

A revision of *Clematis* sect. *Clematis* (*Ranunculaceae*)(Continued)

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Subsection 4. **Angustifoliae** Tamura in Sci. Rep. Osaka Univ. 4:55. 1955 et 16(2):33. 1967; M. C. Chang in Fl. Reip. Pop. Sin. 28:156. 1980. — Sect. *Flammula* DC. subsect. *Angustifoliae* (Tamura) Tamura in Acta Phytotax. Geobot. 16:81. 1956 et 38:43. 1987; M. Johnson, *Clematis* 603. 1997; Grey-Wils., *Clematis* 113. 2000. — Sect. *Angustifoliae* (Tamura) Serov in Bot. Zhurn. 73(12):1740. 1988; Tamura in Heipko, Engler's Nat. Pflanzenfam., ed. 2, 17a(4):383. 1995. Type: *C. hexapetala* Pall.

Sect. *Fruticella* Tamura in Sci. Rep. Osaka Univ. 16(2):34. 1967, p. p.; M. C. Chang in Fl. Reip. Pop. Sin. 28:147. 1980, p. p.; Serov in Bot. Zhurn. 73(12):1739. 1988; Tamura in Heipko, Engler's Nat. Pflanzenfam., ed. 2, 17a(4):384. 1995, p. p.; M. Johnson, *Clematis* 651. 1997, p. p.; Grey-Wils., *Clematis* 126. 2000, p. p.; W. T. Wang in Acta Phytotax. Sin. 36(2):160. 1998, p. p.

Erect shrubs, half-shrubs, or perennial herbs. Seedling leaves opposite (known from one species, *C. hexapetala*). Leaves simple or once to twice pinnate; leaflets at margin entire or dentate, undivided or lobed. Flowers small or medium-sized, in terminal few-many-flowered cymes, rarely solitary, arising from tops of hornotinous branch. Sepals 4-6(-7-8), outside with hairs up to 1 mm long. Filaments not rugose; anthers narrowly oblong, rarely oblong or linear, at apex obtuse or obscurely minutely apiculate.

Seven species, wide-spread in Afghanistan, W to NE China, Iran, Kazakhstan, Kirghizstan, Mongolia, Nepal, N Pakistan, Russia (Siberia), Tajikistan, Turkmenistan.

Key to species and varieties

1. Small shrubs or half-shrubs; leaves not reticulate.
2. Flowers in terminal cymes, rarely solitary to hornotinous branches; lateral basal veins of sepals with a few veinlets externally.
3. Leaves simple or ternate, or on the same plant simple and pinnatisect or pinnate.
 4. Leaves 2-4-paired concentrated to the lower part of stem; sepals 4-6 33. **C. lancifolia**
 5. Leaves simple 33a. var. **lancifolia**
 5. Leaves ternate 33b. var. **ternata**
4. Leaves equally arranged from base to apex of stem.
 6. Leaves simple, 3-sect, 3-parted, and undivided 34. **C. dingjunshanica**
 6. Leaves simple, undivided or pinnatisect, or pinnate.

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7. Leaves simple, undivided or pinnatisect, with sessile or subsessile lobes; sepals 4–6, with rounded or subtruncate apices 35. *C. songarica*
8. Leaves all undivided 35a. var. *songarica*
8. Lower leaves undivided, upper ones pinnatisect 35b. var. *asplesnifolia*
7. Leaves simple, undivided, or pinnate, with petiolulate leaflets; sepals 4, with acute apices.....
..... 36. *C. isphanica*
3. Leaves all pinnate 37. *C. delavayi*
9. Leaflets undivided.
10. Leaflets abaxially silvery-pannose 37a. var. *delavayi*
10. Leaflets abaxially appressed-puberulous, gray-green.
11. Branches not spinescent; leaflets 8–20 mm long 37b. var. *calvescens*
11. Branches many, at apex spinescent; leaflets smaller, 2–10 mm long 37c. var. *spinescens*
9. Leaflets 2–3-lobed, abaxially silvery-pannose 37d. var. *limprichtii*
2. Flowers solitary, terminal to hornotinous branches; lateral basal veins of sepals with numerous veinlets externally; leaves pinnate; sepals 5–7 38. *C. phlebantha*
1. Perennial herbs; leaves bipinnatisect with coriaceous reticulate lobes; sepals (4–5–6–8)
..... 39. *C. hexapetala*
12. Sepals outside on entire surface velutinous 39a. var. *hexapetala*
12. Sepals outside only on margin velutinous, elsewhere glabrous 39b. var. *tchefouensis*

Ser. 1. **Songaricae** Serov in Bot. Zhurn. 73 (12):1739. 1988. — Subsect. *Songaricae* (Serov) M. Johnson, Klematis 653. 1997; Grey-Wils., Clematis 129. 2000. Type: *C. songarica* Bunge.

Ser. *Ispahanicae* Serov in l. c. — Subsect. *Ispahanicae* (Serov) M. Johnson, l. c. Type: *C. isphanica* Boiss.

Small shrubs or half-shrubs. Leaves simple, ternate, or pinnate, not reticulate. Flowers in terminal pedunculate bibracteate cymes. Sepals 4–6, their lateral basal veins with 2–3 veinlets externally each. Anthers narrowly oblong, seldom linear.

Five species, occurring in Afghanistan, W China, Iran, Kazakhstan, Kirghizstan, Mongolia, N Pakistan, Russia (Siberia), Tajikistan, and Turkmenistan.

33. Clematis lancifolia Bur. & Franch. in J. de Bot. 5:18. 1891; Finet & Gagnep. in Bull. Soc. Bot. France 50:538. 1903; Finet in J. de Bot., ser. 2, 1:17. 1907; Hand.-Mazz., Symb. Sin. 7:319. 1931; et in Acta Hort. Gotob. 13:204. 1939; Lauener & Green in Not. R. Bot. Gard. Edinb. 23:582. 1961; M. C. Chang in Fl. Reip. Pop. Sin. 28:152. 1980; C. Y. Wu, Ind. Fl. Yunnan. 1:110. 1984; L. Q. Li in Vasc. Pl. Hengduan Mount. 1:524. 1993; M. Johnson, Klematis 657. 1997; Grey-Wils., Clematis 129. 2000; W. T. Wang in Fl. Yunnan. 11:213. 2000; W. T. Wang & Barth. in Fl. China 6:361. 2001. Type: China. Sichuan (四川): Kangding (康定), Bonvalot & Henri d'Orleans s. n. (holotype, P!).

C. duclouxii Lévl. in Repert. Sp. Nov. 7:97. 1909; Rehd. in J. Arn. Arb. 10:187. 1929. Type: China. Yunnan (云南): Tso-kio, 1907-03, Martin 575 (holotype, E!).

C. iochanica Ulbr. in Bot. Jahrb. 43:620. 1913. Type: China. Yunnan (云南): Io-chan, 1910-08, Maire 2679 (holotype).

披针叶铁线莲

This species consists of two varieties endemic to Southwest China.

33a. var. lancifolia Fig. 14:A–C

Small shrub. Stem 35–100 cm tall, shallowly 10-sulcate, simple or branched, sparsely puberulous or subglabrous, below with 2–4 pairs of leaves, above naked. Leaves simple; leaf blade

coriaceous, lanceolate or linear-lanceolate, 4–14 × 1–3.5 cm, at apex obtuse or slightly acute, at base cuneate, broadly cuneate, or rounded, at margin entire, on both surfaces very sparsely puberulous or subglabrous, basal veins abaxially slightly prominent; petioles 0.4–2.5 cm long. Cymes terminal, 3–5-flowered; bracts foliaceous, or small, linear, 3–10 mm long. Flower ca. 2 cm in diam.; pedicel 2–5.5 cm long. Sepals 4–6, white, narrowly oblong, ca. 1 × 0.3 cm, at apex slightly acute, inside glabrous, outside on margin velutinous, elsewhere glabrous. Stamens 5.5–8 mm long, glabrous; anthers narrowly oblong, 3.2–5.5 mm long, at apex minutely apiculate or obtuse. Ovaries pubescent; styles 5–7 mm long, densely villous. Achenes compressed, narrowly ovate or long elliptic, 4–5 × 2.2–3 mm, pubescent; persistent styles 1.4–3.3 cm long, plumose. Fl. Jul. – Aug.

China (SW Sichuan, CN & NE Yunnan). In forests or in grassy places; 1100–1900 m.

