

**88. MUCUNA** Adanson, Fam. Pl. 2: 325, 579. 1763, nom. cons.

蠶豆屬 li dou shu

Sa Ren (萨仁); C. Melanie Wilmot-Dear

*Stizolobium* P. Browne; *Zoophthalmum* P. Browne.

Vines, perennial or annual, woody or herbaceous. Leaves pinnately 3-foliolate; stipules usually caducous; stipels sometimes caducous; leaflets large. Inflorescences axillary or on old stems, condensed panicles or often compound pseudoracemes through reduction of ultimate peduncles to small knobs, usually with 3 flowers. Flowers large and beautiful; bracts small or caducous. Calyx campanulate, 5-lobed, upper 2 lobes connate into a broad lip. Corolla dark purple, red, light green, or almost white, usually dark when dry, longer than calyx; standard usually shorter than wings and keel, with stipe, with 2 auricles at base; wings oblong or ovate, inflexed, usually attached to keel; keel petals partially connate along lower margin, slightly longer than or equal to wings, apex inflexed with horny, often hooked, apical beak. Vexillary stamen free; anthers dimorphic, usually with beard, longer 5 almost basifixed, shorter 5 dorsifixed. Ovary 1- to many ovuled; style filiform, inflexed, sometimes hairy, without beard; stigma small, capitate. Legume ovoid, oblong, or linear, swollen around seeds or laterally flattened, margin often winged, surface often ribbed or ornamented with winglike lamellae sometimes simple or divided into 2 wings along their distal margins (T-shaped in cross section), often clothed with red-brown irritant bristles, dehiscent; valves thick. Seeds reniform, orbicular, or elliptic; hilum linear; strophiole absent.

About 100 species: worldwide; 18 species (nine endemic) in China, including two incompletely known taxa and one possibly extinct species (*Mucuna championii*).

**Key based on flowering specimens**

- 1a. Terminal leaflet broadly triangular, base  $\pm$  cordate, length ca.  $1.3 \times$  width; lateral leaflets obliquely truncate-cordate ..... 15. *M. cyclocarpa*
- 1b. Terminal leaflet broadly or narrowly ovate or rhombic, base cuneate or rounded, length  $1.5\text{--}2.5 \times$  width, lateral leaflets obliquely rounded or only outer side with truncate base.
  - 2a. Mature leaves abaxially with dense pale silky adpressed hairs, lateral veins dark and conspicuously less pubescent.
    - 3a. Terminal leaflet relatively narrow (length  $2\text{--}2.5 \times$  width), apex with conspicuous narrow acumen  $10\text{--}20$  mm; leaflet hairs abaxially ca.  $1$  mm, closely adpressed, pale and fine, giving surface a conspicuously shiny-silvery silky appearance, lateral veins more sharply curved near margin and becoming indistinct or arching and joining; lowest calyx lobe shorter than or equaling tube ..... 5. *M. calophylla*
    - 3b. Terminal leaflet relatively broad (length  $1.5\text{--}1.75 \times$  width), apex acute or with short broad acumen to  $5$  mm; leaflet hairs at most half-adpressed and either much shorter, less than  $0.5$  mm, or coarser, yellowish orange and surface not shiny silky, lateral veins uniformly straight or slightly curved, clearly joining margin; lowest calyx lobe often to twice tube length.
  - 4a. Abaxial hairs on leaflets ca.  $1$  mm; lowest calyx lobe  $8\text{--}10$  mm, longer than tube; corolla wing ca.  $4 \times 1.4$  cm, almost as long as keel ..... 17. *M. incurvata*
  - 4b. Abaxial hairs on leaflets less than  $0.5$  mm; lowest calyx lobe  $(3\text{--})5\text{--}6$  mm, slightly shorter or longer than tube; corolla wing  $2.5\text{--}3.3 \times 0.6\text{--}0.8$  cm, conspicuously shorter than keel ..... 18. *M. bracteata*
- 2b. Mature leaves glabrous or spreading hairy, or if hairs adpressed then veins  $\pm$  similarly hairy, not with conspicuously dark lines among pale pubescence.
  - 5a. Standard and wings with apical  $1/4\text{--}1/3$  of margin pubescent.
    - 6a. Flowers  $5.5\text{--}6.5$  cm, standard greenish white, wings and keel reddish or purple; wings  $4\text{--}5.2(\text{--}5.6)$  cm ..... 3. *M. macrocarpa*
    - 6b. Flowers  $7\text{--}9$  cm, purple, red, and/or whitish; wings  $6\text{--}7$  cm.
      - 7a. Stipels persistent; corolla entirely purple or standard white.
        - 8a. Standard, wings, and keel purple; wing relatively broad (length:width ratio  $2.5\text{--}3:1$ ) ..... 10. *M. macrobotrys*
        - 8b. Standard white, wings and keel purple; wing often relatively narrow ..... 3. *M. macrocarpa* (large-flowered form)
      - 7b. Stipels not persistent; corolla purple, white, or bicolored.
        - 9a. Leaflets abaxially glabrous or very sparsely hairy, often drying pale green; length:width ratio of terminal leaflet  $(2\text{--})3\text{--}4:1$ ; corolla greenish white ..... 1. *M. birdwoodiana*
        - 9b. Leaflets abaxially with abundant to dense often colored hairs, drying brownish green or black; length:width ratio of terminal leaflet usually  $1.5\text{--}1.75:1$ ; corolla white or partly purple.
          - 10a. Indumentum of leaflets red-brown; corolla purple with whitish or greenish standard; leaflets often with less than  $5$  lateral veins on

- either side ..... 3. *M. macrocarpa* (large-flowered form)
- 10b. Indumentum of leaflets pale; corolla usually deep purple; leaflets with 5–8 lateral veins on either side ..... 2. *M. bodinieri*
- 5b. Standard and wings with margin not pubescent or pubescent only in basal 1/3.
- 11a. Flowers crowded in upper 2/3 of axis, lower flowerless part of axis with conspicuous bracts and scars; leaflets thickly papery or leathery, markedly discoloured, greenish gray abaxially in dry state and with lateral veins conspicuously stout, dark, prominent, less pubescent than rest of surface, ± straight, running into margin ..... 18. *M. bracteata*
- 11b. Flowers evenly spaced throughout inflorescence length, or if only in upper 2/3 then lower flowerless part of axis without bracts or scars; leaflets papery or membranous, not markedly discoloured, venation neither conspicuously stout nor less pubescent than surface, running into margin or not.
- 12a. Flowers crowded into upper 1/4 of axis, lower pedicels and ultimate peduncles to 2 cm, progressively shorter toward inflorescence apex, inflorescence pseudoumbellate; corolla white, to 4.4 cm; calyx teeth very short, lowest (1–)2–3 mm ..... 6. *M. gigantea*
- 12b. Flowers well spaced or crowded near apex but pedicels all of similar length, ca. 1 cm or less, ultimate peduncles knoblike or rarely to ca. 0.4 cm, inflorescence racemose; corolla purple or white, often more than 5 cm; calyx teeth mostly long, lowest 5–15 mm (3–4 mm in *M. lamellata*).
- 13a. Wing of corolla with abundant long adpressed hairs 1–2 mm in upper 2/3 of inner surface; corolla purple or reddish brown.
- 14a. Flowers 4–4.5 cm; terminal leaflet usually angular, rhombic, lateral veins straight throughout most of length and almost reaching margin ..... 14. *M. lamellata*
- 14b. Flowers 5–5.5 cm; terminal leaflet rounded in outline, lateral veins curved, more sharply so near margin and becoming indistinct ..... 11. *M. hirtipetala*
- 13b. Wing of corolla glabrous except for short hairs in claw region; corolla purple or white.
- 15a. Leaflets with lateral veins clearly running into margin; lateral leaflets often very asymmetric, outer half 2–3 × as wide as inner.
- 16a. Calyx with lateral teeth ca. 6 × 5 mm, lowest tooth relatively broad, 8–10 × 4–5 mm, keel apex clawlike and convex, shiny on both surfaces in apical ca. 1 cm; leaflets abaxially with dense adpressed pale hairs ca. 1 mm ..... 17. *M. incurvata*
- 16b. Calyx with lateral teeth 2–4 × 1.5–3 mm, relatively short compared to lowest tooth, lowest tooth narrow, 6–10 × 2–3 mm (ratio of lowest tooth to lateral teeth usually 2–3:1); keel apex less clawlike; leaflets abaxially glabrous or shortly pubescent ..... 16. *M. pruriens*
- 15b. Leaflets with lateral veins curving and becoming indistinct or arching and joining near margin; lateral leaflets markedly asymmetric or not.
- 17a. Keel 4.8–7 cm.
- 18a. Stipels caducous; wing 2–3 × as long as wide, wing apex ± acute and horny, usually shiny and often pale; keel 6–7 cm; inflorescences arising from old wood; corolla purple ..... 4. *M. sempervirens*
- 18b. Stipels persistent; wing 4–5 × as long as wide, wing apex not horny, rarely extreme tip slightly pale, usually ± rounded; keel to 5.7 cm; inflorescences on leafy stems; corolla purple or white.
- 19a. Wing ca. 2 cm wide; leaflets rather angular in outline, terminal leaflet rhombic-ovate or rhombic-elliptic, narrowing gradually to evenly tapering acumen and relatively broad (length:width ratio ca. 1.5:1); corolla purple ..... 9. *M. membranacea*
- 19b. Wing to 1.3 cm wide; leaflets with very curved outline, terminal leaflet elliptic or slightly obovate, narrowing abruptly to short broadly rounded acumen and often relatively narrower (length:width ratio (1.5–)2–2.5:1); corolla pink, purple, or white.
- 20a. Hairs on inflorescence axis and calyx spreading, very short, 0.1–0.2 mm and almost velvety; corolla usually pink or purple, rarely white, 4.5–4.8 cm; bracts small, (5–)10–17 × (2–)5–7 mm, fairly early deciduous ..... 8. *M. revoluta*
- 20b. Hairs on inflorescence axis and calyx adpressed, majority at least 0.4 mm, not velvety; corolla white or purple, usually 5–6 cm; at least lower bracts often persistent, large and broad, 20–40 × 10–20 mm.
- 21a. Calyx lobes relatively broad, apex broadly acute, lowest ca. 5 mm wide; all bracts of similar form, broadly ovate, (22–)30–40 mm; corolla always white ..... 7. *M. interrupta*
- 21b. Calyx lobes relatively narrow and long acuminate, lowest 2–3 mm wide; bracts subtending flowers elliptic or obovate, apex broadly rounded, often hooded, 10–20 mm; corolla usually dark purple ..... 12. *M. hainanensis*
- 17b. Keel 3.5–4.8 cm.

