

**143. COLUTEA** Linnaeus, Sp. Pl. 2: 723. 1753.

鱼鳔槐属 *yu biao huai shu*

Sun Hang (孙航); Kai Larsen

Shrubs or small shrubs. Leaves imparipinnate, rarely 3-foliolate; stipules small; leaflets entire, opposite, estipellate. Racemes axillary, long pedunculate; bract and bracteoles very small or absent. Calyx campanulate; teeth 5, subequal or upper 2 smaller, outside pubescent. Corolla yellow or brownish red; standard suborbicular, upper part of stalk bicallose; wings narrowly falcate-oblong, with short stalk; keel broad, mostly inrolled, blunt at apex, with long connate stalk. Stamens diadelphous, upper 1 free, other 9 connate to tube; anthers homomorphic. Ovary stipitate; ovules numerous; style incurved, barbate along upper ventral suture; stigma inrolled or hook-curved. Legume inflated, bladderlike, acute or tapering at apex, indehiscent or tip 2-valvate, with long stalk at base, segments membranous. Seeds numerous, reniform, without strophiole; funicle filiform.

About 28 species: E and NE Africa, C and SW Asia, S Europe; four species (one endemic, two introduced) in China.

- 1a. Leaflets 19–25; racemes 8–14(–31)-flowered ..... 4. *C. delavayi*
- 1b. Leaflets 7–13; racemes 3–8-flowered.
  - 2a. Annual branches (excluding young tips) glabrous to subglabrate, bark of branchlets thinly papery, longitudinally split; flowers to 2.4 cm; ovary densely white pubescent ..... 1. *C. nepalensis*
  - 2b. Annual branches villosulous, bark of branchlets not split; flowers shorter than 1.8 cm; ovary sparsely pubescent.
    - 3a. Corolla yellow, wings with lower part wide, upper part gradually narrowed, without teeth, keel triangular-suborbicular auriculate, auricle intersecting stalk at an acute angle ..... 2. *C. arborescens*
    - 3b. Corolla orange-yellow to reddish brown, wings with upper and lower parts subequal, lower part with 1 or 2 teeth, keel oblong auriculate, auricle parallel to stalk ..... 3. *C. ×media*

**1. *Colutea nepalensis*** Sims, Bot. Mag. 53: t. 2622. 1826.

尼泊尔鱼鳔槐 *ni bo er yu biao huai*

*Colutea arborescens* Linnaeus var. *nepalensis* (Sims) Baker.

Shrubs, deciduous, 1–3 m tall. Old branches reddish brown to brunescent, glabrous, glossy; annual branches white to white-green. Leaves pinnate, 7–13-foliolate, often clustered at new branch bases, 4–10 cm; rachis sparsely pubescent; stipules triangular; leaflets often opposite; petiolules ca. 1 mm; leaflet blades elliptic to obovate, 6–16 × 7–11 mm, both surfaces sparsely pubescent or adaxially glabrous, lateral veins inconspicuous, base rounded to nearly truncate, apex with inconspicuous mucro. Racemes subequal to leaves, 3–10-flowered; peduncle 8–10 cm, pubescent; bract ovate-lanceolate, both bracteoles and bract pubescent. Flowers to 2.4 cm. Calyx outside with hairs; upper 2 teeth broadly triangular, lower 3 linear, slightly curved. Corolla yellow; standard deflexed, 20–22 × ca. 19 mm, stalk 5–6 mm, calluses oblong, rounded but margin free at apex; wings ca. 15 mm, stalk ca. 6 mm, upper stalk auriculate, ca. 3 × 1.5 mm, irregular at apex; keel connate, suborbicular, 10–11 × 7–8 mm, apex beaked, stalk 9–10 mm. Ovary complanate, oblong-lanceolate, densely pubescent; stipe ca. 3.5 mm; style ca. 10 mm, curved, hook-curved at apex, ventrally with longitudinal cirrus; stigma terminal, small. Legume oblong, 4–5.5 × 2–2.5 cm, with groove along ventral suture, pubescent, with curved fruit stalk at base, acute to rounded at apex; segments thinly leathery. Seed smooth. Fl. and fr. Jun–Jul.

Mountain slopes, riverside gravel, among shrubs. W Qinghai (Haixi Diq), W Xizang (Ngari Diq) [Afghanistan, India, Pakistan].

**2. *Colutea arborescens*** Linnaeus, Sp. Pl. 2: 723. 1753.

鱼鳔槐 *yu biao huai*

Shrubs, deciduous, 1–4 m tall. Young branches with fine white hairs. Leaves pinnate, 7–13-foliolate, 6–15 cm, with groove on rachis; stipules triangular or lanceolate-triangular to lanceolate-falcate, 2–3 mm; leaflets abaxially gray-green, adaxially green, oblong to obovate, 1–3 cm × 6–15 mm, thinly leathery, abaxially sparsely shortly hairy, adaxially glabrous, venation clear and free, apex retuse or obtuse, mucronate. Racemes 5–6 cm, 6–8-flowered; bract ovate-lanceolate, ca. 2 mm, blackish brown or intermixed white scattered shortly sericeous, apex obtuse. Pedicel ca. 1 cm. Calyx ca. 5 mm; tube inside upper part densely pallid to brown hairy; teeth triangular, 1/4–1/3 as long as calyx tube, outside sparsely blackish brown and white sericeous, apex argute. Corolla yellow; standard slightly wider than long, 15–17 mm, base rounded, apex retuse, stalk 2–4 mm, calluses crescent-shaped, slightly convex; wings 11–14 mm, widest near base, to 4 mm wide, upper part often attenuate, curved auriculate at one lateral base, equal to stalk, ca. 4 mm, apex obtuse; keel suborbicular to triangular-suborbicular, ± concave, ca. 5 mm wide and triangular-suborbicular auriculate at base, to 11 mm wide at apex, auricle intersecting stalk at an acute angle, stalk 8–9 mm. Ovary densely pubescent; style curved, at slight right angle with ovary, inrolled at apex, adaxially longitudinally white barbate. Legume greenish or slightly red at base, narrowly ovate, 6–8 × 2–3 cm, glabrous to subglabrate, both ends acute. Seeds complanate, blackish to green-brown. Fl. May–Jul, fr. Jul–Oct.

