

24. Tribe ROBINIEAE

刺槐族 ci huai zu

Sun Hang (孙航); Bruce Bartholomew

Trees, shrubs, or herbs, sometimes with glandular trichomes. Stipules narrow, sometimes becoming thorns or absent. Leaves pulvinate, paripinnate or imparipinnate; leaflets opposite or subopposite; stipels often present. Racemes all axillary or sometimes fasciculate at older nodes, pendulous; bracts membranous, caducous. Calyx campanulate, sometimes bilabiate, 5-toothed with adaxial 2 teeth \pm connate. Standard often with basal appendages; wings free from keel, often with corrugated venation. Stamens diadelphous (9+1); vexillary filament free or connate with others higher up into an open sheath or rarely forming a closed tube; anthers uniform or nearly so. Ovary stipitate, many to several ovuled, rarely ovules only 1 or 2. Legume woody to thinly leathery, 2-valved, continuous within or rarely septate between seeds. Seeds broadly ovoid, oblong-reniform, or oblong, flat, without strophiole.

Eleven genera and ca. 70 species: distributed in America, especially in C and W South America; one genus (introduced) and two species in China.

137. ROBINIA Linnaeus, Sp. Pl. 2: 722. 1753.

刺槐属 ci huai shu

Trees or shrubs, all parts (excluding corolla) sometimes with glandular bristles. Buds only axillary. Stipules bristlelike or spinelike. Leaves imparipinnate; leaflet blades petiolulate and stipellate, margins entire. Racemes axillary, pendulous; bracts membranous, caducous. Calyx campanulate, 5-lobed, adaxial 2 lobes subconnate into an apical lip. Corolla white, pink, or rosy; petals stipitate; standard large, retroflexed; wings curved; keel incurved, blunt. Stamens diadelphous, 1 distinct from other 9 connate ones; anthers homomorphic, 2-loculed, longitudinally dehiscent. Ovary stipitate, many ovuled; style subulate, apically piliferous; stigma small, terminal. Legume compressed, narrowly winged along ventral suture, segments often with appressed bristles. Seeds oblong or obliquely reniform, strophiole absent.

Between four and ten species: North America and Central America; two species (both introduced) in China.

- 1a. Branchlets, rachis, and pedicel with appressed adnate puberulence; stipulate spines present; leaflets oblong; corolla white; legume smooth 1. *R. pseudoacacia*
1b. Branchlets, rachis, and pedicel with appressed spiny hairs or glandular hairy; stipulate spines absent; leaflets oblong to suborbicular; corolla rosy; legume scabrous glandular hairy 2. *R. hispida*

1. *Robinia pseudoacacia* Linnaeus, Sp. Pl. 2: 722. 1753.

刺槐 ci huai

Robinia pseudoacacia var. *inermis* Candolle; *R. pseudoacacia* var. *pyramidalis* (Pepin) C. K. Schneider; *R. pseudoacacia* var. *umbraculifera* Candolle; *R. pyramidalis* Pepin.

Trees, 10–25 m tall, deciduous. Bark gray-brown to dark brown, longitudinally fissured, rarely smooth. Branchlets gray-brown, sparsely hairy, glabrescent; stipulate spines up to 2 cm; winter buds small, with hairs. Leaves 10–25(–40) cm; rachis adaxially grooved; petiolule 1–3 mm; stipel acicular; leaflets 2–12 pairs, usually opposite or subopposite; leaflet blades oblong, elliptic, or ovate, 2–5 \times 1.5–2.2 cm, abaxially grayish green and with appressed pubescence when young but glabrescent, adaxially green, base rounded to broadly cuneate, margin entire, apex rounded, retuse, and apiculate. Racemes axillary, 10–20 cm, pendulous, many flowered, fragrant; bracts caducous. Pedicel 7–8 mm. Calyx obliquely campanulate, 7–9 mm; teeth 5, triangular to ovate-triangular, densely appressed pubescent. Corolla white, stipitate; standard suborbicular, ca. 1.6 \times 1.9 cm, reflexed, inside with yellow spots, base rounded, apex with a sinus; wings obliquely obovate, subequal to standard, ca. 16 mm, one lateral auriculate rounded; keel falcate, triangular, equal to wings or slightly short, connate at leading edge, obtuse. Stamens diadelphous, one opposite to standard free. Ovary linear, ca. 1.2 cm, glabrous; stalk 2–3 mm; style subulate, ca. 8

mm, apically curved, apex piliferous; stigma terminal. Legume brown or with reddish brown stripes, linear-oblong, 5–12 \times 1–1.3(–1.7) cm, compressed, apex volute and mucronate, carpodium short, narrow wings along ventral suture; calyx persistent, 2–15-seeded. Seeds brown to dark brown, slightly glossy, sometimes with stripes, subreniform, 5–6 \times ca. 3 mm; hilum rounded, oblique to one end. Fl. Apr–Jun, fr. Aug–Sep. $2n = 20$, 22.

Cultivated in all of China except Hainan and Xizang [native to E North America; cultivated and sometimes naturalized in many parts of the world].

2. *Robinia hispida* Linnaeus, Mant. Pl. 1: 101. 1767.

毛洋槐 mao yang huai

Shrubs, 1–3 m tall, deciduous. Young branches green, densely appressed purple scabrous glandular hairy and white pilose; biennial branches dark gray-brown, densely brown bristly, 2–5 mm. Leaves 15–30 cm; rachis appressed bristly and white curled pubescent, adaxially grooved; petiolule appressed white pubescent; stipel aristiform, persistent; leaflets 5–7(or 8) pairs; leaflet blades elliptic, ovate, broadly ovate, or suborbicular, 1.8–5 \times 1.5–3.5 cm, often basal pair of leaflets on rachis smaller, glabrous, abaxially grayish green, adaxially dark red when young but later turning green, midvein abaxially with sparse appressed trichomes, base rounded, apex rounded and aristiform. Racemes axillary, all but corolla appressed purple glandular hairy and

white pubescent, 3–8-flowered; peduncle 4–8.5 cm; bracts ovate-lanceolate, 5–6 mm, caducous, sometimes apical ones 3-lobed, apex gradually caudate. Calyx purple, obliquely campanulate; tube ca. 5 mm; teeth triangular, 3–6 mm, apex caudate to subulate. Corolla red to rosy. Petals stipitate; standard sub-reniform, ca. 2 × 3 cm, apex with a sinus; wings falcate, ca. 2 cm, auriculate; keel nearly triangular, ca. 1.5 cm, apex rounded, connate at leading edge, auriculate. Stamens diadelphous, one opposite to standard free; anthers elliptic. Ovary subterete, ca.

1.5 cm, with densely appressed adense papillae, faintly pilose along sutures, many ovuled; stigma terminal. Legume linear, 5–8 × 8–12 mm, compressed, 3–5-seeded, with dense appressed bristles, carpopodium short, apex acute. Fl. May–Jun, fr. Jul–Oct.

Cultivated in at least Anhui, Hebei, Henan, Shaanxi, Shandong, Shanxi, and Zhejiang [native to C and E North America].

This species is grown as an ornamental.