- 22a. Persistent stipels absent; terminal leaflet relatively narrow (length:width ratio (2–)2.5:1), apex with very marked 1–2 cm acumen ..... 5. *M. calophylla*
- 22b. Persistent stipels present; terminal leaflet usually relatively wide (length:width ratio rarely over 1.75:1), apex shortly, or not at all, acuminate.
- 23a. Flowering pedicels 2–4 mm; pedicel and leaflet abaxially, especially on veins, with fine red-brown hairs; outer half of lateral leaflets ca. 1.5 × as wide as inner; corolla purple ..... 13. *M. championii*
- 23b. Flowering pedicels 8–20 mm; lateral leaflets sometimes more asymmetric, outer half of lateral leaflets ca. 2 × as wide as inner; corolla purple or white.
- 24a. Corolla wings relatively wide, ca. 2 cm wide; leaflets rather angular in outline, terminal leaflet rhombic-ovate or rhombic-elliptic, narrowing gradually to evenly tapering acumen and relatively broad (length:width ratio ca. 1.5:1); lateral leaflets often quite asymmetric with ratio of widths of 2 sides ca. 2:1 ..... 9. *M. membranacea*
- 24b. Corolla wings narrow, to 1.3 cm wide; leaflets with very rounded outline, terminal leaflet elliptic or slightly obovate, narrowing abruptly to short wide rounded acumen and often relatively narrower (length:width ratio (1.5–)2–2.5:1); lateral leaflets less asymmetric with ratio of widths of 2 sides ca. 1.5:1.
- 25a. Hairs on inflorescence axis and calyx spreading, 0.1–0.2 mm, indumentum almost velvety; flowers usually pink or purple, rarely white; bracts (5–)10–17 × (2–)5–7 mm, fairly early deciduous ..... 8. *M. revoluta*
- 25b. Hairs on inflorescence axis and calyx adpressed, majority at least 0.4 mm, indumentum not velvety; flowers purple; at least lower bracts often persistent, 20–40 × 10–20 mm ..... 12. *M. hainanensis*

**Key based on fruiting specimens** (excluding *Mucuna hirtipetala* and *M. incurvata* for which no fruit was seen)

- 1a. Mature leaves abaxially with dense pale silky hairs conspicuously sparser on primary veins; legume length 4–6 × width, surface without lamellae.
- 2a. Terminal leaflet narrow (length:width ratio (2–)2.5:1), apex with very well-marked 1–2 cm acumen, ca. 2 mm wide for most of length, abaxial hairs adpressed, ca. 1 mm; legume ± woody or thickly leathery, more than 12 cm, silky hairy ..... 5. *M. calophylla*
- 2b. Terminal leaflet relatively broad (length:width ratio 1.25–1.75:1), apex with acumen absent or rarely to 5 mm, abaxial hairs often erect, shorter; legume fleshy, less than 10 cm, with irritant bristles ..... 18. *M. bracteata*
- 1b. Mature leaves glabrous or variously hairy with hairs at least as dense on veins; legume often relatively wider and/or with surface lamellae.
- 3a. Legume without lamellae, sometimes wrinkled on surface or with winged margins.
- 4a. Legume linear, often torulose, woody, usually at least 30 cm when mature.
- 5a. Legume margins each with a pair of thick woody wings ± evenly 3–5 mm wide and with definite edges, legume markedly torulose, each segment ± oval with rounded apex and base ..... 1. *M. birdwoodiana*
- 5b. Legume margins not winged, at most wrinkled into irregularly thickened ridge to 2 mm wide and then legume not torulose, segments ± rectangular in outline.
- 6a. Legume glabrous, not torulose, only slightly swollen around seeds, segments ± rectangular, apical and basal edges ± straight; leaflets broadly rounded abaxially with dense short pale soft spreading hairs ..... 2. *M. bodinieri*
- 6b. Legume glabrous or with dense short erect red-brown pubescence, markedly torulose, width at septa between seeds usually 1/2–2/3 width at widest point; leaflets acute or acuminate, abaxially often glabrous or sparsely hairy or with red-brown hairs.
- 7a. Mature legume without firm rounded raised margin, surface wrinkled or with coarse raised rugose-reticulate patterning, often without fine hairs; leaflets with fine reticulate venation, partially visible, clearly distinct from coarser reticulation, indumentum sometimes dense ..... 3. *M. macrocarpa*
- 7b. Mature legume surface with firm rounded raised margin, surface with rather fine conspicuous but shallow reticulate patterning, and fine hairs; leaflets with reticulate venation fine and prominent, coarse reticulation often hardly distinct from fine, indumentum never dense ..... 4. *M. sempervirens*
- 4b. Legume either broadly oblong or small and fleshy, or if linear and ± woody then always less than 16 cm when mature.
- 8a. Mature legume 2–3 × as long as wide, never less than 4 cm wide, leathery, with marginal wing 5–7 mm wide, surface glabrous or sparsely hairy with fine and regular reticulate pattern of raised lines giving a pitted appearance ..... 6. *M. gigantea*
- 8b. Mature legume at least 4–6 × as long as wide, fleshy or leathery, margin sometimes thickened and

- sometimes longitudinally ridged but never winged, surface often hidden beneath dense hairs, where visible wrinkled or with irregular much coarser patterning of raised lines, never apparently pitted.
- 9a. Mature legume ± woody or thickly leathery, 13–15 cm, surface clearly visible beneath covering of short erect hairs and longer caducous irritant bristles; terminal leaflet 2–2.5 × as long as wide, apex with distinct long narrow acumen 1–2 cm; lateral veins curving more sharply and becoming indistinct or looping and joining near margin ..... 5. *M. calophylla*
- 9b. Mature legume fleshy, 5–9 cm, surface usually nearly invisible beneath dense covering of silky hairs or caducous irritant bristles; terminal leaflet usually ca. 1.5 × as long as wide, apex acute or with short broad acumen to 0.5 cm; lateral veins uniformly straight or slightly curved, clearly reaching margin.
- 10a. Legume with pale silky hairs, not rigid or irritant; calyx with short pale hairs, rarely also with a few longer hairs but without longer irritant bristles ..... 16. *M. pruriens*
- 10b. Legume with dense ferruginous or brown rigid caducous irritant bristles; calyx with short brown hairs and often longer irritant bristles.
- 11a. Lower 1/3 of infructescence axis always without fruit but with bract scars or with persistent bracts; leaflets quite thickly papery or ± leathery, markedly discolorous, abaxially pale greenish gray in dry state, midrib and veins conspicuously prominent, dark and less pubescent than rest of surface ..... 18. *M. bracteata*
- 11b. Infructescence axis either with fruit throughout length or without fruit or scars in lower part; bracts all caducous before flowers open; leaflets much thinner, papery or membranous, abaxially not or only slightly paler, veins neither prominent nor dark and less pubescent than rest of surface ..... 16. *M. pruriens*
- 3b. Legume surfaces each with 8–16 conspicuous obliquely transverse lamellae.
- 12a. Stem (at least when young), petiole, and leaves abaxially with conspicuous soft ferruginous hairs; legume over 16 cm when mature; torulose ..... 13. *M. championii*
- 12b. Stem, petiole, and leaves glabrous or with sparse pale hairs; legume size and shape various.
- 13a. Legume relatively small and narrow, to 10 cm, ca. 4 × as long as wide, margins ± parallel, marginal wings to 4 mm wide.
- 14a. Legume with septa clearly visible as marked indentations; seeds almost spherical; terminal leaflet broadly triangular-cordate, 12–15 cm, base cordate ..... 15. *M. cyclocarpa*
- 14b. Legume with septa just visible as indefinite indentations; seeds markedly laterally flattened, to 1/2 as thick as long; terminal leaflet rhombic-ovate, 6–13 cm, base cuneate ..... 14. *M. lamellata*
- 13b. Legume length only 2–3 × width, or if relatively narrow then legume much larger, at least 16 cm or at least with one margin convex, or marginal wings 1 cm or more wide.
- 15a. Legume lamellae erect, 2-winged along their margins to give T-shaped cross section, all lamellae clearly interrupted along midline of legume.
- 16a. Legume (1 or)2-seeded, 6–9 × 4–4.5 cm, lamellae 8–12 per valve, with strongly revolute apical halves, marginal wings strongly inrolled; bracts never persistent; hairs on inflorescence axis and calyx erect, very short, 0.1–0.2 mm, velvety ..... 8. *M. revoluta*
- 16b. Legume 3-seeded, 13–14 × 6–7 cm, lamellae ca. 18 per valve, with spreading or ± upcurved apical halves, marginal wings ± flat; some bracts large and conspicuous, often persistent to fruiting stage; hairs on calyx and inflorescence axis adpressed, 0.4 mm or more ..... 7. *M. interrupta*
- 15b. Legume lamellae often partly adpressed, each a simple raised flap not dividing to give T-shaped cross section, sometimes erratically discontinuous, joined or branched near middle of legume but not creating a longitudinal midline.
- 17a. Legume to 2 × as long as wide, oblong, usually asymmetric, often with both sides convex, never parallel.
- 18a. Legume with at least some lamellae joined or branched near middle of legume; basal and sometimes apical 1/2 of terminal leaflet with rather straight outline ..... 9. *M. membranacea*
- 18b. Legume lamellae never branched, only a few short or discontinuous; terminal leaflet with very rounded outline ..... 12. *M. hainanensis*
- 17b. Legume 3–4 × as long as wide, linear or slightly curved, sides ± parallel in outline (swollen around seeds or not).
- 19a. Legume 2–2.5(–3) cm or less wide; leaflets with rather straight outline, terminal leaflet rhombic or rhombic-ovate ..... 14. *M. lamellata*
- 19b. Legume 4 cm or more wide; leaflets with rounded outline, terminal leaflet elliptic or slightly obovate.
- 20a. Wings on lower (abaxial) margin of legume 0.5(–0.8) × as wide as those of upper (adaxial) margin; terminal leaflet 13–15 × 7.5–8.5 cm ..... 10. *M. macrobotrys*