Additional specimens examined. **China. Sichuan** (四川): Ning Yuan (接近盐源), Schneider 813 (G, K); Miyi (米易), T. P. Zhu 120 (PE); Xichang (西昌), T. T. Yü 1163, 1339 (PE). **Yunnan** (云南): Kunming (昆明), Ducloux 4596 (P), 6524 (P, S); Yuanmou (元谋), Jinshajiang Exped. 63-6861 (PE); Qiaojia (巧家), Ducloux 5673 (P).

33b. var. ternata W. T. Wang & M. C. Chang in Fl. Reip. Pop. Sin. 28: 152, 356. 1980; L. Q. Li in Vasc. Pl. Hengduan Mount. 1: 524. 1993; M. Johnson, *Clematis* 657. 1997; Grey-Wils., *Clematis* 129. 2000; W. T. Wang & Barth. in Fl. China 6: 361. 2001. Type: China. Sichuan (四川): Miyi (米易), 1963-07, T. P. Zhu et al. s. n. (holotype, PE!).

竹叶铁线莲

Leaves ternate; leaflets linear-lanceolate.

China (SW Sichuan). On slopes; 1100 m.

34. Clematis dingjunshanica W. T. Wang, sp. nov. Type: China. Shaanxi (陕西): Mian Xian (勉县), Dingjunshan (定军山), 1942-10-05, K. T. Fu 3944 (holotype, here designated, WUK); same locality, 900 m, in shady places in valley, 1958-10-04, P. Y. Li 319 (paratype, WUK).

定军山铁线莲 Fig. 15

Fortasse affinis *C. songaricae* Bunge, a qua foliis simplicibus 3-sectis 3-partitis vel indivisis recedit.

Suffrutex parvus, ca. 35 cm altus. Caulis ca. 10 cm longus, 4 mm diametro, basi lignosus, glabrescens, ramis 4-jugatis; rami 20–30 cm longi, 2–3 mm diametro, inconspicue 6-angulati, vadosae 8–10-sulcati, sparse puberuli, glabrescentes. Folia simplicia; laminae subcoriaceae, 3-sectae, ambitu deltoideae, 6–8.5 cm longae, 4–10 cm latae, segmentis medianis petiolulatis anguste ovatis margine integris 3-lobatis, eis lateralibus sessilibus lanceolatis integris supra secus nervos basales pilis brevibus paucis tectis vel subglabris, nervis basalibus prominentibus vel fere planis, vel 3-partitae rhombico-ovatae, ca. 5 cm longae, 2.6 cm latae, vel indivisae lanceolatae, 4.2–5.5 cm longae, 1–1.5 cm latae, apice mucronatae, margine integrae; petioli 0.3–2.2 cm longi, subglabri. Cymae terminales, ter ramosae, ca. 14-florae, fere paniculiformes, vel 1-florae, bractae lanceolatae, indivisae, vel 3-sectae, 3-branched. Flos ca. 2 cm diametro; pedicellus 0.8–2.8 cm longus, adpresse puberulus. Sepala 4, elliptico-oblonga, ca. 12 mm longa, 5 mm lata, apice obtusa, interdum inconspicue mucronata, intus glabra, extus dense puberula, ad marginem velutina. Stamina ca. 28, 7 mm longa, glabra, filamentis linearibus, antheris linearibus vel anguste oblongis 3–3.5 mm longis apice obtusis. Carpella ca. 15, ovarii puberulis, stylis ca. 6 mm longis dense villosis. Achenia compressa, elliptica, ca. 4 mm longa, 3 mm lata, puberula; styli persistentes ca. 1.7 cm longi, plumosi.

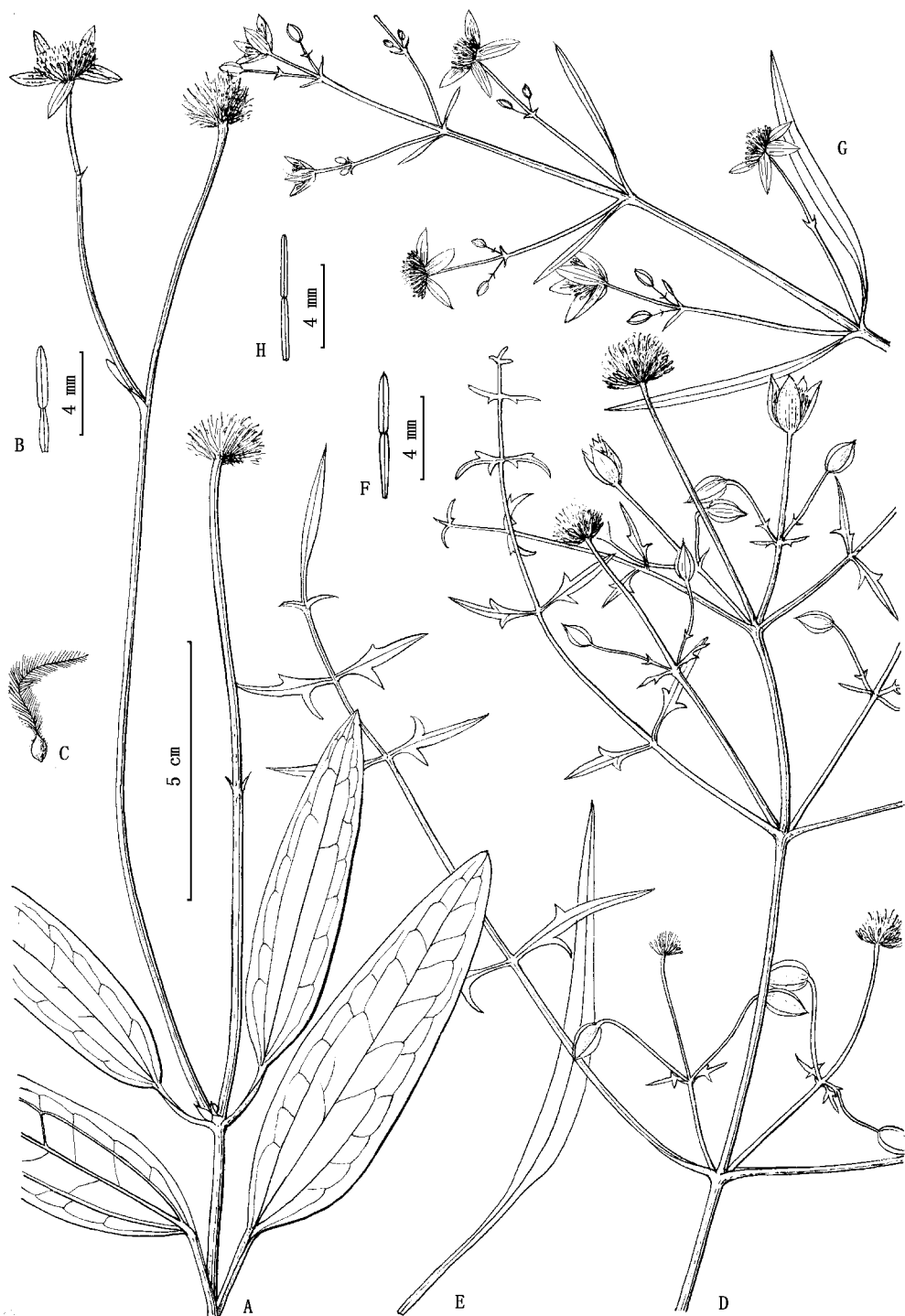


Fig. 14. A - C, *Clematis lancifolia* Bur. & Franch. var. *lancifolia*. A, flowering plant; B, stamen; (from T. T. Yü 1339) C, achene (from Jinshajiang Exped. 63-6861). D - F, *C. isphanica* Boiss. D, upper part of the flowering plant; E, a lower leaf; F, stamen. (from Renz 56185) G, H, *C. songarica* Bunge var. *songarica*. G, upper part of the flowering plant; H, stamen. (from K. C. Kuan 4114)

