

102. DUMASIA Candolle, Ann. Sci. Nat. (Paris) 4: 96. 1825.

山黑豆属 shan hei dou shu

Sa Ren (萨仁); Michael G. Gilbert

Herbs or climbing subshrubs, twining. Leaves pinnately 3-foliolate; stipules and stipels persistent. Inflorescence axillary, racemose; flowers medium-sized. Bracts and bracteoles small. Calyx tubular, mouth obliquely truncate, lobes inconspicuous or absent. Corolla yellow or light yellow, longer than calyx; petals all long clawed; standard usually obovate, rarely oblong or broadly elliptic, glabrous, with auricles; wings falcate-oblong, oblong, oblong-elliptic, or elliptic; keels usually slightly shorter than wings. Stamens diadelphous; vexillary stamen free; anthers uniform. Ovary shortly stipitate, linear; ovules 4 to many; style filiform, dilated and hollow near middle, apical part cylindrical, not barbate; stigma terminal, capitate. Legume linear, dehiscent, compressed, constricted between seeds, not septate, with persistent, membranous, cylindrical calyx at base. Seeds usually black or blue, subglobose; hilum short, central; aril not developed.

About ten species: S Africa, Asia; nine species (five endemic) in China.

- 1a. Leaflets almost cordate or reniform, base truncate to shallowly cordate; stem very slender 1. *D. cordifolia*
- 1b. Leaflets ovate to almost orbicular, elliptic, oblong, or triangular, base broadly cuneate to nearly truncate; stem slender or robust.
 - 2a. Stems glabrous.
 - 3a. Leaflets abaxially gray adpressed hairy; raceme 5–13 cm 8. *D. nitida*
 - 3b. Leaflets abaxially glabrous; raceme 1–4 cm.
 - 4a. Raceme 1–4 cm, densely flowered 5. *D. truncata*
 - 4b. Raceme 5–8 cm, loosely flowered 9. *D. miaoliensis*
 - 2b. Stems hairy.
 - 5a. Stems and leaflets with dense long branched hairs; legume not constricted between seeds 2. *D. hirsuta*
 - 5b. Stems and leaflets with adpressed unbranched hairs; legume sometimes constricted between seeds.
 - 6a. Bracts and bracteoles lanceolate, 4–7 mm; leaflets ovate, obovate, or suborbicular, sometimes broader than long 3. *D. forrestii*
 - 6b. Bracts and bracteoles setiform, 1–2 mm; leaflets distinctly longer than broad.
 - 7a. Leaflets adaxially densely adpressed villous; raceme 4–11(–15) cm 4. *D. villosa*
 - 7b. Leaflets adaxially glabrous; raceme 1–4 cm.
 - 8a. Petiolules 2–3 mm; leaflets 2.3–3.5 cm wide, abaxially glabrous 5. *D. truncata*
 - 8b. Petiolules ca. 1 mm; leaflets 1–2.3 cm wide, abaxially adpressed hairy.
 - 9a. Calyx glabrous or sparsely pubescent 6. *D. yunnanensis*
 - 9b. Calyx densely adpressed pubescent 7. *D. henryi*

1. *Dumasia cordifolia* Bentham ex Baker in J. D. Hooker, Fl. Brit. India 2: 183. 1876.

心叶山黑豆 xin ye shan hei dou

Herbs twining. Stems slender, 1–3 m, pubescent when young. Stipules small, lanceolate, 1–2 mm; petiole 0.2–2.6 cm; stipels small, setiform; petiolules slender, extremely short, absent on uppermost leaves, glabrous or pubescent; leaflets membranous, almost cordate to reniform, 1–3 × 1.2–2.8 cm, abaxially glabrous or sparsely pubescent on midrib, reticulate veins slender, ± visible, base truncate or very shallowly cordate, apex subrounded or slightly concave, usually mucronate. Raceme axillary, slender, 2–7 cm, sparsely hairy or glabrous, 2- to many flowered; pedicels slender. Calyx ca. 5 mm, glabrous. Corolla light yellow, stipitate; standard obovate, auricles obtuse; wings and keels subequal. Ovary stipitate, glabrous; style enlarged, compressed; stigma capitate. Legume oblanceolate to oblong, slightly curved, ca. 3 × 0.4–0.6 cm, shortly stipitate. Seeds 3–5, brown-black, reniform, ca. 3 mm. Fl. Aug–Sep, fr. Oct–Dec. 2n = 22.