20b. Wings along both margins of legume  $\pm$  equal in width; terminal leaflet

4.5–10.5(–16)  $\times$  2.5–6(–9) cm ..... 12. *M. hainanensis*

1. *Mucuna birdwoodiana* Tutcher, J. Linn. Soc., Bot. 37: 65. 1904.

白花油麻藤 bai hua you ma teng

Large woody vines. Young stems glabrous or with fine stiff adpressed pale hairs at nodes. Leaves 17–30 cm; petiole 8–20 cm, with sparse stiff spreading hairs; stipels not persistent; leaflets almost leathery, glabrous or sparsely hairy abaxially, often glossy adaxially, lateral veins 3–5 pairs, gently curved; terminal leaflet ovate, elliptic, or slightly obovate, usually long and narrow, 9–16  $\times$  2–6 cm, base rounded or slightly cuneate, apex with  $\pm$  distinct acumen 1.3–2.2 cm; lateral leaflets 9–16 cm, width ratio of abaxial to adaxial halves 1.7–2:1. Inflorescences on old branches or axillary, 20–38 cm, with 5–10 nodes spaced throughout most of length; bracts ovate, ca. 2 mm, caducous; bracteoles very early caducous; pedicels 1–1.5 cm, hairy. Calyx hairy; tube 1–1.5  $\times$  1.5–2.5 cm; lateral lobes broadly triangular, 5–8 mm, lowest narrowly triangular, 5–15 mm, upper lip usually equal to lateral lobes. Corolla white or greenish white; standard 3.5–4.5 cm, apex with margin conspicuously brown pubescent in apical 1/3–1/2; wings 6.2–7.1 cm, margin pubescent like standard around apex; keel 7.5–8.7 cm. Legume linear but markedly constricted between seeds, 30–45  $\times$  3.5–4.5 cm, 1–1.5 cm thick, woody, densely pubescent, young legume clothed with dense short fine spreading velvety dark or reddish brown pubescence and reddish brown caducous bristles, both margins with pair of narrow woody wings 3–5 mm wide, woody septum between seeds ca. 4 mm thick. Seeds 5–13, black, almost reniform, to ca. 2.8  $\times$  2 cm, 8–10 mm thick, usually glossy; hilum length 1/2–3/4 of seed perimeter. Fl. Apr–Jun, fr. Jun–Nov.

• Dense or open woodlands, rocky areas, moist hillsides and valleys; 800–2500 m. Fujian, Guangdong, Guangxi, Guizhou, Jiangxi, Sichuan.

*Mucuna birdwoodiana* is distinctive in its narrow leathery glossy often glabrous leaves without persistent stipels; large white, often drying pale green, flowers with conspicuously pubescent margins at their apex; and large woody narrowly linear velvety pubescent legume with narrow marginal wings. It is not easily confused with any other species.

This species is used medicinally and as a starch.

2. *Mucuna bodinieri* H. Lévillé, Bull. Soc. Bot. France 55: 408. 1908.

贵州蠶豆 gui zhou li dou

*Mucuna corvina* Gagnepain; *M. terrens* H. Lévillé.

Large climbing woody vines. Stems with sparse short pale fine spreading hairs when young, later glabrous. Leaves 21–32 cm; petiole 7–14 cm, with sparse or abundant hairs like stem; stipels not persistent; leaflets papery or rather leathery, abaxially with dense short fine half-adpressed hairs, adaxially glabrous or with similar but sparse hairs, lateral veins 5–8 pairs, gently curved, often rather closely spaced; terminal leaflet broadly elliptic-ovate or elliptic to slightly obovate or almost

rhombic, 11–14  $\times$  ca. 8 cm, base rounded or slightly cuneate, apex broadly rounded with abrupt minute acumen; lateral leaflets 10–13.5 cm, width ratio of abaxial to adaxial halves 1.6–2:1. Inflorescence on old stem, over 10 cm, with ca. 9 nodes; bracts  $\pm$  ovate, ca. 2  $\times$  1.5 mm, densely hairy, persistent. Calyx densely adpressed hairy and often with sparse caducous bristles; tube 1.1–1.4  $\times$  ca. 2 cm; lateral lobes 3–6 mm, lowest 6–10 mm, upper lip indistinct or almost equaling lateral lobes. Corolla deep purple (possibly sometimes white); standard 3.4–4 cm, margin conspicuously pale pubescent in apical 1/3; wings very narrow, 6–7  $\times$  1.5–2 cm, margin pubescent like standard in apical 1/3; keel 7.2–7.7  $\times$  ca. 1 cm. Legume linear, slightly curved, 47–60  $\times$  3–5 cm, ca. 1.5 cm thick, woody, margin not or only slightly constricted between seeds (segments rectangular) but internal septa visible as transverse grooves, apex acute, base without narrow neck, densely minute spreading hairy, surface with several irregular undulating interrupted longitudinal woody ridges, each margin thickened into 2 ridges up to 1 mm high with a median groove running along suture; septum thin inside,  $\pm$  woody. Seeds ca. 16, dull black, oblong-disk-shaped; hilum ca. 1/3 length of seed circumference; strophiole ca. 4 mm wide.

• 1000–1500 m. Guizhou (Anshun).

*Mucuna bodinieri* is presumably rare, as it is known from only seven collections.

This species is distinctive in having leaflets broadly rounded, shortly acuminate, and densely softly pale hairy; stipels not persistent; large purple flowers with pubescent petal apices; and a large linear legume with rectangular segments. *Mucuna macrocarpa* has similar flowers and fruit but differs in its acute or acuminate leaflets with reddish brown, often sparse, indumentum and often fewer veins.

The syntypes of *Mucuna bodinieri* and *M. terrens* were collected from adjacent localities only ca. 10 km apart. Those of *M. bodinieri* lack fruit, but the ovary is similar; and they otherwise differ from those of *M. terrens* only in having the lowest calyx lobe longer and slightly broader and the leaflets thinner textured with a mucronate rather than shortly acuminate apex.

3. *Mucuna macrocarpa* Wallich, Pl. Asiat. Rar. 1: 41. 1830.

大果油麻藤 da guo you ma teng

*Mucuna castanea* Merrill; *M. collettii* Lace; *M. ferruginea* Matsumura; *M. ferruginea* var. *bungoensis* (Ohwi) Ohwi; *M. ferruginea* var. *irukanda* (Ohwi) Ohwi; *M. irukanda* Ohwi; *M. irukanda* var. *bungoensis* Ohwi; *M. subferruginea* Hayata; *M. wangii* Hu.

Large woody vines. Young stems usually with abundant fine brown adpressed or spreading hairs, later usually glabrous. Leaves 25–33 cm; petiole 8–13(–15) cm, usually hairy like stem; stipels usually not persistent even on young leaves but occasionally present, robust, 2–5 mm; leaflets papery or leathery, glabrous or with abundant light brown or reddish adpressed or spreading hairs especially on veins, lateral veins (3 or)4–6(or 7) pairs, gently curved; terminal leaflet ovate, elliptic, or slightly obovate, (7–)10–19  $\times$  (3–)5–10 cm, base rounded or slightly cuneate, apex broadly acute or shortly acuminate; lateral leaf-

lets 10.5–17 cm, width ratio of abaxial to adaxial halves 2:1, base of abaxial half truncate. Inflorescence usually arising from old stems, 5–23 cm, with 5–17 nodes usually spaced throughout most of length; pedicels 8–10 mm, with dense minute brown spreading hairs and sparse fine bristles; bracts and bracteoles ovate, bracteoles 2–5 mm, shorter than calyx, caducous. Calyx with dense minute spreading hairs and pale caducous bristles; tube 8–12 × 12–20 mm; lateral lobes 3–4 mm, lowest 5–6 mm. Corolla bicolored, standard greenish or pinkish white, wings deep purple, keel lighter purple or sometimes yellowish green; flowers occasionally large with standard, wings, and keel up to respectively 4.5 cm, 6 cm, and 7 cm, but usually shorter: standard 3–3.5 cm, apex with margin conspicuously brown pubescent in apical 1/4–1/3; wings 4–5.2(–5.6) × 1.5–1.7 cm, margin around apex pubescent like standard; keel 5–6.3 cm. Legume linear, straight or slightly curved, 26–48 × 3–5 cm, 7–10 mm thick, woody, with margins often markedly constricted between seeds, base without narrow neck, with dense minute spreading hairs or partly glabrous with age, with irregular ribs and wrinkles, interior septum woody, 1–5 mm thick, margins not distinctly thickened and without median groove along suture but often with irregular woody ribs closely parallel to margin, apex acute. Seeds 6–15, dull black, disk-shaped, slightly asymmetric, laterally flattened, 2.2–3 × 1.8–2.8 cm, 5–10 mm thick; hilum deep brown or black, length ca. 3/4 of seed circumference or more. Fl. Nov–May, fr. Apr–Nov.