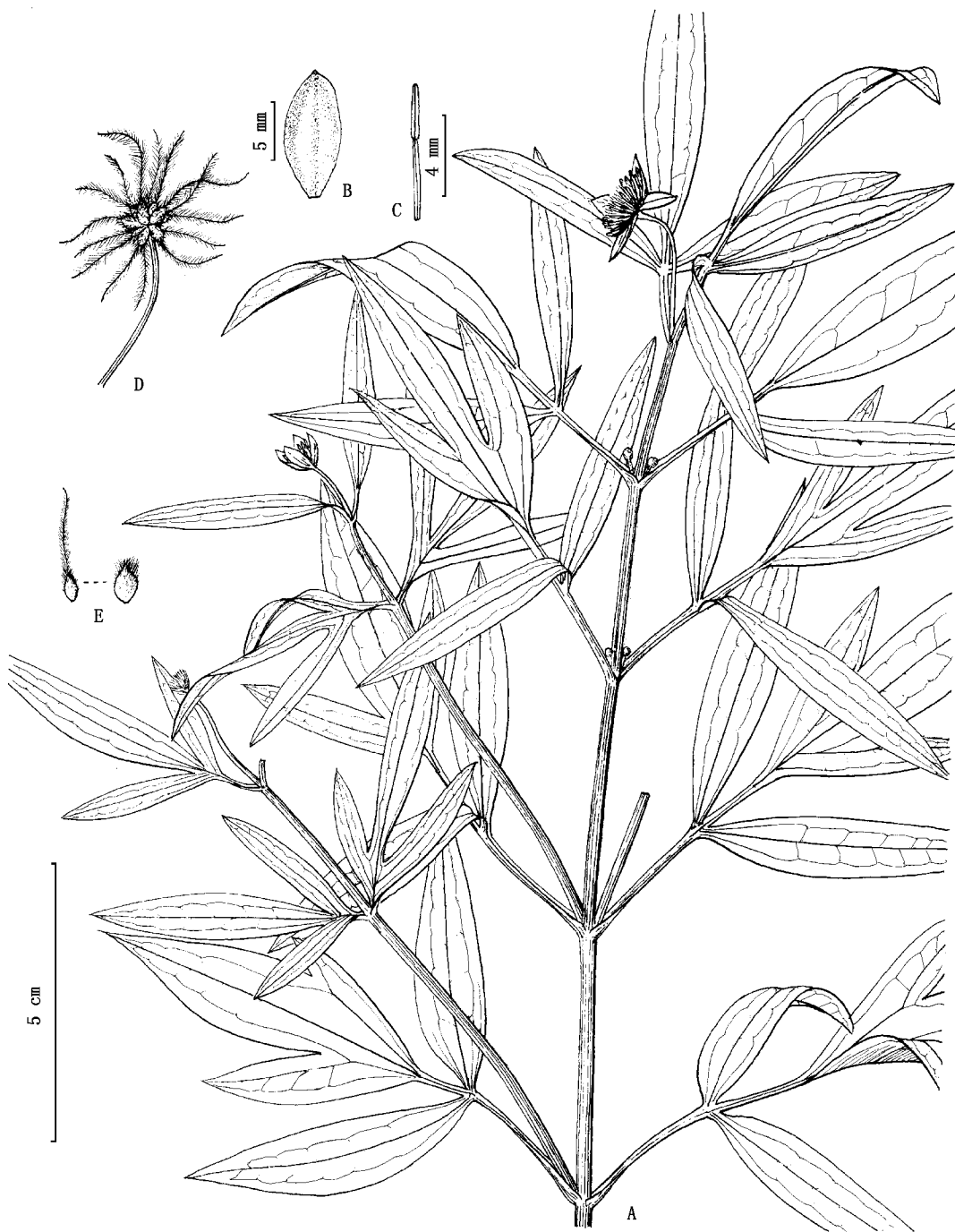


Fig. 15. *Clematis dingjunshanica* W. T. Wang. A , flowering branch ; B , sepal outside ; C , stamen ; (from K. T. Fu 3944) D , aggregate fruit ; E , achene. (from P. Y. Li 319)

Small half-shrub, ca. 35 cm tall. Stem ca. 10 cm long, 4 mm in diam., glabrescent, woody at base, with 4 pairs of branches; branches 20–30 cm long, 2–3 mm in diam., indistinctly 6-angular, shallowly 8–10-sulcate, sparsely puberulous, glabrescent. Leaves simple; leaf blade subcoriaceous, 3-sect, deltoid in outline, 6–8.5 × 4–10 cm, the central segment petiolulate, narrowly ovate, at margin entire, 3-lobed, the lateral segments sessile, lanceolate, entire, adaxially glabrous, abaxially along basal veins with a few short hairs or subglabrous, basal veins abaxially prominent or nearly flat; or leaf blade 3-parted, rhombic-ovate in outline, ca. 5 × 2.6 cm, or undivided, lanceolate, 4.2–5.5 × 1–1.5 cm, at apex mucronate; petioles 0.3–2.2 cm long, subglabrous. Cymes terminal, 3-branched, ca. 14-flowered, nearly panicle-like, or reduced to a single pedicelled flower; bracts lanceolate, undivided or 3-sect. Flower ca. 2 cm in diam.; pedicel 0.8–2.8 cm long, appressed-puberulous. Sepals 4, elliptic-oblong, ca. 12 × 5 mm, at apex obtuse, sometimes indistinctly mucronate, inside glabrous, outside densely puberulous, on margin velutinous. Stamens ca. 7 mm long; anthers linear or narrowly oblong, 3–3.5 mm long, at apex obtuse. Ovaries puberulous; styles ca. 6 mm long, densely villous. Achenes compressed, elliptic, ca. 4 × 3 mm, puberulous; persistent styles ca. 1.7 cm long, plumose. Fl. Sept. – Oct.

China (SW Shaanxi). In shady moist places in valley; 900 m.

35. *Clematis songarica* Bunge, Del. Semin. Hort. Dorpat. 8. 1839; Ledeb., Fl. Ross. 1 : 2. 1842; Trautv. in Bull. Soc. Imp. Nat. Mosc. 33(1) : 55. 1860; Maxim. in Mém. Biol. 9 : 582. 1876; et Enum. Pl. Mongol. 1 : 3. 1889; Finet & Gagnep. in Bull. Soc. Bot. France 50 : 538. 1903; Krash. in Kom., Fl. URSS 7 : 316, t. 20, fig. 2. 1937; Rehd., Man. Cult. Tr. & Shr., ed. 2, 217. 1940; Gamay. in Fl. Kazakhst. 4 : 71, t. 9, fig. 5. 1961; Anonymous in Iconogr. Corm. Sin. 1 : 743, fig. 1486. 1972; M. C. Chang in Fl. Reip. Pop. Sin. 28 : 151, fig. 19. 1980; Grubov, Key Vasc. Pl. Mongol. 112. 1982; Liou f., Fl. Desert. Sin. 1 : 479. 1985; Serov in Bot. Zhurn. 73(12) : 1739. 1988; Y. Z. Zhao in Fl. Intramongol., ed. 2, 2 : 519, pl. 20, fig. 1–3. 1990; Reching., Fl. Iran. 171 : 236. 1992; J. G. Liu in Fl. Xinjiang. 2 : 288. 1994, p. p.; M. Johnson, *Clematis* 663. 1997; Grey-Wils., *Clematis* 129. 2000; Grabovsk. in Grubov, Pl. As. Centr. 12 : 83. 2001; W. T. Wang & Barth. in Fl. China 6 : 361. 2001. — *C. recta* L. ssp. *songarica* (Bunge) Kuntze in Verh. Bot. Ver. Brand. 26 : 112. 1885. Type : “Hab. ad montem Dshelu-tan deserti Songarici”, Bunge s. n. (holotype).

C. gebleriana Bong. in Bull. Soc. Acad. Petersb. 8 : 338. 1841. — *C. recta* ssp. *gableriana* (Bong.) Kuntze in l. c. Type : “in vicinitate lacus Saisang-Nor”, Gebler s. n. (holotype, LE!).

C. songarica var. *integrifolia* Trautv. in Bull. Soc. Imp. Nat. Mosc. 33 : 55. 1860; Maxim., Enum. Pl. Mongol. 3. 1889. Type : Songaria, Schrenk s. n.

C. soogarica var. *serratifolia* Trautv. in l. c.; Maxim l. c. Type : Songaria ad lacum Dshalanaschkul, Schrenk s. n.

准噶尔铁线莲

This species consists of two varieties confined to the arid regions of Asia Media.