Sunny mountain slopes; 1200–2800 m. Sichuan, Xizang, Yunnan

[E India].

2. *Dumasia hirsuta* Craib in Sargent, Pl. Wilson. 2: 116. 1914.

硬毛山黑豆 ying mao shan hei dou

Herbs twining. Stems 1–3 m, densely long hirsute. Stipules lanceolate, 4–6 mm, striate; petiole 4–9 cm, hirsute; petiolules 2–3 mm, ± hairy; stipels small, setiform; leaflets papery or herbaceous, almost ovate to broadly ovate, 4–6(–9) × 2.7–7 cm, abaxially glabrous or hirsute, adaxially glabrous, lateral veins 4–6 pairs, base almost truncate, broadly cuneate, or almost rounded, margin slightly sinuate, apex obtuse, with slender mucro; lateral leaflets oblique. Raceme axillary, 5–7 cm, usually glabrous, terminally 2–4-flowered; bracts small, setiform. Flowers 1.4–1.8 cm; pedicel 1–2 mm. Calyx 5–7 mm, glabrous or sparsely adpressed hairy. Corolla yellow or light yellow; standard ca. 11 × 9 mm, claw ca. 7 mm; wings ca. 7 mm; keels ca. 5.5 mm. Ovary linear; ovules 4–7. Legume linear, compressed, ca. 6 × 1 cm, glabrous, base stipitate, with persistent calyx, apex with long beak. Seeds 4–7. Fl. and fr. Jun–Aug.

• Wet places, valleys; 700–1700 m. Guangdong, Guangxi, Gui-

zhou, Hubei, Hunan, Jiangxi, Sichuan.

3. *Dumasia forrestii* Diels, Notes Roy. Bot. Gard. Edinburgh 5: 247. 1912.

小鸡藤 xiao ji teng

Herbs twining. Stems glabrous, obviously ribbed. Stipules linear-lanceolate, 4–7 mm; petiole 2–11 cm; leaflets almost papery, equal or subequal, ovate, broadly ovate, or almost orbicular, 2–5 × 2–4.8 cm, glabrous or with sparse short adpressed hairs, lateral veins 4–6 pairs, slender, apex rounded or cuneate, usually slightly concave or with mucro. Raceme axillary, 3–12 cm, glabrous or sparsely hairy, densely flowered; peduncle 2–6 cm; bracts 2, similar to stipules. Flowers 1.5–1.8 cm; bracteoles 2, similar to stipules, persistent; pedicel 1–3 mm. Calyx 5–8 mm. Corolla light yellow; wings falcate-oblong; keels similar to wings, with claw, auricle absent. Ovary stipitate, base with sheathing floral disk; style long and curved, upper part enlarged, glabrous; stigma capitate. Legume linear-oblong, slightly curved, 3–4 × ca. 0.6 cm, glabrous, base acuminate, apex acuminate. Seeds usually 1 or 2. Fl. Aug–Sep, fr. after Oct.

• Mountain slopes; 1800–3200 m. Sichuan, Xizang, Yunnan.

Dumasia forrestii is used medicinally.

4. *Dumasia villosa* Candolle, Ann. Sci. Nat. (Paris) 4: 97. 1825.

柔毛山黑豆 rou mao shan hei dou

Apios martini H. Léveillé; *Dumasia bicolor* Hayata; *D. glaucescens* Miquel; *D. leiocarpa* Benth; *D. pubescens* Candolle; *D. villosa* var. *arunachalensis* Predeep & M. P. Nayar; *D. villosa* subsp. *bicolor* (Hayata) Hayata; *D. villosa* var. *leiocarpa* (Benth) Baker; *Erythrina mairei* H. Léveillé.