Evergreen or deciduous montane or riverine forests, open shrubs, dry sandy lands; 800–3000 m. Guangdong, Guangxi, Guizhou, Hainan, Taiwan, Yunnan [Bhutan, India, Japan, Laos, Myanmar, Nepal, Thailand, Vietnam].

*Mucuna macrocarpa* is distinctive in its leaves usually without persistent stipels, flowers usually bicolored with conspicuously pubescent petal margins at apex, and legume large and linear with thickened but unwinged margin. It is often confused in fruit with *M. sempervirens*, which differs by its indumentum sparse, pale; flowers not pubescent at their apex; and fruit with finer, more regular, reticulate surface patterning and a distinct rounded margin along both sutures. *Mucuna bodinieri* also has similar flowers and fruit but differs markedly by its rounded leaflets with dense pale indumentum. Large-flowered forms of *M. macrocarpa* with persistent stipels can be confused in flower with *M. macrobotrys*, which is distinguished by the uniformly purple corolla, wings often relatively broader, and standard often shorter relative to keel. *Mucuna* “sp. B” of Wilmot-Dear (Kew Bull. 39: 39. 1984) is a variant of *M. macrocarpa*.

**4. *Mucuna sempervirens*** Hemsley, J. Linn. Soc., Bot. 23: 190. 1887.

常春油麻藤 chang chun you ma teng

?*Mucuna coriolaria* Handel-Mazzetti; *M. japonica* Nakai; *M. mairei* H. Léveillé.

Woody vines, up to 25 m. Old stems over 30 cm in diam., young stems glabrous or rarely with sparse stiff pale hairs. Leaves 20–40 cm; petiole 7–16.5 cm, glabrous or with sparse hairs like stem; stipels not persistent; leaflets papery or thicker textured, glabrous or with fine pale stiff hairs, lateral veins 4 or 5 pairs, gently curved; terminal leaflet elliptic or elliptic-ovate, 8–15(–19) × 3.5–9 cm, base slightly cuneate, apex acuminate to

15 cm; lateral leaflets 7–14 cm, width ratio of abaxial to adaxial halves 1.25–1.5:1, abaxial half with base often truncate or slightly cordate. Inflorescences usually on old stems, 10–36 cm, with 5–10 nodes throughout length; bracts caducous, narrowly obovate, ca. 1.5 mm long and wide; bracteoles ovate or obovate, caducous; pedicels 1–2.5 cm, with stiff dark short adpressed hairs. Calyx with dense adpressed hairs on both sides and sparse caducous bristles outside; tube 8–12 × 18–25 mm; lateral lobes 5–8 mm, equaling lowest lobe or almost so, broadly triangular, upper lip often equaling lateral lobes. Corolla deep purple, black after drying; standard 3.2–4 cm; wings rather wide, 4.8–6 × 1.8–2 cm; keel 6–7 cm. Legume linear, straight or slightly curved, 30–60 × 3–3.5 cm, 1–1.3 cm thick, woody, with dense short fine red-brown hairs and sparse caducous reddish brown bristles, surface with conspicuous irregularly reticulate patterning, margins and surface constricted between seeds, base often with abrupt narrow neck, margin thickened into a well-defined smooth rounded ridge running along suture without a wing or median groove, apex acute. Seeds 4–12, shiny red, brown, or black, oblong or discoid, 2.2–3.2 × 2–2.8 cm, ca. 1 cm thick; septum woody; hilum black, length ca. 3/4 of seed circumference. Fl. Apr–May, fr. Aug–Oct.  $2n = 22, 44$ .

Forests, thickets, riversides; 300–3000 m. Fujian, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangxi, Shaanxi, Sichuan, Yunnan, Zhejiang [Bhutan, NE India (W Bengal, Manipur, Sikkim), Japan, Myanmar].

*Mucuna sempervirens* is easily distinguished in flower from most other species with large purple flowers by its leaves without persistent stipels. It is often confused in fruit with *M. macrocarpa*, which differs by its legume without a distinct rounded margin and with a coarser surface patterning, its bicolored flowers with pubescent apex, and its leaves often with reddish hairs. *Mucuna calophylla* also lacks persistent stipels but has much smaller flowers and fruit and has leaves usually densely silky hairy abaxially.

This species is used medicinally and for paper-making, starch, and oil.

**5. *Mucuna calophylla*** W. W. Smith, Notes Roy. Bot. Gard. Edinburgh 12: 216. 1920.

美叶油麻藤 mei ye you ma teng

Climbing vines, 1–3 m. Stems up to 2 cm in diam., red-brown, young stems with abundant fine long adpressed hairs, later glabrous or glabrescent. Leaves 15–22 cm; petiole 4–12 cm; stipels not persistent; leaflets thinly papery or thicker textured, abaxially with dense silky hairs, adaxially with sparse adpressed long silvery hairs, rarely glabrescent with age, lateral veins 5 or 6, gently curved; terminal leaflet ovate, elliptic, or rhombic, 7–11.5 × 3–5 cm, relatively narrow, length 2–2.5 × width, base cuneate or rounded, apex caudate or abruptly broadly acuminate, 1–2 cm; lateral leaflets 7–10.5 cm, width ratio of abaxial to adaxial halves 1.5:1, base slightly cordate or truncate. Inflorescence axillary or from older stems, 3–12 cm, with up to 11 nodes spaced throughout length but more crowded near apex; bracts caducous, narrowly ovate, up to 3 mm; bracteoles caducous, elliptic, ovate, or slightly obovate, up to 6 mm; pedicels 4–5 mm, usually with abundant fine short adpressed silvery hairs. Calyx with dense light brown adpressed short

hairs and sparse caducous reddish irritant bristles; tube 6–7 × 8–11 mm; lateral lobes 2–4 mm, lowest lobe 5–6 mm. Corolla reddish purple or deep crimson; standard 2–2.4 cm; wings 2.8–3.2 × ca. 1 cm; keel 3.5–4 cm. Legume linear-oblong, straight, ca. 13 × 1.8–3 cm, ca. 1.5 cm thick, ± woody or thickly leathery, indented between seeds, with dense reddish or pale long irritant bristles and short spreading hairs and with raised reticulate surface patterning; interior septum very thick, up to 2 mm, woody. Seeds ca. 7, oval in outline, flattened, not glossy, ca. 2 × 1.5 cm, ca. 1 cm thick; hilum brownish orange, length 1/2–3/4 of seed circumference.

- Forests, open thickets; 1000–3000 m. Yunnan.

This species is distinctive in its narrow leaflets without persistent stipels and usually densely silvery hairy abaxial surface, its small flowers, and its linear ± woody legume much smaller than the other *Mucuna* species with woody linear legumes. Other small linear legumes are distinguished by fleshy texture or surface lamellae.

**6. *Mucuna gigantea*** (Willdenow) Candolle, Prodr. 2: 405. 1825.

巨蠶豆 ju li dou

*Dolichos giganteus* Willdenow, Sp. Pl. 3: 1041. 1803; *Mucuna gigantea* subsp. *tashiroi* (Hayata) Hayata; *M. tashiroi* Hayata.

Large climbing woody vines. Stems glabrous or with sparse fine addressed hairs. Leaves 12–27 cm; petiole 6–14 cm, glabrous or with fine addressed hairs; stipels linear, 3–5 mm; leaflets thinly papery, glabrous or with sparse short addressed hairs, lateral veins 4–6 pairs, gently curved; terminal leaflet usually elliptic-ovate, sometimes rhombic or ovate, 7–16 × 4–8.5 cm, base rounded, apex indistinctly shortly acuminate; lateral leaflets 7–11 × 4.5–8 cm, ratio of abaxial to adaxial halves ca. 2.2:1, base rounded and oblique or slightly cordate. Inflorescences axillary but usually arising from rather old stems, 8–25 cm, with up to 6 nodes all clustered in upper 1/4, lower part of inflorescence without flowers or scars; bracts lanceolate to elliptic, 3–5 mm, caducous; bracteoles ovate-lanceolate, 16–18 × 5–7 mm, persistent to well-developed bud stage; ultimate peduncles and pedicels of varying lengths, 5–20 mm, progressively shorter near apex forming a corymb, with abundant short fine pale pubescence. Calyx with short fine pale pubescence and abundant caducous irritant bristles; tube 8–12 × 11–15 mm; lobes short and broad, lowest (1–)2–3 mm (only ca. 1/3 tube length), laterals 1–2 mm. Corolla white, tinged green, yellow, or pale pink; standard large relative to keel size, 2–3(–3.8) cm; wings 2.8–4.4 cm × 8–10 mm, slightly shorter or longer than keel; keel 3–4.2 cm. Legume oblong, 7–14 × 3–5.5 cm, ca. 5 mm thick, leathery, sparsely fine hairy and with irritant bristles, later glabrous, also ornamented with close fine raised reticulate venation giving pitted appearance, both margins thickened to prominent ribs and with pair of wings 0.5–1 cm wide. Seeds 1–3, dark brown or black, 2.3–3 × 2–2.5 cm, 8–10 mm thick; hilum black, length 2/3–3/4 of seed circumference.

