91. RHYNCHOSIA Loureiro, Fl. Cochinch. 2: 425, 460. 1790, nom. cons.

鹿藿属 lu huo shu

Sa Ren (萨仁); Michael G. Gilbert

Dolicholus Medikus.

Usually vines, creeping or twining, rarely erect shrubs or subshrubs. Leaves pinnately 3-foliolate; stipules usually caducous; stipels persistent or absent; leaflets usually with sessile glands abaxially. Inflorescence axillary, racemose, sometimes branched or 1-flowered. Bracts usually deciduous, rarely persistent. Calyx campanulate, 5-lobed, upper 2 lobes ± connate, lowest 1 longer. Corolla longer than calyx or short; standard circular or obovate, base with inflexed auricles, with or without appendage; wings and keels subequal, inflexed. Stamens diadelphous; vexillary stamen free; anthers uniform. Ovary sessile or subsessile; ovules (1 or)2; style curved above middle, usually hairy at lower part; stigma terminal. Legume oblong, oblanceolate, obovoid-ellipsoid, obliquely orbicular, sickleform, or ellipsoid, dehiscent, compressed or inflated, (1 or)2-seeded, not septate, apex always beaked. Seeds (1 or)2, usually suborbicular or reniform; hilum round, funicle in middle, strophiole small or absent.

About 200 species; worldwide; 13 species (five endemic) in China.

1a. Legume densely green or yellowish green tomentose.
   1b. Legume glabrous or pubescent.

2a. Inflorescence densely 40–80-flowered; legume both tomentose and villous ............................... 1. R. acuminatifolia
   2b. Inflorescence sparsely ca. 20-flowered; legume densely villous .................................................................................. 2. R. lutea

3a. Legume oblong or obovate-elliptical, length:width ratio more than 2:1.
   3b. Legume obliquely orbicular, oblanceolate, obovate-orbicular to ellipsoid, length:width ratio less than 2:1.
   4a. Leaflet apex acuminate or shortly acuminate.
   4b. Leaflet apex rounded or obtuse.
   5a. Terminal leaflet broadly ovate or circular-rhomboid, apex acuminate; flowers lax .......................... 12. R. himalensis
   5b. Terminal leaflet rhomboid, apex shortly acuminate; flowers dense ........................................... 13. R. kunmingensis

6a. Stem slender, glabrous or sparsely pubescent; terminal leaflet 2–8 × 2.5–8 cm.
   6b. Stem robust, densely hairy; terminal leaflet 2–8 × 2.5–8 cm.
   7a. Terminal leaflet reniform or oblanceolate, base slightly cordate or almost truncate .................. 10. R. yunnanensis
   7b. Terminal leaflet circular-rhomboid, base rounded ................................................................. 11. R. sericea

8a. Legume obliquely orbicular, inflated; seed 1 ................................................................. 3. R. rufescens
   8b. Legume oblong or obovate, compressed; seeds usually 2.

9a. Terminal leaflet apex obtuse, rarely acute ................................................................. 4. R. volubilis
   9b. Terminal leaflet apex acuminate or caudate-acuminate.
   10a. Inflorescence slender, 1–7 cm ................................................................. 5. R. acuminatissima
   10b. Inflorescence robust, 5–27 cm.
   11a. Stem tomentose and sticky with gland-tipped hairs .......................................................... 6. R. viscosa
   11b. Stem villous or pubescent, gland-tipped hairs absent.

12a. Terminal leaflet lanceolate to ovate-lanceolate, both sides sparsely pubescent, apex acuminate; raceme branched; legume glabrous or almost glabrous ..... 7. R. chinensis
   12b. Terminal leaflet ovate, broadly elliptic, or rhomboid-ovate, both sides densely pubescent, apex acuminate or caudate-acuminate; raceme unbranched; legume pubescent ................................................................. 8. R. dielsii


密果鹿藿 mi guo lu huo

Rhynchosia myriocarpa Quisumbing & Merrill.

Herbs. Stems twining, densely yellow or yellow-green pubescent, spotted with black glands. Leaves pinnately 3-foliolate; stipules ovate to lanceolate, 4–6 mm; petiole 6–10(–14) cm; stipels small, pyramidal; petiolules 3–5 mm, densely pubescent; leaflets ovate to broadly ovate-rhomboid, 5.5–12 × 4.5–8.5 cm, almost membranous, base rounded, slightly cordate, or almost truncate, apex long acuminate and curved; lateral leaflets much smaller, base oblique, both surfaces pubescent, basal veins 3.

