

**41. CENTRANTHERA** R. Brown, Prodr. 438. 1810.

胡麻草属 hu ma cao shu

Herbs, mostly annual. Flowers axillary, solitary, short pedicellate. Bracteoles 2. Calyx usually split on 1 side, spathe-like, margin entire, apex acute, acuminate, or sometimes obtuse. Corolla funnelform, swelling below throat or distally gradually expanding, somewhat 2-lipped; lobes 5, subequal, erect or spreading. Stamens 4, didynamous; filaments usually hairy; anthers meeting in pairs, locules transverse, base spurred or mucronate, 2-loculed; 1 locule fertile, other reduced and empty. Style apex ligulate, enlarged, stigmatic. Capsule loculicidal; valves entire. Seeds numerous; seed coat loose, spirally striate or reticulate.

About nine species: tropical and subtropical Asia; three species in China.

1a. Leaves 1–2.6 cm wide, abaxially with 3 longitudinal subparallel bulging veins, margin serrate . 1. *C. grandiflora*

1b. Leaves to 0.4 cm wide, abaxially with only midvein bulging, margin entire.

2a. Stems much branched at base; bracts longer than corolla; corolla ca. 0.9 cm ..... 2. *C. tranquebarica*

2b. Stems branched at or above middle; bracts shorter or rarely as long as corolla; corolla 1.5–4 cm 3. *C. cochinchinensis*

**1. Centranthera grandiflora** Benth, Scroph. Ind. 50. 1835.

大花胡麻草 da hua hu ma cao

Herbs, 50–80 cm tall. Stems stout, erect, terete or subteragonal, hirsute, apically channeled, simple or apically sparsely branched. Leaves opposite below, rarely apically alternate, sessile, elliptic, 2–5 × 1–2.6 cm, margin somewhat revolute, sparsely serrate, 3–5-toothed or -lobed, with pustulose or circular scalelike-based setae, abaxially with 3 longitudinal, coarsely bulging, and subparallel veins. Pedicel 4–6 mm, hispidulous. Bracteoles inserted at base of pedicel, subulate, 4–5 mm, hispidulous. Calyx ovate, 1.4–2 × ca. 1 cm, hispidulous, apex constricted into a point ca. 2 mm, slightly bowed. Corolla yellow, 3.5–4.3 cm. Fl. Jul–Sep.

Trailsides, open fields; ca. 800 m. Guangxi, Guizhou, Xizang (Zayü Xian), Yunnan [Bhutan, India, Myanmar, Nepal, Sikkim, Vietnam].

**2. Centranthera tranquebarica** (Sprengel) Merrill in Merrill & Chun, Sunyatsenia 5: 182. 1940.

矮胡麻草 ai hu ma cao

*Razumovia tranquebarica* Sprengel, Mant. Prim. Fl. Hal. 45. 1807; *Centranthera humifusa* Wallich ex Benth; *C. tonkinensis* Bonati.

Herbs, slender, basally hirsute, apically subglabrous. Stems erect or prostrate, branched from base; branches slender, mostly diffuse and ascending, dense, fascicled, 5–30 cm. Leaves opposite, rarely alternate below, sessile, linear-lanceolate, usually 0.8–2.5 cm × 2–3 mm, glabrous or midrib with scabrous scalelike bulges on both surfaces or abaxially short hairy, margin entire and slightly revolute, apex acuminate. Bracts longer than corolla. Calyx ovate, ca. 3.5 mm at anthesis, to 5.5 mm in fruit, hispidulous. Corolla yellow, brown striate, ca. 9 mm; throat densely black punctate; lower lip lobes suboblong, ca. 2 mm wide, apex somewhat sharp; upper lip ca. 3 mm, lobes suborbicular and ca. 2 mm in diam. Anterior stamens 3–5 mm; filaments densely white lanose-villous. Posterior stamens 2–4 mm; filaments apically villous. Ovary oblong, ca. 3 × 2.5 cm, glabrous.

Capsule subglobose, 4–5 × ca. 4 mm, as long as persistent calyx. Seeds yellow, cylindric-conical, ca. 1 mm; seed coat reticulate. Fl. and fr. Jul–Oct.

Grassland on mountain slopes, trailsides, sandy slopes near ocean; low elevations. Fujian (Xiamen Shi), C Guangdong, Guangxi, Hainan [Cambodia, India, Laos, Malaysia, Sri Lanka, Thailand, Vietnam].