Hillsides, at low elevations, often near the coast. Hainan, Taiwan [India, Japan, Malaysia, Vietnam; Australia].

*Mucuna gigantea* is easily distinguished from other species by the

corymbose (pseudumbellate) inflorescence with long ultimate peduncles and pedicels, which are all progressively markedly shorter toward the inflorescence apex; the rather persistent bracteoles; the small white flowers with very short calyx lobes; the relatively large standard; and the broadly oblong legume with reticulate surface-patterning and wide marginal wings. White-flowered variants of *M. hainanensis* with short, few-flowered inflorescences can be confused with *M. gigantea* but are distinguished by the knoblike ultimate peduncles, the lengths and relative proportions of various flower parts, with the keel and wings (but not the standard) longer, and the much longer calyx lobes, with the lowest one equaling (rather than ca. 1/3 as long as) the tube.

**7. *Mucuna interrupta*** Gagnepain, Notul. Syst. (Paris) 3: 26. 1914.

间序油麻藤 jian xu you ma teng

Twining vines, ± woody. Stems glabrous or with sparse addressed or abundant spreading fine hairs. Leaves up to 25 cm; petiole 6–9 cm usually with spreading hairs; stipels 2–4 mm; leaflets thinly papery, inconspicuously finely hairy (rarely glabrous) on both sides, lateral veins 5–7 pairs, gently curved; terminal leaflet elliptic, 9–14 × 4–8 cm, base rounded or ± cordate, apex shortly acuminate; lateral leaflets 9–12 × 5–7 cm, width ratio of abaxial to adaxial halves 1.5–2:1, base of abaxial half truncate, base of adaxial half rounded or slightly cuneate. Inflorescence axillary, 8–24 cm, with up to 6 nodes all in upper part, without flowers or scars in lower part; bracts usually persistent, broadly ovate, 2.5–4 × (0.7–)2–2.5 cm, both sides with dense fine usually addressed short hairs; bracteoles caducous, up to 3 × 0.5 mm; pedicels 8–10 mm, with dense addressed fine pale hairs. Calyx densely hairy; tube ca. 1 × 2 cm; lobes broadly triangular, laterals 4–6 × 4–6 mm, lowest (8–)12–14 × ca. 6 mm. Corolla white; standard 3–3.5 × 1.8–2 cm, ca. 1/2 length of keel or slightly longer; wings 5.5–6 × 0.8–1(–1.5) cm; keel equaling wings. Legume broadly oblong with rounded apex and base, 13–14 × 6–7 cm, 1.5–2 cm thick, leathery, with abundant reddish hairs and irritant bristles, both margins with a pair of wide ± flat wings 12–15 mm wide, both surfaces with 10–20 obliquely transverse erect crowded parallel lamellae completely concealing fruit surface, each divided into 2 wings along their margin with each wing flat or upcurved and up to 7 mm wide, lamellae all interrupted along midline of legume and not extending into marginal wings of fruit. Seeds (2 or)3, reddish brown, with black striations and spots, reniform or almost discoid, ca. 3 × 2.5 cm, ca. 1.2 cm thick; hilum black, length slightly longer than 1/2 circumference of seed. Fl. Aug, fr. Oct.

Forest margins; 900–1100 m. Yunnan [Cambodia, Laos, Myanmar, Thailand, Vietnam].

*Mucuna interrupta* is distinctive in its large fruit with flat marginal wings and wide lamellae uniformly interrupted along the midline, not extending into the winged margins, and with flat or upcurved apical halves. It is vegetatively almost identical to *M. revoluta* and *M. hainanensis*, which differ in the form of their fruit lamellae and usually have purple or reddish flowers.

**8. *Mucuna revoluta*** Wilmot-Dear, Kew Bull. 47: 222. 1992.

卷翅荚油麻藤 juan chi jia you ma teng

Twining vines, ± woody. Stems glabrous or with sparse

adpressed fine hairs. Leaves up to 20 cm; petiole up to 9 cm, often hairy; stipels 2–4 mm; leaflets thinly papery, hairy (rarely glabrous) on both sides, lateral veins 4 or 5 pairs, gently curved; terminal leaflet elliptic or ovate, 8–10 × 4–5.5 cm, base narrowly rounded, apex abruptly acuminate; lateral leaflets up to 12 cm, width ratio of abaxial to adaxial halves 1.75–2:1, base of abaxial half truncate, base of adaxial half rounded to cuneate. Inflorescences (3–)8–16 cm, unbranched or once or twice branched near base, without flowers in lower 1/3 of axis, nodes 5–13; bracts caducous, widely varying in size and shape, elliptic or obovate to linear-oblong, (5–)10–17 × (2–)5–7, with sparse minute fine spreading hairs; bracteoles similar to bracts, longer than calyx; pedicels 5–10 mm, with dense minute (0.1–0.2 mm) fine spreading velvety light brown hairs. Calyx with dense minute hairs like pedicels and irritant red bristles; tube ca. 8 × 8–10 mm; lobes conspicuous, laterals 4–6 mm, lowest 8–9 mm, all broadly triangular with abrupt fine acumen. Corolla deep purple or pinkish purple with paler keel (rarely all petals white); standard ca. 3 × 2 cm, ca. 2/3 keel length; wings 4.5–4.8 × ca. 1 cm; keel equaling wings. Legume broadly oblong, sometimes asymmetric, with rounded apex and base, 6–9 × 4–4.5 cm, up to 2.5 cm thick, leathery, with minute spreading hairs and abundant irritant bristles, both margins with a pair of strongly inrolled wings ca. 4 mm wide, both surfaces with 8–12 thickly leathery markedly obliquely transverse crowded parallel lamellae completely concealing fruit surface, each divided along their margin into 2 wings up to 5 mm broad and strongly revolute, lamellae uniformly interrupted along midline of legume and not extending into marginal wings of fruit. Seeds (1 or)2, shiny, red-brown with black mottling, very large, 2.5–2.8 × ca. 2 cm; hilum just over 1/2 circumference of seed.

Forests and disturbed vegetation, seasonal rain forests often by streams, dry evergreen forests, primary and slightly disturbed evergreen hardwood forests, swamp forests, degraded caducous forests and bamboo, scrub, roadsides; 300–800 m. W Yunnan [Cambodia, Laos, Thailand, Vietnam].

The original material of *Mucuna revoluta* was included within *M. interrupta*. *Mucuna revoluta* is distinctive in its legumes with strongly inrolled marginal wings and rigid thick-textured lamellae, which are divided distally into 2 wings, interrupted along the midline of the legume, strongly revolute, and not extending into the legume wings, and in its minute spreading velvety pubescence on the flowering parts (in most other species hairs are at least 0.4 mm, often adpressed). *Mucuna interrupta* and *M. hainanensis* have almost identical leaves; *M. interrupta* differs by the longer usually adpressed indumentum on its flowering parts, by the flowers always white with longer wings and keel, and by the legume with thinly textured upcurved lamellae and flat or undulating marginal wings. *Mucuna hainanensis* is distinguished by the adpressed hairs on flowering parts and the fruit with simple lamellae mostly not interrupted along the midline.

**9. *Mucuna membranacea*** Hayata, Icon. Pl. Formosan. 3: 73. 1913.

兰屿血藤 lan yu xue teng

*Mucuna iriomotensis* Ohwi.

Climbing woody vines. Young stems glabrous. Leaves up to 22 cm; petiole 3–20 cm, with sparse short spreading soft pale hairs; stipels slender, 2–3 mm; leaflets membranous to papery

with short fine spreading hairs on both sides, lateral veins 4–6, lower ones rather straight; terminal leaflet rhombic-elliptic or rhombic-ovate, 8–13 × 6–8 cm, base cuneate but at extreme base obtuse-rounded, apex obtuse with abrupt acumen to 1 cm; lateral leaflets up to 12 cm, width ratio of abaxial to adaxial halves 2:1. Inflorescence 10–12 cm, pendulous with 5 or more nodes throughout most of length; pedicels 6–10 cm, with adpressed light brown short hairs; bracts broadly ovate, boat-shaped, 12–14 × 7–9 mm, bracteoles narrowly ovate, all caducous before flowering. Calyx tube ca. 8 × 13 mm, upper lip well marked, equaling lateral and lower lobes, all 10–12 mm. Corolla deep purple; standard 3–3.5 cm, ca. 2/3 keel length; wings ca. 5 × 2 cm; keel ca. 5 cm. Legume asymmetric, elliptic-ovate to oblong in outline, (4–)6–9 × 4–5 cm, 5–10 mm thick, leathery, surface with abundant very short spreading pale hairs and brown irritant bristles, apex rounded or acute, both margins with pair of sinuate wings 6–10 mm wide, both surfaces of legume with 9–12 obliquely transverse slightly undulating but well-spaced shallow lamellae of irregular height up to 5(–10) mm high and mostly interrupted along midline, some extending onto marginal wings of fruit. Seeds 1 or 2, brownish black, flattened-discoid, ca. 2 cm in diam.; hilum ca. 3/4 of seed circumference.

Forests near rivers or seacoast; sea level to near sea level. Taiwan [Japan].

*Mucuna membranacea* is distinctive in the rhombic-ovate leaflets with rather straight veins, the short purple flowers with wide wings equaling keel, and the short broad legume with narrow marginal wings and simple lamellae interrupted along the midline of the legume.

Records of *Mucuna nigricans* Steudel from China (Taiwan) and Japan (e.g., Fl. Taiwan 3: 343. 1977) were based on misidentifications of this species.