35a. var. *songarica* Fig. 14 : G, H

Small shrub or half-shrub. Stem 40–150 cm tall; branches shallowly 4–5-sulcate, glabrous or on nodes sparsely puberulous. Leaves simple; leaf blade subcoriaceous, linear, linear-lanceolate, or lanceolate, 2–8 × 0.2–2 cm, at apex acute or obtuse, at base attenuate, at margin entire or sparsely denticulate, undivided, on both surfaces glabrous, basal veins abaxially nearly flat or slightly

prominent ; petioles 0.5 – 2 cm long. Compound cymes terminal ; bracts foliaceous. Flower 1.6 – 2.8 cm in diam. ; pedicel 1 – 3.5 cm long , glabrous. Sepals 4 (– 6), white , oblong-obovate or obovate , 5 – 15 × 3 – 9 mm , at apex rounded or subtruncate , inside glabrous or sparsely puberulous , outside puberulous or nearly glabrous , on margin velutinous. Stamens 5 – 7 mm long , glabrous ; anthers narrowly oblong , (2 –) 2.6 – 3 mm long , at apex obtuse , occasionally minutely apiculate. Ovaries pubescent ; styles 4 – 6 mm long , densely villous. Achenes compressed , ovate or obovate , 2.5 – 3.5 × 1.5 – 2 mm , densely pubescent ; persistent styles 1.4 – 2.6 cm long , plumose. Fl. Jun. – Aug.

Afghanistan , China (NW Gansu , SW Nei Mongol , Xinjiang) , Iran , E Kazakhstan , Kirghizstan , W & S Mongolia. On gravelly or rocky slopes or in grassy places ; 450 – 2500 m.

Specimens examined. **Afghanistan.** Ghorband , Frumkin 271 (G). **China. Gansu (甘肃) :** Anxi (安西) , T. N. Liou 2372 (PE). **Xinjiang (新疆) :** Hami (哈密) , Xinjiang Exped. 56-121 (PE) ; Turpan (吐鲁番) , A. J. Li & J. N. Zhu 5776 (PE) ; Bogdashan (博格达山) , T. H. Ting s. n. (PE) ; Ürümqi (乌鲁木齐) , A. J. Li & J. N. Zhu 5956 (PE) ; Heshuo (和硕) , A. J. Li & J. N. Zhu 6926 (PE) ; Hejing (和静) , A. J. Li & J. N. Zhu 6249 (PE) ; Korla (库尔勒) , A. J. Li & J. N. Zhu 8646 (PE) ; Nilka (尼勒克) , K. C. Kuan 3887 (PE) ; Gongliu (巩留) , Y. R. Ling 74-434 (PE) ; Tekes (特克斯) , T. Y. Chou 650673 (PE) ; Kuqa (库车) , Xinjiang Exped. 78-467 (PE) ; Yining (伊宁) , K. C. Kuan 3120 (PE) ; Mt. Tarbagatai , Karelin & Kiriloff 584 (P) ; Jinghe (精河) , K. C. Kuan 4114 (PE). **Iran.** Doab , Reching 1236 (G). **Mongolia.** Urot , Przewalski s. n. (P) ; Nomogon , Lavrenko & Kalinina 18936 (LE) ; Nayan , Younatov 14078 , Grubov 5043 (LE) ; Bulugun , Klementz 64 , Grubov 5133 (LE).

35b. var. **asplenifolia** (Schrenk) Trautv. in Bull. Soc. Nat. Mosc. 33 : 56. 1860 ; M. C. Chang in Fl. Reip. Pop. Sin. 28 : 151 , fig. 20. 1980 ; W. T. Wang & Barth. in Fl. China 6 : 361. 2001. — *C. asplenifolia* Schrenk in Fisch. & Mey. , Enum Pl. Nov. 2 : 68. 1842 ; Krash. in Kom. , Fl. URSS 7 : 317. 1937 ; Tamura in Kitam. , Fl. Afghan. 123. 1960 ; Gamay. in Fl. Kazakhst. 4 : 71 , t. 9 , fig. 6. 1961 ; Liou f. , Fl. Desert. Sin. 1 : 479. 1985 ; Serov in Bot. Zhurn. 73 (12) : 1739. 1988 ; Riedl & Nasir in Fl. Pakist. 193 : 92. 1991 ; Reching. , Fl. Iran. 171 : 235. 1992 ; M. Johnson , *Clematis* 663. 1997 ; Grey-Wils. , *Clematis* 130. 2000 ; Grabovsk. in Grubov , Pl. As. Centr. 12 : 77 , t. 6 , fig. 6 – 7. 2001. Type : Kazakhstan : Dschnaschkuli , 1841-07 , Schrenk 479 (holotype , LE !).

C. songarica var. *intermedia* Trautv. in Bull. Soc. Nat. Mosc. 33 : 56. 1860. Type : China. Songaria : in montibus ad lacum Balchasch , Schrenk s. n.

C. boissieriana Korsh. in Bull. Acad. Sci. Petersb. 9 (5) : 400. 1898. — *C. songarica* var. *boissieriana* (Korsh.) B. Fedtsch. Consp. Fl. Turk. 1 : 1. 1905. Syntypes : Turkestan , 1897-08 , Korshinsky 2878 , 3727 , 3728 (LE !).

蕨叶铁线莲

This variety differs from var. *songarica* in its upper pinnatisect leaves.

Afghanistan , China (Xinjiang) , Kazakhstan , Kirghizstan , N Pakistan , Tajikistan. On slopes , gravelly banks or deserts , or in grassy places ; 500 – 2000 m.

Additional specimens examined. **Afghanistan.** Bamian , Grey-Wilson & Hewer 1701 (K) , Gibbons 748 (MO) ; Chakckaran , Hewer 1311 (K) ; Djan , Grey-Wilson & Hewer 1223 (K) ; Schekan , Carter 409 (K). **China. Xinjiang (新疆) :** Baicheng (拜城) , A. J. Li & J. N. Zhu 8196 (PE) ; Kalpin (柯坪) , A. J. Li & J. N. Zhu 7471 (PE) ; Kashi (喀什) , Xinjiang Exped.

59-9671 (PE); Korgas (霍城), Y. R. Ling 74895 (PE); Kuqa (库车), Y. X. Liou 303 (PE); Shawan (沙湾), R. C. Ching 56-3731 (LE); Taxkorgan (塔什库尔干), Xinjiang Exped. 78 : 830 (PE); Ürümqi (乌鲁木齐), Xinjiang Exped. 78-273 (PE); Wuqia (乌恰), Xinjiang Exped. 78-1854 (PE). **Kirghizstan.** Uzum-Achmatense , Vassiljeva 4817 (K , MO).

Pakistan. Phakora , Bower-Lyon 8227 (K). **Kashmir.** Chitral , Toppin 644 (K).

36. Clematis ispanica Boiss. , Diagn. Pl. Or. Nov. , ser. 1 , 6 : 3. 1815 ; et Fl. Or. 1 : 3. 1867 ; Finet & Gagnep. in Bull. Soc. Bot. France 50 : 540. 1903 ; Krash. in Kom. , Fl. URSS 7 : 317. 1937 ; Parsa , Fl. Iran 1 : 352. 1952 ; Serov in Bot. Zhurn. 73 (12) : 1739. 1988 ; Reching. , Fl. Iran. 171 : 232. 1992 ; Heller & Heyn , Consp. Fl. Or. 9 : 444. 1994 ; M. Johnson , Klematis 660. 1997 ; Grey-Wils. , Clematis 130. 2000. — *C. recta* L. ssp. *ispanica* (Boiss.) Kuntze in Verh. Bot. Ver. Brand. 26 : 112. 1885. Type : Iran. Ispahan , 1837 , Aucher 4026 (lectotype , G ! ; isolectotypes , LE ! , P !); Mt. Kuh-Daëna , 1842-07-14 , Kotschy 641 (syntype , G ! ; isosyntypes , LE ! , MO ! , P ! , S !).

