

10. CASSIA Linnaeus, Sp. Pl. 1: 376. 1753, nom. cons.

决明属 jue ming shu

Trees or large shrubs. Leaves spirally arranged, often distichous, abruptly pinnate; rachis and petioles without glands; leaflets opposite, without stipels. Flowers in terminal panicles on main shoots or racemes on short side shoots; pedicels with 2 bracteoles at or shortly above base. Calyx 5-merous; sepals reflexed at anthesis. Corolla zygomorphic; petals 5. Stamens 10; filaments of 3 abaxial antesealous stamens sigmoidally curved, usually longer than their anthers, dehiscent by slits; remaining 7 filaments straight and short, with anthers mostly dehiscent by basal pores. Legume elongate, cylindric or compressed, indehiscent. Seeds numerous, 1- or 2-seriate; funicle filiform.

About 30 species: tropical regions; two species (one introduced) in China.

Because of insufficient materials for comparison, *Cassia lancangensis* Y. Y. Qian (Acta Bot. Austro Sin. 6: 23. 1990) could not be treated here.

1a. Inflorescence 20–40(–60) cm; leaves with 3 or 4 pairs of leaflets; legume 2–2.5 cm in diam. 1. *C. fistula*

1b. Inflorescence shorter than 15 cm; leaves with 5–12 pairs of leaflets; legume less than 1.5 cm in diam. 2. *C. javanica*

1. *Cassia fistula* Linnaeus, Sp. Pl. 1: 377. 1753.

腊肠树 la chang shu

Trees, deciduous, to 15 m tall. Leaves 30–40 cm, with 3 or 4 pairs of leaflets; leaflets adaxially shiny, broadly ovate or ovate-oblong, 8–13 × 4–8 cm, leathery, both surfaces puberulent when young, glabrous when mature, base broadly cuneate, apex acute. Racemes axillary, 20–40(–60) cm, lax, pendent, many flowered; flowers 3.5–4 cm in diam. Pedicels 3–5 cm, slender. Sepals narrowly ovate, 1–1.5 cm, reflexed at anthesis. Petals golden yellow, broadly ovate, subequal, 2.5–3.5 cm, shortly clawed. Stamens 10, 3 long with curved filaments 3–4 cm, anthers ca. 5 mm, exceeding petals, 4 short with straight filaments 6–10 mm, reduced stamens with minute anthers. Ovary stalked, strigulose; stigma small. Legume pendulous, blackish brown, terete, sausage-shaped, indehiscent, 30–60 cm, 2–2.5 cm in diam. Seeds numerous, separated by papery septa, glossy brown, elliptic, flattened. $2n = 28$.

Cultivated in S and SW China [native to India; cultivated throughout the tropics].

This is a common ornamental tree in the southern region. The bark contains tannin, a source of red dye. The fruit pulp and seeds are used medicinally as a laxative. The wood is hard and durable and is used for props, bridges, and farm tools.

2. *Cassia javanica* Linnaeus, Sp. Pl. 1: 379. 1753.

爪洼决明 zhao wa jue ming

Trees, deciduous, usually more than 10 m tall, sometimes to 30 m. Leaves 15–40 cm; leaflets 5–12 pairs, 2–8 × 1.2–3.3 cm, both surfaces pilose or abaxially pilose, adaxially sparsely puberulent, base slightly asymmetric, apex acute, obtuse, or shortly acuminate. Inflorescences lateral on short side branches or terminal on young leafy shoots. Sepals ovate or broadly lanceolate. Petals deep yellow or pink, 2.5–4.5 × 1–2 cm. Stamens 10, among them 3 abaxial antesealous with filaments longer than other 7. Ovary pubescent. Legume terete, 30–50 × 0.2–1.5 cm, with annular nodes.

Forests, mountain slopes, also cultivated. Native in Guangxi and Yunnan; cultivated in S China [India, Indonesia, Laos, Malaysia, Myanmar, New Guinea, Philippines, Thailand, Vietnam; widely cultivated in the tropics].

This is a very polymorphic species with a wide distribution from N India through the Indochinese Peninsula and the Malesian region to New Guinea. Altogether, seven subspecies are recognized, two of them in China. Outside of China, *Cassia javanica* subsp. *javanica* was described from Java, is widely distributed from Indonesia to the Philippines, and is widely cultivated as an ornamental throughout SE Asia. The other four subspecies are subsp. *bartonii* (F. M. Bailey) K. Larsen (New Guinea); subsp. *microcalyx* (H. S. Irwin & Barneby) K. Larsen (Indonesia: Kalimantan and Sumatra); subsp. *pubiflora* (Merrill) K. Larsen (Philippines); and subsp. *renigera* (Wallich ex Benth) K. Larsen (Myanmar).

1a. Inflorescences lateral on short side branches; leaflets 2–5 cm; legume 1–1.5 cm in diam.;

petals deep yellow; branchlets thinly

canescent 2a. subsp. *nodosa*

1b. Inflorescences terminal on leafy shoots;

leaflets 5–8 cm; legume ca. 0.2 cm in diam.;

petals pink 2b. subsp. *agnes*

2a. *Cassia javanica* subsp. *nodosa* (Buchanan-Hamilton ex Roxburgh) K. Larsen & S. S. Larsen, Nat. Hist. Bull. Siam Soc. 25(3–4): 205. 1975.

节荚决明 jie jia jue ming

Cassia nodosa Buchanan-Hamilton ex Roxburgh, Fl. Ind. 2: 336. 1824.

Trees, deciduous. Branchlets pendulous, slender, thinly canescent. Leaves 15–30 cm; leaflets 5–12 pairs, 2–5 × 1.2–2 cm, subleathery, abaxially pilose, adaxially sparsely puberulent, base slightly asymmetric, apex acute or obtuse. Racemes lateral on short side branches; inflorescence axis slender. Sepals green (in living specimens), ovate. Petals deep yellow, ovate, 2.5–3 × 1–1.5 cm. Stamens 10, among them 3 abaxial antesealous with longer filaments than other 7. Ovary linear, whitish pubescent. Legume blackish brown, terete, 30–45 × 1–1.5 cm, with conspicuous annular nodes. $2n = 24, 28$.

Cultivated in S China [Indonesia (Java), Malaysia (Peninsular), Thailand; cultivated in the neotropics].

2b. *Cassia javanica* subsp. *agnes* (de Wit) K. Larsen, Nordic J. Bot. 13: 403. 1993.

神黄豆 shen huang dou

Cassia javanica var. *agnes* de Wit, Webbia 11: 220. 1956;

C. agnes (de Wit) Brenan.

Trees, usually more than 10 m tall, sometimes to 30 m. Leaves 25–40 cm; petiole 3–6 cm; leaflets 6–10 pairs, elliptic or oblong-elliptic, 5–8 × 2.5–3.3 cm, both surfaces pilose, base slightly asymmetric, apex shortly acuminate. Panicles 6–9 cm, terminal on young leafy shoots, composed of 6–10 racemes; bracts broadly lanceolate, 5–8 mm. Sepals broadly lanceolate, 8–10 mm. Petals pink, slightly unequal in size, 3–4.5 × 1.4–2 cm. Stamens 10, among them 3 abaxial antesealous with filaments 3–3.5 cm, inflated in middle, 4 of medium size, filaments ca. 1/2 as long as former, not inflated at middle, other 3 smaller. Ovary long, slender, slightly pubescent. Legume terete, 30–50 × ca. 0.2 cm, with annular nodes. Seeds numerous. $2n = 28^*$.

Forests, mountain slopes. Guangxi, Yunnan [Laos, Thailand, Vietnam].

CASSIEAE