

14. ADENOSMA R. Brown, Prodr. 442. 1810.

毛射香属 mao she xiang shu

Herbs, erect or creeping, blackened when dry, villous with eglandular hairs, some with glandular hairs, frequently aromatic. Leaves opposite; leaf blade glandular punctate, margin serrate. Flowers short pedicellate or sessile, in racemes, spikes, or heads, sometimes solitary in axils of apical leaves. Bracteoles 2. Calyx deeply 5-lobed; upper lobe usually large. Corolla tubular; limb 2-lipped; lower lip spreading flat, 3(or 4)-lobed; upper lip erect, emarginate or entire. Stamens 4, didynamous, included; anther locules separate, short stipitate. Style entire or 2-lobed, apex dilated. Capsule ovoid to ellipsoid, septifragal, 4-valved, apex ± beaked. Seeds numerous, minute; seed coat reticulate.

About 15 species: S and SE Asia, China, Pacific Islands; four species in China.

- 1a. Flowers many, in globose or cylindric spikes ..... 1. *A. indianum*
- 1b. Flowers solitary in leaf axils, or in terminal racemes.
  - 2a. Stems decumbent or creeping ..... 2. *A. javanicum*
  - 2b. Stems erect, sometimes basally slightly curved to decumbent.
    - 3a. Plants 30–100 cm tall; corolla 9–28 mm, upper lip lobes entire or emarginate ..... 3. *A. glutinosum*
    - 3b. Plants 3–35 cm tall; corolla ca. 4.5 mm, upper lip lobes deeply emarginate or notched .. 4. *A. retusilobum*

1. *Adenosma indianum* (Loureiro) Merrill, Trans. Amer. Philos. Soc., n.s. 24(2): 351. 1935.

球花毛射香 qiu hua mao she xiang

*Manulea indiana* Loureiro, Fl. Cochinch. 2: 386. 1790; *Adenosma capitatum* (Benth) Benth ex Hance; *Pterostigma capitatum* Benth.

Annuals, 19–60(–100 or more) cm tall, densely hairy. Stems erect, branched. Petiole 2–6 mm; leaf blade ovate to narrowly elliptic, 1.5–4.5 × 0.5–1.2 cm, densely glandular hairy, abaxially villous along veins and brown when dry, adaxially villous and blackish when dry, margin serrate, apex obtuse. Inflorescences globose to cylindric spicate, 0.7–2 × 0.7–1.1 cm, dense; bracts narrowly ovate, forming an involucre at base of spikes. Flowers sessile. Bracteoles linear, 3–4 mm. Calyx 4–5 mm; lobes narrowly ovate to oblong-lanceolate, 2–3 mm, apex acuminate. Corolla pale purple to dark blue, ca. 6 mm; throat hairy; lower lip lobes equal, suborbicular, ca. 1 × 1–1.2 mm; upper lip retuse to 2-lobed. Anterior anthers with 1 locule fertile; posterior anthers with both locules fertile. Ovary narrowly ovoid. Capsule ovoid, ca. 3 mm, 2-grooved. Seeds yellow. Fl. and fr. Sep–Nov.

Barren lands, dry mountain sides, along streams, fields; low elevations. Guangdong, Guangxi, Hainan, Yunnan [Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Philippines, Sikkim, Thailand, Vietnam].

Used medicinally.

The SE Asian *Adenosma microcephalum* J. D. Hooker is similar to *A. indianum*, differing only by the spikes which are not involucre. *Adenosma microcephalum* has been reported from Guangdong (Loufushan), but because we have not seen any specimens of this species, it is not included.

2. *Adenosma javanicum* (Blume) Koorders, Exkurs.-Fl. Java 3: 175. 1912.

卵花毛射香 luan hua mao she xiang

*Herpestis javanica* Blume, Bijdr. 748. 1826; *Adenosma ovatum* (Wallich ex Benth) J. D. Hooker; *Herpestis ovata* Wallich ex Benth.