**3. Centranthera cochinchinensis** (Loureiro) Merrill, Trans. Amer. Philos. Soc. 24(2): 353. 1935.

胡麻草 hu ma cao

Herbs, (13–)30–60 cm tall; stems, leaf blades, bracts, and calyces setiferous. Stems erect, basally subterete, channeled, usually branched at or above middle. Leaves opposite, rarely alternate, sessile, linear-lanceolate, 2–3 cm × 3–4 mm, margin entire and subrevolute, midrib abaxially bulging. Bracts shorter or rarely as long as corolla. Flowers borne above middle of stem. Calyx 7–15 × 4–6 mm, densely hispid, apex constricted, slightly curved; lobes reduced to 3 mucros. Corolla yellow, purple-red, or white with purple lobes, 1.5–4 cm; lower lip lobes 3, orbicular; upper lip lobes 2, orbicular. Anterior stamens ca. 1 cm; posterior stamens 6–7 mm; filaments all woolly. Ovary glabrous. Stigma linear-elliptic, ca. 3 × 1 mm, hairy. Capsule ovoid, ca. 8 × 4 mm, apex mucronate. Seeds yellow, small, spirally striate. Fl. and fr. Jul–Oct.

Dry grassy slopes, grassland, fields, forests, wastelands, rice fields; near sea level to 1500 m. Anhui, Fujian, Guangdong, Guangxi, Hainan, Hunan, Jiangsu, Jiangxi, Sichuan, Xizang, Yunnan [Cambodia, India, Indonesia, Japan, Korea, Laos, Malaysia, Myanmar, Nepal, Philippines, Sri Lanka, Thailand, Vietnam; N Australia, Oceania].

- 1a. Corolla 3.5–4 cm; plants robust ..... 3a. var. *cochinchinensis*
- 1b. Corolla less than 2.5 cm; plants slender.
  - 2a. Corolla 1.5–1.6(–2.2) cm, purplish red or nearly white ..... 3b. var. *nepalensis*
  - 2b. Corolla 1.5–2.5 cm, entirely yellow or with pink lobes ..... 3c. var. *lutea*

**3a. Centranthera cochinchinensis** var. *cochinchinensis*

胡麻草(原变种) hu ma cao (yuan bian zhong)

*Digitalis cochinchinensis* Loureiro, Fl. Cochinch. 2: 378. 1790; *Centranthera cochinchinensis* var. *longiflora* (Merrill) P. C. Tsoong; *C. longiflora* (Merrill) Merrill; *Razumovia cochinchinensis* (Loureiro) Merrill; *R. longiflora* Merrill.

Plants robust. Corolla 3.5–4 cm, reddish white with yellow stripes. Fl. and fr. Jul–Oct.

Dry grassy slopes or grassland; 500–1500 m. Guangdong, Guangxi, Yunnan [Cambodia, Laos, Vietnam].

**3b. *Centranthera cochinchinensis* var. *nepalensis*** (D. Don) Merrill, 150th Anniv. Vol. Bot. Gard. Calcutta 56. 1942.

西南胡麻草 xi nan hu ma cao

*Centranthera nepalensis* D. Don, Prodr. Fl. Nepal. 88. 1825; *Razumovia cochinchinensis* (Louriero) Merrill var. *nepalensis* (D. Don) Merrill.

Plants slender. Corolla 1.5–1.6(–2.2) cm, pale purple-red to nearly white. Fl. and fr. Aug–Oct.

Grassland, fields, forests; 700–1500 m. Sichuan, Xizang, Yunnan [India, Nepal, Sri Lanka].

The whole plant is used medicinally.

**3c. *Centranthera cochinchinensis* var. *lutea*** (H. Hara) H. Hara, Enum. Sperm. Jap. 1: 246. 1948.

中南胡麻草 zhong nan hu ma cao

*Razumovia cochinchinensis* (Loureiro) Merrill var. *lutea* H. Hara, J. Jap. Bot. 17: 397. 1941; *Centranthera rubra* H. L. Li.

Plants slender. Calyx 8–10 × 3–4 mm. Corolla entirely yellow or rarely with pink lobes, 1.5–2.5 cm.

Wastelands, rice fields; near sea level to 1100 m. Anhui, Fujian, Guangdong, Guangxi, Hainan, Hunan, Jiangsu, Jiangxi, Sichuan, Xizang, Yunnan [Cambodia, India, Japan, Korea, Laos, Malaysia, Myanmar, Philippines, Thailand, Vietnam].