Raceme 10–15 cm, hairy, densely 40–80-flowered; peduncle 1.5–3 cm. Flowers 1.1–1.3 cm, usually paired or clustered at upper part of inflorescence; pedicels slender, 4–5 mm, pubescent. Calyx ca. 5 mm; lobes acute, unequal, ca. 2 mm. Corolla light purple; standard abaxially pubescent, with obvious callosity inside; keels obtuse. Ovary villous. Legume oblong, 1.7–2 × 0.6–0.7 cm, slightly curved, slightly constricted between seeds, densely tomentose and villous. Seeds usually 2, deep blue or black, lustrous, ovate, 4–6 × 3.5–4 mm. Fl. Mar–Apr, fr. after May.

Forests, shrubs; ca. 600 m. Hainan, Yunnan [Indonesia, Malaysia, Papua New Guinea, Philippines, Vietnam; Australia, Pacific islands (Solomon Islands)].
2. **Rhynchosia lutea** Dunn, J. Linn. Soc., Bot. 35: 491. 1903.

**黄花鹿藿** huang hua lu huo

Herbs. Stems twining, slender to slightly robust, pubescent. Leaves pinnately 3-foliolate; stipules small, triangular, ca. 6 mm, deciduous; petiole 4–12 cm, sparsely pubescent; stipels small, bristlelike; petiolules 3–5 mm, densely pubescent; terminal leaflet rhomboid-circular, oblade-circular, or rarely subtriangular, 5–9.5 × 4.5–10 cm, papery, pubescent, with sparse yellow light glands, basal veins 3, base almost truncate or slightly cordate, apex abruptly caudate-acuminate; lateral leaflets much smaller, obliquely ovate. Raceme axillary, to more than 20 cm, ca. 20-flowered, rachis densely villous. Flowers ca. 2 cm. Calyx campanulate, ca. 5 mm, pubescent; lobes triangular to lanceolate, unequal, lower one longest. Standard subcircular, base with inflexed auricles; keel apex with small beak. Seeds 1 or 2, usually black, reniform-orbicular, ca. 1 cm, slightly constricted between seeds, sparsely hairy to almost glabrous, apex with small beak. Seeds usually 2, black, lustrous, elliptic or subreniform. Fl. May–Aug, fr. Sep–Dec. 2n = 22.

Mountains south of the Chang Jiang; 200–1000 m. Guangdong, Hainan, Taiwan [Japan, Korea, Vietnam].

This plant is used medicinally.


**淡尖叶鹿藿** dan jian ye lu huo

**Rhynchosia viscosa** (Roth) Candolle, Prodr. 2: 387. 1825.


Shrubs, creeping, climbing or almost erect. Stems zigzag, pubescent. Leaves pinnately 3-foliolate; stipules small, linear-lanceolate, 2–4 mm, deciduous; petiole 2–4.5 cm, hairy; petiolules short, 1–2 mm; terminal leaflet ovate to ovate-elliptic, 2–5.5 × 1.2–2.5 cm, both surfaces pubescent, with dense sessile glands, basal veins 3, base rounded, apex obtuse or nearly mucronate; lateral leaflets slightly smaller, obliquely ovate. Raceme axillary, slender, 2–4 cm, 2–6-flowered, densely pubescent; bracts small, deciduous; peduncle usually 2–5 mm, hairy. Flower ca. 1 cm. Calyx green, ca. 1 cm, densely pubescent, deeply lobed to base; lobes orbolo. Corolla purple to yellow, longer than calyx. Legume obliquely orbicular, inflated, equal or subequal to calyx, apex slightly curved, acute, pubescent, brown and dehiscent when mature. Seed 1, black, transversely elliptic, ca. 3.5 × 3 mm, with succulent stiophiole. Fl. Apr–Oct, fr. Oct–Feb. 2n = 22.

Valleys; 300–700 m. Guangxi, Yunnan [Cambodia, India, Indonesia, Malaysia, Sri Lanka].


**粘鹿藿** nian lu huo

**Rhynchosia lutea** Loureiro var. acuminata Maximowicz.

Herbs. Stems twining, slender, sparsely pubescent. Leaves pinnately 3-foliolate; stipules small, ovate, membranous, deciduous; petiole 2.5–7 cm, pubescent; stipels bristlelike; petiolules short; terminal leaflet ovate or broadly elliptic, 4–8 × 2–5.5 cm, almost membranous, both surfaces sparsely villous, abaxial surface with sessile glands, basal veins 3, lateral veins ca. 3 pairs, base rounded, apex acuminate or long acuminate; lateral leaflets obliquely ovate, smaller. Raceme axillary, slender, usually ± as long as petiole, pubescent; peduncles slender, 5–10 mm. Flowers clustered, ca. 1 cm. Calyx campanulate, 3–5 mm; lobes triangular, much shorter than tube, lower one longer, sparsely pubescent. Corolla yellow, longer than calyx, petals subequal; standard subcircular, base with inflexed auricles; keel apex with long beak. Ovary linear, 2-ovuled; style long and curved. Legume red, oblong, compressed, 1.2–1.5 × ca. 0.9 cm, apex with small beak. Seeds 1 or 2, usually black, reniform-orbicular, ca. 5 mm in diam. Fl. and fr. Jul–Oct.

