

73. CALLERYA Endlicher, Gen. Pl., Suppl. 3: 104. 1843.

鸡血藤属 *ji xue teng shu*

Wei Zhi (韦直); Les Pedley

Marquartia Vogel, Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 19(Suppl. 1): 35. 1843, non Hasskarl (1842); *Adinobotrys* Dunn; *Padbruggea* Miquel; *Whitfordia* Elmer (1910), not Murrill (1908); *Whitfordiodendron* Elmer.

Lianas, scandent shrubs, or rarely trees. Stipules glabrous, mostly deciduous. Leaves imparipinnate; stipels narrowly triangular, persistent or deciduous; leaflets (sub)opposite. Flowers neither paired nor clustered, in axillary or terminal racemes, sometimes forming axillary or terminal panicles; bracts shorter or longer than corresponding flower, usually deciduous; bracteoles on calyx or rarely on distal part of pedicel, persistent or not. Calyx usually truncate with short teeth. Corolla standard glabrous to densely sericeous outside, Chinese taxa with or without basal calluses, basally reflexed; wings and keel petals ± equally long; wings often partially adnate to keel. Stamens diadelphous; vexillary filament free from other 9. Ovary sometimes stipitate. Legume indehiscent or tardily dehiscent, thin to thickly woody, flat or inflated; sutures not winged, sometimes thickened. Seeds 1–9 per legume, roundish; radicle folded.

About 30 species: S and SE Asia, Australia, New Guinea; 18 species (ten endemic) in China.

- 1a. Standard outside glabrous.
 - 2a. Calyx densely sericeous, hirsute, or tomentose; ovary sericeous or tomentose.
 - 3a. Leaflets 7, blades 4–8 × 1–2 cm, apex acuminate to caudate; flowers ca. 1.8 cm; corolla yellow 3. *C. fordii*
 - 3b. Leaflets 7–13, blades 4–13 × 1–4 cm, apex acute; flowers 2.5–3.5 cm; corolla white, creamy, pale pink, or lilac.
 - 4a. Leaflet blades shiny, glabrous on adaxial surface, rusty pubescent and glabrescent on abaxial surface; ovules numerous; standard with 2 basal calluses 1. *C. speciosa*
 - 4b. Leaflet blades villous on both surfaces; ovules 4–6; standard without basal calluses 2. *C. bonatiana*
 - 2b. Calyx sparsely pubescent; ovary glabrous.
 - 5a. Stipules inserted at tip of persistent gibbosity on stem.
 - 6a. Calyx pubescent; legume carmine when dry, oblong, 10–11 cm, convex, suture thickened; panicles ca. 30 cm 4. *C. eurybotrya*
 - 6b. Calyx glabrescent; legume blackened when dry, linear, ca. 15 cm, flat, suture not thickened; panicles 10–20 cm 5. *C. reticulata*
 - 5b. Stipules not inserted at tip of persistent gibbosity on stem.
 - 7a. Panicle terminal, branchlets ascending; corolla yellowish white with a pink halo; leaf blade glabrous and shiny, abaxially pale green when dry, secondary and tertiary veins distinct and raised on both surfaces, apex acuminate to caudate 6. *C. championii*
 - 7b. Racemes axillary, pendulous; corolla white or purple; leaf blade flat and rough, abaxially dull grayish green when dry, secondary and tertiary veins indistinct, apex acute 7. *C. kiangsiensis*
- 1b. Standard outside densely sericeous.
 - 8a. Leaflets 3(or 5).
 - 9a. Stipels absent; leaflet blades subleathery 8. *C. tsui*
 - 9b. Stipels present; leaflet blades papery 13. *C. sphaerosperma*
 - 8b. Leaflets 5 or 7 (3 or 5 in *C. dorwardii*).
 - 10a. Legume flat, not distinctly contracted between seeds; seeds lenticular.
 - 11a. Panicles straight, branchlets contiguous, flowers closely arranged.
 - 12a. Corolla violet to purple; legume stipitate, brown tomentose; leaflet blades ovate-lanceolate or oblong, subleathery; stipels subulate, ca. 2 mm 16. *C. nitida*
 - 12b. Corolla white or pale pink; legume sessile, gray hirsute; leaflet blades broadly elliptic to ovate, papery; stipels filiform, 5–6 mm 17. *C. congestiflora*
 - 11b. Panicles spreading, branchlets slender, flowers laxly arranged.
 - 13a. Leaflets (5 or)7, blades caudate at apex; panicles long pedunculate 15. *C. longipedunculata*
 - 13b. Leaflets 5, blades acute at apex; panicles subsessile 18. *C. dielsiana*
 - 10b. Legume inflated, usually distinctly contracted between seeds; seeds globose or reniform.
 - 14a. Branchlets, leaf rachises, and leaflet blades abaxially with dense trichomes, not glabrescent; legume densely brown tomentose.
 - 15a. Leaflet blades 4–8 cm wide, abaxially brown velutinous; legume 2–2.5 cm wide 9. *C. oosperma*
 - 15b. Leaflet blades 1.8–3 cm wide, abaxially rusty tomentose; legume ca. 1.5 cm wide 14. *C. sericosema*

- 14b. Branchlets, leaf rachises, and leaflet blades abaxially with sparse trichomes or glabrescent; legume gray pubescent, yellow tomentose, or gray tomentose.
16a. Panicles compact, branchlets congested; legume not contracted between seeds 12. *C. dorwardii*
16b. Panicles lax, branchlets spread out; legume contracted between seeds.
17a. Floriferous branchlets slender; leaflet blades obovate; petiolules ca. 4 mm; stipels ca. 4 mm 10. *C. cinerea*
17b. Floriferous branchlets straight; leaflet blades oblong; petiolules 2–3 mm; stipels ca. 1 mm 11. *C. gentiliana*

1. *Callerya speciosa* (Champion ex Benth) Schot, *Blumea* 39: 32. 1994.