C. pseudoorientalis Kuntze in l. c. 165 , 171. Syntypes : Iran. Ispahan , Aucher 4026 (G ! , LE ! , P !).

Fig. 14 : D – F

Small shrub. Stem 50 – 100 cm tall , terete , shallowly 8 – 10-sulcate , glabrescent below , minutely puberulous above , branched. Leaves pinnatisect or upper leaves often pinnate , and those born on the basal parts of branches often simple ; leaflets or lobes 2 – 4-paired , coriaceous , the terminal ones larger , lanceolate-linear , 3.5 – 7.8 × 0.3 – 2 cm , at apex attenuate , at base cuneate , at margin entire , above base 3-lobulate or undivided , the lateral ones similar to the terminal ones , but smaller , petiolulate , 1 – 4.5 × 0.3 – 0.8 cm , at margin entire or below few dentate , on both surfaces minutely puberulous , basal veins nearly flat , petiolules up to 2.2 cm long ; the simple leaves often narrowly lanceolate , 3 – 7 cm long , entire ; petioles 1.8 – 4.5 cm long. Cymes terminal , many-flowered ; bracts foliaceous. Flower ca. 2 cm in diam. ; pedicel 3 – 5 cm long , densely minutely puberulous. Sepals 4 , white , lanceolate-oblong or narrowly oblong , 9 – 11 × 3 – 4 mm , at apex acute , inside densely puberulous , outside puberulous , on margin velutinous. Stamens 5.5 – 7 mm long , glabrous ; anthers narrowly oblong or linear , 1.8 – 3 mm long , at apex obtuse or minutely apiculate. Ovaries densely puberulous ; styles 4 – 6 mm long , densely villous. Achenes compressed , narrowly ovate , 3 – 4 × 1.8 – 2 mm , densely brown pubescent ; persistent styles 2.5 – 3.5 cm long , plumose. Fl. Jun. – Oct.

Afghanistan , Iran , Turkmenistan. On dry slopes or by streams ; 1700 – 3100 m.

Additional specimens examined. **Afghanistan.** Ghor , Heuer 1323 (LE). **Iran.** Amol , Heuer 1492 (G); Borujen , Riazi 10336 (K); Damavand , Panahi 2434 (K); Elbrus , Kotschy 578 (G , LE , P); Farsistan , Bornmüller 1981 (P); Kerman , Bornmüller 1982 (G-Bois , LE , P); 1985 (G , P); Horosan , Czerniakowska 131 (LE); Khorasan , Renz 56185 (G , K , MO , S); Ordougah , Athari 2550 (K); Shiraz , Grant 15851 (MO). **Turkmenistan.** Ashabad , Sintenis 1055 (G , G-Bois , P); Ashabadskaja Obl. , Androsov s. n. (K).

37. Clematis delavayi Franch. in Bull. Soc. Bot. Franch. 33 : 360. 1888 ; Finet & Gagnep. in Bull. Soc. Bot. France 50 : 537. 1903 ; Rehd. & Wils. in Sarg. , Pl. Wils. 1 : 325. 1913 ; Hand.-Mazz. in Acta Hort. Gotob. 13 : 203. 1939 ; Rehd. , Man. Cult. Tr. & Shr. , ed. 2 , 216. 1940 ; Anonymous in Iconogr. Corm. Sin. 1 : 744 , fig. 1488. 1972 ; M. C. Chang in Fl. Reip. Pop. Sin. 28 : 154 , pl. 44 , fig. 1 – 6. 1980 ; C. Y. Wu , Ind. Fl. Yunnan. 1 : 108. 1984 ; L. Q. Li in Vasc. Pl. Hengduan Mount. 1 : 524. 1993 ; M. Johnson , Klematis 654.

1997 ; Grey-Wils. , *Clematis* 2000 ; W. T. Wang in Fl. Yunnan. 11 : 213. 2000 ; W. T. Wang & Barth. in Fl. China 6 : 361. 2001. Type : China. Yunnan (云南) : Heqing (鹤庆), Pe-ngay-tze, 1883-09-04, Delavay *Clematis* 2 (holotype , P ! ; isotype , K !).

银叶铁线莲

This species consists of four varieties endemic to Southwest China.

37a. var. *delavayi* Fig. 16 : D – F

Small shrub. Stem up to 1.5 m tall ; branches densely puberulous. Leaves pinnate , 7 – 13-foliolate ; leaflets papery , ovate , narrowly ovate , or oblong , 0.8 – 4 × 0.4 – 1.6 cm , at apex acute , at base rounded or broadly cuneate , at margin entire , undivided , adaxially sparsely puberulous or glabrescent , abaxially densely silvery-pannose , basal veins abaxially slightly prominent ; petioles 0.2 – 1.8 cm long , densely puberulous. Cymes terminal , few- to many-flowered ; bracts foliaceous. Flower 1.7 – 2.3 cm in diam. ; pedicel 1.4 – 2 cm long , densely puberulous. Sepals 4 – 6 , white , obovate-oblong , 8 – 14 × 5 – 8 mm , at apex rounded or obtuse , inside glabrous , outside velutinous. Stamens 5 – 8 mm long , glabrous ; anthers narrowly oblong , 2 – 2.8 mm long , at apex inconspicuously minutely apiculate. Ovaries puberulous ; styles 4 – 6 mm long , densely villous. Achenes compressed , ovate , ca. 4 × 2 mm , puberulous ; persistent styles ca. 2.5 cm long , plumose. Fl. Jun. – Aug.

China (SW Sichuan , E Xizang , NW Yunnan). In bushes or on slopes ; 1800 – 3200 m.

Additional specimens examined. **China. Sichuan** (四川) : Muli (木里), Rock 17824 (K , LE , P , S), T. T. Yü 14705 (PE) ; Xiangcheng (乡城), Sichuan Exped. 72-1272 (PE) ; Daocheng (稻城), Sichuan Exped. 73-2095 (PE) ; Jiulong (九龙), T. S. Ying 3896 (PE) ; Batang (巴塘), Soulié 3014 , 3015 , Bonvalot & Henri d 'Orleans s. n. (P) ; Yajiang (雅江), Soulié 3878 (P) ; without precise locality , E. H. Wilson 1232 (K), 3115 (K , P). **Xizang** (西藏) : Markam (芒康), Z. J. Ren 853 (PE). **Yunnan** (云南) : Zhongdian (中甸), K. M. Feng 2244 , Zhongdian Exped. 62-1064 (PE) ; Yongning (永宁), Handel-Mazzetti 7600 (P) ; Lijiang (丽江), Forrest 10552 (K , PE), K. M. Feng 21254 (PE) ; Heqing (鹤庆), Forrest 6422 (K , S), R. C. Ching 24506 (PE) ; Eryuan (洱源), Delavay s. n. (G , LE , P), Jinshajiang Exped. 63-6250 (PE) ; Binchuan (宾川), Ducloux 4594 , 6906 , 7122 (P).

37b. var. *calvescens* Schneid. in Bot. Gaz. 63 : 517. 1917 ; Hand.-Mazz. in Acta Hort. Gotob. 13 : 203. 1939 ; M. C. Chang in Fl. Reip. Pop. Sin. 28 : 154 , pl. 44 , fig. 7. 1980 ; C. Y. Wu , Ind. Fl. Yunnan. 1 : 108. 1984 ; L. Q. Li in Vasc. Pl. Hengduan Mount. 1 : 524. 1993 ; M. Johnson , *Clematis* 655. 1997 ; Grey-Wils. , *Clematis* 127. 2000 ; W. T. Wang in Fl. Yunnan. 11 : 213. 2000 ; W. T. Wang & Barth. in Fl. China 6 : 362. 2001. Type : China. Yunnan (云南) : between Lijiang (丽江) and Zhongdian (中甸), 1914-08 , Schneider 2162 (holotype , GH ! ; isotype , K !).

疏毛银叶铁线莲

Branches not spinescent. Leaflets 0.8 – 2 × 0.4 – 1 cm , at margin entire , undivided , abaxially appressed-puberulous , gray-green.

China (SW Sichuan , NW Yunnan). On dry slopes.

Additional specimen examined. **China. Sichuan** (四川) : Xichang (西昌), S. K. Wu 3619 (PE).

37c. var. *spinescens* Diels in Not. R. Bot. Gard. Edinb. 5 : 262. 1912 ; Hand.-Mazz. in Acta Hort. Gotob. 13 : 203. 1939 ; M. C. Chang in Fl. Reip. Pop. Sin. 28 : 154 , pl. 45. 1980 ; C. Y. Wu , Ind. Fl. Yunnan. 1 : 108. 1984 ; L. Q. Li in Vasc. Pl. Hengduan Mount. 1 : 525.



