

131. CAMPYLOTROPIS Bunge, Pl. Mongholic-Chin. 6. 1835.

杭子梢属 *hang zi shao shu*

Huang Puhua (黄普华 *Huang Pu-hwa*); Hiroyoshi Ohashi, Yu Iokawa

Oxyramphis Wallich ex Meisner; *Phlebosprium* Junghuhn.

Shrubs or shrublets. Leaves pinnately 3-foliolate; stipules narrowly triangular or rarely triangular to deltoid-ovate, persistent; stipels nearly always absent, or rarely always present, linear; leaflets entire. Inflorescences axillary, racemose, rarely umbellate or spicate, sometimes terminal panicle composed of several upper racemes with reduced subtending leaves, 1-flowered per bract; bracts persistent or caducous. Pedicels articulate; bracteoles 2, usually caducous before anthesis. Calyx campanulate, 4-lobed; lower lobe narrower and longer than upper and lateral ones, upper lobe minutely 2-toothed at apex. Corolla violet to pinkish white or rarely yellow; standard shortly clawed at base; wings auriculate and clawed at base; keel incurved at ca. right angle, acute at apex, auriculate, clawed at base. Stamens monadelphous; vexillary stamen connate to staminal tube for 2/3–4/5 of its length, rarely almost diadelphous. Pistil minutely stipitate; ovary 1-ovuled, superior; style filiform, incurved; stigma terminal, small, ciliate with minute hairs. Legumes compressed, lenticular, indehiscent, 1-seeded. Seeds reniform, rim-arillate with ringlike margin around hilum.

About 37 species: mostly in temperate zone of Asia; 32 species (20 endemic) in China.

Because most species tolerate arid soils, they are important for soil conservation. The branchlets can be used as knitting needles. The young shoots and leaves are used as forage for livestock and as green manure. The roots and leaves of some species are used medicinally.

- 1a. Leaves dimorphic, lower leaves petiolate with obovate leaflets and distinct rachis, upper leaves sometimes subsessile.
 - 2a. Upper leaflets deltoid 10. *C. diversifolia*
 - 2b. Upper leaflets elliptic, orbicular, or transversely elliptic 13. *C. harmsii*
 - 1b. Leaves not dimorphic.
 - 3a. Leaflets consistently stipellate.
 - 4a. Glandular hairs present on pedicel, calyx, and inflorescence rachis 22. *C. polyantha*
 - 4b. Glandular hairs absent 32. *C. yunnanensis*
 - 3b. Leaflets estipellate, rarely including a few leaves with rudimentary stipels.
 - 5a. Glandular hairs present on pedicel, calyx, and inflorescence rachis.
 - 6a. Calyx lobes more than 2 × as long as tube, more than 3 mm.
 - 7a. Bracts narrowly ovate, usually shorter than 3 mm; leaflet adaxially glabrous 9. *C. delavayi*
 - 7b. Bracts linear, usually more than 3.5 mm; leaflet adaxially densely puberulent 21. *C. pinetorum*
 - 6b. Calyx lobes usually as long as tube or, if longer, less than 2 × as long as tube.
 - 8a. Leaflet adaxially ± densely puberulent with spreading, very short hairs, rarely glabrescent; branches velutinous.
 - 9a. Leaves and stems with white hairs; leaflets broadly elliptic to ovate, often more than 8 cm 17. *C. latifolia*
 - 9b. Leaves and stems with tawny to pale brown hairs; leaflets narrowly ovate to elliptic, usually less than 7 cm.
 - 10a. Racemes extended, often more than 10 cm; bracts narrowly ovate, 2–2.5 mm; bracteoles ca. 1 mm 11. *C. fulva*
 - 10b. Racemes usually less than 9 cm; bracts narrowly ovate, 3–5 mm; bracteoles ca. 2 mm 25. *C. sulcata*
- 8b. Leaflet adaxially glabrous or ± densely pubescent; branches not velutinous.
 - 11a. Flowers small; standard usually less than 9 mm.
 - 12a. Legumes more than 10 mm; leaflet abaxially densely white pubescent 18. *C. luhitensis*
 - 12b. Legumes less than 8 mm.
 - 13a. Leaflet abaxially with sparse appressed short hairs; legume apex obtuse 7. *C. cytoides*
 - 13b. Leaflet abaxially with dense white silky hairs; legume apex rounded 28. *C. thomsonii*
 - 11b. Flowers larger; standard usually more than 10 mm.
 - 14a. Leaflets usually less than 1 cm, obdeltoid 31. *C. wilsonii*
 - 14b. Leaflets usually more than 2 cm, not obdeltoid.
 - 15a. Bracts usually caducous before flowering 19. *C. macrocarpa*
 - 15b. Bracts mostly persistent until fruiting.
 - 16a. Inflorescence usually a panicle; bracts mostly more than 2 mm; petioles not abaxially angled.
 - 17a. Leaflets deltoid to ovate, lateral veins thick, prominent abaxially 15. *C. hirtella*

- 17b. Leaflets obovate to oblong, lateral veins not prominent 2. *C. alopochroa*
- 16b. Inflorescence not a panicle; bracts mostly less than 2 mm.
- 18a. Petioles sulcate, neither abaxially angled nor winged 8. *C. decora*
- 18b. Petioles abaxially angled, often slightly convex above, bisulcate and narrowly winged along both sides 14. *C. henryi*
- 5b. Glandular hairs absent from pedicel and calyx.
- 19a. Petioles abaxially angled, often narrowly winged along both sides; young branches distinctly angled.
- 20a. Young branches quadrangular; corolla purple 12. *C. grandifolia*
- 20b. Young branches triquetrous; corolla yellow or purple 29. *C. trigonoclada*
- 19b. Petioles neither abaxially angled nor winged.
- 21a. Calyx lobes ca. 3 × as long as tube; flowers sessile, clustered at top of peduncle as an umbel; leaflet adaxially white pubescent 1. *C. alba*
- 21b. Calyx lobes usually nearly equal to tube or, if longer, less than 2 × as long as tube; inflorescences not umbelliform.
- 22a. Leaflet adaxially densely puberulent.
- 23a. Calyx, inflorescence, young branches, and leaflets abaxially densely appressed sericeous; leaflets elliptic to oblong 3. *C. argentea*
- 23b. Calyx, inflorescence, young branches, and leaflets abaxially densely white villous; leaflets obdeltoid to broadly obovate 5. *C. brevifolia*
- 22b. Leaflet adaxially glabrous, sparsely pubescent, or sericeous.
- 24a. Pedicels usually less than 5 mm.
- 25a. Flowers clustered at upper part of racemes.
- 26a. Flowers larger; standard ca. 10 mm; pedicels more than 1.5 mm; racemes not terete 16. *C. howellii*
- 26b. Flowers small; standard ca. 7 mm; pedicels less than 1.5 mm; racemes terete, very densely flowered, spikelike 27. *C. teretiracemosa*
- 25b. Flowers distributed equally in racemes.
- 27a. Legumes ovoid to elliptic, pubescent; inflorescences racemose 24. *C. speciosa*
- 27b. Legumes narrowly ovoid to narrowly elliptic, lateral surface glabrous; inflorescences paniculate 30. *C. wenshanica*
- 24b. Pedicels usually more than 5 mm.
- 28a. Flowers less than 8 per raceme.
- 29a. Pedicels more than 15 mm; vexillary stamen connate to tube at base for ca. 1/6 of its length 20. *C. pauciflora*
- 29b. Pedicels less than 8 mm; vexillary stamen connate to tube at base for ca. 1/3 of its length 26. *C. tenuiramea*
- 28b. Flowers 10 or more per raceme.
- 30a. Leaflets obdeltoid to obovate; lateral veins dense, straight, parallel 4. *C. bonii*
- 30b. Leaflets elliptic to obovate; lateral veins arcuate with net venation.
- 31a. Pedicels slender, 6–20 mm; leaflets papery 6. *C. capillipes*
- 31b. Pedicels stout, 4–6 mm; leaflets subleathery 23. *C. sargentiana*

1. *Campylotropis alba* Iokawa & H. Ohashi, J. Jap. Bot. 72: 139. 1997.

白花杭子梢 bai hua hang zi shao

Shrubs. Young branches densely white soft hairy. Petiole ca. 1.5 mm, white tomentose; stipels absent; leaflets broadly obovate, terminal one ca. 1 × 0.8 cm, abaxially densely pubescent, adaxially sparsely covered with ascending soft hairs, base obtuse, apex rounded to retuse and mucronulate. Inflorescences umbel-like racemose with reduced axes; peduncles ca. 1.5 cm, densely ascending sericeous. Pedicels short, ca. 1.5 mm, ascending sericeous. Calyx deeply 4-lobed, densely ascending sericeous; tube ca. 2 mm; lobes narrowly triangular, 6–7 mm. Standard broadly obovate, ca. 9.5 mm, apex rounded; wings ca. 9.5 mm, clawed at base; keel incurved, ca. 14.5 mm, clawed at base. Gynoecium ca. 11.5 mm; ovary ca. 2.5 mm; style incurved, ca. 9 mm.