美丽鸡血藤 mei li ji xue teng

Millettia speciosa Champion ex Benth, *Hooker's J. Bot. Kew Gard. Misc.* 4: 73. 1852.

Lianas, 1–3 m. Bark brown. Branchlets brown tomentose, glabrescent. Leaves 13-foliolate; rachis 15–25 cm, including petiole 3–4 cm; leaflet blades oblong-lanceolate to elliptic-lanceolate, 4–8 × 2–3 cm, papery, abaxially rusty pubescent, glabrescent, and reddish brown when dry, adaxially glabrous and shiny but glaucous when dry, base rounded, margins slightly revolute, apex acute and with a short tip. Racemes axillary, usually congested near apex of branchlets to form large panicles, ca. 30 cm, brown tomentose. Pedicel and calyx tomentose. Flowers 2.5–3.5 cm, fragrant. Corolla white, creamy, or pale pink; standard orbicular, glabrous, with 2 basal calluses. Ovary tomentose, with numerous ovules. Legume linear, 10–15 × 1–2 cm, flat, brown tomentose, base tapering to a short stipe, apex beaked; valves woody. Seeds 4–6 per legume, black, ovoid, ca. 10 × 8 mm. Fl. Jul–Sep, fr. Aug–Oct.

Open places, sparse woodlands; 200–1700 m. Fujian, Guangdong, Guangxi, S Guizhou, Hainan, S Hunan, Yunnan [Vietnam].

The roots are rich in starch and used to make a tonic wine.

2. *Callerya bonatiana* (Pampanini) P. K. Lôt, *Bot. Zhurn. (Moscow & Leningrad)* 81(10): 99. 1996.

滇桂鸡血藤 dian gui ji xue teng

Millettia bonatiana Pampanini, *Nuovo Giorn. Bot. Ital.*, n.s., 17: 24. 1910.

Lianas, to 10 m. Branchlets ridged, densely yellow pubescent, gradually glabrescent. Leaves 11- or 13-foliolate; rachis 25–30 cm, including petiole 2–3 cm; stipels absent; leaflet blades ovate to ovate-elliptic, 6–10 × 3–4 cm, papery, both surfaces villous but especially dense abaxially, secondary veins 4 or 5 on each side of midvein, base rounded to subcordate, apex acute. Pseudoracemes axillary, 8–12 cm, yellow pubescent. Pedicel ca. 1 cm. Flowers ca. 2.5 cm. Calyx ca. 1.2 cm, densely sericeous. Corolla lilac; standard oblong, without a basal callus, outside densely yellow sericeous, apex retuse. Ovary stipitate, sericeous, with 4–6 ovules. Legume linear-oblong, 10–11 × ca. 1.8 cm, leathery, with a ca. 1 cm stipe, grayish brown tomentose. Seeds ca. 4 per legume, brown, oblate, ca. 1.1 cm. Fl. Apr–Jun, fr. Jun–Oct.

Thickets in valleys; ca. 1000 m. Guangxi, Yunnan [Laos].

The plants are poisonous but used medicinally in small amounts.

Although P. K. Lôt made the necessary transfer to *Callerya*, a note by the same author in *Fl. Cambodge, Laos & Vietnam* (30: 43. 2001) suggests that the author saw only one incomplete specimen from that Flora region and that more material in flower and fruit would be required to confirm its identity.

3. *Callerya fordii* (Dunn) Schot, *Blumea* 39: 23. 1994.

广东鸡血藤 guang dong ji xue teng

Millettia fordii Dunn, *J. Linn. Soc., Bot.* 41: 156. 1912.

Lianas, 1–2 m. Stems dark brown, terete, slender, soft. Branchlets yellow pubescent when young, glabrescent. Leaves 7-foliolate; rachis 10–20 cm, including petiole 2–4 cm; leaflet blades linear-lanceolate, 4–8 × 1–2 cm with terminal one largest, papery, both surfaces slightly shiny and blackened when dry, base rounded to cordate, apex acuminate to caudate. Racemes axillary, 5–7 cm, shorter than subtending leaf, yellow tomentose. Flowers ca. 1.8 cm. Calyx ca. 8 mm, hirsute. Corolla yellow; standard broadly ovate, glabrous, with 2 basal calluses. Ovary stipitate, tomentose, with numerous ovules. Legume linear, 10–12 × ca. 1 cm, flat, brown tomentose, apex cuspidate. Seeds 4–8 per legume, brown, ovoid, ca. 7 × 6 mm, smooth. Fl. Jun–Oct, fr. Oct–Jan.

Sparse woodlands on slopes; ca. 500 m. Guangdong, Guangxi [Vietnam].