Cultivated for ornament. Beijing, Jiangsu (Nanjing), Liaoning (Dalian), Shaanxi (Wugong), Shandong (Qingdao) [native to C and S Europe].

**3. *Colutea ×media*** Willdenow, Enum. Pl. 2: 771. 1809.

杂种鱼鳔槐 *za zhong yu biao huai*

Shrubs, deciduous, ca. 1.8 m tall. Old branches gray, gla-

brous; young ones gray-yellow, with white hairs. Leaves pinnate, 9–13-foliolate, 7–10 cm; stipules on lower branches often triangular, ca. 1 mm, on upper branches lanceolate, ca. 3 mm, sparsely pubescent to glabrous; leaflets opposite or subopposite; petiolules 0.5–1 mm, densely pubescent; leaflet blades adaxially bluish green, obovate, 1.3–1.9(–2.5) × 0.9–1.2 cm, abaxially appressed white pubescent, adaxially glabrous, base rounded, apex truncate to retuse, shortly mucronate. Racemes 6–6.5 cm, 3–5-flowered; peduncle to 3–4 cm, pubescent; bract lanceolate, ca. 1.5 mm, hairy. Pedicel 7–10 mm; bracteoles fine, pubescent. Calyx ca. 5 × 5 mm, outside with hairs, longitudinal ribs 5; teeth triangular, subequal, ca. 1 mm, inside densely manicate, glabrous below. Corolla orange-yellow to reddish brown; standard reflexed, ca. 15 × 19–20 mm, base rounded, sinus at apex, stalk ca. 2 mm, calluses lunate; wings conspicuous, smaller than standard and keel, upper and lower parts subequal, ca. 1 cm, rounded at apex, auriculate at one lateral upper base, often conduplicate and curved at apex, intersecting stalk to form a ring, lower part with 1 or 2 teeth, stalk ca. 4 mm; keel connate, triangular-suborbicular, ca. 1.2 × 1.2 cm, oblong auriculate and ca. 4 mm wide at base, auricle parallel to stalk, stalk ca. 9 mm. Ovary flattened, linear-lanceolate, ca. 6 mm, pubescent; stipe ca. 4 mm; style curved to nearly right angle, inrolled at apex, glabrous except barbate adaxially. Legume ca. 7.5 cm. Fl. and fr. May–Oct.

Cultivated for ornament. Shandong [of hybrid origin in SW Asia (Caucasus); widely cultivated].

*Colutea ×media* is a hybrid between *C. arborescens* and *C. orientalis* Miller; the latter is often cultivated in the Mediterranean region.

#### 4. *Colutea delavayi* Franchet, Pl. Delavay. 158. 1889.

膀胱豆 pang guang dou

Shrubs, deciduous, 1–4 m tall, to 4 cm in diam. Stems with gray-green bark and many fibers, throughout with dense to sparse, pallid and brownish appressed hairs. Leaves pinnate, 19–25-foliolate, ca. 15 cm; stipules linear-lanceolate, 3–4 mm, both surfaces densely pubescent, tapering at apex; leaflets adaxially bottle-green, elliptic, ovate-elliptic, or narrowly obovate, 10–20 × 6–10 mm, abaxially sparsely hairy, adaxially with scattered appressed hairs or subglabrous, base rounded to broadly cuneate, apex rounded or retuse, mucronate. Racemes longer than or equal to leaves, 15–17 cm, 8–14(–31)-flowered. Pedicel 3–5 mm. Calyx tube ca. 3 mm; teeth triangular, 1–1.5 mm, outer and inner margin densely pubescent. Corolla yellowish; standard reflexed, 1–1.3 cm wide, base cordate, apex retuse,

stalk 2–3 mm, calluses suborbicular, ca. 1 mm wide; wings ca. 8 mm, auriculate and stipitate at base; keel suborbicular, 6.5–8 mm, broadly triangular auriculate, stalk ca. 7 mm. Ovary flattened, 4–5 mm, outside densely puberulent; stipe ca. 3 mm; style at right angle with ovary, inrolled at apex, adaxially longitudinally barbate; stigma fine. Legume ovoid-fusiform, 3.5–4 × 1.8–2 cm, argute at apex, attenuate at base, stalk 12–18 mm; segments greenish white to yellow-green, outside sparsely appressed blackish brown hairy to glabrous. Seeds brown, not glossy, ca. 4.5 × 3.5 mm; funicle ca. 2 mm. Fl. Aug–Oct, fr. Oct–Dec.

• Mountain slopes, riversides, among shrubs; 1800–3000 m. SW Sichuan (Jiulong, Muli), NW Yunnan.