Stems purplish, quadrangular, decumbent or creeping, rooting from lower nodes, much branched. Petiole 2–4 mm; leaf blade ovate, 0.6–2.5 × 0.4–1.5 cm, abaxially densely with black glands, hispidulous along veins, brown when dry, adaxially sparsely hispidulous and black when dry, base broadly cuneate, margin crenate, apex obtuse. Flowers solitary in leaf axils. Pedicel 1–2 mm. Bracteoles linear, ca. 2 mm, adnate to base of calyx tube. Calyx lobes unequal; outer 3 lobes ovate, 4–7 × 2–4 mm, margin ciliate, veins evident; inner 2 lobes linear-lanceolate, ca. 4 mm. Corolla pale red, ca. 7 mm, inside hispidulous; lower lip lobes subequal, oblong, ca. 2 mm; upper lip white, narrowly elliptic, ca. 3 mm. Anterior anthers with 1 locule fertile; posterior anthers with both locules fertile. Ovary oblong-ovoid. Stigma subglobose. Capsule narrowly ovoid, ca. 5 mm, included in persistent calyx. Seeds ovoid to oblong, ribbed. Fl. and fr. Mar–Apr.

Scrub on lower mountain slopes; low elevations. Hainan [Cambodia, India, Indonesia, Laos, Malaysia, New Guinea, Philippines, Thailand, Vietnam].

3. *Adenosma glutinosum* (Linnaeus) Druce, Bot. Soc. Exch. Club Brit. Isles 3: 413. 1914.

毛射香 mao she xiang

*Gerardia glutinosa* Linnaeus, Sp. Pl. 2: 611. 1753; *Adenosma caeruleum* R. Brown; *A. glutinosum* var. *caeruleum* (R. Brown) P. C. Tsoong; *Digitalis sinensis* Loureiro; *Pterostigma grandiflorum* Benth.

Herbs, 30–100 cm tall. Stems erect, densely villous with eglandular and glandular hairs. Petiole 3–10(–15)

mm; leaf blade lanceolate-ovate to broadly ovate, 2–10 × 1–5 cm, abaxially villous and densely yellow punctate glandular, adaxially villous especially along midrib; base cuneate, truncate, or subcordate, margin irregularly serrate and sometimes double serrate, apex acute, midrib concave. Flowers axillary and solitary or in dense racemes apically on stems and branches; bracts small. Pedicel 0.5–1.5 cm, to 2 cm in fruit. Bracteoles linear, 5–9 mm, adnate to base of calyx. Calyx 0.7–1.3 cm; lobes entire, narrowly lanceolate. Corolla purple-red to violet, 0.9–2.8 cm; lower lip 3(or 4)-lobed; upper lip ovate-orbicular, apex truncate to emarginate. Anterior anthers with 1 locule fertile; posterior anthers with both locules fertile. Style gradually widening and narrowly winged. Capsule ovoid, 5–9.5 × 3–6 mm, 2-grooved, apex beaked. Seeds brown to dark brown. Fl. and fr. Jul–Oct.

Mountain slopes, wet places under sparse forests; 300–2000 m. Fujian, Guangxi, Hainan, Jiangxi, Yunnan [Cambodia, India, Indonesia, Laos, Malaysia, Thailand, Vietnam; Australia, Oceania].

Used medicinally.

**4. *Adenosma retusilobum*** P. C. Tsoong & T. L. Chin, Fl. Reipubl. Popularis Sin. 67(2): 396. 1979.

凹裂毛射香 ao lie mao she xiang

Herbs, 3–10(–35) cm tall. Stems slender, base slightly curved to decumbent, apically sparsely branched. Leaves petiolate; leaf blade ovate to ovate-orbicular, 0.3–2 cm, abaxially densely yellow glandular, adaxially white hairy, base broadly cuneate to subcordate, margin irregularly crenate except for base. Racemes terminal, villous; bracts foliaceous, decreasing in size upward. Pedicel ca. 1 mm. Bracteoles linear, slightly shorter than calyx. Calyx lobes linear-lanceolate, ca. 3 mm, somewhat unequal, hairy. Corolla pale purple, ca. 4.5 mm; lower lip slightly shorter than upper lip; upper lip ovate-oblong, ca. 2 mm, ± arched, lobes suboblong and apically deeply notched. Anterior and posterior anthers with only 1 locule fertile. Capsule ovoid, ca. 2 mm. Fl. and fr. Aug–Nov.

• Fields, along streams; 600–800 m. Guangxi, Yunnan.

Used medicinally.

