

## 5. GYNANDROPSIS Candolle, Prodr. 1: 237. 1824, nom. cons.

羊角菜属 yang jiao cai shu

*Pedicellaria* Schrank.

Herbs, annual [or rarely short-lived perennials], glabrate or glandular pubescent. Stipules absent. Leaves alternate, spirally arranged, palmately compound; petiole long or short, with pulvinus at basal or distal end; leaflets 3 or 5; petiolule bases connate forming a pulvinar disk; leaflet blades oblanceolate to rhombic, margin serrulate-denticulate. Inflorescences terminal, racemose and sometimes elongated, elongating in fruit; bract present at base of pedicels. Flowers zygomorphic. Sepals 4, equal, each often subtending a basal nectary. Petals 4, equal, distinct. Stamens 6; filaments adnate to basal portion of gynophore receptacle forming androgynophore  $\pm$  as long as petals. Gynophore slender, elongating and recurving in fruit, scars from filaments visible for 1/3–1/2 its length; style short, thick; stigma 1, capitate. Fruit an oblong capsule, dehiscent. Seeds 10–40 per capsule, subspherical, not arillate; cleft fused between 2 ends of seed.

Two species: pantropical and warm temperate; one species in China.

The center of diversity is in S Asia. *Gynandropsis* is allied to *Cleome* but is distinguished by the long, conspicuous androgynophore. It has sometimes been included in *Cleome*, but most regional accounts of Capparaceae or Cleomaceae (e.g., Jafri, Fl. Pakistan 34: 17–20. 1973) in the Old World have given it generic status, an approach followed here.

**1. *Gynandropsis gynandra*** (Linnaeus) Briquet, Annuaire Conserv. Jard. Bot. Genève 17: 382. 1914.

羊角菜 yang jiao cai

*Cleome gynandra* Linnaeus, Sp. Pl. 1: 671. 1753; *C. heterotricha* Burch; *C. pentaphylla* Linnaeus; *Gynandropsis heterotricha* (Burch) Candolle; *G. pentaphylla* (Linnaeus) Candolle; *G. sinica* Miquel.

Herbs, annual, (0.2–)0.9–1.5 m tall. Stems simple or sparsely branched, glabrate to glandular pubescent. Petiole 3.5–4.5(–8) cm, glandular pubescent; leaflets 3 or 5; leaflet blades oblanceolate to rhombic, 2.5–4.5  $\times$  1.2–2.5 cm, both surfaces glabrate to glandular pubescent, margin serrulate-denticulate, apex acute. Inflorescences 5–20 cm but 10–40 cm in fruit, 5–12-flowered; bracts 1–2.5 cm, 3-foliolate, petiolate. Pedicel purple, 0.8–1.5 cm, glabrous. Sepals green, lanceolate, 3.5–5  $\times$  0.8–1.2 mm, persistent, glandular pubescent, base cuneate, margin entire. Petals purple to white, oblong to ovate, 7–14  $\times$  3–4 mm, clawed. Stamens purple, 0.8–3 cm; filaments adnate to gynophore for 1/3–1/2 their length, diverging at anthesis; anthers green, 1–2 mm. Pistil 6–10 mm; style 1–1.2 mm. Fruit gynophore 1–1.4 cm, scars from filaments visible for 1/3–1/2 its length; capsule 4.5–9.5 cm  $\times$  3–4 mm, glandular pubescent. Seeds 10–20 per capsule, reddish brown to black, subspherical, 1.4–1.6  $\times$  1–1.2 mm, rugose to tuberculate. Fl. (Apr–)May–Jul(–Oct), fr. Jun–Dec.  $2n = 34, 60$ .

Roadsides, wastelands, fields, often dry areas; near sea level to 300(–800) m. Anhui, Chongqing, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hebei, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Shandong, Taiwan, Yunnan, Zhejiang [Bhutan, India, Indonesia, Malaysia, Nepal, Sri Lanka, Thailand, Vietnam; tropical Africa; introduced in Central, S North, and South America].

This species is often grown as an ornamental and cultivated as a potherb (see Waithaka & Chweya, *Gynandropsis gynandra*, a tropical leafy vegetable: its cultivation and utilization. F. A. O. Pl. Prod. Protect. Pap. 107. 1991; Chweya & Mnzava, Cat's Whiskers: *Cleome gynandra* L. F. A. O. Pl. Prod. Protect. Pap. 1997). It is also used medicinally. The fresh plant has a peculiar odor that suggests burning *Cannabis*. The C4 photosynthetic pathway is reported from *Gynandropsis gynandra* (see Imbamba & Tieszen, Physiol. Pl. (Copenhagen) 39: 311–316. 1977).