4. *Callerya eurybotrya* (Drake) Schot, *Blumea* 39: 22. 1994.

宽序鸡血藤 kuan xu ji xue teng

Millettia eurybotrya Drake, *J. Bot. (Morot)* 5: 187. 1891.

Shrubs, scandent, 4–10 m. Bark smooth. Branchlets pale yellow, ridged, appressed pubescent, glabrescent, with scattered obscure lenticels. Leaves (5 or) 7-foliolate; rachis 20–25(–40) cm, including petiole (3–)5–6(–7) cm; leaflet blades ovate-oblong to elliptic-lanceolate, 6–16 × 2.5–8 cm, papery, both surfaces dark green and glabrous, base broadly cuneate to rounded, apex acute. Panicles terminal, ca. 30 cm; flowering branchlets 8–10 cm, spreading, yellowish brown tomentose. Flowers 1.4–1.5 cm. Calyx pubescent. Corolla purple, with yellow-green spots in center; standard orbicular, without basal calluses, base tapering into a claw. Ovary glabrous, with numerous ovules. Legume carmine when dry, oblong, 10–11 × 2–3 cm, inflated, woody, contracted between seeds; suture thickened. Seeds 2–7 per legume, brown, ellipsoid, ca. 2 cm; hilum white. Fl. Jul–Aug, fr. Sep–Nov.

Thickets in valleys or ravines; 100–1200 m. N Guangdong, NW Guangxi, S Guizhou, S Hunan, S Yunnan [Laos, Thailand, Vietnam].

The plants are poisonous and also used medicinally.

5. *Callerya reticulata* (Benth) Schot, Blumea 39: 29. 1994.

网络鸡血藤 wang luo ji xue teng

Lianas, 2–10 m. Stems thick, many branched, thinly ridged, brown pubescent, glabrescent. Leaves (5 or 7)- or 9-foliolate; rachis 10–20 cm, including petiole 2–5 cm; leaflet blades ovate-elliptic, oblong, linear, or narrowly lanceolate, (3–)5–6(–8) × (0.5–)1.5–4 cm, papery, both surfaces glabrous or rarely sparsely puberulent, base rounded, tapering, or cuneate, apex obtuse, acuminate, or retuse. Panicles terminal or axillary near apex of branchlets, 10–20 cm, often pendulous, brown pubescent; flowering branchlets densely congested. Pedicel 3–5 mm. Flowers 1.3–1.7 mm. Calyx 3–4 × ca. 5 mm, glabrescent; teeth short, margin yellow ciliate. Corolla purple; standard ovate-oblong, glabrous, without basal calluses, base shortly clawed. Ovary glabrous, with numerous ovules. Legume blackened when dry, linear, ca. 15 × 1–1.5 cm, flat, thinly leathery; suture not thickened. Seeds 3–6 per legume, black, oblong, ca. 11 × 7 mm. Fl. Apr–Aug, fr. Jun–Nov.

Thickets on slopes or in valleys, thickets by streams; 100–1200 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hubei, Hunan, Jiangsu, Jiangxi, S Shaanxi, Sichuan, Taiwan, Yunnan, Zhejiang [N Vietnam].

- 1a. Leaflet blades ovate-elliptic to oblong, 1.5–4 cm wide, base rounded 5a. var. *reticulata*
- 1b. Leaflet blades linear to narrowly lanceolate, 0.5–1.2 cm wide, base tapering to cuneate 5b. var. *stenophylla*

5a. *Callerya reticulata* var. *reticulata*

网络鸡血藤(原变种) wang luo ji xue teng (yuan bian zhong)

Millettia reticulata Benth in Miquel, Pl. Jungh. 249. 1852; *M. cognata* Hance.

Leaflet blades ovate-elliptic to oblong, 5–6(–8) × 1.5–4 cm, base rounded. 2n = 48.

Thickets on slopes or in valleys; 100–1000 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hubei, Hunan, Jiangsu, Jiangxi, S Shaanxi, Sichuan, Taiwan, Yunnan, Zhejiang [N Vietnam].

5b. *Callerya reticulata* var. *stenophylla* (Merrill & Chun) X. Y. Zhu in X. Y. Zhu et al., Legumes China, 455. 2007.

线叶鸡血藤 xian ye ji xue teng

Millettia reticulata var. *stenophylla* Merrill & Chun, Sunyatsenia 5: 83. 1940.

Leaflet blades linear to narrowly lanceolate, (3–)3.5–5 × 0.5–1.2 cm, base tapering to cuneate.

- Thickets by streams; 200–1200 m. Hainan.

6. *Callerya championii* (Benth) X. Y. Zhu in X. Y. Zhu et al., Legumes China, 450. 2007.

绿花鸡血藤 lu hua ji xue teng

Millettia championii Benth, Hooker's J. Bot. Kew Gard. Misc. 4: 74. 1852; *Callerya reticulata* (Benth) Schot var. *championii* (Benth) H. Sun.