Forests. Anhui, Guizhou, Jiangsu, Zhejiang [Japan].


**粘鹿藿** nian lu huo


Herbs. Stems twining, robust and slightly woody, densely gray viscous pubescent and with sticky glandular hairs. Leaves pinnately 3-foliolate; stipules small, usually lanceolate, 5–8 mm, pubescent, always persistent; petiole 4–9 cm, densely pubescent and with sticky glandular hairs; petiolules 1.6–2.5 cm; leaflets papery; terminal leaflet broadly elliptic or rhomboid-elliptic, 5–8 × 3.5–5 cm, both surfaces villous, abaxial surface with dense small yellow-brown sessile glands, basal veins 3, lateral veins 3–5 pairs, base rounded, apex usually acute, caudate-acuminate; lateral leaflets obliquely ovate to obliquely elliptic. Racemes solitary or a few clustered in axil, 7–22 cm; peduncle 2.8–3.9 cm, densely villous and glandular hairy. Calyx ca. 8 mm, exterior or with glands; upper lobes triangular. Corolla ca. 2 × as long as
Herbs. Stems twining or climbing, densely pubescent or sometimes sparsely villous. Leaves pinnately 3-foliolate; stipules small, lanceolate, 3–7 mm; petiole 3.5–8 cm, pubescent; stipels bristlelike, 0.5–2 mm; terminal leaflet lanceolate to ovate-lanceolate, 5–10 × 3–5 cm, densely pubescent; abaxial surface with yellow-brown sessile glands. Leaves pinnately 3-foliolate; stipules small, lanceolate, usually 1–2 mm; petiole 1–4 mm, glabrous or sparsely pubescent; stipels extremely small; petiolules extremely short; leaflets ± membranous; terminal leaflet rhomboid-circular, 1.5–2.5 × 1–1.5 cm, sometimes wider than long, glabrous or sparsely villous, abaxially densely glandular, basal veins 3, apex obtuse or rounded, rarely shortly acute; lateral leaflets subequal to terminal leaflet or shorter, obliquely circular. Raceme 5–11 cm, axis slender, sparsely pubescent; bracts small, lanceolate, deciduous. Flowers sparse, 8–10 mm. Calyx 5-lobed; lobes triangular, shorter than tube, lower one longer. Corolla yellow, petals all subequal; standard obovate-circular, base with 2 acute auricles; wings obovate-elliptic, auriculate; keels slightly curved, apex obtuse. Legume oblong to ellipsoid, 1–2 × 0.4–0.5 cm, pubescent, 1- or 2-seeded. Fl. May–Oct, fr. Sep–Nov. 2n = 22.

Herbs, annual. Stems twining, slender, sparsely pubescent. Leaves pinnately 3-foliolate; stipules small, lanceolate, usually 1–2 mm; petiole 1–4 mm, glabrous or sparsely pubescent; stipels extremely small; petiolules extremely short; leaflets ± membranous; terminal leaflet rhomboid-circular, 1.5–3 × 1.5–3 cm, sometimes wider than long, glabrous or sparsely villous, abaxially densely glandular, basal veins 3, apex obtuse or rounded, rarely shortly acute; lateral leaflets subequal to terminal leaflet or shorter, obliquely circular. Raceme 5–11 cm, axis slender, sparsely pubescent; bracts small, lanceolate, deciduous. Flowers 6–8 mm, slightly curved; pedicel extremely short. Calyx ca. 5 mm, sparsely pubescent; lobes lanceolate, slightly shorter than tube, lower one longer. Corolla yellow, longer than calyx, petals subequal; standard obovate-circular, base with 2 acute auricles; wings obovate-elliptic, auriculate; keels slightly curved, apex obtuse. Legume oblanceolate to ellipsoid, 1–2 × 0.4–0.5 cm, pubescent, 1- or 2-seeded. Fl. May–Oct, fr. Sep–Nov. 2n = 22.

This is a very variable species that has defied attempts to divide it into more homogeneous taxa.