**10. *Mucuna macrobotrys*** Hance in Walpers, Ann. Bot. Syst. 2: 422. 1851.

大球油麻藤 da qiu you ma teng

Large climbing vines. Stems glabrous or with sparse reddish brown short hairs at nodes. Leaves 29–33 cm; petiole 6–13 cm, glabrous or with reddish brown short hairs; stipels slender 4–6 mm; leaflets thinly leathery or papery, glabrous or with reddish brown short hairs abaxially, lateral veins 4 or 5 pairs, uniformly strongly curved; terminal leaflet elliptic or elliptic-obovate, 11–15.5 × 3–8.5 cm, base rounded, apex with abrupt acumen ca. 1.5 cm; lateral leaflets 9–15 cm, width ratio of abaxial to adaxial halves ca. 1.7:1. Inflorescence ca. 15 cm, with 4 or 5 nodes spaced throughout length; bracts caducous; pedicels ca. 1 cm, with dark brown adpressed short hairs. Calyx with dark brown short adpressed hairs and red-brown caducous bristles; tube ca. 1 × 1.5 cm; lobes narrowly triangular, lowest ca. 10 mm and laterals ca. 7 mm, upper lip sometimes equaling lateral lobes. Corolla deep purple; standard 3.7–5 cm, with margin conspicuously pubescent in apical 1/3; wings 6–7 × 2–2.5 cm, ca. 2/3 of keel in length, apex with pubescent margin like standard; keel 7.5–9 cm. Legume asymmetric, oblong, 16–17 × ca. 4.5 cm, leathery, clothed with adpressed short hairs and sparse irritant bristles, with acute apex and persistent style, base rounded, both margins with a pair of wings 6–15 mm wide,

both surfaces with 12–16 markedly obliquely transverse well-spaced parallel thinly textured lamellae up to ca. 6 mm high ± adpressed to surface and occasionally branching or interrupted, not extending onto marginal wings of fruit. Seeds 2 or 3. Fl. Dec, fr. Apr.

- Forests at low elevations. Guangdong, Guangxi, Yunnan.

*Mucuna macrobotrys* is distinctive in the large broad leaves with uniformly curved veins; the large purple flowers with petal margins pubescent around the apex, rather broad wing, and very long keel; and the oblong legume with acute apex, wide marginal wings, and narrowly oblique, occasionally interrupted, simple lamellae ± adpressed to the legume surface. Its apically pubescent-margined flowers are sometimes confused with those of *M. macrocarpa*, which differs by the bicolored corolla with usually shorter petals, the wings often relatively narrower, the standard often short relative to the keel, and the stipels rarely persistent even on very young leaves. A new species, *M. hirtipetala* (below), resembles large-leaved forms of *M. macrobotrys* in general appearance but differs by its spreading indumentum on the inflorescences, broader calyx with longer lowest tooth, and much shorter corolla without apically pubescent petals and with inner surface of the wing conspicuously long hairy.

### 11. *Mucuna hirtipetala* Wilmot-Dear & R. Sa, *sp. nov.*

毛瓣蠶豆 mao ban li dou

Type: China. Yunnan: “Jenn-Yeh Hsien, Meng-Ping” [Mengla County, Mengpeng Township], Oct 1936, C. W. Wang 78923 (holotype, PE; isotype, A).

*Mucunae macrobotryi similis sed corolla minore ad apicem omnino glabromarginata, carina brevior 5–5.5 cm longa alas aequante (nec 7.5–9 cm nec quam alis longiore), alis in superficie adaxiali pilos conspicuos longos per dimidium basale abundanter dispersos ferentibus et calyce pedunculoque pilos patentes (nec adpressos) ferentibus differt.*

Climbing vines. Stems with sparse reddish brown short hairs. Leaves ca. 35 cm; petiole ca. 15 cm with sparse brown short spreading hairs; stipels robust, 4–6 mm; leaflets thinly leathery or papery, glabrous except for occasional hairs on veins abaxially, lateral veins 5 or 6 pairs, strongly curved; terminal leaflet elliptic or elliptic-obovate, ca. 14 × 8.5 cm, base rounded, apex with abrupt acumen ca. 1 cm; lateral leaflets ca. 13 cm, width ratio of abaxial to adaxial halves ca. 1.5:1. Inflorescence ca. 10 cm, with 4 or 5 nodes spaced throughout length; bracts caducous, not seen; pedicels ca. 1 cm, with abundant golden spreading short hairs. Calyx with dark brown short spreading hairs and red-brown caducous fine long bristles; tube ca. 1 × 1.6–1.8 cm; lobes narrowly triangular, lowest ca. 12 mm and laterals ca. 7 mm, upper lip sometimes longer than laterals. Corolla deep purple (drying brownish); standard ca. 3.2 cm; wings 5–5.5 × ca. 2 cm, ca. equaling keel, inner surface with abundant long fine adpressed pale hairs in basal half. Ovules ca. 3. Mature fruit unknown.

- Dense woodlands near rivers; ca. 800 m. S Yunnan (Mengla).

This new species is *Mucuna* “sp. C” of Wilmot-Dear (Kew Bull. 39: 50. 1984). Known only from the type gathering, it is unusual in having conspicuous fine long hairs on the inner surface of the corolla wings (as in *M. lamellata*, which is otherwise very different in its smaller flowers and rhombic leaves). Its general appearance is that of

*M. macrobotrys*, which differs in its mostly smaller leaves, its adpressed indumentum on the peduncles and calyx, and especially in its longer corolla with the keel longer than the wings and its standard and wings pubescent on their apical margins but not hairy on the inner surface.

### 12. *Mucuna hainanensis* Hayata, Icon. Pl. Formosan. 3: 72. 1913.

海南蠶豆 hai nan li dou

*Mucuna nigricans* Steudel var. *hainanensis* (Hayata) Wilmot-Dear; *M. nigricans* var. *hongkongensis* Wilmot-Dear; *M. suberosa* Gagnepain.

Climbing vines, to 5 m. Young stems glabrous or with sparse fine adpressed hairs. Leaves widely varying in size, 7–25 cm; petiole 4.8–11.5 cm, glabrous or sparsely finely hairy; stipels 2–6 mm; leaflets papery or leathery, almost glabrous on both surfaces, lateral veins 4 or 5(–7) pairs, gently curved; terminal leaflet obovate-elliptic or elliptic, 4.5–10.5(–16) × 2.5–6(–9) cm, base rounded, apex caudate to abruptly shortly acuminate; lateral leaflets 5–8(–11) cm, ratio of abaxial to adaxial halves ca. 1.5:1. Inflorescence axillary, 6–40 cm, with 5–18 nodes, basal part without flowers but often with a few long acuminate bracts 2–3 cm; bracts at flowering nodes large, oblong or broadly ovate to elliptic with rounded often hooded apex, 1–2 cm, hairy; bracteoles linear-ovate or narrowly elliptic, to 13 × 4 mm; pedicels 8–10 mm, densely silky adpressed hairy. Calyx with dense silky short hairs and irritant bristles; tube 7–10 × 10–14 mm; lobes narrow, lowest 8–10 mm, laterals 5–6 mm. Corolla deep purple (rarely white); standard 2.5–3.5 cm; wings 4.5–5.5 × 1–1.3 cm; keel 4.8–5.7 cm. Legume asymmetrically oblong or ovate-oblong, 9–18 × 4.5–5.5 cm, ca. 1 cm thick, leathery, with red-brown irritant hairs, with narrowly rounded base and acute apex often with persistent style, both margins with pair of wings ca. 1 cm wide, both surfaces with 8–14 markedly oblique crowded winglike lamellae uniformly 4–5 mm high, mostly not interrupted nor branched, some extending onto marginal wings of fruit. Seeds 2–4, black, oblong or reniform, 1.7–2.5 × ca. 1.5 cm, 5–7 mm thick; hilum length 1/2–3/4 of seed circumference. Fl. Jan–Mar, fr. Mar–May.

Forests, thickets, valleys, mountain slopes, dry or swampy soil; sea level to low elevations, rarely to 1000 m. ?Guangdong, ?Guangxi, Hainan, Yunnan [Vietnam].

*Mucuna hainanensis* is distinguished by its fairly small usually purple flowers with a relatively long wing and its oblong legume with simple uninterrupted oblique lamellae of almost uniform height and sometimes running into the marginal wings. It is vegetatively almost identical to *M. interrupta* and *M. revoluta*, both of which have fruit lamellae T-shaped in cross section; *M. revoluta* also has distinctive minute spreading indumentum on the inflorescence. *Mucuna lamellata* has a similar but narrower fruit with less oblique lamellae, seeds only half the size, and rhombic-ovate leaves. *Mucuna championii* has a similar fruit and small flowers but a distinctive red indumentum. *Mucuna* “sp. D” of Wilmot-Dear (Kew Bull. 39: 57. 1984) is a white-flowered variant of *M. hainanensis*.

All of the material from the Flora area belongs to the typical subspecies. The other subspecies, *Mucuna hainanensis* subsp. *multilamellata* Wilmot-Dear, is found in the Philippines and the E and N Indian subcontinent and is distinguished mainly by its fruit with dense

short spreading hairs and 20–25 scarcely oblique lamellae and its leaflets sometimes longer.