Lianas, to 2 m, glabrous except inflorescences. Stems reddish brown, with scattered lenticels. Leaves 5(or 7)-foliolate; rachis 10–20 cm, including petiole 3–5 cm; leaflet blades ovate to ovate-oblong, (3–)4–6 × 1.5–2(–3) cm, papery, both surfaces glabrous and shiny, pale green when dry, secondary and tertiary veins distinct and raised on both surfaces, base rounded, apex acuminate to caudate. Panicles terminal, 15–20 cm; flowering branchlets 6–8 cm, ascending, straight and solid, nodes congested. Flowers ca. 1.2 cm. Corolla yellowish white with a pink halo; standard orbicular, glabrous, without basal calluses. Ovary glabrous, with numerous ovules. Legume linear, 6–12 × 0.5–1.2 cm, flat; valves thin. Seeds 2 or 3 per legume, lenticular when immature. Fl. May–Aug, fr. Jul–Nov.

- Thickets by ravines of rocky valleys; 200–800 m. Fujian, Guangdong, Guangxi.

The stems and roots are poisonous but also used medicinally.

Although P. K. Lôt made the combination *Callerya championii* (Bot. Zhurn. (Moscow & Leningrad) 81(10): 97. 1996), it was not validly published because he did not provide a full bibliographic reference to the basionym (*Vienna Code*, Art. 33.4).

7. *Callerya kiangsiensis* (Z. Wei) Z. Wei & Pedley, comb. nov.

江西鸡血藤 jiang xi ji xue teng

Basionym: *Millettia kiangsiensis* Z. Wei, Acta Phytotax. Sin. 23: 283. 1985; *M. kiangsiensis* f. *purpurea* Z. H. Cheng.

Lianas. Stems reddish brown, terete, slender, with dense minute lenticels. Leaves 7- or 9-foliolate; rachis 6–18 cm, including petiole 2–3 cm; leaflet blades ovate, (1.5–)3–5(–6) × 1–2.5 cm, papery, both surfaces glabrous, abaxially dull grayish green when dry, adaxially dark green, secondary and tertiary veins indistinct, base rounded, apex acute. Racemes axillary, 8–12 cm, as long as subtending leaf, puberulent. Flowers 1.2–1.5 cm. Corolla white or purple, apically slightly roseate at margin; standard oblong, glabrous, without basal calluses. Ovary stipitate, glabrous, with numerous ovules. Legume linear, ca. 10 × 1.2 cm, flat, straight, base tapering to a ca. 3 mm stipe, apex with a short hooked beak. Seeds 5–9 per legume, black, lenticular, ca. 7 × 5 mm. Fl. Jun–Aug, fr. Sep–Oct.

- Sparse thickets, thickets on slopes; 200–600 m. S Anhui, N Fujian, SE Hubei, E Hunan, Jiangxi, W Zhejiang.

8. *Callerya tsui* (F. P. Metcalf) Z. Wei & Pedley, comb. nov.

喙果鸡血藤 hui guo ji xue teng

Basionym: *Millettia tsui* F. P. Metcalf, Lingnan Sci. J. 19: 554. 1940.

Lianas, 3–10 m. Stems dark brown, terete, straight, fine ridged, brown tomentose, glabrescent, without lenticels. Leaves 3(or 5)-foliolate; rachis 12–28 cm, including petiole 5–8 cm; stipels absent; leaflet blades broadly elliptic to elliptic, (6–)10–18 × 5–8 cm, subleathery, both surfaces glabrous and shiny, reticulate veins prominent, base obtuse to broadly cuneate, apex rounded and with a cusp. Panicles terminal, 15–30 cm; flowering branchlets spreading, often leafy at base, brown tomentose, nodes congested. Flowers 1.5–2.5 cm. Corolla pale yellow

flushed with red or lilac; standard oblong, without basal calluses, outside densely sericeous. Ovary stipitate, sericeous, with 4–7 ovules. Legume ellipsoid when 1-seeded and ca. 5.5×4 cm, linear-oblong when 2- or 3-seeded and ca. 7×3 cm, inflated but contracted between seeds, brown tomentose but generally glabrescent, base tapering to 5 mm stipe, apex with a hard hooked beak. Seeds 1–3 per legume, dark brown, subglobose to oblatelately spheroid, $2-2.5 \times 1-2.5$ cm. Fl. Jul–Sep, fr. Oct–Dec.

• Thickets, woodlands in valleys; 200–1600 m. Guangdong, Guangxi, S Guizhou, Hainan, S Hunan, S Yunnan.

The stem and root are used medicinally. The bast fibers are rather tough and used for making rope. The seeds are edible after stewing.

9. Callerya oosperma (Dunn) Z. Wei & Pedley, **comb. nov.**

皱果鸡血藤 zhou guo ji xue teng

Basionym: *Millettia oosperma* Dunn, J. Linn. Soc., Bot. 41: 157. 1912.

Lianas, to 20 m. Stem brown, terete, strong and ridged, brown tomentose, generally glabrescent. Leaves 5-foliolate; rachis 20–40 cm, including petiole 6–11 cm; leaflet blades elliptic-lanceolate to ovate-oblong, $8-20 \times 4-8$ cm with basal pair usually smallest, papery, abaxially densely brown velutinous, adaxially glabrous or sparsely villous, base cuneate to rounded, apex obtuse to sometimes retuse. Panicles terminal, 10–20 cm, brown tomentose; flowering branchlets spreading. Flowers 1.5–2 cm. Corolla scarlet; standard broadly ovate, with 2 basal calluses and also auriculate, outside densely sericeous. Ovary densely sericeous, with 5 or 6 ovules. Legume ovoid when 1-seeded, cylindrical when several seeded, $6-13 \times 2-2.5$ cm, inflated but contracted between seeds, brown tomentose, tardily dehiscent, apex beaked. Seeds (1 or) 2–4 per legume, tawny, ovoid, 2–3 cm in diam. Fl. May–Jul, fr. Aug–Nov.