• Yunnan.

2. *Campylotropis alopochroa* H. Ohashi, J. Jap. Bot. 49: 108. 1974 [*“alopochloa”*].

西藏杭子梢 xi zang hang zi shao

Shrublets, 0.5–1 m tall. Branches densely ferruginous pubescent. Petiole 1–1.5 cm, with dense ascending hairs; stipels absent; leaflets obovate to elliptic, terminal one 2–2.5 × 1–2 cm, abaxially densely pubescent, adaxially sparsely covered with ascending short hairs, base obtuse, apex retuse and mucronulate. Racemes usually large paniculate, 6–8 cm; rachis and pedicels with dense ferruginous spreading hairs and sparse glandular hairs. Pedicels 4–5 mm. Calyx deeply 4-lobed, densely ascending sericeous with glandular hairs; tube ca. 1.5 mm; lobes narrowly triangular, 2.5–3 mm. Corolla red-purple; standard obovate or narrowly elliptic, ca. 12 mm, apex obtuse;

wings 10–11 mm, shortly clawed at base; keel incurved, ca. 14 mm, clawed at base. Gynoecium ca. 13 mm; ovary ca. 2 mm; style incurved, 10.5–11 mm.

- Xizang.

3. *Campylotropis argentea* Schindler, Repert. Spec. Nov. Regni Veg. 11: 426. 1912.

银叶杭子梢 yin ye hang zi shao

Lespedeza argentea (Schindler) H. Léveillé.

Shrubs or shrublets, 0.5–1 m tall. Branches densely appressed sericeous. Petiole 1.5–4 cm, densely appressed hairy; stipels rarely present, linear, ca. 2 mm; leaflets elliptic to oblong, terminal one 1.2–3 × 0.7–2 cm, abaxially whitish or silvery with dense appressed silky hairs, adaxially puberulent, base rounded, apex retuse and mucronulate. Racemes 5–15 cm, often paniculate; rachis and pedicels with dense ascending short hairs. Pedicels 1.5–4 mm. Calyx deeply 4-lobed, with appressed short hairs; tube ca. 1.5 mm; lobes triangular to narrowly triangular, ca. 2 mm. Corolla purple; standard obovate, 9–10 mm, apex obtuse; wings ca. 10 mm, clawed at base; keel inflexed at an obtuse angle, ca. 11.5 mm, clawed at base. Ovary ca. 2.5 mm, appressed puberulent near suture and apex; style incurved, ca. 7 mm. Legume obliquely oblong, 7–9 × 3.5–5 mm, with subappressed short hairs, apex rounded. Seeds dark reddish brown, reniform, 2–2.2 × 3.5–4 mm.

- Sunny places, mountain slopes; 1300–1500 m. Yunnan.

4. *Campylotropis bonii* Schindler var. *stipellata* Iokawa & H. Ohashi, J. Jap. Bot. 79: 227. 2004.

密脉杭子梢 mi mai hang zi shao

Shrubs, to 4 m tall. Branches shortly appressed hairy. Petiole 0.5–3 cm, densely appressed hairy; stipels linear; leaflets obdeltoid to obcordate, terminal one 1.5–4 × 0.8–3 cm, abaxially appressed hairy, adaxially glabrous, lateral veins dense, straight, parallel, base cuneate, apex retuse and mucronulate. Racemes densely flowered, 2–7 cm, often paniculate. Pedicels 4–8 mm, with appressed short hairs. Calyx with appressed short hairs; tube ca. 1.5 mm; lobes triangular to narrowly triangular, ca. 1 mm. Corolla pale pink or pale red-purple; standard obovate to elliptic, 8–9 mm, narrowed to a claw, obtuse at apex; wings ca. 9 mm, clawed at base; keel incurved, ca. 8.5 mm, clawed at base. Ovary puberulent. Legume obliquely oblong, 13–16 × 5–8 mm, with subappressed short hairs, apex rounded. Seeds reniform, ca. 3 × 6 mm.

- Forests, thickets, grasslands; 300–2900 m. Guangxi.

Campylotropis bonii var. *bonii* occurs in N Thailand and N Vietnam.

5. *Campylotropis brevifolia* Ricker, J. Wash. Acad. Sci. 36: 37. 1946.

短序杭子梢 duan xu hang zi shao

Campylotropis yajiangensis P. Y. Fu var. *deronica* P. Y. Fu.

Shrubs or shrublets, usually 0.8–2 m tall. Branches glabrescent, young parts densely white villous. Petiole 0.5–1 cm,

densely white villous; stipels absent; leaflets obdeltoid to broadly obovate, terminal one 0.6–1.6 × 0.5–1.2 cm, abaxially densely white villous, adaxially densely puberulent, base obtuse, apex retuse and mucronulate. Racemes 1–2 cm, few flowered; rachis and pedicels with dense ascending soft hairs. Pedicels 1.5–2 mm. Calyx with dense ascending soft hairs; tube 1.5–1.8 mm; lobes triangular, nearly same length as tube. Corolla reddish purple; standard obovate, ca. 10 mm, base obtuse, apex rounded; wings ca. 9.5 mm, clawed at base; keel incurved, ca. 13.5 mm, clawed at base. Ovary ca. 2.5 mm; style incurved, ca. 8 mm. Legume obliquely obovoid, with ascending short hairs. Fl. Sep–Oct.

- Sunny grasslands, rocky mountain slopes, dry grassy slopes, thickets; 1600–3500 m. W Sichuan, E Xizang.

6. *Campylotropis capillipes* (Franchet) Schindler, Repert. Spec. Nov. Regni Veg. 11: 341. 1912.

细花梗杭子梢 xi hua geng hang zi shao

Shrubs, usually 1–2 m tall. Young branches shortly appressed hairy. Petiole 0.3–4 cm, densely shortly appressed hairy; stipels absent; leaflets obovate to oblong, terminal one 1–3 × 0.7–2 cm, both surfaces sparsely shortly appressed hairy or adaxially glabrous, base obtuse, apex retuse and mucronulate. Racemes ± densely flowered, 1.5–3(–8) cm. Pedicels slender, subfiliform, 6–20 mm, with appressed short hairs. Calyx with appressed short hairs; tube 1.8–2.7 mm; lobes triangular to narrowly triangular. Corolla purple to reddish purple; standard elliptic, 10–14 mm, apex obtuse; wings 10–14 mm, clawed at base; keel incurved, 12–16 mm, clawed at base. Ovary ca. 3.5 mm, puberulent or glabrous; style incurved, ca. 10 mm. Legume obliquely elliptic, 8–16 × 4.5–7 mm, shortly appressed hairy or glabrous, apex obtuse. Seeds reddish brown, reniform, ca. 2 × 3 mm. Fl. Sep–Nov, fr. Nov–Apr.

Forests, thickets, forest margins, valleys, mountain slopes, stream-sides; 1000–3000 m. W Guangxi, Sichuan, Yunnan [Myanmar, Thailand].

- 1a. Leaflets adaxially sparsely shortly appressed hairy; racemes short, 1.5–3 cm; calyx lobes almost as long as tube, more than 1.5 mm 6a. subsp. *capillipes*
- 1b. Leaflets adaxially glabrous; racemes 2–8 cm; calyx lobes distinctly shorter than tube, 1–1.5 mm 6b. subsp. *prainii*

6a. *Campylotropis capillipes* subsp. *capillipes*

细花梗杭子梢(原亚种) xi hua geng hang zi shao (yuan ya zhong)

Lespedeza capillipes Franchet, Pl. Delavay. 165. 1890.

Leaflets adaxially sparsely shortly appressed hairy. Racemes short, 1.5–3 cm. Calyx lobes almost as long as tube, more than 1.5 mm.

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

6b. *Campylotropis capillipes* subsp. *prainii* (Collett & Hemsley) Iokawa & H. Ohashi, J. Jap. Bot. 77: 209. 2002.

草山杭子梢 cao shan hang zi shao

Lespedeza prainii Collett & Hemsley, J. Linn. Soc., Bot. 28: 46. 1890; *Campylotropis prainii* (Collett & Hemsley) Schindler.

Leaflets adaxially glabrous. Racemes 2–8 cm. Calyx lobes distinctly shorter than tube, 1–1.5 mm. Fl. Sep–Nov, fr. Nov–Apr.

Forest margins, forests, valleys, mountain slopes, thickets, stream-sides; 1000–3000 m. W Guangxi, Yunnan [Myanmar, Thailand].

7. *Campylotropis cytisoides* Miquel, Fl. Ned. Ind. 1: 229. 1855.

小花杭子梢 xiao hua hang zi shao

Lespedeza cytisoides Benth in Miquel, Pl. Jungh. 230. 1852, not Bertoloni (1851).

Shrubs, 1.5–3 m tall. Young branches shortly appressed hairy. Petiole 1.5–5.5 cm, with dense appressed short hairs; stipels absent; leaflets narrowly ovate to elliptic, terminal one 2.3–6.5 × 1–2 cm, abaxially with sparse appressed short hairs, adaxially glabrous, base obtuse, apex retuse and mucronulate. Racemes 4–15 cm; rachis and pedicels shortly ascending hairy mixed with sparse glandular hairs. Pedicels 2–5 mm. Calyx densely shortly ascending hairy mixed with glandular hairs; tube 1.2–1.4 mm; lobes narrowly triangular, 1.7–2.1 mm. Corolla pinkish white; standard elliptic, ca. 8 mm, apex obtuse; wings ca. 7.7 mm, clawed at base; keel incurved, ca. 10 mm, clawed at base. Ovary ca. 2 mm; style incurved, ca. 5 mm, shortly appressed hairy at basal half. Legume obliquely obovoid, 6.5–8 × 3.8–4.5 mm, shortly ascending hairy, apex obtuse. Seeds reddish brown, reniform, 2–2.2 × 3.3–3.8 mm. Fl. and fr. (Nov–)Dec–Apr.

Sparse or dense forests; 400–1500 m. S Yunnan [N Laos, Myanmar, Thailand, Vietnam].

The Chinese plants as treated here are *Campylotropis cytisoides* f. *parviflora* (Kurz) Iokawa & H. Ohashi (J. Jap. Bot. 77: 212. 2002; *Lespedeza parviflora* Kurz, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 42: 231. 1874; *C. parviflora* (Kurz) Schindler). *Campylotropis cytisoides* f. *cytisoides* occurs in Indonesia.

8. *Campylotropis decora* (Kurz) Schindler, Repert. Spec. Nov. Regni Veg. 11: 428. 1912.

华美杭子梢 hua mei hang zi shao

Lespedeza decora Kurz, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 42: 231. 1874; *Campylotropis sericophylla* (Collett & Hemsley) Schindler; *C. sessilifolia* Schindler; *L. sericophylla* Collett & Hemsley.

Shrubs, 1–1.5 m tall. Young branches densely ascending or spreading hairy. Petiole 0.5–3.5 cm, densely ascending hairy; stipels absent; leaflets obovate to elliptic, terminal one 2–5 × 1–3.5 cm, abaxially densely appressed or ascending hairy, adaxially glabrous or pubescent, base obtuse, apex retuse and mucronulate. Racemes 2–9 cm; rachis and pedicels with ascending or spreading short hairs and dense glandular hairs. Pedicels 4–10 mm. Calyx with appressed or ascending short hairs mixed

with glandular hairs; tube 1.5–2.5 mm; lobes narrowly triangular, ca. 4 mm. Corolla blue; standard elliptic, ca. 10 mm, apex obtuse; wings ca. 9 mm, clawed at base; keel incurved, ca. 14 mm, clawed at base. Ovary ca. 2 mm; style incurved, ca. 9.5 mm. Legume obliquely ovoid or obovoid, 6–7 mm, shortly ascending hairy, apex obtuse. Seeds purplish brown, reniform, ca. 2 × 3.5 mm.

S Yunnan [Laos, Myanmar, Thailand].

9. *Campylotropis delavayi* (Franchet) Schindler, Repert. Spec. Nov. Regni Veg. 11: 426. 1912.

西南杭子梢 xi nan hang zi shao

Lespedeza delavayi Franchet, Pl. Delavay. 165. 1890; *L. atrokermesina* Forrest.

Shrubs, 1–3 m tall. Young branches densely appressed whitish sericeous. Petiole 1–3 cm, densely appressed whitish sericeous; stipels absent; leaflets obovate to oblong, terminal one 1.5–7 × 1.3–5.7 cm, leathery, abaxially with dense appressed whitish sericeous hairs, adaxially glabrous, base obtuse or rounded, apex retuse and mucronulate. Racemes ± densely flowered, 2–11 cm, often paniculate; rachis and pedicels with dense spreading whitish short hairs and glandular hairs; bracts narrowly ovate, usually shorter than 3 mm. Pedicels 2–4 mm. Calyx with dense appressed whitish sericeous hairs and sparse glandular hairs; tube 1.6–2.5 mm; lobes narrowly triangular, 4.3–5.5 mm. Corolla dark purple; standard elliptic, 10–13 mm, apex obtuse; wings ca. 12.5 mm, clawed at base; keel ca. 14.5 mm, clawed at base. Ovary 2.2–2.5 mm; style incurved, 10–10.5 mm. Legume obliquely elliptic, 6–7 × 4–5 mm, shortly appressed hairy, apex obtuse. Seeds purplish brown, reniform, ca. 1.7 × 2.7 mm. Fl. Oct–Dec, fr. Nov–Dec.

• Mountain slopes, thickets, sunny grasslands; 400–2200 m. Sichuan, Yunnan.

The roots are used medicinally for reducing fevers.

10. *Campylotropis diversifolia* (Hemsley) Schindler, Repert. Spec. Nov. Regni Veg. 11: 342. 1912.

异叶杭子梢 yi ye hang zi shao

Lespedeza diversifolia Hemsley, Hooker's Icon. Pl. 27: t. 2625. 1899.

Shrubs, 1–2 m tall. Young branches sparsely shortly appressed hairy. Leaves dimorphic; lower leaves petiolate, with obovate leaflets and distinct rachis, petioles 0.5–1.2 cm, sparsely appressed shortly hairy, rachis 4–8 mm; upper leaves subsessile, with deltoid leaflets and a minute rachis, rachis 0.5–4 mm; terminal leaflets 2–3.5 × 1.2–2.8 cm on lower leaves, 1.5–3 × 1.8–3 cm on upper leaves, abaxially with sparse appressed short hairs, adaxially glabrous or sparsely shortly hairy, obtuse at base and obtuse and mucronulate at apex on lower leaves, cordate or truncate at base and acuminate at apex on upper leaves; stipels absent. Racemes 2–5 cm, often paniculate. Pedicels 5–9 mm, shortly appressed hairy and also with sparse glandular hairs. Calyx with dense appressed short hairs, rarely also with glandular hairs; tube 2–2.5 mm; lobes narrowly tri-

angular, 2–3 mm. Corolla purple; standard elliptic, 12–14 mm, apex obtuse; wings 12–13 mm, clawed at base; keel incurved, 16–18 mm, clawed at base. Ovary ca. 3 mm; style incurved, ca. 11.5 mm. Legume obliquely elliptic, 9–10 × ca. 5 mm, shortly appressed hairy, apex obtuse. Seeds brown, reniform, ca. 2.5 × 3.6 mm. Fl. Nov–Dec, fr. Jan–May.

• Mountain slopes, thickets, sparse forests, hot arid valleys; 800–1700 m. Yunnan.

11. *Campylotropis fulva* Schindler, Repert. Spec. Nov. Regni Veg. 11: 426. 1912.

暗黄杭子梢 an huang hang zi shao

Lespedeza fulva (Schindler) H. Léveillé.

Shrublets or shrubs. Young branches densely yellowish velutinous. Petiole 0.4–2 cm, densely yellowish velutinous; stipels absent; leaflets narrowly ovate to ovate or narrowly oblong to oblong, terminal one 2.5–5 × 1–2.5 cm, abaxially densely ascending hairy, adaxially with dense very minute spreading hairs (puberulent), base obtuse or rounded, apex obtuse and mucronulate. Racemes 6–12 cm, often panicle composed of several upper racemes with reduced subtending leaves; rachis with spreading short hairs and glandular hairs; bracts narrowly ovate, 2–2.5 mm; bracteoles ca. 1 mm. Pedicels ca. 3 mm, densely shortly ascending hairy mixed with glandular hairs. Calyx with dense appressed short hairs and sparse glandular hairs; tube ca. 1.5 mm; lobes narrowly triangular, ca. 2.5 mm. Corolla purple; standard elliptic, 9–9.5 mm, apex obtuse; wings ca. 8 mm, clawed at base; keel ca. 13.2 mm, clawed at base. Ovary ca. 1.5 mm; style incurved, ca. 9.2 mm. Legume obliquely elliptic, shortly appressed hairy.

• SE Yunnan.

This species is known only from the type specimen collected from Mengzi in SE Yunnan.

12. *Campylotropis grandifolia* Schindler, Repert. Spec. Nov. Regni Veg. 11: 346. 1912.

弥勒杭子梢 mi le hang zi shao

Shrubs, ca. 1.5 m tall. Young branches distinctly quadrangular, sparsely shortly appressed hairy. Petiole abaxially angled, often narrowly winged along both sides, 2–4 cm, with dense appressed short hairs; stipels absent; leaflets ovate to elliptic, terminal one 3–8 × 1.5–4.5 cm, abaxially sparsely appressed or ascending hairy, adaxially glabrous, base obtuse or rounded, apex obtuse or retuse and mucronulate. Racemes ± densely flowered, 3–5 cm, often paniculate; rachis with ± dense appressed short hairs. Pedicels 6–8 mm, with ± dense appressed or ascending short hairs. Calyx with dense appressed short hairs; tube ca. 2 mm; lobes narrowly triangular, 3–4 mm. Corolla purple; standard elliptic, 13–14 mm, apex obtuse; wings ca. 12 mm, clawed at base; keel incurved, 16–17 mm, clawed at base. Ovary ca. 2.5 mm; style incurved, 11–11.5 mm. Legume ovoid, 6–9 × 3–5 mm, appressed shortly hairy, apex obtuse.

• SE Yunnan.

This species is known only from the type specimen collected at

Mile in SE Yunnan.

Although winged petioles and distinctly angled young branches are also observed in *Campylotropis trigonoclada* and *C. henryi*, this species is easily recognized by the quadrangular branches and lack of glandular hairs in the inflorescences.

13. *Campylotropis harmsii* Schindler, Repert. Spec. Nov. Regni Veg. 11: 342. 1912.

思茅杭子梢 si mao hang zi shao

Lespedeza harmsii (Schindler) H. Léveillé.

Shrubs, 1–2 m tall. Young branches ± densely ascending hairy. Leaves dimorphic; lower leaves petiolate, with obovate leaflets, petioles 1–2 cm, ± densely shortly ascending hairy; upper leaves sometimes sessile, with orbicular or transversely elliptic leaflets; terminal leaflet 1.5–3.5 × 1.3–3 cm, abaxially appressed hairy, adaxially with sparse appressed minute hairs, base cuneate to broadly cuneate, apex obtuse and mucronulate or acuminate; stipels absent. Racemes 2–3 cm, often paniculate at apex; panicle zigzag, bent at nodes; rachis and pedicels ± densely ascending hairy, rarely also with glandular hairs. Pedicels 10–14 mm. Calyx with dense ascending short hairs, rarely with glandular hairs; tube 2–2.5 mm; lobes narrowly triangular, 2–3 mm. Corolla purple; standard elliptic, 12.5–13 mm, apex obtuse; wings 12–13 mm, clawed at base; keel incurved, 15–16 mm, clawed at base. Ovary ca. 3 mm; style incurved at base, ca. 10 mm. Legume obliquely elliptic, 12–15 × 5–6 mm, shortly ascending hairy, apex acute. Seeds purplish black, reniform, ca. 3 × 6 mm.

Dense forests; 100–1300 m. S Yunnan [Thailand].

14. *Campylotropis henryi* (Schindler) Schindler, Repert. Spec. Nov. Regni Veg. 11: 347. 1912.

元江杭子梢 yuan jiang hang zi shao

Lespedeza henryi Schindler, Repert. Spec. Nov. Regni Veg. 9: 517. 1911; *Campylotropis esquirolii* Schindler.

Shrubs, 1–2 m tall. Young branches often distinctly quadrangular, sparsely shortly appressed hairy. Petiole abaxially angled, often slightly convex above, bisulcate and narrowly winged along both sides, 1–5 cm, shortly appressed hairy; stipels absent; leaflets oblong to ovate, terminal one 3–10 × 1.5–5 cm, abaxially appressed hairy particularly on veins and margin, adaxially glabrous, base rounded, apex obtuse to rounded and retuse and mucronulate. Racemes 3–15 cm; rachis and pedicels with ± dense appressed to ascending short hairs and sparse glandular hairs. Pedicels 6–8.5 mm. Calyx with densely appressed short hairs and glandular hairs; tube 2–2.5 mm; lobes narrowly triangular, 3–4.5 mm. Corolla purple; standard elliptic, 10–13 mm, apex obtuse; wings 10–12.5 mm, clawed at base; keel incurved, 12.5–15 mm, clawed at base. Ovary 2.5–3 mm, shortly appressed hairy; style incurved, ca. 10 mm. Legume ovoid, 6–9 × 4–5.5 mm, shortly ascending hairy, apex obtuse. Seeds purplish black, reniform, ca. 2 × 4 mm. Fl. and fr. Oct–Dec.

• Mountain slopes, thickets, forests; 600–1600 m. Guizhou, Yunnan.

The wings of this species are sometimes not so prominent, especially on the petioles of small upper leaves. In such a form, this species somewhat resembles *Campylotropis polyantha*, but it is easily distinguished by the lack of stipels and longer calyx lobes (3–4.5 mm in *C. henryi* vs. 1.3–2.5 mm in *C. polyantha*).

Campylotropis henryi was recorded from Thailand (Gagnepain in Lecomte, Fl. Indo-Chine 2: 520. 1920, as *Lespedeza henryi*) and Laos (Thuan et al., Fl. Cambodge, Laos & Vietnam 23: 144. 1987), but these are *C. decora*.

15. *Campylotropis hirtella* (Franchet) Schindler, Repert. Spec. Nov. Regni Veg. 11: 428. 1912.

毛杭子梢 mao hang zi shao

Lespedeza hirtella Franchet, Pl. Delavay. 167. 1890; *L. mairei* Pampanini.

Shrublets, 0.5–1 m tall. Young branches ± densely ferruginous spreading hairy. Aerial stems annual and coming from axillary or adventitious buds at basal perennial parts of stems, usually with several withered shoots from previous year persistent at base of annual shoots. Petiole 0.1–2 cm, very short on upper leaves, densely ascending or appressed hairy; stipels absent; leaflets deltoid to ovate, terminal one 1–6 × 1–4 cm, abaxially ± densely ascending hairy, adaxially sparsely or ± densely ascending hairy, base cordate, truncate, or rounded, apex retuse and mucronulate. Racemes 4–17 cm, usually paniculate; rachis and pedicels with dense spreading short hairs and glandular hairs. Pedicels 1.5–7 mm. Calyx with ± dense ascending short hairs and glandular hairs; tube 2–2.8 mm; lobes narrowly triangular, 2.5–3.2 mm. Corolla purple; standard elliptic, 13–15 mm, apex obtuse; wings ca. 13 mm, clawed at base; keel incurved, 15.5–17 mm, clawed at base. Ovary narrowly ovoid, ca. 2 mm, shortly appressed hairy; style incurved, ca. 13 mm. Legume obliquely obovoid, 4.5–6 × 3–4 mm, shortly ascending hairy, apex obtuse. Seeds purplish brown, reniform, ca. 3.7 × 2 mm. Fl. Jun–Oct, fr. Oct–Nov.

Thickets, forest margins, streamsides, sparse forests, mountain slopes, sunny grasslands; 900–4100 m. Guizhou, Sichuan, Xizang, Yunnan [India].

16. *Campylotropis howellii* Schindler, Trans. Bot. Soc. Edinburgh 26: 285. 1914.

腾冲杭子梢 teng chong hang zi shao

Shrubs or shrublets, ca. 1 m tall. Young branches sparsely appressed or ascending shortly hairy. Petiole 0.3–2.5 cm, densely appressed or ascending hairy; stipels absent; leaflets obovate to oblong, terminal one 1.5–3 × 1–2 cm, abaxially sparsely shortly appressed hairy, adaxially glabrous, base obtuse or rounded, apex retuse and mucronulate. Racemes axillary or terminal, 2.5–11 cm, densely flowered on long peduncle; rachis and pedicels densely shortly ascending hairy. Pedicels 1.5–3 mm. Calyx with ± dense appressed short hairs; tube 2–2.5 mm; lobes narrowly triangular, 2.5–3.5 mm. Corolla purple; standard obovate, 10–10.5 mm, apex obtuse; wings ca. 10.5 mm, clawed at base; keel shallowly incurved, 12.5–13 mm, clawed at base. Ovary narrowly ovoid, ca. 2 mm, shortly appressed hairy; style incurved, ca. 7.2 mm. Legume obliquely

obovoid, ca. 5.5 × 3 mm, shortly ascending hairy, apex obtuse. Seeds purplish brown, reniform.

- Sparse forests on mountain slopes; 1900–2300 m. Yunnan.

17. *Campylotropis latifolia* (Dunn) Schindler, Repert. Spec. Nov. Regni Veg. 11: 428. 1912.

阔叶杭子梢 kuo ye hang zi shao

Lespedeza latifolia Dunn, J. Linn. Soc., Bot. 35: 488. 1903.

Shrubs, usually 1–2 m tall. Young branches densely whitish velutinous. Petiole 1.5–5 cm, densely ascending whitish velutinous; stipels absent; leaflets ovate to broadly ovate or broadly elliptic, terminal one 4–10 × 2–6 cm, leathery, abaxially ± densely whitish pubescent, adaxially ± densely puberulent, rarely glabrescent, base rounded, apex retuse and mucronulate. Racemes 6–13 cm; rachis and pedicels ± densely pubescent and with glandular hairs. Pedicels 2.5–5 mm. Calyx with ± dense ascending short hairs and glandular hairs; tube 1.5–1.8 mm; lobes triangular, 1.2–1.5 mm. Corolla purple; standard obovate, ca. 12 mm, apex obtuse; wings ca. 11.5 mm, clawed at base; keel incurved, 14.5–15.5 mm, clawed at base. Ovary narrowly ovoid, ca. 2.5 mm, shortly ascending hairy; style incurved, ca. 11.5 mm. Legume obliquely oblong, 8–11 × ca. 3.5 mm, shortly spreading hairy, apex acute.

- Mountain slopes, sunny places; 1200–1400 m. Yunnan.

18. *Campylotropis luhitensis* H. Ohashi, J. Jap. Bot. 51: 345. 1976.

藏东杭子梢 zang dong hang zi shao

Shrubs. Young branches densely whitish hairy. Petiole 0.5–1.5 cm, densely pubescent; stipels absent; leaflets elliptic, terminal one 1–3.5 × 0.6–1.8 cm, abaxially densely whitish appressed pubescent, adaxially glabrous, base obtuse, apex retuse and mucronulate. Racemes usually paniculate, each raceme 2–4 cm; rachis densely spreading pubescent mixed with glandular hairs. Pedicels 5–8 mm, densely spreading pubescent mixed with glandular hairs. Calyx ± densely shortly ascending hairy; tube 1.5–2 mm; lobes narrowly triangular, 2–2.4 mm. Corolla purple; standard elliptic, 8–9.5 mm, apex obtuse; wings 7.8–9.5 mm, clawed at base; keel incurved, ca. 11 mm, clawed at base. Ovary narrowly ovoid, ca. 2.5 mm, shortly appressed hairy; style incurved, 6.5–7.5 mm. Legume obliquely ovoid, 11–14 × ca. 4 mm, densely shortly hairy. Seeds reniform, ca. 4 × 2.5 mm.

E Xizang [Myanmar].

19. *Campylotropis macrocarpa* (Bunge) Rehder in Sargent, Pl. Wilson. 2: 113. 1914.

杭子梢 hang zi shao

Shrubs, usually 1–2 m tall. Young branches appressed or ascending hairy. Petiole 1–5 cm, appressed or ascending pubescent; stipels absent, rarely rudimentarily present and linear on base of petiolule of lateral leaflet; leaflets oblong or ovate, rarely obovate, terminal one 1.2–6.5 × 0.7–3.7 cm, abaxially sparsely to densely ascending pubescent, adaxially glabrous or sparsely pubescent, base obtuse or rounded, apex retuse and

mucronulate. Racemes 2.5–15 cm, sometimes paniculate; rachis and pedicels appressed or ascending pubescent mixed with glandular hairs. Pedicels 2–11 mm. Calyx ± densely appressed or ascending shortly hairy mixed with glandular hairs; tube 1.2–2 mm; lobes triangular, 0.8–3 mm. Corolla purple to pinkish white; standard elliptic, 11–12 mm, apex obtuse; wings 10–12 mm, clawed at base; keel incurved, 11.5–14.5 mm, clawed at base. Ovary 2.5–3 mm; style incurved, 8.5–9 mm. Legume obliquely obovoid to oblong, 9–15 × 3.5–6 mm, lateral surface glabrous or pubescent, apex acute. Seeds reddish brown, reniform, 2.7–5 × 1.5–3 mm.

Mountain slopes, valleys, thickets, forest margins, streamsides, forests, open places; 100–2000 m. Anhui, Fujian, Gansu, Guangdong, Guangxi, Guizhou, Hebei, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Liaoning, ?Nei Mongol, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan, Yunnan, Zhejiang [Korea].

- 1a. Lateral surface of legumes glabrous;
calyx lobes shorter than tube,
0.8–1.2 mm 19a. var. *macrocarpa*
1b. Lateral surface of legumes pubescent;
calyx lobes almost as long as tube,
2.2–3 mm 19b. var. *hupehensis*

19a. *Campylotropis macrocarpa* var. *macrocarpa*

杭子梢(原变种) hang zi shao (yuan bian zhong)

Lespedeza macrocarpa Bunge, Enum. Pl. China Bor. 18. 1833; *Campylotropis chinensis* Bunge, nom. illeg. superfl.; *C. gracilis* Ricker; *C. hersii* Ricker; *C. huberi* Ricker; *C. macrocarpa* subsp. *hengduanshanensis* C. J. Chen; *C. macrocarpa* f. *lanceolata* P. Y. Fu; *C. mortolana* Ricker; *C. smithii* Ricker; *L. ciliata* Benth; *L. distincta* L. H. Bailey; *L. ichangensis* Schindler; *L. rosthornii* Schindler.

Calyx lobes shorter than tube, 0.8–1.2 mm. Lateral surface of legumes glabrous. Fl. and fr. (May–)Jun–Oct.

Mountain slopes, thickets, valleys, forest margins, streamsides, forests; 100–1900 m. Anhui, Fujian, Gansu, Guangxi, Guizhou, Hebei, Henan, Hubei, Hunan, Jiangsu, Liaoning, Shaanxi, Shandong, Shanxi, Sichuan, Yunnan, Zhejiang [Korea].

This variety includes two forms: *Campylotropis macrocarpa* f. *macrocarpa*, with purple to pinkish white flowers, and *C. macrocarpa* f. *alba* (S. Y. Wang) Iokawa & H. Ohashi, with pure white flowers.

19b. *Campylotropis macrocarpa* var. *hupehensis* (Pampanini) Iokawa & H. Ohashi, J. Jap. Bot. 77: 272. 2002.

太白山杭子梢 tai bai shan hang zi shao

Lespedeza macrocarpa var. *hupehensis* Pampanini, Nuovo Giorn. Bot. Ital., n.s., 17: 399. 1910; *Campylotropis bodinieri* Schindler; *C. giraldii* (Schindler) Schindler; *C. glauca* (Schindler) Schindler; *C. longepedunculata* Ricker; *C. macrocarpa* f. *giraldii* (Schindler) P. Y. Fu; *C. macrocarpa* var. *giraldii* (Schindler) K. T. Fu ex P. Y. Fu; *C. macrocarpa* f. *hupehensis* (Pampanini) P. Y. Fu; *C. macrocarpa* f. *longepedunculata* (Ricker) P. Y. Fu; *C. macrocarpa* f. *microphylla* K. T. Fu ex P. Y. Fu; *L. bodinieri* (Schindler) H. Léveillé; *L. giraldii* Schindler; *L. glauca* Schindler; *L. macrocarpa* Franchet (1894), not Bunge (1833); *L. pseudomacrocarpa* Hayata.

Calyx lobes almost as long as tube, 2.2–3 mm. Lateral surface of legumes pubescent. Fl. and fr. Jun–Oct(–Nov).

• Mountain slopes, thickets, open places, forest margins, forests, valleys; 200–2000 m. Gansu, Guangdong, Guizhou, Hebei, Henan, Hubei, Shaanxi, Shanxi, Sichuan, Taiwan.

20. *Campylotropis pauciflora* C. J. Chen, Acta Bot. Yunnan. 10: 433. 1988.

少花杭子梢 shao hua hang zi shao

Shrubs, ca. 1 m tall. Young branches ± densely shortly appressed hairy. Petiole 0.8–1.6 cm, ascending or spreading pubescent; stipels absent; leaflets obovate, terminal one 1.3–2.4 × 0.9–1.5 cm, abaxially sparsely shortly appressed hairy, adaxially glabrous, base obtuse, apex retuse and mucronulate. Racemes few flowered, 0.6–1.4 cm; rachis and pedicels sparsely shortly appressed hairy. Pedicels 20–22 mm, capillaceous. Calyx ± densely shortly appressed hairy; tube 2–2.3 mm; lobes narrowly triangular, 2–2.3 mm. Corolla blue; standard elliptic, 11–12.5 mm, apex obtuse; wings 11–12.5 mm, clawed at base; keel incurved, 15–17 mm, clawed at base. Vexillary stamen connate to tube at base for ca. 1/6 of its length. Ovary narrowly ovoid, ca. 3 mm, shortly appressed hairy; style incurved, ca. 10 mm. Legume obliquely obovoid, shortly appressed hairy, apex acute. Fl. and fr. Aug–Oct.

• Mixed forests; ca. 2300 m. W Yunnan.

21. *Campylotropis pinetorum* (Kurz) Schindler, Repert. Spec. Nov. Regni Veg. 11: 429. 1912.

松林杭子梢 song lin hang zi shao

Lespedeza pinetorum Kurz, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 42: 230. 1874.

Shrubs, 1–2 m tall. Branches tawny velutinous. Petiole 1–5 cm, densely velutinous; stipels absent; leaflets ovate or elliptic, terminal one 2–13 × 1–6 cm, adaxially tawny velutinous, base obtuse or rounded, apex acute. Racemes 2–10 cm, densely flowered; rachis tawny velutinous mixed with dense glandular hairs; bracts linear, usually more than 3.5 mm. Pedicels 1.5–4 mm, densely pubescent mixed with glandular hairs. Calyx ± densely shortly ascending hairy mixed with glandular hairs; tube 1.7–2.5 mm; lobes narrowly triangular, 3–4.5 mm, upper lobe distinctly 2-toothed. Corolla pinkish white; standard elliptic, 9–10.5 mm, apex obtuse; wings 7.5–9 mm, clawed at base; keel shallowly inflexed, 10.5–12 mm, clawed at base. Ovary narrowly ovoid, ca. 2.3 mm, shortly hairy; style incurved, ca. 7.7 mm. Legume obliquely elliptic to narrowly obovoid, 6–6.5 × 3–4 mm, shortly ascending hairy sometimes mixed with glandular hairs, apex acute. Seeds purplish brown, obliquely oblong, 3.2–4 × 1.5–2 mm.

Mountain slopes, thickets, forest margins, sparse forests, open grassy slopes, streamsides; 700–2800 m. Guangxi, Guizhou, Yunnan [Laos, Myanmar, Thailand, Vietnam].

Campylotropis pinetorum subsp. *pinetorum* occurs in Laos, Myanmar, Thailand, and Vietnam. Two other subspecies occur in China.

- 1a. Branches, inflorescence rachises, calyces, and both surfaces of

leaflets densely white pubescent;
leaflets ovate to elliptic, acute

at apex 21a. subsp. *albopubescens*

- 1b. Branches, inflorescence rachises,
calyces, and abaxial surface of
leaflets tawny velutinous; leaflets
oblong to narrowly ovate, rounded
or obtuse at apex 21b. subsp. *velutina*

21a. *Campylotropis pinetorum* subsp. *albopubescens* (Iokawa & H. Ohashi) Iokawa & H. Ohashi, J. Jap. Bot. 77: 282. 2002.

白柔毛杭子梢 bai rou mao hang zi shao

Campylotropis pinetorum var. *albopubescens* Iokawa & H. Ohashi, J. Jap. Bot. 72: 141. 1997.

Branches, inflorescence rachises, calyces, and both surfaces of leaflets densely white pubescent. Leaflets ovate to elliptic, apex acute.

• Yunnan.

21b. *Campylotropis pinetorum* subsp. *velutina* (Dunn) H. Ohashi, J. Jap. Bot. 49: 43. 1974.

绒毛叶杭子梢 rong mao ye hang zi shao

Lespedeza velutina Dunn, Hooker's Icon. Pl. 27: t. 2700. 1901; *Campylotropis velutina* (Dunn) Schindler; *Millettia cavaleriei* H. Léveillé.

Branches, inflorescence rachises, calyces, and abaxial surface of leaflets tawny velutinous. Leaflets oblong to narrowly ovate, apex rounded or obtuse. Fl. and fr. Dec–Apr.

• Mountain slopes, thickets, forest margins, sparse forests, open grassy slopes, streamsides; 700–2800 m. Guangxi, Guizhou, Yunnan.

The root is used medicinally as an astringent and pain reliever.

22. *Campylotropis polyantha* (Franchet) Schindler, Repert. Spec. Nov. Regni Veg. 11: 340. 1912.

小雀花 xiao que hua

Shrubs, 1–2 m tall. Young branches appressed or ascending hairy. Petiole 0.5–4 cm, appressed or ascending pubescent; stipels present at top of petioles, linear, 1–2 mm, sometimes also present at top of rachis; leaflets oblong, obovate, or ovate to narrowly ovate, terminal one 1–4 × 0.5–2.5 cm, abaxially ± densely appressed or ascending pubescent, adaxially glabrous or sparsely pubescent, base obtuse or rounded, apex retuse and mucronulate. Racemes 2–13 cm; rachis and pedicels appressed or ascending pubescent mixed with glandular hairs. Pedicels 3–9 mm. Calyx ± densely shortly ascending hairy mixed with glandular hairs; tube 1.5–2.5 mm; lobes narrowly triangular, 1.3–2.5 mm. Corolla purple to pinkish white; standard elliptic, 10–14 mm, obtuse at apex; wings 10–13 mm, clawed at base; keel incurved, 11.3–16.2 mm, clawed at base. Ovary 2.5–4 mm; style incurved, 7.5–9 mm. Legume obliquely ovoid to elliptic or obovoid, 6–11 × 3–5 mm, apex acute. Seeds pale brown, reniform, 2.5–3.6 × 1.6–2 mm.

• Mountain slopes, sunny thickets, rocky mountains, roadsides,

grasslands, streamsides, waste grasslands, valleys, forest margins, forests; 400–3200 m. Guizhou, Sichuan, E Xizang, Yunnan.

- 1a. Bracts 1–3.5 mm, caducous before
flowering; pedicels 3–8 mm 22a. var. *polyantha*

- 1b. Bracts 3–5 mm, persistent until
fruiting; pedicels 7–9 mm 22b. var. *neglecta*

22a. *Campylotropis polyantha* var. *polyantha*

小雀花(原变种) xiao que hua (yuan bian zhong)

Lespedeza eriocarpa Candolle var. *polyantha* Franchet, Pl. Delavay. 168. 1890; *Campylotropis muehleana* (Schindler) Schindler; *C. polyantha* f. *macrophylla* P. Y. Fu; *C. polyantha* f. *souliei* (Schindler) P. Y. Fu; *C. polyantha* var. *tomentosa* P. Y. Fu; *C. reticulata* S. S. Chien; *C. reticulineris* C. Y. Wu; *C. souliei* Schindler; *C. tomentosipetiolata* P. Y. Fu; *C. wangii* Ricker; *L. blinii* H. Léveillé; *L. dichromoxylon* H. Léveillé; *L. eriocarpa* var. *chinensis* Pampanini; *L. eriocarpa* subvar. *polyantha* (Franchet) Pampanini; *L. muehleana* Schindler; *L. polyantha* (Franchet) Schindler.

Bracts 1–3.5 mm, caducous before flowering. Pedicels 3–8 mm. Fl. and fr. Mar–Nov(–Dec).

• Mountain slopes, sunny thickets, rocky mountains, roadsides, grasslands, streamsides; 400–3200 m. Guizhou, Sichuan, E Xizang, Yunnan.

The root is used medicinally for reducing fever, promoting diuresis, expelling phlegm, and relieving pain.

This variety includes two forms: one with pubescent legumes, *Campylotropis polyantha* f. *polyantha*, and the other with glabrous lateral surfaces of legumes, *C. polyantha* f. *leiocarpa* (Pampanini) Iokawa & H. Ohashi (J. Jap. Bot. 77: 319. 2002; *Lespedeza eriocarpa* f. *leiocarpa* Pampanini, Nuovo Giorn. Bot. Ital. 17: 22. 1910; *C. polyantha* var. *leiocarpa* (Pampanini) E. Peter).

22b. *Campylotropis polyantha* var. *neglecta* (Schindler) Iokawa & H. Ohashi, J. Jap. Bot. 77: 319. 2002.

蒙自杭子梢 meng zi hang zi shao

Campylotropis neglecta Schindler, Repert. Spec. Nov. Regni Veg. 11: 340. 1912; *Lespedeza neglecta* (Schindler) H. Léveillé.

Bracts 3–5 mm, persistent until fruiting. Pedicels 7–9 mm. Lateral surface of legumes pubescent.

• Yunnan.

23. *Campylotropis sargentiana* Schindler, Repert. Spec. Nov. Regni Veg. 11: 341. 1912.

四川杭子梢 si chuan hang zi shao

Lespedeza sargentiana (Schindler) H. Léveillé.

Shrubs, 1–2 m tall. Young branches appressed hairy. Petiole 0.7–2.4 cm, with dense appressed short hairs; stipels sometimes present, linear, 0.5–1 mm; leaflets oblong to elliptic, terminal one 1.2–3 × 0.6–1.5 cm, abaxially sericeous, adaxially glabrous or sparsely pubescent, base obtuse or rounded, apex retuse and mucronulate. Racemes 2–11 cm, sometimes panicu-

late; rachis densely appressed or ascending shortly hairy. Pedicels 4–6 mm, densely appressed or ascending shortly hairy. Calyx densely shortly appressed hairy; tube 1.8–2 mm; lobes narrowly triangular, 2–2.2 mm. Corolla purple; standard obovate, 10–11 mm, apex obtuse; wings 9.5–10.5 mm, clawed at base; keel shallowly inflexed, 12–16 mm, clawed at base. Ovary narrowly ovoid, ca. 2.5 mm, shortly hairy; style ca. 7.5 mm. Legume obliquely elliptic, ca. 7 mm, shortly ascending hairy, acute at apex. Seeds reniform, ca. 2.7×2 mm.

• Sichuan.

24. *Campylotropis speciosa* (Royle ex Schindler) Schindler subsp. ***eriocarpa*** (Schindler) Iokawa & H. Ohashi, J. Jap. Bot. 77: 325. 2002.

绵毛果杭子梢 mian mao guo hang zi shao

Campylotropis eriocarpa Schindler, Repert. Spec. Nov. Regni Veg. 11: 347. 1912.

Shrubs, usually ca. 1 m tall. Young branches \pm densely shortly appressed hairy. Petiole 0.5–4.5 cm, with \pm dense appressed short hairs; stipels absent; leaflets obovate to oblong, terminal one 1.2–4.8 \times 0.8–2.8 cm, abaxially densely sericeous, adaxially glabrous or sparsely shortly hairy, base obtuse or cuneate, apex retuse and mucronulate. Racemes 2.5–20 cm; rachis and pedicels densely appressed or ascending shortly hairy. Pedicels slender, 3–7 mm. Calyx \pm densely appressed shortly hairy; tube 1.5–2.5 mm; lobes narrowly triangular, 2–3.5 mm. Corolla purple; standard obovate, 10.5–12 mm, apex obtuse; wings 9.8–11.5 mm, clawed at base; keel incurved, 12–15 mm, clawed at base. Ovary narrowly ovoid, ca. 2.5 mm, shortly hairy; style ca. 8.3 mm. Legumes obliquely obovoid, 6.5–7.5 \times 3.3–4.5 mm, shortly ascending hairy. Seeds dark brown, reniform, 3–3.5 \times 1.5–2 mm.

Xizang [Bhutan, India, Nepal].

Campylotropis speciosa subsp. *speciosa* (*Lespedeza speciosa* Royle ex Schindler) occurs in India and Nepal.

25. *Campylotropis sulcata* Schindler, Bot. Jahrb. Syst. 54: 65. 1916.

槽茎杭子梢 cao jing hang zi shao

Campylotropis purpurascens Ricker; *C. rockii* Schindler.

Shrubs, 1–3 m tall. Young branches multi-angular, often sulcate, with dense appressed tawny hairs. Petiole 0.5–2.5 cm, densely ascending pubescent; stipels absent or rarely present; leaflets elliptic to oblong, terminal one 2.5–9 \times 1–3 cm, abaxially densely tawny sericeous, adaxially densely puberulent, base obtuse or rounded, apex retuse and mucronulate. Racemes 4–9 cm, sometimes paniculate; rachis densely ascending pubescent mixed with glandular hairs; bracts narrowly ovate, 3–5 mm; bracteoles ca. 2 mm. Pedicels 2–4 mm, densely ascending pubescent mixed with glandular hairs. Calyx densely ascending pubescent; tube 1.5–2 mm; lobes narrowly triangular, 1.5–1.6 mm. Corolla purple to rose; standard obovate, 9–10 mm, apex obtuse; wings 8.5–9 mm, clawed at base; keel incurved, 11–12 mm, clawed at base. Ovary narrowly ovoid, ca. 1.8 mm, shortly hairy; style 7.5–8 mm. Legume obliquely elliptic, 4.5–7 \times 3.5–4

mm, shortly ascending hairy. Fl. and fr. Aug–Oct.

Mountain slopes, thickets, forests; 1200–2100 m. Yunnan [Thailand].

26. *Campylotropis tenuiramea* P. Y. Fu, Bull. Bot. Res., Harbin 7(4): 37. 1987.

细枝杭子梢 xi zhi hang zi shao

Shrubs, usually ca. 2 m tall. Young branches densely shortly appressed hairy. Petiole 0.1–1.8 cm, with dense ascending short hairs; stipels absent; leaflets obovate to elliptic, terminal one 0.8–3 \times 0.6–2 cm, abaxially \pm densely ascending sericeous, adaxially sparsely pubescent, base obtuse or rounded, apex retuse and mucronulate. Racemes 2–3 cm, several flowered at top of peduncles; rachis densely shortly appressed hairy. Pedicels 5–8 mm, densely shortly appressed hairy. Calyx densely shortly appressed hairy; tube ca. 1.5 mm; lobes narrowly triangular, 2–3 mm. Corolla purple; standard elliptic, 11.5–12 mm, apex obtuse; wings ca. 10.5 mm, clawed at base; keel incurved, 13.5–15 mm, clawed at base. Vexillary stamen connate to tube at base for ca. 1/3 of its length. Ovary narrowly ovoid, ca. 2.6 mm, shortly hairy; style ca. 9.6 mm.

• Dry slopes; ca. 1800 m. Yunnan.

27. *Campylotropis teretiracemosa* P. C. Li & C. J. Chen in C. J. Chen, Acta Bot. Yunnan. 10: 434. 1988.

柱序杭子梢 zhu xu hang zi shao

Shrubs. Young branches densely appressed or ascending yellowish pubescent. Petiole 0.2–0.8 cm, with dense appressed yellowish hairs; stipels absent; leaflets oblong to elliptic, terminal one 1.3–4.5 \times 0.7–1.5 cm, abaxially densely yellowish ascending pubescent, adaxially glabrous, base obtuse, apex retuse and mucronulate. Racemes 5–10 cm, spikelike with many very small flowers on a distinct peduncle; rachis densely yellowish ascending pubescent. Pedicels very short, ca. 1 mm, densely yellowish ascending pubescent. Calyx densely yellowish pubescent; tube ca. 1.5 mm; lobes triangular, 1.3–1.7 mm. Corolla purple; standard elliptic, ca. 7 mm, apex obtuse; wings ca. 6 mm, clawed at base; keel incurved, 9–9.5 mm, clawed at base. Ovary ca. 1 mm; style incurved, ca. 6 mm. Legume obliquely obovoid, 6.5–7.5 \times 3.3–4.5 mm, shortly ascending hairy. Seeds brown, oblong to ovoid, 2.2–2.5 \times 1.2–1.5 mm.

• Mountain slopes; 2400–2500 m. Sichuan.

28. *Campylotropis thomsonii* (Bentham ex Baker) Schindler, Repert. Spec. Nov. Regni Veg. 11: 427. 1912.

汤姆逊杭子梢 tang mu xun hang zi shao

Lespedeza thomsonii Bentham ex Baker in J. D. Hooker, Fl. Brit. India 2: 144. 1876 [“*thomsoni*”]; *Campylotropis kingdonii* H. Ohashi; *C. rogersii* Schindler.

Shrubs. Young branches \pm densely shortly appressed silky hairy. Petiole 1–3.5 cm, with dense appressed or ascending silky hairs; stipels absent; leaflets oblong to elliptic, terminal one 3–7 \times 1.2–2.5 cm, abaxially densely appressed silky hairy, adaxially glabrous or \pm densely pubescent, base rounded or ob-

tuse, apex retuse and mucronulate. Racemes 5–10 cm, sometimes paniculate; rachis and pedicels with dense ascending silky hairs. Pedicels 3–10 mm. Calyx with dense appressed or ascending silky hairs; tube 1.5–2 mm; lobes narrowly triangular, 1.5–2.2 mm. Corolla purple; standard elliptic, 6.5–8.5 mm, apex obtuse; wings 6–8 mm, clawed at base; keel incurved, 9.5–11 mm, clawed at base. Ovary narrowly ovoid, ca. 2 mm, shortly hairy; style incurved, ca. 6.5 mm. Legume obliquely obovoid, 7–8 × 3.5–4 mm, shortly appressed hairy, apex rounded. Seeds blackish purple, oblong, ca. 2.5 × 1.5 mm.

Yunnan [India, Myanmar, Vietnam].

29. *Campylotropis trigonoclada* (Franchet) Schindler, Repert. Spec. Nov. Regni Veg. 11: 430. 1912.

三棱枝杭子梢 san leng zhi hang zi shao

Shrubs, usually 1–3 m tall. Young branches triquetrous, with sparse appressed short hairs or glabrous; older parts terete, glabrescent. Petiole bisulcate or convex above, often winged along both sides, ridged beneath, 0.5–6 cm, sparsely shortly appressed hairy or glabrous; stipels rarely present, linear, 1–2 mm; leaflets obovate, oblong, or ovate to narrowly ovate or elliptic, rarely linear, terminal one 1.2–5 × 0.8–3 cm, abaxially sparsely shortly appressed hairy or glabrescent, adaxially glabrous, base obtuse or cuneate, apex retuse and mucronulate. Racemes 3–26 cm, sometimes paniculate; rachis and pedicels with sparse appressed or ascending short hairs or glabrescent. Pedicels 3–10 mm. Calyx with ± dense appressed short hairs; tube 2–2.5 mm; lobes narrowly triangular, lower lobe 3–4.5 mm, longer than others, upper lobe 2–2.5 mm, lateral lobes 2–2.5 mm. Corolla yellow or purple; standard elliptic, 9–11 mm, apex obtuse; wings 9–10.5 mm, clawed at base; keel incurved, 12–15 mm, clawed at base. Ovary narrowly ovoid, 2.2–2.5 mm, shortly hairy; style 8–8.5 mm. Legumes obliquely obovoid, 6–8 × 4–4.5 mm, shortly ascending hairy, apex rounded. Seeds purplish brown, oblong, 3–3.7 × ca. 2 mm. Fl. Jul–Nov, fr. Oct–Dec.

• Mountain slopes, thickets, forest margins, forests, grasslands, roadsides; 1000–3000 m. Guangxi, Guizhou, Sichuan, Yunnan.

The whole plant is used medicinally for reducing fever and relieving coughs. The roots are used for treating mastitis and strokes.

- 1a. Flowers yellow; plants glabrescent 29a. var. *trigonoclada*
1b. Flowers purple; young branches, abaxial surface of leaflets, and inflorescence rachis pubescent 29b. var. *bonatiana*

29a. *Campylotropis trigonoclada* var. *trigonoclada*

三棱枝杭子梢(原变种) san leng zhi hang zi shao (yuan bian zhong)

Lespedeza trigonoclada Franchet, Pl. Delavay. 167. 1890; *Campylotropis alata* Schindler; *C. balfouriana* (Diels ex Schindler) Schindler; *L. alata* (Schindler) H. Léveillé; *L. angulicaulis* Harms ex Schindler; *L. balfouriana* Diels ex Schindler; *L. trigonoclada* var. *angustifolia* Pampanini; *L. trigonoclada* f. *intermedia* Pampanini.

Plants glabrescent. Flowers yellow.

• Guangxi, Guizhou, Sichuan, Yunnan.

29b. *Campylotropis trigonoclada* var. *bonatiana* (Pampanini) Iokawa & H. Ohashi, J. Jap. Bot. 77: 339. 2002.

马尿藤 ma niao teng

Lespedeza bonatiana Pampanini, Nuovo Giorn. Bot. Ital., n.s., 17: 19. 1910; *Campylotropis bonatiana* (Pampanini) Schindler; *C. franchetiana* Lingelsheim & Borza.

Young branches, abaxial surface of leaflets, and inflorescence rachis pubescent. Flowers purple. Fl. and fr. Aug–Dec.

• Mountain slopes, thickets, forest margins, forests, grasslands, roadsides; 1200–3000 m. Yunnan.

The whole plant is used medicinally for treating strokes, influenza, nephritis, and skin diseases.

30. *Campylotropis wenshanica* P. Y. Fu, Bull. Bot. Res., Harbin 7(4): 35. 1987 [“*wenshaaica*”].

秋杭子梢 qiu hang zi shao

Shrubs, ca. 2 m tall. Young branches sparsely shortly appressed hairy. Petiole 2–7 cm, sparsely shortly appressed hairy; stipels absent; leaflets broadly obovate to elliptic, terminal one 2–5 × 1.7–4 cm, abaxially sparsely shortly appressed hairy, adaxially glabrous, base obtuse, apex retuse and mucronulate. Racemes 1.5–9 cm, usually paniculate. Pedicels 3–7 mm, shortly ascending hairy. Calyx with sparse appressed short hairs; tube 2–2.2 mm; lobes narrowly triangular, 2–2.4 mm. Corolla purple; standard elliptic, ca. 10 mm, apex obtuse; wings ca. 9.5 mm, clawed at base; keel incurved, 13–14.5 mm, clawed at base. Ovary ca. 2.5 mm; style incurved, ca. 7 mm. Legume obliquely narrowly obovoid, 9–11 × 3.5–4 mm, glabrous, apex rounded.

• Yunnan.

31. *Campylotropis wilsonii* Schindler, Repert. Spec. Nov. Regni Veg. 11: 343. 1912.

小叶杭子梢 xiao ye hang zi shao

Campylotropis yajiangensis P. Y. Fu.

Shrublets, 0.3–1 m tall. Young branches sparsely shortly appressed hairy. Petiole 0.1–1.4 cm, with sparse appressed short hairs; stipels absent; leaflets obovate to obcordate or obovate, terminal one 0.4–0.9 × 0.3–0.8 cm, abaxially sparsely or ± densely shortly appressed hairy, adaxially glabrous or sparsely pubescent, base obtuse or cuneate, apex retuse and mucronulate. Racemes axillary or terminal, 1–12 cm; rachis and pedicels with sparse ascending short hairs, rarely mixed with glandular hairs. Pedicels 0.8–3 mm. Calyx ± densely shortly ascending hairy, rarely mixed with glandular hairs; tube 1.5–2 mm; lobes narrowly triangular, 1.6–2 mm. Corolla purple; standard elliptic, 11–12 mm, apex obtuse; wings 10–11 mm, clawed at base; keel incurved, 11–13 mm, clawed at base. Ovary ca. 3.5 mm, puberulent; style incurved, ca. 6.6 mm. Legume obliquely narrowly ovoid, 8–12 × 3.5–5 mm, with ascending short hairs, apex obtuse. Seeds obliquely oblong. Fl. and fr. Jun–Aug.

- Mountain slopes, rocky places; 1500–2200 m. Sichuan.

32. *Campylotropis yunnanensis* (Franchet) Schindler, Repert. Spec. Nov. Regni Veg. 11: 338. 1912.

滇杭子梢 dian hang zi shao

Shrubs, 1–2 m tall. Young branches sparsely shortly appressed hairy. Petiole 1.6–5.1 cm, glabrous or sparsely shortly appressed hairy; stipels present at top of petioles, linear, 1–3 mm, sometimes also present at top of rachis; leaflets narrowly ovate to ovate or narrowly oblong to oblong, terminal one 1.8–9 × 0.3–3 cm, abaxially glabrous or sparsely shortly appressed hairy, adaxially glabrous, base obtuse or rounded, apex retuse and mucronulate. Racemes 1.5–15 cm, sometimes paniculate at apex; rachis hairy. Pedicels 2.5–14 mm, hairy. Calyx ± densely appressed or ascending shortly hairy; tube 1.5–2.7 mm; lobes narrowly triangular, 1.2–2 mm. Corolla purple; standard elliptic, 9.5–10.5 mm, apex obtuse; wings 8.5–10.5 mm, clawed at base; keel incurved, 12.5–15.5 mm, clawed at base. Ovary 2.5–3 mm; style incurved, 7.5–9 mm. Legume obliquely oblong, 8–12 × 4–5 mm, lateral surface glabrous, apex obtuse. Seeds reddish brown, obliquely oblong, 3.5–4.5 × 2–2.7 mm.

- Mountain slopes, valleys, thickets, forest margins; 1400–2800 m. Sichuan, Yunnan.

- 1a. Inflorescence rachis and pedicels ascending or spreading shortly hairy; pedicels 2.5–5(–7) mm 32a. subsp. *yunnanensis*
1b. Inflorescence rachis and pedicels sparsely shortly appressed hairy; pedicels 5–14 mm 32b. subsp. *filipes*

32a. *Campylotropis yunnanensis* subsp. *yunnanensis*

滇杭子梢(原亚种) dian hang zi shao (yuan ya zhong)

Lespedeza yunnanensis Franchet, Pl. Delavay. 166. 1890;
Campylotropis yunnanensis var. *zhongdianensis* P. Y. Fu.

Inflorescence rachis and pedicels ascending or spreading shortly hairy. Pedicels 2.5–5(–7) mm. Fl. and fr. Jul–Dec.

- Mountain slopes, valleys, thickets, forest margins; 1400–2800 m. Yunnan.

32b. *Campylotropis yunnanensis* subsp. *filipes* (Ricker) Iokawa & H. Ohashi, J. Jap. Bot. 77: 345. 2002.

丝梗杭子梢 si geng hang zi shao

Campylotropis filipes Ricker, J. Wash. Acad. Sci. 36: 37. 1946; *C. yunnanensis* var. *filipes* (Ricker) P. Y. Fu.

Inflorescence rachis and pedicels sparsely shortly appressed hairy. Pedicels 5–14 mm.

- Mountain slopes, forest margins, thickets; 1900–2800 m. Sichuan.