Fig. 16. A - C, *Clematis hexapetala* Pall. var. *hexapetala*. A, upper part of a flowering plant; B, stamen; (from H. Smith 8147) C, achene (from C. G. Yang 504). D - F, *C. delavayi* Franch. var. *delavayi*. D, upper part of a flowering branch; E, stamen; (from Sichuan Exped. 2095) F, achene (from T. T. Yü 13344). G - I, *C. phlebantha* Williams. G, flowering branch; H, sepal; I, stamen. (from Stainton 4281)

1993 ; M. Johnson , *Clematis* 655. 1997 ; Grey-Wils. , *Clematis* 127. 2000 ; W. T. Wang in Fl. Yunnan. 11 : 215. 2000 ; W. T. Wang & Barth. in Fl. China 6 : 362. 2001. Type : China. Yunnan (云南) : Dêqên (德钦), Pentzula , 1904-09 , Forrest 92 (holotype , E).

刺枝银叶铁线莲

Branches many , with spinescent apices. Leaflets smaller , 2 – 10 × 1 – 3 mm , at margin entire , undivided , abaxially appressed-puberulous , gray-green.

China (SW Sichuan , E Xizang , NW Yunnan). On dry slopes or in stony places in ravines ; 2000 – 3800 m.

Specimens examined. **China. Sichuan** (四川) : Derong (德荣), Sichuan Exped. 73-4117 (PE). **Xizang** (西藏) : Markam (芒康), Sichuan Exped. 73-3925 (PE). **Yunnan** (云南) : Zhongdian (中甸), K. M. Feng 21062 (PE) ; Dêqên (德钦), Handel-Mazzetti 7982 (LE), C. W. Wang 64709 , 64748 , T. T. Yü 9622 , K. M. Feng 5772 (PE).

37d. var. limprichtii (Ulbr.) M. C. Chang in Fl. Reip. Pop. Sin. 28 : 154. 1980 ; L. Q. Li in Vasc. Pl. Hengduan Mount. 1 : 525. 1993 ; M. Johnson , *Clematis* 655. 1997 ; Grey-Wils. , *Clematis* 127. 2000 ; W. T. Wang in Fl. Yunnan. 11 : 215. 2000 ; W. T. Wang & Barth. in Fl. China 6 : 362. 2001. — *C. limprichtii* Ulbr. in Repert. Sp. Nov. 12 : 373. 1922 ; Hand.-Mazz. in Acta Hort. Gotob. 13 : 203. 1939. Syntypes : China. Sichuan (四川) : Dawu (道孚), Girseh Gomba , Limpricht 1964 (GH !) ; Baiyu (白玉), Limpricht 2170.

裂银叶铁线莲

Branches not spinescent. Leaflets 0.3 – 1.7 × 0.1 – 1.2 cm , at margin 2 – 3-lobed , abaxially densely silvery-pannose.

China (W Sichuan , NW Yunnan). On grassy slopes or in thickets ; 1800 – 3200 m.

Additional specimens examined. **China. Sichuan** (四川) : Xiangcheng (乡城), Sichuan Exped. 73-2882 (PE) ; Daocheng (稻城), Sichuan Exped. 73-2228 (PE) ; Xinlong (新龙), Q. H. Li 6253 (PE) ; Batang (巴塘), Z. J. Ren s. n. (PE) ; Dawu (道孚), Qinghai-Xizang Exped. 74-3515 (PE). **Yunnan** (云南) : Heqing (鹤庆), W. T. Wang 58-361 (PE) ; Pee-lou-tze , 1884-01-01 , Delavay s. n. (G) ; Dengchuan (邓川), R. C. Ching 24667 (PE) ; Yuanmou (元谋), Jinshajiang Exped. 63-6869 (PE).

Ser. 2. **Phlebanthae** (M. Johnson) W. T. Wang , st. et comb. nov. — Sect. *Fruticella* Tamura subsect. *Phlebanthae* M. Johnson , *Clematis* 653. 1997 ; Grey-Wils. , *Clematis* 130. 2000. Type : *C. phlebantha* Williams.

Flowers solitary , terminal to hornotinous branches. Leaves pinnate , not reticulate. Sepals 5 – 7 ; lateral basal veins with numerous vinlets externally. Anthers oblong.

One species , endemic to Nepal.

38. Clematis phlebantha Williams in J. R. Hort. Soc. 93 : 345 , fig. 1 , 2 , t. 163. 1968 ; Brickell in Bot. Mag. 178 : t. 574. 1970 ; Hara in Hara & Williams , Enum. Flow. Pl. Nepal 2 : 15. 1979 ; M. Johnson , *Clematis* 662. 1997 ; Grey-Wils. , *Clematis* 130. 2000. Type : Nepal. Suli Gad , 2895 m , 1963-06-06 , Stainton 4281 (holotype , BM ! ; isotypes , G ! , GH ! , K !) ; same locality , Polunin , Sykes & Williams 2152 , 3436 (paratypes , BM ! ; isoparatypes , K !) ; Luma , Polunin , Sykes & Williams 4943 (paratype , BM ! ; isoparatype , G !) ; Barbung Khola , Polunin , Sykes & Williams 1096 (paratype , BM ! ; isoparatypes G ! , K !).

C. limprichtii auct. non Ulbr. : Tamura in Acta Phytotax. Geobot. 23 : 30. 1969.

Small shrub. Stem 30 – 60 cm tall, or procumbent, up to 150 cm long, shallowly 10-sulcate, glabrescent, with short velutinous branches. Leaves pinnate, 5 – 9-foliolate; leaflets papery, terminal leaflets larger, broadly ovate or rhombic, 7 – 12 × 7 – 13 mm, at apex acute, at base truncate or broadly cuneate, 3-parted; lobes dentate or lobulate, lateral leaflets smaller, broadly rhombic or obovate, 4 – 8 × 2 – 8 mm, 3-dentate or 3-lobulate, adaxially densely appressed-sericeous, abaxially velutinous, basal veins obscure; petioles 0.3 – 1.2 cm long. Flower solitary, terminal, 2.5 – 4.5 cm in diam.; pedicel 2 – 8 cm long, velutinous. Sepals 5 – 7, white, obovate or obovate-oblong, 1 – 2 × 0.5 – 1 cm, at apex acute, mucronate, inside glabrous, outside appressed-puberulous, on margin velutinous. Stamens 4 – 6 mm long, glabrous; anthers oblong, 1.5 – 2 mm long, at apex obtuse. Ovaries pubescent; styles ca. 5 mm long, densely villous. Achenes compressed, broadly elliptic, ca. 5 × 2.5 mm, pubescent; persistent styles 2.5 – 3 cm long, plumose. Fl. May – Jul.

Nepal. On cliffs or on gravelly slopes; 2590 – 3658 m.

Ser. 3. **Hexapetalae** W. T. Wang, ser. nov. Type: *C. hexapetala* Pall.

Herbae perennes, erectae. Folia semel vel bis pinnatisecta, lobis coriaceis lanceolatis longe ellipticis vel linearibus utrinque reticulatis. Flores mediocres in magnitudine, in cymas terminales pedunculatas bibracteatas dispositi. Sepala (4 – 5 – 6 – 8), nervis basalibus lateralibus nervulos paucos gerentibus. Antherae anguste oblongae.

Erect perennial herbs. Leaves once or twice pinnatisect; lobes coriaceous, lanceolate, long elliptic, or linear, on both surfaces reticulate. Flowers medium-sized, in terminal, pedunculate, bibracteate cymes. Sepals (4 – 5 – 6 – 8), their lateral basal veins with a few veinlets externally. Anthers narrowly oblong.

One species, occurring in N & NE China, N Korea, Mongolia, and Russia (Siberia).

39. Clematis hexapetala Pall., Reise 3 : 735, pl. Q, fig. 2. 1776; et Voy. 4 : 701, pl. 14, fig. 3. 1793; Krash. in Kom., Fl. URSS 7 : 318. 1937; Kitagawa, Lineam. Fl. Mansh. 217. 1939; Nakai in J. Jap. Bot. 20 : 191. 1944; S. Y. Hu in J. Arn. Arb. 35 (2) : 190. 1954; Anonymous in Fl. Beijing. 1 : 303. 1962; Anonymous in Iconogr. Corn. Sin. 1 : 745, fig. 1489. 1972; Anonymous in Fl. Tsinling. 1 (2) : 292. 1974; Anonymous in Fl. Pl. Herb. Chin. Bor.-Or. 3 : 172, pl. 73, fig. 5 – 8. 1975; T. B. Lee, Ill. Fl. Korea 344, fig. 1376. 1979; M. C. Chang in Fl. Reip. Pop. Sin. 28 : 156, pl. 46, fig. 1 – 4. 1980; Ding et al., Fl. Henan. 1 : 448. 1981; Grubov, Key Vasc. Pl. Mongol. 112. 1982; He, Fl. Beijing, rev. ed., 1 : 248. 1984; Liou f., Fl. Desert. Sin. 1 : 482. 1985; J. W. Wang in Fl. Hebei. 1 : 471. 1986; Y. Z. Zhao in Fl. Intramongol., ed. 2, 2 : 519. 1990; Y. J. Ling et al. in Fl. Shanxi. 1 : 637. 1992; Y. N. Lee, Fl. Korea 165, fig. 485. 1996; Grey-Wils., Clematis 113. 2000; Grabovsk. in Grubov, Pl. As. Centr. 12 : 80. 2001; W. T. Wang & Barth. in Fl. China 6 : 362. 2001. Type: Russia. Siberia: between rivers Argun and Onon, Pallas s. n. (holotype, LE!).