Sparse woodlands in valleys; 200–1700 m. SW Guangdong, Guangxi, Guizhou, Hainan, SW Hunan, Yunnan [Vietnam].

The seeds are poisonous and used as an insecticide.

10. Callerya cinerea (Benth) Schot, Blumea 39: 17. 1994.

灰毛鸡血藤 hui mao ji xue teng

Millettia cinerea Benth in Miquel, Pl. Jungh. 249. 1852.

Shrubs, scandent, to 6 m. Stems terete, rough, ridged, glabrescent. Leaves 5-foliolate; rachis 15–25 cm, including petiole 3–4 cm; stipels ca. 4 mm; petiolules ca. 4 mm; leaflet blades obovate-elliptic, basal pair ca. 5.5×3 cm, lateral pair and terminal one ca. 15×7 cm with laterals rather smaller than terminal, papery, abaxially sparsely hirsute and particularly evident on veins, adaxially glabrous except midvein, base broadly cuneate, rounded, or rarely subcordate, apex acute. Panicles terminal, 10–15 cm; flowering branchlets spreading to 6 cm, with dense appressed trichomes. Flowers 1.2–1.6 cm. Corolla red to mauve; standard ovate, outside rusty sericeous, basally thickened and emarginate. Ovary shortly stipitate, tomentose, with 5–7 ovules. Legume linear-oblong, ca. 13×2 cm, inflated but contracted between seeds, densely gray pubescent. Seeds 1–4 per legume, dark violet, ellipsoid, 1.4–1.8 cm. Fl. Feb–Jul, fr. Aug–Nov.

Secondary evergreen broad-leaved forests by ravines; 500–1200 m. SW Sichuan, SE Xizang, S Yunnan [Bangladesh, Bhutan, India, Myanmar, Nepal, Thailand].

11. Callerya gentiliana (H. Léveillé) Z. Wei & Pedley, **comb. nov.**

黔滇鸡血藤 qian dian ji xue teng

Basionym: *Millettia gentiliana* H. Léveillé, Fl. Kouy-Tchéou, 239. 1914–1915 [*Gentiliniana* with “n” deleted].

Lianas, 1.5–3 m. Stems grayish brown, rough, gray puberulent, glabrescent. Leaves 5-foliolate; rachis 12–18 cm, including petiole 3–5 cm; stipels ca. 1 mm; petiolules 2–3 mm; leaflet blades ovate-elliptic to oblong-elliptic, lateral pairs 6–8(–10) \times 2–3(–4) cm, terminal one ca. 18×8 cm, papery, with sparse trichomes or glabrescent, base cuneate to subcordate, apex acute to obtuse. Panicles terminal, 8–15 cm; flowering branchlets spreading, straight, brown tomentose. Flowers 1.5–2 cm. Corolla purple; standard obovate, without basal calluses, outside densely sericeous. Ovary velutinous, with numerous ovules. Legume linear, $8-15 \times 1.5-2$ cm, inflated, shortly stipitate, yellow tomentose, contracted between seeds, apex with a curved beak. Seeds 5 or 6 per legume, dark brown, ovoid, ca. 2×1.5 cm; hilum in middle. Fl. Jun–Jul, fr. Oct–Nov.

• Sparse woodlands of mountains, especially in limestone valleys; 1200–2500 m. Guizhou, S Sichuan, Yunnan.

12. Callerya dorwardii (Collett & Hemsley) Z. Wei & Pedley, **comb. nov.**

滇缅鸡血藤 dian mian ji xue teng

Basionym: *Millettia dorwardii* Collett & Hemsley, J. Linn. Soc., Bot. 28: 40. 1890 [*dorwardi*]; *M. shunningensis* Hu.

Lianas, to 6 m. Stems brown, rough, without lenticels. Branchlets yellowish white pubescent, generally glabrescent. Leaves 3- or 5-foliolate; rachis 12–25(–35) cm, including petiole (4–)6–7(–9) cm; leaflet blades broadly ovate to elliptic, 8–15(–22) \times 3.5–6(–10) cm with basal pair usually smallest, papery, abaxially with yellow or white scattered trichomes but glabrescent when mature, adaxially glabrous or with sparse trichomes on veins, base cuneate, rounded, or rarely cordate, apex acute. Panicles axillary, strong, 12–18 cm, densely pubescent; flowering branchlets short. Flowers 1.8–2.3 cm. Corolla lilac to mauve; standard orbicular, with 2 basal calluses, outside densely sericeous, base shortly clawed. Ovary tomentose, with 5 ovules. Legume oblong, ca. 9×3 cm, inflated, yellow tomentose, apex beaked. Seeds 1 or 2 per legume, pale brown, broadly ovoid, ca. 2.5×2 cm. Fl. Apr–May, fr. Sep–Oct.

Thickets on slopes; 800–1900 m. Guizhou, Yunnan [Myanmar, Thailand].