10. Rhynchosia yunnanensis Franchet, Pl. Delavay. 185. 1890.

Vines, herbaceous or sometimes almost woody, ca. 50 cm. Stems slightly robust, densely villous or tomentose, with dark brown sessile glands. Leaves pinnately 3-foliolate; stipules lanceolate, 4–8 mm, usually persistent; petiole 2.5–6 cm; stipels absent; petiolules 1–3 mm, hairy; leaflets papery; terminal leaflet reniform or oblate, 2.5–5 cm, densely gray villous, with dark brown glands, basal veins 3, lateral veins 2–4 pairs, reticulate veins visible, base shallowly cordate to almost truncate, margin slightly sinuate, slightly reflexed when dried, apex rounded or almost truncate, usually with small mucro; lateral leaflets smaller, slightly oblique. Raceme axillary, rarely solitary or branched, 2.5–5 cm; peduncle 1.5–3.5 cm, densely hairy; bracts lanceolate, 4–7 mm, persistent. Flowers yellow, 1.4–2 cm; pedicel 2–8 mm. Calyx 5-lobed; lobes lanceolate, longer than tube, lower one longest. Standard subcircular or obovate-circular, 1–1.5 cm, glabrous, base with 2 auricles; wings elliptic...
Rhynchosia sericea


绒叶鹿藿 rong ye lu huo

Dolichos tomentosus Roth, Nov. Pl. Sp. 345. 1821, not Rhynchosia tomentosa (Linnaeus) Hooker & Arnott (1835); R. rothii Bentham ex Aitchison.

Vines, woody. Stems densely pubescent and yellow glandular. Leaves pinnately 3-foliolate; stipules ovate-lanceolate, 8–10 × 7–8 mm; petiole 4–6 cm; terminal petiolum 15–28 mm, densely hairy, lateral petiomes 3–4 mm; leaflets circular-rhomboid, 5–8 × 5–8 cm, both surfaces densely pubescent, basal veins 3, lateral veins 3 or 4 pairs, base rounded, apex rounded to nearly truncate, shortly mucronate. Raceme 11–16 cm, robust, many flowered, clustered. Calyx ca. 6 mm, densely hairy; lobes almost triangular, apex acute or acuminate, lobes shorter than or subequal to tube. Corolla reddish; standard obovate, 1.1–1.3 cm, densely hairy, auricles acute; wings obovate-oblong, shortest; keels falcate, subequal to standard, auriculate, apex obtuse. Ovary densely hairy, stipitate. Legume oblanceolate to ellipsoid, ca. 3 cm, compressed, pubescent, apex beaked. Seeds 2, reddish brown, reniform, ca. 3 × 4 mm. Fl. Apr–Nov, fr. Sep–Feb. 2n = 22.

11. Rhynchosia himalensis


喜马拉雅鹿藿 xi ma la ya lu huo

Herbs. Stems twining, densely pubescent and with brownish glands. Leaves pinnately 3-foliolate; stipules narrowly ovate, 4–8 mm; petiole 2–6 cm; petiomes 1–2 cm; terminal leaflet broadly ovate or circular-rhomboid, 2.5–6 × 2.5–4.5 cm, densely pubescent mixed with glandular hairs, abaxial surface with light green glands, base rounded-cuneate, margin entire, apex acuminate; lateral leaflets oblique at base. Raceme axillary, sparsely flowered; bracts elliptic, 4–8 mm, apex acuminate; peduncle 4–7 mm. Calyx 5-lobed, hairy, exterior glandular; tube 3–4 mm; upper 2 lobes connate at base, narrowly triangular, 5–7 mm. Corolla yellow with obvious purple striations, 1.3–1.5 cm; standard broadly obovate, 1.5–1.8 × 1.1–1.3 cm, glabrous, base auriculate, with adaxial callosity at base, apex emarginate; wings glabrous, clawed, 12.5–13 mm, base auriculate, apex entire; keel crescent-shaped, inflexed, obviously longer than wings, 14.5–16 mm, apex obtuse, not auriculate. Ovary ca. 5 mm, densely minutely villous, style ca. 5 mm; style 13.5–15 mm. Legume 2.5–3 × ca. 0.9 cm, densely micro-villous and glandular hairy. 2n = 22.
• Forests, mountains, fields; 1300–3100 m. Sichuan, Xizang, Yunnan.


昆明鹿藿 kun ming lu huo

Vines. Stems twining, slender, pubescent and glandular hairy. Leaves pinnately 3-foliolate; stipules lanceolate, 5–7 mm, hairy; petiole slender, 2.5–4.5 cm, hairy; stipels absent; petiolorules ca. 2 mm, hairy; leaflets papyraceous; terminal leaflet rhomboid, 2.5–3.5 × 1.7–2.3 cm, both surfaces pubescent and with slender glands, basal veins 3, lateral veins 2 or 3 pairs, base broadly cuneate, apex shortly acuminate; lateral leaflets subequal to terminal leaflet, ± oblique, base rounded. Raceme 7–14 cm, many flowered, densely pubescent. Legume oblong-ellipsoid, ca. 2.5 × 0.7 cm, sparsely pubescent, apex long beaked, valves slightly inflexed after dehiscence. Seeds 2, dark brown, reniform, ca. 3 × 5 mm. Fr. Nov.

• Yunnan (Kunming).