**13. *Mucuna championii*** Bentham, Hooker's J. Bot. Kew Gard. Misc. 4: 49. 1852 [*"championii"*].

港油麻藤 gang you ma teng

Tall climbing vines, to 10 m. Young stems with dense reddish crisped hairs, old stems almost glabrous. Leaves up to 15.5 cm; petiole ca. 6.5 cm, glabrous or sparsely hairy; stipels 1–2 mm; leaflets papery, adaxially clothed with sparse golden silky hairs, abaxially with dense reddish hairs on veins and golden silky hairs on surface, golden hairs becoming sparse on older leaves, lateral veins (4 or)5 or 6 pairs, slightly curved; terminal leaflet broadly ovate to rhombic-ovate, 5–9 × 3.5–5.5 cm, base broadly cuneate or rounded, apex shortly acuminate; lateral leaflets 6.5–7 × 3–5 cm, with width ratio of abaxial to adaxial halves 3:2, base rounded or slightly cordate. Inflorescences on old stems, ca. 8 cm, with up to 7 nodes; bracts and bracteoles very soon caducous; pedicels 3–4 mm, densely reddish hairy. Calyx densely softly hairy and with irritant bristles; tube 7–8 × ca. 10 mm; lateral lobes ca. 2 mm, lowest lobe broadly triangular, ca. 4 mm, upper lip as long as lateral lobes. Corolla purple; standard ca. 2.5 cm; wings ca. 4 cm × 6–8 mm; keel 4–4.2 cm. Legume asymmetric, narrowly oblong, 15–16.5 × ca. 4.5 cm, leathery, with acute apex and persistent style, when young with dense bristles gradually caducous after maturity; both margins with a pair of wings ca. 1 cm wide, both surfaces with 12–15 well-spaced obliquely transverse thinly textured winglike lamellae 3–4 mm high, mostly not interrupted nor branched, some extending onto marginal wings of fruit. Seeds reddish brown, oblong, ca. 2.5 × 2 cm, ca. 7 mm thick; hilum black, length ca. 1/2 circumference of seed. Fl. Aug.

• Among trees or shrubs in evergreen forests at low elevations. Hong Kong.

*Mucuna championii* is known only from the type collection and is possibly now extinct. All other records of this species are based on misidentifications of *M. hainanensis*. *Mucuna championii* is distinctive in its conspicuous soft red-brown indumentum and rather narrowly oblong fruit with oblique simple lamellae that extend to the outer edge of the marginal wings.

**14. *Mucuna lamellata*** Wilmot-Dear, Kew Bull. 39: 53. 1984.

褶皮蠶豆 zhe pi li dou

Climbing vines, to 5 m. Stems slightly woody, glabrous or sparsely adpressed or spreading hairy. Leaves 17–27 cm; petiole 7–11 cm with abundant hairs like on stem; stipels 2–3 mm, slender; leaflets thinly papery, adaxially glabrous or with very sparse long adpressed hairs, hairs abaxially sometimes less sparse, lateral veins 4–6 pairs, rather straight but curving near margin; terminal leaflet rhombic-ovate, 6–13 × 4–9.5 cm, base rounded or slightly cuneate, apex acuminate; lateral leaflets 8–14 cm, width ratio of abaxial to adaxial halves 2:1, base truncate. Inflorescence axillary, 7–27 cm, nodes 6–15, all crowded into upper 1/5–1/2 of inflorescence; lower part of inflorescence without bracts or scars; pedicels 7–8 mm, densely clothed with spreading reddish short fine hairs and light yellow adpressed hairs; bracts and bracteoles lanceolate, linear-lanceolate, or nar-

rowly ovate, ca. 7 × 2 mm, hairy outside, late caducous often only shortly before flowering. Calyx densely clothed with dense pale short fine hairs inside and outside and sparse irritant reddish bristles outside; tube 5–6 × 8–10 mm; lateral lobes ca. 2 mm, lowest lobe 3–4 mm, all narrowly triangular, upper lip often indistinct. Corolla deep purple or reddish brown (often drying brown rather than black); standard broadly elliptic, 2–2.5 cm; wings oblong, 3.2–4 cm × 9–12 mm, often as long as keel, apical 2/3 of adaxial surface with abundant long fine golden hairs; keel (3.6–)4(–4.5) cm, apex sharply curved. Legume narrowly oblong, narrowing to base and apex and scarcely indented transversely between seeds, asymmetric in outline, slightly downcurved, 6.5–10 × 2–2.5(–3) cm, 5–8 mm thick, leathery, densely covered with reddish irritant bristles when young, later with pale spreading fine pubescence and sparser reddish bristles, both margins with pair of wings 2–4 mm wide but of irregular width giving slightly jagged outline, both surfaces with 12–16 well-spaced obliquely transverse narrow thinly textured winglike lamellae of irregular height to 3 mm, sometimes erratically interrupted, sometimes running into wings. Seeds 2–5, deep reddish brown or black, ca. 11 × 9 mm, markedly laterally flattened, ca. 7 mm thick, smooth; hilum black, length ca. 5/8 of circumference; aril absent. Fr. Apr–May.

• Riversides, thickets, roadsides, mountain valleys; 400–1500 m. Fujian, Guangdong, Guangxi, Hubei, Jiangsu, Jiangxi, Zhejiang.

*Mucuna lamellata* is distinguished by its rhombic-ovate leaves, its corolla wings with conspicuous long hairs on most of the adaxial surface, and its lamellate legume that is smaller and relatively much narrower than most lamellate-fruited species. Its fruit is similar only to *M. cyclocarpa*, which differs in the cordate leaflets, the usually larger almost spherical seeds, and the legume distinctly indented between seeds. *Mucuna hainanensis* sometimes has fairly short but always wider legumes with more markedly oblique lamellae, seeds twice the size, and ovate leaves. Flowers on dried specimens are often distinctively “dirty brown” in color.

**15. *Mucuna cyclocarpa*** F. P. Metcalf, Lingnan Sci. J. 19: 561. 1940.

闽油麻藤 min you ma teng

Climbing woody vines. Stems almost glabrous or with very sparse fine but rather stiff short hairs, more dense at nodes and on young stems. Leaves 26–31 cm; petiole up to 13 cm, with sparse fine stiff hairs; stipels slender, ca. 5 mm; leaflets thinly papery, adaxially almost glabrous or sparsely strigose, lateral veins 5–7 pairs, gently curved; terminal leaflet broadly ovate or triangular-cordate, 12–15 × ca. 11.5 cm, base cordate, apex acute; lateral leaflets ca. 15 × 11 cm, width ratio of abaxial to adaxial halves 1.7:1, base shallowly cordate or almost truncate. Inflorescences on old stems (flowers not known). Calyx with short dense spreading light brown stiff hairs outside. Legume narrowly oblong and slightly downcurved, narrowed to base and apex and distinctly indented transversely between seeds, ca. 9.5 × 2 cm, ca. 1 cm thick, leathery, densely pubescent like calyx on most of surface and clothed with reddish brown irritant bristles; both margins with a pair of wings up to 4

mm wide but of irregular width giving slightly jagged outline, both surfaces with 16–25 slightly obliquely transverse thinly textured winglike lamellae of irregular height up to ca. 3 mm high, sometimes interrupted or branched. Seeds ca. 5, black or brown, with irregular striations or spots, almost spherical, ca. 12 × 11 mm, ca. 9 mm thick; hilum black, length ca. 1/2 of seed circumference.

• Shrubs in rocky places; ca. 1200 m. Fujian, E Jiangxi (Wuyi Shan).

*Mucuna cyclocarpa* is distinctive in its large cordate leaflets and almost spherical seeds. Its small narrow legume with irregular surface lamellae resembles only that of *M. lamellata*, which differs in the markedly laterally flattened seeds, the legume scarcely indented between the seeds, and the leaflets cuneate at the base and usually smaller.

### 16. *Mucuna pruriens* (Linnaeus) Candolle, Prodr. 2: 405. 1825.

刺毛黧豆 ci mao li dou

Semiwoody twining vines. Stems and branchlets slender, with dense long fine hairs and often coarser longer hairs, later glabrous. Leaves up to 46 cm; petiole 8–26 cm, hairy like stem; stipels robust, tapering to tip, 4–5 mm; leaflets papery, adaxially sparsely or abundantly hairy when young, later glabrous, abaxially clothed with short white silky hairs, lateral veins 5–8 on each side, slender, straight or slightly curved, running into margin; terminal leaflet elliptic or ovate-rhombic, (3–)14–16 × (4.5–)8–10 cm, base broadly cuneate to rounded, apex rounded, acute, or shortly acuminate; lateral leaflets 7–19 cm, width ratio of abaxial to adaxial halves 2–3:1, abaxial half with base ± truncate or rarely cordate. Inflorescence axillary, long and pendulous, 15–35 cm, with (2–)5–20 nodes, all in upper 2/3 of inflorescence with no bracts or scars in lower part; pedicels 2–4(–6) mm, densely adpressed hairy and often bristly; bracts and bracteoles linear-lanceolate 6–9 mm, hairy, caducous before flowers open. Calyx with dense soft adpressed pale hairs and often irritant orange bristles; tube ca. 5 × 10 mm; lateral 2 lobes broadly triangular, 2–4 × 1.5–3(–3.5) mm, lowest narrowly triangular, 6–10 × 2–3 mm. Corolla deep purple; standard 1.6–2.5 cm, 1/2–2/3 of keel length; wings 2–4 × ca. 1.2 cm, shorter than or subequal to keel; keel 2.8–4.2(–4.5) cm. Legume linear-oblong and slightly swollen around seeds or misshapen with irregular swellings around seeds, to 9 × 1(–2) cm, ca. 5 mm thick, densely covered with soft pale hairs or orange to brown irritant caducous bristles, margin thickened, surface with or without longitudinal ridges. Seeds 3–6(–8), white to light yellow-brown, orange, brown, or black, sometimes mottled in various colors, elliptic, 0.9–1.78(–2) × 0.4–1.3 cm, (3–)4–10 mm thick; hilum 3–6 mm, ca. 1/8 of seed circumference, with aril forming a raised orange border. Fl. Sep–Jan, fr. Oct–Apr.