13. Callerya sphaerosperma (Z. Wei) Z. Wei & Pedley, **comb. nov.**

球子鸡血藤 qiu zi ji xue teng

Basionym: *Millettia sphaerosperma* Z. Wei, Acta Phytotax. Sin. 23: 285. 1985.

Shrubs, scandent. Bark pale yellow. Stems puberulent

when young, glabrescent, sparsely scattered with minute lenticels, basally brown and peeled off. Leaves 3-foliolate; rachis 15–25 cm, including petiole 4–6 cm; stipels ca. 2 mm; leaflet blades elliptic-lanceolate, lateral ones 9–12 × 3.5–5 cm, terminal one 11–18 × 6–9 cm, papery, abaxially straw-green with prominent veins, adaxially dark green and flat. Panicle terminal 12–15 cm; flowering branchlets spreading, puberulent. Flowers ca. 1.5 cm. Corolla red to purple; standard oblong, without basal calluses, outside densely sericeous. Ovary sericeous, with 6–8 ovules. Legume globose, 5–6.5 × ca. 3 cm, leathery, brown tomentose, apex beaked; suture evident. Seeds 1 or 2 per legume, dark brown, broadly ovoid. Fl. Jun–Aug, fr. Oct–Nov.

- Shady ravines; ca. 1000 m. Guangxi, Guizhou.

14. Callerya sericosema (Hance) Z. Wei & Pedley, **comb. nov.**

锈毛鸡血藤 xi mao ji xue teng

Basionym: *Millettia sericosema* Hance, J. Bot. 20: 259. 1882; *M. bodinieri* H. Léveillé.

Shrubs, scandent, 1.5–2 m. Branchlets brown, terete, rusty tomentose, glabrescent. Leaves 5-foliolate; rachis 13–18 cm, including petiole 3–6 cm; leaflet blades broadly lanceolate, 6–10 × 1.8–3 cm with basal pair smallest, papery, abaxially rusty tomentose, adaxially appressed pubescent and rather densely so on midvein and margin, base obtuse, apex acute to acuminate. Panicles terminal, 8–10 cm; flowering branchlets straight, rusty tomentose, nodes congested. Flowers ca. 1.7 cm. Corolla lilac to pale pink; standard ovate, without basal calluses, outside densely sericeous. Ovary yellow tomentose, with 5 or 6 ovules. Legume linear, 4–10 × ca. 1.5 cm, inflated, brown tomentose, apex beaked. Seeds 1–4 per legume, brown, ovoid to oblate. Fl. Jun–Aug, fr. Aug–Oct.

- Open places or sparse thickets in river valleys; 500–1300 m. Guangxi, Guizhou, W Hubei, Hunan, Sichuan, NE Yunnan.

15. Callerya longipedunculata (Z. Wei) X. Y. Zhu in X. Y. Zhu et al., Legumes China, 453. 2007.

长梗鸡血藤 chang geng ji xue teng

Millettia longipedunculata Z. Wei, Acta Phytotax. Sin. 23: 287. 1985; *Callerya cinerea* (Benth) Schot var. *longipedunculata* (Z. Wei) H. Sun.

Lianas. Branchlets brown, smooth and slender, yellow tomentose, glabrescent, without lenticels. Leaves (5 or)7-foliolate; rachis 30–35 cm, including petiole 5–7 cm; leaflet blades lanceolate, basal pair 4–8 × 2.5–3.5 cm, lateral pairs and terminal one 12–20 × 3.5–6 cm with terminal one largest, papery, abaxially densely villous, adaxially appressed pubescent, base broadly cuneate to narrowly subcordate, apex caudate. Panicles terminal, 20–40 cm, slender; flowering branchlet nodes scattered; peduncle rather long, yellow tomentose. Flowers 1.5–1.7 cm. Corolla red; standard obovate, outside densely sericeous. Ovary tomentose, with 6 ovules. Legume rhomboid to oblong, 3.5–8 × ca. 2.2 cm, dark brown tomentose, gradually glabrescent, slightly contracted between seeds, apex with a hooked beak. Seeds 1–3 per legume, reddish brown, oblate, ca. 1.5 × 2 cm. Fl. May–Aug, fr. Jul–Oct.

- Evergreen broad-leaved forests in shady places in valleys; ca. 1400 m. NW Guangxi, SW Guizhou, E Yunnan.

16. Callerya nitida (Benth) R. Geesink, Leiden Bot. Ser. 8: 83. 1984.

亮叶鸡血藤 liang ye ji xue teng

Shrubs, scandent, 2–10 m. Stems rusty brown, finely puberulent, glabrescent. Leaves 5-foliolate; rachis 15–20 cm, including petiole 3–6 cm; leaflet blades lanceolate, oblong, or ovate, 3.5–9(–11) × 2–4 cm, papery, secondary veins 5 or 6 on each side of midvein, curved apically near margins, and prominent on both surfaces, base obtuse to rounded, apex cuspidate, acute, or acuminate. Panicles terminal, 10–12 cm, thick, rusty tomentose; flowering branchlets 6–10 cm, straight. Flowers 1.6–2.4 cm. Pedicel and calyx tomentose. Corolla violet to purple; standard oblong, with 2 basal calluses, outside densely sericeous. Ovary stipitate, tomentose, with 4–8 ovules. Legume linear-oblong, 10–14 × 1.5–2 cm, stipitate, flat, brown tomentose, apex beaked. Seeds 4 or 5 per legume, chestnut-brown, obliquely oblong, ca. 1 × 1.2 cm. Fl. May–Sep, fr. Jul–Nov.

- Thickets, lowland sparse woodlands, forest margins, open places on slopes; near sea level to 1500 m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Jiangxi, Sichuan, Taiwan, Yunnan, Zhejiang.

- 1a. Leaflet blades 5–9(–11) × 3–4 cm, abaxially glabrous or sparsely puberulent, adaxially glabrous and shiny but sometimes sparsely puberulent on midvein, apex acute to cuspidate; flowers 2.2–2.4 cm 16a. var. *nitida*
- 1b. Leaflet blades 3.5–5.5 × 2–3 cm, both surfaces glabrous or glabrescent or abaxially densely reddish brown hirsute becoming blackened when dry and adaxially opaque and rough, apex acuminate or cuspidate; flowers 1.6–1.8 cm.
 - 2a. Leaflet blades lanceolate, both surfaces glabrous or glabrescent, apex acuminate 16b. var. *minor*
 - 2b. Leaflet blades ovate, abaxially densely reddish brown hirsute becoming blackened when dry, adaxially opaque and rough, apex cuspidate 16c. var. *hirsutissima*

16a. Callerya nitida var. *nitida*

亮叶鸡血藤(原变种) liang ye ji xue teng (yuan bian zhong)

Millettia nitida Benth, London J. Bot. 1: 484. 1842; *M. kueichouensis* Hu.

Leaflet blades lanceolate to oblong, 5–9(–11) × 3–4 cm, abaxially glabrous or sparsely puberulent, adaxially glabrous and shiny but sometimes sparsely puberulent on midvein, apex acute to cuspidate. Flowers 2.2–2.4 cm. $2n = 32^*$.

- Coastal thickets, lowland sparse woodlands; near sea level to 800 m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Jiangxi, Taiwan.

16b. Callerya nitida var. *minor* (Z. Wei) X. Y. Zhu in X. Y. Zhu et al., Legumes China, 454. 2007.

峨眉鸡血藤 e mei ji xue teng

Millettia nitida var. *minor* Z. Wei, Acta Phytotax. Sin. 23: 288. 1985.

Leaf rachis slender; leaflet blades lanceolate, 3.5–5.5 × 2–3 cm, both surfaces glabrous or glabrescent, apex acuminate. Flowers 1.6–1.8 cm.

• Thickets, forest margins; 800–1500 m. Fujian, Guangdong, Guangxi, Guizhou, Jiangxi, Sichuan, Yunnan, Zhejiang.

16c. *Callerya nitida* var. *hirsutissima* (Z. Wei) X. Y. Zhu in X. Y. Zhu et al., Legumes China, 454. 2007.

丰城鸡血藤 feng cheng ji xue teng

Millettia nitida var. *hirsutissima* Z. Wei, Acta Phytotax. Sin. 23: 288. 1985.

Leaflet blades ovate, 3.5–5.5 × 2–3 cm, abaxially densely reddish brown hirsute becoming blackened when dry, adaxially opaque and rough, apex cuspidate. Flowers 1.6–1.8 cm.

• Thickets and open places on slopes; 500–1000 m. Fujian, Guangdong, Guangxi, Hunan, Jiangxi.

The stem and roots are used medicinally for improving blood circulation.

17. *Callerya congestiflora* (T. C. Chen) Z. Wei & Pedley, **comb. nov.**

密花鸡血藤 mi hua ji xue teng

Basionym: *Millettia congestiflora* T. C. Chen, Acta Phytotax. Sin. 3: 362. 1955.

Lianas, to 5 m. Stems yellowish brown, terete, ridged, densely villous, glabrescent. Leaves 5-foliolate; rachis 15–30 cm, including petiole 4.5–8.5 cm; leaflet blades broadly elliptic to ovate, 11–13 × 6–8 cm with basal pair smallest, papery, abaxially sparsely villous, adaxially glabrous except midvein, base obtuse to broadly cuneate, apex acute. Panicles terminal, 14–16 cm; flowering branchlets grouped in twos or threes, densely yellow villous, nodes crowded. Flowers ca. 1.6 cm. Calyx outside densely sericeous. Corolla white or pale pink; standard broadly ovate, without basal calluses, outside densely sericeous abaxially. Ovary densely villous, with 6 or 7 ovules. Legume linear, 10–12 × 1.2–1.4 cm, flat, densely brown sericeous, contracted between seeds, base tapering, apex with a prolonged hooked beak. Seeds 3–6 per legume, chestnut-brown and oblong when immature. Fl. Jun–Aug, fr. Sep–Oct.

• Mountain woodlands; 500–1200 m. S Anhui, W Fujian, Guangdong, Guizhou, Hubei, Hunan, Jiangxi, Sichuan.