C. pallasii Gmel., Syst. 873. 1791. Type: unknown.

C. lasiantha Fisch., Hort. Gorenk., ed. 2, 47. 1812; DC., Syst. 1 : 154. 1818. Type: Dahuria, Fischer 16 (holotype, LE!).

C. recta L. ssp. *angustifolia* Kuntze in Verh. Bot. Ver. Brand. 26 : 112. 1885, non *C. angustifolia* Jacq., 1762.

C. angustifolia α *longiloba* Freyn in Österr. Bot. Zeitsch. 45 : 59. 1895; M. Johnson, Klematis 626. 1997. — *C. hexapetala* var. *longiloba* (Freyn) S. Y. Hu in J. Arn. Arb. 35

(2):192. 1954. — *C. hexapetala* f. *longiloba* (Freyn) S. H. Li & Y. H. Huang in Fl. Pl. Herb. Chin. Nor.-Or. 3:172. 1975. Type: Siberia: Nertschinsk, Karo 152a (holotype, WU; photo, PE!).

C. angustifolia β *breviloba* Freyn in l. c. — *C. hexapetala* f. *breviloba* (Freyn) Nakai in J. Jap. Bot. 20:191. 1944; S. H. Li & Y. H. Huang in l. c. Type: Siberia: Nertschinsk, Karo 152c (holotype, WU!; isotypes, GH!, K!, LE!).

C. angustifolia var. *dissecta* Yabe, Higasi-Moko Syokubutsu-Mokuroku 14. 1917, nom. seminud. — *C. angustifolia* f. *dissecta* (Yabe) Kitagawa in Rep. First Sci. Exped. Manch., sect. 4, 4:17, 83. 1936. — *C. hexapetala* f. *dissecta* (Yabe) Kitagawa, Lineam. Fl. Mansh. 217. 1939. Type: unknown.

C. hexapetala var. *smithiana* S. Y. Hu in l. c. 193. — *C. angustifolia* var. *smithiana* (S. Y. Hu) M. Johnson, *Clematis* 626. 1997. Type: China. Shanxi (山西): Yuncheng (运城), 1924-07-02, H. Smith 6039 (holotype, GH!; isotypes, S!, UPS!).

C. angustifolia auct. non Jacq. 1762; Jacq., Ic. Pl. Rar. 1:11, pl. 104. 1786; DC., Syst. 1:153. 1818; et Prodr. 1:7. 1824; Bunge in Mém. Div. Sav. Acad. Sci. St. Petersb. 2:75. 1833; Ledeb., Fl. Ross. 1:2. 1841; Turcz. in Bull. Soc. Nat. Mosc. 15:24. 1842; Franch. in Nouv. Arch. Mus. Nat. Hist. Paris, ser. 2, 5:166. 1882; Forb. & Hemsl. in J. Linn. Soc. Bot. 23:2. 1886, p. p.; Maxim., Enum. Pl. Mongol. 2. 1889; Finet & Gagnep. in Bull. Soc. Bot. France 50:536. 1903; Kom. in Acta. Hort. Petrop. 22:281. 1903; Nakai in J. Coll. Sci. Univ. Tokyo 26:11. 1909 et 31:426. 1911; Cowdry in J. R. As. Soc. N China 53:160. 1922; Ulbr. in Repert. Sp. Nov. Beih. 12:374. 1922; Rehd. in J. Arn. Arb. 4:185. 1923, p. p.; Hand.-Mazz. in Acta Hort. Gotob. 13:204. 1939; M. Johnson, *Clematis* 624. 1997.

棉团铁线莲

This species consists of two varieties ranging from the Loess Plateau and northern East China northward to Siberia.

39a. var. *hexapetala* Fig. 16:A-C

Erect perennial herb. Stem 30–100 cm tall, shallowly 8–12-sulcate, sparsely pubescent, glabrescent, simple or branched. Leaves once or twice pinnatisect; ultimate lobes coriaceous, linear-lanceolate, long elliptic, or linear, 1.5–10 × 0.1–2 cm, at apex acute or obtuse, at base cuneate, at margin entire, on both surfaces sparsely pubescent or subglabrous and reticulate, basal veins on both surfaces prominent; petioles 0.5–2 cm long. Cymes terminal; bracts foliaceous. Flower 2.5–4 cm in diam.; pedicel 1–7 cm long, puberulous or subglabrous. Sepals (4–) 5–(8), white, narrowly obovate or oblong, 1–2.5 × 0.3–1 cm, at apex rounded or subtruncate, inside glabrous, outside velutinous or densely pubescent, on margin usually velutinous. Stamens 6–9 mm long, glabrous; anthers narrowly oblong, 2.6–3.2 mm long, at apex minutely apiculate. Ovaries pubescent; styles 5.5–8 mm long, densely villous. Achenes compressed, obovate, 2.5–3.5 × 2–3 mm, pubescent; persistent styles 1.5–3 cm long, plumose. Fl. Jun. – Aug.

China (E Gansu, Hebei, Heilongjiang, W Henan, Jilin, Liaoning, Nei Mongol, Ningxia, Shaanxi, Shanxi), N Korea, Mongolia, Russia (E Siberia). On dry slopes, in grassy places, in bushes, at forest edges, on dunes; 100–1300 m.

Additional specimens examined. **China. Gansu** (甘肃): Jingchuan (泾川), S. Q. Zhong

30 (PE); Pingliang (平凉), Gansu Exped. 56-1894 (PE); Xifeng (西峰), T. P. Wang 17465 (PE); Qingyang (庆阳), Huanghe Exped. 54-92 (PE); Heshui (合水), Huanghe Exped. 54-638 (PE). **Hebei** (河北): She Xian (涉县), K. C. Kuan 5441 (PE); Wu'an (武安), K. C. Kuan 5821 (PE); Neiqu (内丘), Y. Liu 13218 (PE); Laiyuan (涞源), K. M. Liou 2613 (PE); Zhuolu (涿鹿), H. Smith 299 (UPS), C. G. Yang 1556 (PE); Xiaowutaishan (小五台山), H. W. Kung 305, Meyer 1352 (GH, K); Huailai (怀来), H. F. Chow 41628 (PE); Zhangbei (张北), X. L. Huang et al. 6324 (PE); Chicheng (赤城), X. L. Huang et al. 4400 (PE); Weichang (围场), Purdom 44 (K), W. Wang 3056 (PE); Beidaihe (北戴河), Licent 796 (P), Andersson 186 (S). **Beijing** (北京), Kirilow s. n. (LE), Bretschneider 1807 (GH, K), David 424 (K, LE), Hancock 43 (K), K. K. Tsoong s. n., W. Y. Hsia 2166 (PE). **Heilongjiang** (黑龙江): Harbin (哈尔滨), W. Wang et al. 697 (LE, PE), Dorsett 3292 (GH, LE); Anda (安达), Y. L. Zhang 860 (PE); Jingpo Hu (镜泊湖), H. W. Kung 2071 (PE). **Jilin** (吉林): Tongyu (通榆), J. X. Ye 64 (PE); Jilin (吉林), P. Y. Fu et al. 2167 (LE, PE); Emu (额穆), H. W. Kung 1984 (PE). **Liaoning** (辽宁): Jinzhou (锦州), Dorsett 5937 (GH, P); Beizhen (北镇), T. N. Liou et al. 2761 (PE); Shenyang (沈阳), E. H. Wilson 8818 (GH, K); Benxi (本溪), T. N. Liou et al. 2761 (PE); Qianshan (千山), Ross 469 (K); Dalian (大连), Swinhoe 6513 (K, P). **Nei Mongol** (内蒙古): Wulashan (乌拉山), T. P. Wang 2488 (PE); Daqingshan (大青山), W. Y. Hsia 2722 (PE); Jiufengshan (九峰山), D. L. Liu s. n. (PE); Chifeng (赤峰), W. Wang 3199 (PE); Ongniud Qi (翁牛特旗), W. Wang 3468 (PE); Solon (索伦), Sino-Germany Exped. 56-8187 (PE); Arxan (阿尔山), P. Y. Fu et al. 2539 (PE); Hailar (海拉尔), T. N. Liou et al. 8063 (PE); Manzhouli (满洲里), Z. Wang et al. 870 (LE, PE); Orqohan (乌尔其汗), Y. C. Ma 168 (HIMC); Ergun (额尔古纳), Z. Wang et al. 1249 (LE, PE). **Shaanxi** (陕西): Weinan (渭南), T. P. Wang 15571 (PE); Xunyi (旬邑), C. L. Xiao 860 (WUK); Huanglong (黄龙), K. T. Fu 3153 (PE); Yan'an (延安), W. Y. Hsia 3535 (K, PE); Qingjian (清涧), K. T. Fu 7747 (PE). **Shanxi** (山西): Jincheng (晋城), S. Y. Bao 343 (PE); Lingchuan (陵川), K. M. Liou 7537 (PE); Pingshun (平顺), K. M. Liou 8037 (PE); Hongdong (洪洞), Licent 1326 (P); Huo Xian (霍县), T. Tang 1010 (GH, PE); Jiaocheng (交城), Huanghe Exped. 57-938 (PE); Luyashan (芦芽山), H. Smith 8147 (GH, PE, S, UPS); Wutai (五台), K. C. Kuan & Y. L. Chen 2060 (PE).

