, dry, glabrous. Leaves 6–20-foliolate, sensitive; rachis 1–3 cm, with small spinelike trichomes; petiolules ca. 1 mm, glabrous; leaflet blades oblong, 4–10 × 1.5–3 mm, thinly papery, secondary veins 5 on each side of midvein, apex obtuse to rounded and with a spinelike micro. Inflorescences axillary racemes, with 1–6 or more flowers clustered near apex; peduncle short; bracts stipule-shaped, caducous. Flowers 8–10 mm. Pedicel 2–3 mm; bracteoles 2, ovate, ca. 1/3 as long as calyx, adnate to calyx, persistent, margin ciliate. Calyx 5–8 mm, thickly papery, sparsely setose, with parallel veins. Corolla yellow, slightly longer than calyx; standard obovate, ca. 5 mm wide, claw short, apex slightly emarginate; wings oblong, shorter than standard; keels ± as long as wings. Stamens diadelphous. Ovary linear, with numerous ovules. Legume a plicate loment, shortly stipitate, divided into 4–6 articles; articles densely papillate. Seeds not seen. Fl. Jul–Sep, fr. Sep–Nov.  $2n = 38$ .

Field margins, wetlands; near sea level to 1000 m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Jiangxi, Sichuan, Taiwan, Yunnan [Bhutan, India, Indonesia, Kashmir, Laos, Malaysia, Nepal, Philippines, Sri Lanka, Thailand, Vietnam; Africa, N Australia].

This species probably is introduced in some regions of its stated range. It is used for medicinal purposes and fodder.