18. *Callerya dielsiana* (Harms) P. K. Lôc ex Z. Wei & Pedley, **comb. nov.**

香花鸡血藤 xiang hua ji xue teng

Shrubs, scandent, 2–5 m. Stems grayish yellow, splitting, glabrous or puberulent. Leaves 5-foliolate; rachis 15–30 cm, including petiole 5–12 cm; leaflet blades lanceolate, oblong, or narrowly oblong, 5–15 × 1.5–6 cm, abaxially grayish glabrous, sparsely puberulent, or yellow hirsute, adaxially glabrous, mid-

vein abaxially raised and adaxially sunken, secondary veins 6–9 on each side of midvein, reticulate veins evident on both surfaces or only abaxially, base rounded or sometimes subcordate, apex acute, acuminate, or rarely obtuse. Panicles terminal, 10–25(–40) cm, yellow puberulent; flowering branchlets 6–15 cm, spreading, nodes close together. Flowers 1.2–2.4 cm. Corolla purple; standard broadly ovate, without basal calluses, outside silvery to rusty sericeous, base subcordate. Ovary linear, tomentose, with 8 or 9 ovules. Legume linear to oblong, 7–12 × 1.5–2 cm, flat, gray tomentose; valves thin or woody. Seeds 3–5 per legume, tawny, oblong or subglobose, ca. 8 × 6 mm. Fl. May–Sep, fr. Jun–Nov.

• Mixed woodlands and thickets on slopes, thickets in river valleys, open places at forest margins; 300–2500 m. Anhui, Fujian, S Gansu, Guangdong, Guangxi, Guizhou, Hainan, Hubei, Hunan, Jiangxi, S Shaanxi, Sichuan, Yunnan, Zhejiang.

- 1a. Leaflet blades abaxially grayish yellow hirsute 18c. var. *solida*
- 1b. Leaflet blades abaxially glabrous or sparsely puberulent.
 - 2a. Leaflet blades lanceolate to narrowly oblong, adaxially shiny and without prominent reticulate veins; valves subwoody; seeds oblong 18a. var. *dielsiana*
 - 2b. Leaflet blades oblong, adaxially rough with prominent reticulate veins; valves thinly leathery; seeds subglobose 18b. var. *heterocarpa*

18a. *Callerya dielsiana* var. *dielsiana*

香花鸡血藤(原变种) xiang hua ji xue teng (yuan bian zhong)

Basionym: *Millettia dielsiana* Harms, Bot. Jahrb. Syst. 29:

412. 1900; *M. argyraea* T. C. Chen; *M. blinii* H. Léveillé; *M. champotongensis* Hu; *M. cinerea* Benth var. *yunnanensis* Pampanini; *M. duclouxii* Pampanini; *M. dunniana* H. Léveillé; *M. fragrantissima* H. Léveillé; *M. obtusifoliolata* Hu.

Leaflet blades lanceolate to narrowly oblong, 5–10(–12) × 1.5–3.5 cm, papery, abaxially glabrous or sparsely puberulent, adaxially glabrous and shiny. Panicles 10–15 cm. Flowers 1.2–1.8 cm. Legume linear, 7–9 × ca. 1.5 cm, valves subwoody. Seeds oblong.

• Mixed woodlands and thickets on slopes; 800–2500 m. Anhui, Fujian, S Gansu, Guangdong, Guangxi, Guizhou, Hainan, Hubei, Hunan, Jiangxi, S Shaanxi, Sichuan, Yunnan, Zhejiang.

Although P. K. Lôc attempted to make the combination *Callerya dielsiana* (Bot. Zhurn. (Moscow & Leningrad) 81(10): 99. 1996), it was not validly published because he did not provide a full bibliographic reference to the basionym (*Vienna Code*, Art. 33.4). Consequently (Art. 43.1), the two varietal combinations made below were not validly published by X. Y. Zhu (in X. Y. Zhu et al., Legumes China, 452. 2007).

18b. *Callerya dielsiana* var. *heterocarpa* (Chun ex T. C. Chen) X. Y. Zhu ex Z. Wei & Pedley, **comb. nov.**

异果鸡血藤 yi guo ji xue teng

Basionym: *Millettia heterocarpa* Chun ex T. C. Chen, Acta Phytotax. Sin. 3: 364. 1955; *M. dielsiana* var. *heterocarpa* (Chun ex T. C. Chen) Z. Wei.

Leaflet blades oblong, 7–9(–13) × 3–4.5 cm, papery, abaxially sparsely puberulent, adaxially glabrous, rough, and with reticulate veins prominent. Panicles 12–20 cm. Flowers 1.2–1.8 cm. Legume oblong, 7–11 × ca. 2 cm, valves thinly leathery. Seeds subglobose.

• Thickets in river valleys; 300–1900 m. Fujian, Guangdong, Guangxi, Guizhou, Jiangxi.

18c. *Callerya dielsiana* var. *solida* (T. C. Chen ex Z. Wei) X. Y. Zhu ex Z. Wei & Pedley, **comb. nov.**

雪峰山鸡血藤 xue feng shan ji xue teng

Basionym: *Millettia dielsiana* var. *solida* T. C. Chen ex Z. Wei, Acta Phytotax. Sin. 23: 289. 1985.

Leaflet blades oblong, 9–15 × 4–6 cm, papery, abaxially grayish yellow hirsute, reticulate veins prominent. Panicles 15–25(–40) cm. Flowers 1.8–2.4 cm. Legume oblong, 8–12 × ca. 2 cm, valves leathery. Seeds subglobose.

• Open places at forest margins; 600–1400 m. Guangxi, W Hunan.