Herbs twining. Stems villous. Stipules small, linear-lanceolate or setiform, 2–3 mm, densely villous; petiole 3–5(–9.5) cm, densely hairy; petiolules 2–3 mm, hairy; leaflets papery; terminal leaflet ovate to broadly ovate, 3.5–5(–9) × 2–3(–5) cm, both surfaces densely adpressed villous, lateral veins 4–6 pairs, base rounded, almost truncate or broadly cuneate, apex obtuse or slightly concave, with mucro; lateral leaflets slightly smaller and oblique. Raceme axillary, 4–11(–15) cm, flowers clustered or slightly sparse; peduncle obvious; bracts and bracteoles small, setiform. Flowers 1.5–1.8 cm; pedicel short, ca. 2 mm, pubescent. Calyx ca. 10 mm, glabrous or sparsely adpressed hairy. Corolla yellow; petals subequal, with obvious claws; standard obovate; wings and keels oblong-elliptic, with long claws, auricles absent. Style long, hairy, compressed near top; stigma capitate. Legume oblong, constricted between seeds, 2–3 × ca. 0.5 cm, densely yellow villous. Seeds 1–4, black or blue. Fl. Sep–Oct, fr. Nov–Dec. $2n = 20$.

Mountain valleys, riversides; 400–2500 m. Guangxi, Guizhou, Shaanxi, Sichuan, Xizang, Yunnan [Bhutan, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, Vietnam; Africa, Australasia, Madagascar].

The seeds of *Dumasia villosa* contain oil.

5. *Dumasia truncata* Siebold & Zuccarini, Abh. Math.-Phys. Cl. Königl. Bayer. Akad. Wiss. 4(2): 119. 1843.

山黑豆 shan hei dou

Herbs climbing and twining. Stems slender, 1–3 m, usually glabrous. Stipules small, linear-lanceolate, 2–4 mm, 3-veined; petiole slender, 3–7 cm, glabrous; petiolules 2–3 mm, glabrous; stipels setiform, ca. 1 mm; leaflets membranous, triangular or ovate-triangular, usually 3–6 × 2.3–3.5 cm, both surfaces usually glabrous or sparsely hirsute abaxially, base truncate or rounded, apex ± rounded, sometimes slightly emarginate with mucro; lateral leaflets slightly smaller, base slightly oblique. Raceme axillary, slender, 1–4 cm, usually glabrous; peduncle short; bracts and bracteoles small. Flowers 1.2–2 cm; pedicel 1–3 mm. Calyx ca. 6 mm, glabrous. Corolla yellow or light yellow; standard elliptic to slightly obovate; wings and keels almost elliptic, slightly curved, slightly shorter than standard, with long claws, with a small auricle at base of one side. Ovary linear-oblong, glabrous; ovules 3–5; style slender, glabrous. Legume oblong to lanceolate-elliptic, ca. 4 × 0.9 cm, slightly inflated, base acuminate, apex with beak. Seeds usually 2–5, blue, compressed, globose, 4–6 mm in diam. Fl. Aug–Sep, fr. Oct–Nov.

Mountain roadsides, wet places; 300–1000(–2300) m. Anhui, Fujian, Guangdong, Henan, Hubei, Jiangxi, Shaanxi, Zhejiang [Japan].

6. *Dumasia yunnanensis* Y. T. Wei & S. K. Lee, Guihaia 5: 159. 1985.

云南山黑豆 yun nan shan hei dou

Herbs perennial, twining. Stems slender, hirtellous. Petiole 1–8 cm, glabrous or sparsely pubescent; petiolules extremely short; stipels small, setiform; leaflets membranous or thinly papery, elliptic to elliptic-ovate, 2–4 × 1.3–2.5 cm, abaxial surface with short adpressed hairs, adaxial surface almost glabrous, base broadly cuneate, rounded, or subtruncate, apex obtuse or subrounded, slightly concave, with mucro. Raceme axillary, 1–3.5 cm, hirtellous, 3–6-flowered, rarely more; peduncle short; bracts and bracteoles extremely short, setiform; pedicel 1–2 mm. Calyx 5–8 mm, glabrous or sparsely pubescent. Corolla yellow; petals subequal; standard oblong; wings and keels elliptic, with long claws. Legume narrowly falcate, compressed, 3–5 × 0.3–0.6 cm, glabrous, apex with beak. Seeds 3 or 4. Fl. Aug–Oct.

• Mountains, roadsides, valleys; 1300–2500 m. Sichuan, Yunnan.

7. *Dumasia henryi* (Hemsley) R. Sa & M. G. Gilbert, **comb. nov.**

长圆叶山黑豆 chang yuan ye shan hei dou

Basionym: *Rhynchosia henryi* Hemsley, J. Linn. Soc., Bot. 23: 196. 1887; *Dumasia oblongifoliolata* F. T. Wang & Tang ex Y. T. Wei & S. K. Lee.

Herbs perennial, twining, all parts except leaves densely gray pubescent. Stipules coniform, ca. 2 mm; petiole 1.5–4 cm; stipels coniform, ca. 1 mm; petiolules ca. 1 mm; leaflets papery, oblong or oblong-ovate, 3–5 × 1–2.3 cm, abaxial surface densely gray adpressed hairy, adaxial surface glabrous, lateral veins 4–7 per side, base rounded, sometimes slightly oblique, apex rounded, slightly emarginate, with small mucro. Raceme axillary, 2–4 cm; peduncle densely gray pubescent. Flowers ca.

1.5 cm; bracts and bracteoles extremely short, ca. 1 mm, persistent; pedicel ca. 1 mm. Calyx 6–8 mm, densely adpressed pubescent. Corolla yellow; petals subequal; standard broadly oblong to obovate; wings oblong, with claw; keels elliptic, slightly curved. Fl. Oct.

- Hubei, Sichuan.

8. *Dumasia nitida* Chun ex Y. T. Wei & S. K. Lee, *Guihaia* 5: 161. 1985.

瑶山山黑豆 yao shan shan hei dou

Dumasia nitida var. *kurziana* Predeep & M. P. Nayar.

Herbs perennial, twining, all parts glabrous. Stems slender. Stipules small, linear, ca. 2 mm; petiole slender, 2–8 cm; stipels

small, linear; petiolules ca. 2 mm; leaflets membranous, ovate or oblong-ovate, 2.5–6 × 1.4–3 cm, midrib convex on both surfaces, lateral veins 5–9 per side, base truncate or broadly cuneate, apex obtuse or almost round, with small mucro. Raceme axillary, slender, 5–13 cm, few flowered; peduncle 1.5–6 cm; bracts and bracteoles short; pedicel 2–3 mm. Calyx ca. 8 mm. Corolla light yellow; standard oblong, 10–15 mm; wings and keels oblong, slightly curved, subequal to standard, with claw and auricle at one side of base. Ovary linear to linear-oblancoelate; ovules 1 or 2; style linear. Legume oblong to oblancoelate, 3–4 × ca. 1 cm, apex with beak. Seeds 1 or 2. Fl. and fr. Sep–Oct.

Thickets along mountain roadsides; 1200–1500 m. Guangxi, Yunnan [Myanmar].

9. *Dumasia miaoliensis* Y. C. Liu & F. Y. Lu, *Quart. J. Chin. Forest.* 10(3): 87. 1977.

苗栗野豇豆 miao li ye jiang dou

Herbs twining. Stems slender, glabrous. Leaves pinnately 3-foliolate; stipules 2–2.5 mm; stipels subulate ca. 1 mm; petiolules 1–2 mm, glabrous; leaflets membranous, ovate-lanceolate, glabrous on both surfaces, midrib prominent abaxially, slightly elevated adaxially, lateral veins 4 or 5 per side, veinlets distinctly reticulate, base truncate, margin entire, apex obtuse, emarginate, apiculate at summit; terminal leaflets with blades 3–5 × 1.5–2.5 cm. Raceme axillary, loosely flowered, 5–8 cm; bracteoles subulate, ca. 1 mm; pedicel 3–4 mm. Calyx membranous, tubular, 5–7 mm, glabrous, gibbous and with an oblique subtruncate mouth. Corolla whitish yellow, exserted 12–15 mm; petals subequal; standard auriculate at both sides; wings and keels all clawed ca. 1 mm. Ovary stipitate. Legume elliptic, compressed, falcate, ca. 3 cm including stalk, glabrous, dehiscent. Seeds usually 2, rarely 1–3, black.

- Open roadsides; 1000–1500 m. C Taiwan.

The hybrid *Dumasia miaoliensis* × *D. villosa* has been reported from Taiwan (Fl. Taiwan, ed. 2, 3: 272. 1993). It differs from normal *D. miaoliensis* by the less compressed legumes with shorter stalks.