Forests, riversides, thickets, tall scrub, roadsides, also cultivated; below 1700 m. Guangdong, Guangxi, Guizhou, Hainan, Hubei, Sichuan, Taiwan, Yunnan [widely distributed in the tropics].

*Mucuna pruriens* is distinctive in its small flowers crowded along the upper part of the often very long inflorescence and is easily distinguished from all species, except *M. bracteata* and *M. incurvata*, by its ± straight lateral veins running into the leaflet margin and its small

fleshy linear fruit.

One flowering specimen of uncertain identity has been seen from Ting Wu Shan, Guangdong (*Nan Z. D.* 526, MO), which differs from *Mucuna pruriens* mainly by the extremely long stipels ca. 15 mm.

- 1a. Fruit with orange or brown irritant bristles, to ca. 1 cm wide; seeds uniform in color; terminal leaflet with length 1.5–1.75 × width, lateral leaflets of similar size; calyx often with irritant bristles ..... 16a. var. *pruriens*
- 1b. Fruit with long pale silky hairs, often misshapen, irregularly swollen around seeds, to 2 mm wide in parts; seeds often mottled or streaked in different colors; terminal leaflet broad, length less than or to 1.5 × width, lateral leaflets often much larger than terminal; calyx without irritant bristles ..... 16b. var. *utilis*

### 16a. *Mucuna pruriens* var. *pruriens*

刺毛黧豆(原变种) ci mao li dou (yuan bian zhong)

*Dolichos pruriens* Linnaeus, Herb. Amboin. 23. 1754; *Mucuna esquirolii* H. Léveillé; *M. prurita* Wight; *Stizolobium pruriens* (Linnaeus) Medikus.

Stems with fine and coarse hairs, later glabrous. Terminal leaflet with length:width ratio 1.5–1.75:1; lateral leaflets not markedly larger, to 19 cm. Inflorescence with dense hairs and often sparse bristles. Calyx with soft hairs and often irritant bristles. Legume linear-oblong, not or slightly swollen around seeds and slightly S-shaped, to ca. 1 cm wide, densely covered with orange or brown irritant caducous bristles. Seeds 3–6, usually light yellow-brown, sometimes brown to black. Fl. Sep–Jan, fr. Oct–Apr.

Forests, riversides, thickets, tall scrub, roadsides; to 1700 m. Guizhou, Hainan, Yunnan [widely distributed in the tropics].

*Mucuna pruriens* var. *pruriens* is distinctive in its small linear often S-shaped fleshy legume densely covered with irritant orange-brown bristles. It is often confused with *M. bracteata*, which differs in the acute leaflets with robust prominent veins less hairy abaxially than the leaf surface, the inflorescences with bracts or scars of flowerless nodes in lower part, and the almost straight legume.

### 16b. *Mucuna pruriens* var. *utilis* (Wallich ex Wight) Baker ex Burck, Ann. Jard. Bot. Buitenzorg 11: 187. 1893.

黧豆 li dou

*Mucuna utilis* Wallich ex Wight, Icon. Pl. Ind. Orient. 1: 280. 1840; *Carpogon niveum* Roxburgh; *Macranthus cochinchinensis* Loureiro; *Mucuna atrocarpa* F. P. Metcalf; *M. capitata* Wight & Arnott; *M. cochinchinensis* (Loureiro) A. Chevalier; *M. deeringiana* (Bort) Merrill; *M. martini* H. Léveillé & Vaniot; *M. nivea* (Roxburgh) Candolle; *Stizolobium deeringianum* Bort.

Stems with sparse long fine spreading hairs. Terminal leaf-

let with length:width ratio only ca. 1.5:1; lateral leaflets often markedly larger than terminal, to 20 cm. Inflorescence with sparse or dense soft adpressed hairs. Calyx with dense long pale hairs. Young legume green, linear but irregularly swollen around seeds, to 2 cm wide in parts, densely covered with silky hairs, with 1 or 2 prominent ribs. Seeds up to 8, white, light yellow-brown, or black, sometimes with streaks or spots; hilum yellowish white, ca. 7 mm. Fl. Oct, fr. Nov.

Cultivated. Guangdong, Guangxi, Guizhou, Hainan, Hubei, Sichuan, Taiwan [probably domesticated in India; cultivated in tropics and subtropics of Asia].

*Mucuna pruriens* var. *utilis* is a cultivated plant very similar to *M. pruriens* var. *pruriens* but distinctive in the misshapen silky-hairy legume entirely lacking irritant bristles and the lateral leaflets, which are often much larger than the terminal one.

This taxon is used for food, herbage, and green fertilizer.

### 17. *Mucuna incurvata* Wilmot-Dear & R. Sa, sp. nov.

喙瓣薰豆 hui ban li dou

Type: China. Yunnan, "Che Li Dist., Ban-chiou Chian" [Jinghong County], Oct 1936, C. W. Wang 79571 (holotype, PE; isotype, A).

Paratypes: C. W. Wang 79233 (A, PE).

*Mucunae prurienti similis sed lobis lateralibus calycis duplo longioribus c. 6 mm (nec 2–4 mm tantum) longis atque multo latioribus 4–5 mm (nec 2–3 mm tantum) latis, calyce extus setulas multo tenuiores ferenti, carina ad apicem multo magis incurvata atque per 1 cm longitudinis indurata et foliis infra cauleque pilos longiores ferentibus differt.*

Twining vines. Young stems with dense spreading or adpressed long fine golden hairs. Leaves ca. 29 cm; petiole 13–15 cm with short adpressed fine pale hairs; stipels robust, tapering to tip, 2–4 mm; leaflets thinly papery or membranous, adaxially with abundant fine short pale adpressed hairs giving shiny appearance, abaxially with similar denser longer (ca. 1 mm) hairs but with veins dark and conspicuously less pubescent, lateral veins 5 or 6 pairs, slender, straight or slightly curved, running right into margin; terminal leaflet elliptic or rhombic-ovate to rhombic-obovate, ca. 11 × 7 cm, base broadly cuneate to rounded, apex broadly acute to broadly rounded; lateral leaflets 9.5–11.5 cm, width ratio of abaxial to adaxial halves 2–2.5:1, abaxial half with base ± truncate. Inflorescence axillary, length and number of nodes unknown; pedicels 3–4 mm, densely adpressed hairy; bracts unknown. Calyx with dense soft adpressed pale hairs and fine golden bristles; tube ca. 6 × 10 mm; lateral 2 lobes broadly triangular, ca. 6 × 4–5 mm, lowest broadly triangular, 8–10 × 4–5 mm. Corolla deep purple; standard ca. 2.2 cm, ca. 1/2 of keel length; wings ca. 4 × 1.4 cm; keel 4–4.5 cm, apex markedly incurved clawlike and horny to ca. 1 cm. Ovary narrowly cylindrical, tapering to apex; ovules ca. 4. Mature fruit unknown.

- Mixed forests; 800–900 m. S Yunnan (Jinghong).

This new species is *Mucuna* "sp. A" of Wilmot-Dear (Kew Bull.

39: 64. 1984). Known only from the two gatherings cited, it is similar to *M. pruriens* but differs in having lateral calyx lobes twice as long, all calyx lobes much broader, corolla with a much more incurved and clawlike keel, longer hairs on the stem and leaves abaxially, and much finer bristles on the calyx.

### 18. *Mucuna bracteata* Candolle, Prodr. 2: 406. 1825.

黄毛薰豆 huang mao li dou

Twining vines. Stems glabrous or with dense short pale adpressed hairs. Leaves 14–30(–40) cm; petiole 6–11 cm; stipels 2–5 mm, robust; leaflets thickly papery or almost leathery, adaxially sparsely or densely hairy with hairs denser on veins, abaxially densely hairy with hairs sparser on veins, rarely glabrous on both sides, lateral veins 5–7 pairs, prominent and conspicuous, straight and running into margin; terminal leaflet rhombic or sometimes rhombic-obovate or broadly ovate, 7–14 × 5.6–11(–13) cm, base broadly cuneate to rounded, apex acute or slightly acuminate; lateral leaflets 7–14 × 4–9 cm, width ratio of abaxial to adaxial halves 2–3:1, base on abaxial side truncate. Inflorescence axillary, 18–41 cm, with usually more than 12 flowering nodes always clustered in upper 2/3 of inflorescence; lower part of inflorescence axis with many bracts or their scars; bracts and bracteoles persistent at flowering and often fruiting time, hairy, bracts obovate to lanceolate or linear-lanceolate; pedicels 4–7 mm, densely short spreading hairy and often with longer fine bristles. Calyx densely clothed with soft hairs and yellow-brown irritant bristles; tube 4–7 × 7–10 mm; lateral 2 lobes 2–4 mm, lowest 5–6 mm. Corolla deep purple; standard 1.6–2.3 cm; wings 2.5–3.3 cm × 6–8 mm; keel 2.5–4.3 cm. Legume linear, not or slightly swollen around seeds, straight or slightly downcurved, 6–9 × 1.2–1.6 cm, fleshy, clothed with dark brown irritant hairs. Seeds 3–6, brown or black, usually with pinkish brown marks, ellipsoidal, ca. 9 × 6 mm, ca. 4 mm thick; hilum ca. 5 mm.

Forests, grasslands, roadsides, by rivers; 600–2000 m. Guangdong, Hainan, Yunnan [Laos, Myanmar, Thailand, Vietnam].

This species is extremely similar to *Mucuna pruriens* and is only distinguished by the thickly textured robust-veined ovate-rhombic leaflets with indumentum abaxially conspicuously sparser on the veins than on the leaf surface, the lower part of the inflorescence with many flowerless nodes with scars or persistent bracts, and the almost straight legume.