Korea. Chinampo, Faurie 4 (G, K, P), 145 (LE).

Mongolia. Muniula, Przewalsky 187 (LE); without precise locality, Lisovsky s. n., Younatorov 11794 (LE).

Russia. Ircutzk, Schischikin s. n. (GH); Dahuria, Turczaninow 8 (GH, LE, S), Radde s. n. (GH, K, LE); Amur, Schrenk s. n. (GH, LE, P), Maximowicz s. n. (K, LE), Komarov 706 (GH, K, LE, P), Karo 1136 (GH, K, P); Chabarovsk, Desoulavi 2912 (PE); Blagovesczensk, Karo 3121 (K, PE, S); Prov. Primorje, Ulanova 5961 (G, K, P, PE, S).

39b. var. **tchefouensis** (Debx.) S. Y. Hu in J. Arn. Arb. 35: 193. 1954; M. C. Chang in Fl. Reip. Pop. Sin. 28: 158, pl. 46, fig. 5. 1980; Anonymous in Fl. Jiangsu. 2: 167, fig. 990. 1982; X. W. Wang in Fl. Anhui 2: 335. 1986; Grey-Wils., Clematis 113. 2000; W. T. Wang & Barth. in Fl. China 6: 362. 2001. — *C. angustifolia* Jacq. var. *tchefouensis* Debx. in Acta Soc. Linn. Bord. 31: 117. 1876; M. Johnson, Klematis 626. 1997. Type: China. Shandong (山东): Yantai (Tche-fou 烟台), 1860-07-20, Debeaux 41 (lectotype—designated here,

P !), 76 (syntype, P !).

C. hexapetala var. *insularis* S. Y. Hu in J. Arn. Arb. 35 (2): 193. 1954. —
C. angustifolia var. *insularis* (S. Y. Hu) M. Johnson, Klematis 626. 1997. Type: China. Shandong (山东): Qingdao (青岛), 1930-07-15, C. Y. Chiao 2521 (holotype, GH !; isotypes, K !, LE !, PE !).

C. hexapetala var. *elliptica* S. Y. Hu in l. c. 194. — *C. angustifolia* var. *elliptica* (S. Y. Hu) M. Johnson l. c. Type: China. Shandong (山东): Qingdao (青岛), 1911, Zimmerman 205 (holotype, GH !; isotypes, LE !, P !), 448 (paratype, GH !; isoparatypes, LE !, P !, S !).

C. angustifolia auct. non Jacq. : Forb. & Hemsl. in J. Linn. Soc. Bot. 23 : 2. 1886, p. p. ; Finet & Gagnep. in Bull. Soc. Bot. France 50 : 536. 1903, p. p. ; Rehd. in J. Arn. Arb. 4 : 185. 1923, p. p.

长冬草

Sepals outside only on margin velutinous, elsewhere glabrous.

China (E Anhui, N Jiangsu, E & S Shandong). On dry slopes, in grassy places, under pine forests; 90 – 450 m.

Additional specimens examined. **China. Shandong** (山东): Meng Shan (蒙山), T. Y. Chou et al. 6106 (PE); Fei Xian (费县), T. Y. Chou & L. Yen 29 (P); Qingdao (青岛), C. Y. Chiao 2579 (GH, K), T. Y. Chou et al. 1239, 1682 (PE), Zimmerman 582 (K); Kunyushan (昆嵛山), T. N. Liou & K. M. Liou 1298 (PE); Weihai (威海), T. Y. Chou et al. 2053 (PE); Yantai (烟台), Faber 254 (K, LE, P), Jolis 54 (G), C. H. Liu 39, 74 (PE); Qixia (栖霞), ?94 (PE); Laizhou (莱州), T. Y. Zhou et al. 4234 (PE).

Subsection 5. **Rectae** Prantl in Bot. Jahrb. 9 : 259. 1888, p. p. ; Schneid., Ill. Handb. Laubh. 1 : 288. 1906; Tamura in Sci. Rep. Osaka Univ. 4 : 53. 1955, p. p. et 16 (2) : 33. 1967; M. C. Chang in Fl. Reip. Pop. Sin. 28 : 158. 1980; Tamura in Acta Phytotax. Geobot. 38 : 42. 1987; et in Heipko, Engler's Nat. Pflanzenfam., ed. 2, 17a (4) : 382. 1995; W. T. Wang in Acta Phytotax. Sin. 36 (2) : 157. 1998. Type: *C. recta* L.

Sect. *Flammula* auct. non DC. : M. Johnson, Klematis 599. 1997, p. p. ; Grey-Wils., Clematis 95. 2000, p. p.

Woody vines, seldom half-shrubs. Seedling leaves opposite (known in *C. meyeniana*, *C. chinensis*, *C. terniflora*, *C. kirilowii*, *C. recta*, and *C. flammula*). Leaves ternate or once to twice pinnate, seldom simple or thrice pinnatisect; leaflets at margin usually entire. Flowers small or medium-sized, in (1 –) few – many-flowered cymes arising from leaf axils of hornotinous branch or from axillary buds of old branch. Sepals 4 (– 5 – 6 – 7), outside on margin velutinous, elsewhere puberulous or glabrous, with hairs 1 mm or less than 1 mm long, seldom on both surfaces entirely hairless. Filaments not rugose (in *C. lathyriifolia* often rugose); anthers linear, rarely broadly linear or narrowly oblong, at apex minutely apiculate or obtuse.

Thirty-four species, wide-spread in Asia, Europe and N & E Africa.

Key to species and varieties

1. Sepals outside on margin velutinous, elsewhere puberulous or glabrous.
2. Hornotinous branch or inflorescence not with leaves arising from an axillary bud of old branch; leaflets usually at margin entire.

3. Inflorescences arising from leaf axils of hornotinous branch.
4. Achenes compressed, ovate, elliptic, or lanceolate.
5. Achenes compressed, but not flattened, not tumidly rimmed at margin.
6. Leaves simple (in *C. chekiangensis* sometimes ternate).
 7. Leaf blade coriaceous, broadly lanceolate or ovate, at base subtruncate; petioles 1.5–2 cm long; anthers at apex obtuse 46. **C. xinhuiensis**
 7. Leaf blade papery, narrowly oblong or oblong-lanceolate, at base subcordate or rounded; petioles 3–6 cm long; anthers at apex minutely apiculate 49. **C. chekiangensis**
6. Leaves compound (in *C. meyeniana* sometimes simple).
8. Leaves ternate.
 9. Anthers at apex obtuse (in *C. sinii* occasionally apiculate).
 10. Sepals 4, white, papery, on margin velutinous, elsewhere glabrous; cymes 10–many-flowered.
 11. Leaflets coriaceous or subcoriaceous, reticulate; pedicels glabrous.
 12. