

113. VIGNA Savi, Nuovo Giorn. Lett. 8: 113. 1824, nom. cons.

豇豆属 *jiang dou shu*

Wu Delin (吴德邻 *Wu Te-lin*); Mats Thulin

Candelium Medikus.

Twining or erect herbs, rarely subshrubs. Leaves pinnately 3-foliolate; stipules peltate or basally spurred, 2-lobed, cordate, or truncate. Racemes axillary or terminal, nodes of rachis often thickened and glandular. Bracts and bracteoles deciduous. Calyx 5-toothed, 2-lipped. Corolla yellow, blue, or purple; standard suborbicular, base appendaged; wings shorter than standard; keel subequal to wings, incurved, not beaked or produced into an incurved or spirally twisted beak. Stamens diadelphous; anthers uniform. Ovary sessile; style filiform, upper part thickened, bearded or hirsute lengthwise inside; stigma oblique. Legumes linear or linear-oblong, terete or flat. Seeds reniform or subquadrate; hilum short or elongate, with or without aril.

About 100 species: distributed in tropical regions; 14 species (one introduced) in China.

According to molecular evidence (Thulin et al., Syst. Bot. 29: 903–920. 2004), *Vigna adenantha* belongs to a group of neotropical species of *Vigna* that is not closely related to the Old World species otherwise present in China. Pending a new classification of the New World species, *V. adenantha* is here retained in *Vigna*.

Phaseolus anguinus Bunge (Enum. Pl. Chin. Bor. 20. 1833), described from near Beijing, is probably a species of *Vigna*. No type material has been seen, but the name may well be a synonym of *V. radiata*.

- 1a. Stipules truncate at base and not prolonged below point of insertion 3. *V. adenantha*
- 1b. Stipules 2-lobed, cordate, or spurred at base, or peltate.
 - 2a. Stipules 2-lobed or cordate at base.
 - 3a. Keel prolonged into a conspicuous beak incurved through 180° 4. *V. vexillata*
 - 3b. Keel without conspicuous incurved beak.
 - 4a. Corolla 0.5–1 cm; legumes 1–2 cm 1. *V. hosei*
 - 4b. Corolla 1.2–3 cm; legumes 3.5–8 cm.
 - 5a. Leaflets rounded or obtuse at apex; legumes glabrous when ripe 2. *V. marina*
 - 5b. Leaflets acute or acuminate at apex; legumes pubescent 5. *V. luteola*
 - 2b. Stipules spurred at base, or peltate.
 - 6a. Stipules spurred at base; keel without a pocket 12. *V. unguiculata*
 - 6b. Stipules peltate; keel with a distinct pocket on left-hand side.
 - 7a. Corolla less than 10 mm; leaflets 3–5-lobed.
 - 8a. Lobes of leaflets linear-lanceolate; stems 60–130 cm 6. *V. aconitifolia*
 - 8b. Lobes of leaflets ± broadly spatulate; stems 30–60 cm 7. *V. trilobata*
 - 7b. Corolla 10 mm or more; leaflets mostly entire.
 - 9a. Legumes hispid with brownish hairs; corolla usually tinged with pink 8. *V. radiata*
 - 9b. Legumes glabrous or almost so; corolla all yellow.
 - 10a. Stipules 4–6 mm.
 - 11a. Stipules lanceolate; racemes 3- or 4-flowered 9. *V. minima*
 - 11b. Stipules ovate; racemes 5–8-flowered 10. *V. riukiensis*
 - 10b. Stipules 8 mm or more.
 - 12a. Stipules 10–15 mm; plants twining 11. *V. umbellata*
 - 12b. Stipules 8–10 mm; plants often erect.
 - 13a. Leaves sparsely pilose; seeds 5–6 × 4–5 mm 13. *V. angularis*
 - 13b. Leaves hispid; seeds ca. 3 × 2 mm 14. *V. reflexopilosa*

1. *Vigna hosei* (Craib) Backer in Backer & Slooten, Geill. Handb. Jav. Theonkr. 153. 1924.

和氏豇豆 *he shi jiang dou*

Dolichos hosei Craib, Bull. Misc. Inform. Kew 1914: 76. 1914; *Vigna oligosperma* Backer; *V. parkeri* Baker subsp. *acutifoliola* Verdcourt.

Perennial herbs, twining or creeping, often forming a thick ground cover. Stipules 2-lobed at base; petiole 2–5 cm; leaflets ovate-elliptic or obliquely ovate, 3–7.5 × 2–5 cm, thinly hairy

on both surfaces, base rounded, apex obtuse to acute. Racemes axillary; peduncles 1.5–7 cm; pedicels 1.7–2.2 mm, appressed pubescent. Calyx tube 1.7–2.2 mm; upper teeth connate into a triangular lip of ca. 1.2 mm. Corolla yellow; standard 6–12 mm in diam.; keel not or slightly longer than wings, not beaked. Ovary densely appressed villous. Legumes black, oblong, 1–2 cm × 4–4.5 mm, hairy, 1–4-seeded.

In grass at roadsides, wastelands; below 500 m. Taiwan [Indonesia, Japan (Ryukyu Islands), Malaysia, New Guinea, Sri Lanka; E Africa, Australia, North and South America].

2. **Vigna marina** (Burman) Merrill, Interpr. Herb. Amboin. 285. 1917.

滨豇豆 bin jiang dou

Phaseolus marinus Burman, Index Alt. Herb. Amboin. 18. 1769.

Perennial herbs, prostrate or climbing. Stems up to several meters, glabrescent when old. Stipules 2-lobed at base, ovate, 3–5 mm; leaflets ovate-orbicular or obovate, 3.5–9.5 × 2.5–7.5 cm, very shortly setose to subglabrous on both surfaces, base broadly cuneate or narrowly rounded, apex rounded, obtuse, or emarginate. Racemes axillary, 2–4 cm; peduncles 3–13 cm. Calyx 2.5–3 mm; teeth deltoid, 1–1.5 mm, upper 2 connate. Corolla yellow; standard broadly obovate, 1.2–1.3 × ca. 1.4 cm; wings and keel ca. 1 cm. Legumes linear-oblong, 3.5–6 × 0.8–0.9 cm, pubescent when young, later glabrous, slightly constricted between seeds. Seeds 2–6, yellow-brown or red-brown, oblong, 5–7 × 4.5–5 mm; hilum oblong. Fr. Oct.

On sandy beaches. Hainan, Taiwan [widely distributed in tropical regions].

This species is edible and is used medicinally.

3. **Vigna adenantha** (G. Meyer) Maréchal, Mascherpa & Stainier, Taxon 27: 202. 1978.

腺药豇豆 xian yao jiang dou

Phaseolus adenanthus G. Meyer, Prim. Fl. Esseq. 239. 1818.

Perennial herbs, twining. Stipules truncate at base and not produced below point of insertion, lanceolate, 3–5 mm; petiole 3.5–5(–9) cm; terminal leaflet rhomboid-ovate, 7–8 × 5–6.5 cm, nearly glabrous, base obtuse, apex acute; lateral leaflets somewhat oblique. Racemes axillary, 9–17 cm including peduncle; pedicels 2–3 mm. Bracteoles ovate, ca. 4 mm, caducous. Calyx lobes acuminate. Corolla purple, 1.8–3 cm; standard orbicular; wings oblong, inconspicuously auriculate; keel spirally incurved for ca. 3 turns. Ovary glabrous. Legumes linear, 9–14 × 0.8–1.4 cm, glabrous, 11–15-seeded. Seeds dark brown, reniform, ca. 7 × 5 mm.

At roadsides. Taiwan [pantropical].

4. **Vigna vexillata** (Linnaeus) A. Richard, Hist. Fis. Cuba, Bot. 10: 191. 1845.

野豇豆 ye jiang dou

Phaseolus vexillatus Linnaeus, Sp. Pl. 2: 724. 1753; *Vigna vexillata* var. *pluriflora* Franchet; *V. vexillata* var. *yunnanensis* Franchet.

Perennial herbs, twining. Root woody, fusiform. Stems with spreading brown bristly hairs, glabrescent. Stipules ovate to ovate-lanceolate, 3–5 mm, cordate or auriculate at base, ciliate; petiole 1–11 cm; leaflets membranous, variable in shape, ovate to lanceolate, 4–9(–15) × 2–5(–8) cm, brown or gray pubescent on both surfaces, base rounded to cuneate, margin entire, sometimes slightly 3-lobed, apex acute or acuminate. Racemes axillary, 2–6-flowered, subumbellate; peduncles 5–20 cm. Bracteoles subulate, ca. 3 mm, caducous. Calyx with brown

or white bristly hairs, rarely glabrescent; tube 5–7 mm; lobes linear or linear-lanceolate, 2–5 mm, upper 2 connate at base. Standard pink, purple, or partly yellow, sometimes with yellow or purple spots inside at base, 2–3.5 × 2–4 cm, emarginate; keel whitish or purplish, falcate, with beak incurved through 180°. Legumes erect, linear-terete, 4–14 cm × 2.5–4 mm, bristly. Seeds 10–18, yellowish, black, or brown to scarlet with black spots, oblong or oblong-reniform, 2–4.5 mm. Fl. Jul–Sep.

Thickets, open forests. Anhui, Fujian, Gansu, Guangdong, Guangxi, Guizhou, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Shaanxi, Sichuan, Yunnan, Zhejiang [widely distributed in tropical and subtropical regions].

This species is used medicinally.

Vigna vexillata var. *tsusimensis* Matsumura (Bot. Mag. (Tokyo) 16: 93. 1902) differs only by having larger seeds, ca. 5 × 4 mm. It has been recorded from Taiwan (see T. C. Huang & H. Ohashi, Fl. Taiwan, ed. 2, 3: 393. 1993).

5. **Vigna luteola** (Jacquin) Benth in Martius, Fl. Bras. 15(1): 194. 1859.

长叶豇豆 chang ye jiang dou

Dolichos luteolus Jacquin, Hort. Bot. Vindob. 1: 39. 1770; *Vigna acuminata* Hayata; *V. glabra* Savi, nom. illeg. superfl.; *V. repens* (Linnaeus) Kuntze (1891), not Baker (1876); *V. repens* var. *glabra* Kuntze.

Trailing or twining herbs, 1.2–2.4 m. Stems with upper parts hairy or glabrescent. Stipules lanceolate, 3–4 × ca. 2 mm, 2-lobed at base; petiole 2–8 cm; leaflets ovate, ovate-elliptic, or ovate-lanceolate, rarely linear-lanceolate, 2.5–11 × 0.4–5 cm, sparsely pubescent on both surfaces or glabrous, base rounded or cuneate, margin entire, apex acute or acuminate. Racemes axillary; peduncles 5–40 cm; rachis 1.5–5 cm, 12–20-flowered; pedicels 4–9 mm, hirsute. Bracteoles ovate-lanceolate, 1.5–2 mm. Calyx pubescent or glabrescent; tube 3–4 mm; lobes deltoid, 2–4 mm, upper 2 wholly connate, apex acute or rarely 2-lobed. Standard yellow or greenish, sometimes tinged with red dorsally, oblate, 1.3–2.5 × 1.2–2.6 cm, glabrous, apex emarginate; wings obovate; keel shortly beaked. Legumes linear, 4–8 cm × 5–6.5 mm, pubescent, slightly constricted between seeds. Seeds dark brown or gray brown and with black spots, oblong or ovate-rhombic, 3–6 × 2–3.5 mm; hilum oblong.

In open ground near seashores; below 100 m. Taiwan [widely distributed in tropical regions].

6. **Vigna aconitifolia** (Jacquin) Maréchal, Bull. Jard. Bot. Natl. Belg. 39: 160. 1969.

乌头叶豇豆 wu tou ye jiang dou

Phaseolus aconitifolius Jacquin, Observ. Bot. 3: 2. 1768.

Annual herbs, trailing. Stems slender, 60–130 cm, angular, sparsely pubescent. Stipules peltate, lanceolate, ca. 1.2 cm; petiole 5–10 cm; leaflets deeply 3–5-lobed, 5–8 cm, lobes linear-lanceolate, ± hairy, margin entire. Racemes axillary, headlike; peduncles 5–10 cm; bracts lanceolate, ciliate; pedicels short. Flowers clustered 2–5 together. Calyx 2–3 mm; lobes 5, subequal. Corolla yellow, 5–6(–9) mm; standard cordate; wings obovate, auriculate; keel apex contorted. Legumes brown, cylindrical, 2.5–5 cm × 4–5 mm, hispidulous, with obtuse beak,

4–9-seeded. Seeds yellow, brown, or variegated with black dots, elliptic, 4–5 mm; hilum white, linear.

In grass; ca. 1000 m. Yunnan [India, Myanmar, Pakistan, Sri Lanka; cultivated elsewhere].

7. *Vigna trilobata* (Linnaeus) Verdcourt, Taxon 17: 172. 1968.

三裂叶豇豆 san lie ye jiang dou

Dolichos trilobatus Linnaeus, Mant. Pl. 1: 101. 1767; *Phaseolus trilobatus* (Linnaeus) Schreber.

Perennial or annual trailing herbs. Stems 30–60 cm, glabrous or glabrescent. Stipules peltate, ovate, 0.6–1.9 cm; petiole 5–10 cm; leaflets rhombic or ovate, 2.5–5 cm, in annual cultivated forms often shallowly 3-lobed, in perennial wild forms often deeply 3-lobed, medium lobe broadly spatulate, apex obtuse, glabrous or inconspicuously pubescent. Racemes axillary, headlike; peduncles longer than leaves; pedicels very short. Calyx campanulate; teeth deltoid, ca. 2 mm. Corolla yellow, ca. 6 mm; standard cordate; wings obovate, auriculate; keel apex contorted. Legumes cylindrical, 3–4 cm × 3–4 mm, glabrescent, 6–12-seeded. Seeds deep brown, cylindrical, very small, truncate at both ends.

Grasslands; ca. 1000 m. Taiwan, Yunnan [Afghanistan, Bangladesh, Bhutan, India, Indonesia, Kashmir, Myanmar, Nepal, Pakistan, Sri Lanka, Vietnam].

8. *Vigna radiata* (Linnaeus) R. Wilczek, Fl. Congo Belge 6: 386. 1954.

绿豆 lü dou

Annual herbs, erect, twining, or creeping, 20–60 cm tall. Stems hispid with brown spreading hairs. Stipules peltate, ovate, 0.8–1.2 cm, ciliate; petiole 5–21 cm; leaflets ovate, 5–16 × 3–12 cm, lateral ones ± oblique, ± sparsely pilose on both surfaces, sometimes 3-veined from base, base broadly cuneate or rounded, apex acuminate or acute. Racemes axillary, 4- to several flowered (up to 25). Bracteoles linear-lanceolate or oblong, striate. Calyx tube 3–4 mm, glabrous; lobes narrowly deltoid, 1.5–4 mm, upper 2 connate into a 2-fid lip. Standard yellow-green outside, sometimes pink inside, suboblate, ca. 1.2 × 1.6 cm, apex emarginate; wings yellow, ovate; keel falcate and incurved through 180°, green tinged with pink. Legumes linear-terete, 4–9 × ca. 0.6 cm, shortly hispid with pale brown hairs. Seeds 8–14, greenish or yellow-brown, shortly cylindrical, 2.5–4 × 2.5–3 mm; hilum white. Fl. May–Jun, fr. Jun–Sep.

Open wastelands, roadsides, thicket margins, also cultivated; ca. 500 m. Taiwan; cultivated throughout China [Cambodia, India, Indonesia, Laos, Sri Lanka, Thailand, Vietnam; Africa; widely cultivated in tropical and subtropical regions].

The seeds are edible and are used medicinally.

Two varieties occur in China. In addition, *Vigna radiata* var. *glabra* (Roxburgh) Verdcourt (Kew Bull. 24: 559. 1970; *Phaseolus glaber* Roxburgh, Fl. Ind., ed. 1832, 3: 291. 1832) was said to occur in China in Fl. Cambodge, Laos & Vietnam (17: 198. 1979). This variety has almost glabrous stems, leaves, and legumes, but no specimens from China have been seen.

- 1a. Stems erect; leaflets entire, acuminate at apex 8a. var. *radiata*
- 1b. Stems twining or creeping; leaflets 2-

or 3-lobed, acute at apex 8b. var. *sublobata*

8a. *Vigna radiata* var. *radiata*

绿豆(原变种) lü dou (yuan bian zhong)

Phaseolus radiatus Linnaeus, Sp. Pl. 2: 725. 1753; *Azuki radiata* (Linnaeus) Ohwi; *Candelium nigrum* Medikus; *P. aureus* Roxburgh; *Rudua aurea* (Roxburgh) Maekawa.

Stems erect. Leaflets entire, acuminate at apex.

Cultivated throughout China [widely cultivated in tropical and subtropical regions].

8b. *Vigna radiata* var. *sublobata* (Roxburgh) Verdcourt, Kew Bull. 24: 559. 1970.

三裂叶绿豆 san lie ye lü dou

Phaseolus sublobatus Roxburgh, Fl. Ind., ed. 1832, 3: 288. 1832; *P. trinervius* Wight & Arnott; *Vigna stipulata* Hayata.

Stems twining or creeping. Leaflets 2- or 3-lobed, acute at apex.

Open wastelands, roadsides, thicket margins; ca. 500 m. Taiwan [Cambodia, India, Indonesia, Laos, Sri Lanka, Thailand, Vietnam; Africa].

9. *Vigna minima* (Roxburgh) Ohwi & H. Ohashi, J. Jap. Bot. 44: 30. 1969.

贼小豆 zei xiao dou

Phaseolus minimus Roxburgh, Fl. Ind., ed. 1832, 3: 290. 1832; *Azuki minima* (Roxburgh) Ohwi; *P. gracilicaulis* Ohwi; *P. heterophyllus* Hayata (1920), not Willdenow (1809); *P. minimus* f. *heterophyllus* Hosokawa; *P. minimus* f. *linearis* Hosokawa; *P. minimus* f. *rotundifolius* (Hayata) Hosokawa; *P. rotundifolius* Hayata; *Vigna dimorphophylla* T. L. Wu; *V. gracilicaulis* (Ohwi) Ohwi & H. Ohashi; *V. lutea* A. Gray var. *minor* Matsumura; *V. minima* f. *heterophylla* (Hosokawa) Ohwi & H. Ohashi; *V. minima* f. *linearis* (Hosokawa) T. C. Huang & H. Ohashi; *V. minima* var. *minor* (Matsumura) Tateishi.

Annual herbs, twining. Stems slender, subglabrous. Stipules peltate, lanceolate, ca. 4 mm, sparsely hirsute; leaflets variable in size and shape, oblong-ovate, suborbicular, linear, linear-lanceolate, or ovate, 2–7 × 0.5–3 cm, subglabrous or sparsely strigose on both surfaces, base rounded or broadly cuneate, apex acute to obtuse. Racemes axillary, slender, 3- or 4-flowered. Bracteoles linear or linear-lanceolate. Calyx campanulate, ca. 3 mm; teeth 5, unequal. Corolla yellow; standard suborbicular, ca. 10 × 8 mm, deflexed; keel with long and acute auricle. Legumes terete, 3.5–6.5 × ca. 0.4 cm, glabrous. Seeds 4–8, dark gray to brownish, oblong, ca. 4 × 3 mm; hilum linear. Fl. and fr. Aug–Oct.

Grasslands, thickets. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hebei, Hunan, Jiangsu, Jiangxi, Liaoning, Shandong, Shanxi, Taiwan, Yunnan, Zhejiang [India, Japan, Philippines].

10. *Vigna riukiensis* (Ohwi) Ohwi & H. Ohashi, J. Jap. Bot. 44: 31. 1969.

琉球豇豆 liu qiu jiang dou

Phaseolus riukiensis Ohwi, J. Jap. Bot. 13: 437. 1937;

Azukia riukiensis (Ohwi) Ohwi.

Twining herbs, strigose. Stipules peltate, ovate, 4–6 mm, strigose, 5–7-veined; terminal leaflet obovate or elliptic, 2–4 × 1.2–2 cm, sparsely strigose, base cuneate or obtuse, margin entire, apex slightly acute and mucronate; lateral leaflets obliquely ovate, subequal. Racemes axillary, 5–8-flowered; peduncles 3–10 cm. Calyx obconic, ca. 2.5 mm. Corolla yellow; standard orbicular, ca. 1.2 cm wide, apex emarginate, with rectangular callosity at middle, auricles reflexed, incurved; wings obovate, ca. 1 cm, with reflexed appendage at base; keel incurved. Ovary linear, sparsely strigose. Legumes brown with white striations, subcompressed, 3.5–4.5 × ca. 0.4 cm, glabrous. Seeds dull red, elliptic, ca. 3 mm; hilum white.

Taiwan [Japan (Ryukyu Islands)].

The authors have not seen any material of this species from China, and it was not mentioned in Fl. Taiwan (ed. 2, 3, 1993). However, *Vigna riukiensis* has been recorded from Taiwan (e.g., in Tomooka et al., Genet. Res. Crop Evol. 49: 521–530, 2002). The closely related *V. nakashimae* (Ohwi) Ohwi & H. Ohashi (J. Jap. Bot. 44: 30, 1969; *Phaseolus nakashimae* Ohwi, J. Jap. Bot. 13: 436, 1937), described from Japan, with smaller and more pale yellow flowers, has also been recorded but from mainland China.

11. *Vigna umbellata* (Thunberg) Ohwi & H. Ohashi, J. Jap. Bot. 44: 31, 1969.

赤小豆 *chi xiao dou*

Dolichos umbellatus Thunberg, Trans. Linn. Soc. London 2: 339, 1794; *Azukia umbellata* (Thunberg) Ohwi; *Phaseolus calcaratus* Roxburgh; *P. chrysanthus* Savi; *P. pubescens* Blume; *Vigna calcarata* (Roxburgh) Kurz.

Annual twining herbs. Stems slender, 1 m or more, pilose with yellow hairs when young, later glabrescent. Stipules peltate, lanceolate or ovate-lanceolate, 10–15 mm; leaflets ovate or lanceolate, 10–13 × 5–7.5 cm, sparsely pubescent on veins of both surfaces, base broadly cuneate or obtuse, entire or slightly lobed, 3-veined from base, apex acute. Racemes axillary, 2- or 3-flowered; bracts lanceolate; pedicels short. Calyx campanulate, 3–4 mm; teeth deltoid. Corolla yellow; standard oblong, ca. 1.5 cm, apex emarginate; wings obovate. Legumes linear-terete, 6–10 × ca. 0.5 cm, glabrous. Seeds 6–10, dull red, brown, black, or speckled, oblong, 4–9 × 3–3.5 mm. Fl. May–Aug.

Wild or cultivated. Guangdong, Guangxi, Hainan, Taiwan, Yunnan [Japan, Korea, Philippines; SE Asia; widely cultivated in tropical regions].

12. *Vigna unguiculata* (Linnaeus) Walpers, Repert. Bot. Syst. 1: 779, 1842.

豇豆 *jiang dou*

Annual or perennial herbs, erect, trailing, or twining. Stems 1–3 m, subglabrous. Stipules lanceolate, ca. 1 cm, with a narrow spur below point of attachment; leaflets ovate-rhomboid, 5–15 × 4–6 cm, lateral ones oblique, puberulent or glabrous on both surfaces, base acute to rounded, apex acute. Racemes axillary, with 2–6 flowers clustered at top of rachis. Calyx campanulate, 6–10 mm; teeth lanceolate. Standard yellowish white or violet, suborbicular, 1.2–3.3 × 1–3.2 cm, apex

emarginate; wings blue to purple, subdeltoid; keel usually white or pale, not twisted. Legumes terete, 7.5–30(–90) × 0.6–1 cm. Seeds several, dark red or black, mottled with black or brown, oblong or reniform, 6–12 mm.

Widely cultivated in China [native to Africa and Asia; widely cultivated in tropical and subtropical regions].

- 1a. Herbs twining, 2–4 m; legumes 30–80(–90) cm, pendulous, slightly fleshy and inflated when young; seeds 8–12 mm 12b. subsp. *sesquipedalis*
- 1b. Herbs erect or trailing, 15–80 cm; legumes 7.5–30 cm, more solid and not inflated when young; seeds 6–9 mm.
 - 2a. Legumes 20–30 cm, pendulous 12a. subsp. *unguiculata*
 - 2b. Legumes 7.5–13 cm, erect or spreading 12c. subsp. *cylindrica*

12a. *Vigna unguiculata* subsp. *unguiculata*

豇豆(原亚种) *jiang dou* (yuan ya zhong)

Dolichos unguiculatus Linnaeus, Sp. Pl. 2: 725, 1753; *D. sinensis* Linnaeus; *Vigna sinensis* (Linnaeus) Hasskarl.

Legumes 20–30 cm, pendulous. Fl. Jun–Jul, fr. Aug.

Widely cultivated in China [native to Africa; widely cultivated in tropical and subtropical regions].

The legumes and seeds are edible.

12b. *Vigna unguiculata* subsp. *sesquipedalis* (Linnaeus) Verd-court in P. H. Davis, Fl. Turkey 3: 266, 1970.

长豇豆 *chang jiang dou*

Dolichos sesquipedalis Linnaeus, Sp. Pl., ed. 2, 2: 1019, 1763; *Vigna sinensis* subsp. *sesquipedalis* (Linnaeus) Van Eseltine; *V. sinensis* var. *sesquipedalis* (Linnaeus) Körnicke ex Ascherson & Schweinfurth.

Twining herbs, 2–4 m. Legumes 30–80(–90) cm, pendulous, slightly fleshy and inflated when young. Seeds 8–12 mm. Fl. and fr. Jun–Aug.

Widely cultivated in China [native to tropical Asia; widely cultivated in tropical regions of Asia, Africa, and America].

Dolichos sesquipedalis was originally described from material of American origin, but this was presumably cultivated material originally introduced from tropical Asia as all related taxa are from the Old World.

This taxon is used as a vegetable.

12c. *Vigna unguiculata* subsp. *cylindrica* (Linnaeus) Verd-court, Kew Bull. 24: 544, 1970.

眉豆 *mei dou*

Phaseolus cylindricus Linnaeus, Herb. Amboin. 23, 1754; *Dolichos catjang* N. L. Burman; *Vigna catjang* (N. L. Burman) Walpers; *V. cylindrica* (Linnaeus) Skeels; *V. sinensis* var. *catjang* (N. L. Burman) Chiovenda; *V. sinensis* subsp. *cylindrica* (Linnaeus) Van Eseltine; *V. unguiculata* var. *cylindrica* (Lin-

naeus) H. Ohashi.

Legumes 7.5–13 cm, erect or spreading. Fl. Apr–May, fr. Sep.

Widely cultivated in China [Cambodia, Japan, Korea, Laos, Vietnam; Africa, America (cultivated)].

This taxon is used as a vegetable.

13. *Vigna angularis* (Willdenow) Ohwi & H. Ohashi, J. Jap. Bot. 44: 29. 1969.

赤豆 chi dou

Dolichos angularis Willdenow, Sp. Pl. 3: 1051. 1800; *Azukia angularis* (Willdenow) Ohwi; *Phaseolus angularis* (Willdenow) W. Wight; *P. nipponensis* Ohwi; *Vigna angularis* var. *nipponensis* (Ohwi) Ohwi & H. Ohashi.

Annual herbs, erect or twining, 30–90 cm tall. Stems angular, sparsely pilose. Stipules peltate, lanceolate, ca. 8 mm, point of attachment elongated; leaflets ovate or rhomboid-ovate, 5–10 × 5–8 cm, sparsely pilose on both surfaces, apex broadly triangular or subrounded, lateral leaflets oblique, entire or shallowly 3-lobed. Racemes axillary, 5- or 6-flowered, pedunculate. Calyx campanulate, 3–4 mm. Corolla yellow, ca. 15 mm; standard oblate or subreniform, apex emarginate; wings broader than keel, shortly clawed and auriculate; keel apex incurved for nearly a half circle, base clawed. Ovary linear; style curved. Legumes terete, 5–8 × 0.5–0.6 cm, glabrous or almost so. Seeds dull red or with various other colors, oblong, 5–6 × 4–5 mm, truncate or subrounded at both ends; hilum not impressed. Fl. Jun–Jul, fr. Sep–Oct.

Widely cultivated and also wild in China [native to Asia; introduced in America, Africa, and elsewhere].

This species is edible and is used medicinally.

14. *Vigna reflexopilosa* Hayata, J. Coll. Sci. Imp. Univ. Tokyo 30(1): 82. 1911 [*“reflexo-pilosa”*].

卷毛豇豆 juan mao jiang dou

Azukia reflexopilosa (Hayata) Ohwi; *Phaseolus reflexopilosus* (Hayata) Ohwi.

Annual herbs, erect. Stems terete, striate, hispid with reflexed yellow hairs. Stipules peltate, oblong, ca. 1 × 0.3 cm, apex acute, villous; stipels lanceolate, 2–4 mm; terminal leaflet rhomboid-ovate, ca. 8.5 × 5 cm, hispid on both surfaces, 3-veined from base, base rounded, margin entire or sinuate, apex acute; lateral leaflets slightly larger than terminal, obliquely ovate. Racemes axillary, ca. 3 cm; peduncles ca. 13 cm, pilose with reflexed hairs. Bracts similar to stipules; pedicels ca. 1 cm; bracteoles lanceolate, ca. 4.5 mm. Calyx broadly campanulate, ca. 3 mm, 2-lipped, margin denticulate-ciliate, upper lip broadest, emarginate, lower lip 3-lobed. Corolla yellow; standard suborbicular, emarginate; wings obovate, base auriculate; keel subfalcate. Legumes linear, 5–7.5 cm, glabrous or almost so. Seeds dark gray, ca. 3 × 2 mm.

Wastelands, grasslands; below 1500 m. Hainan, Taiwan [Japan; SE Asia, Australia].

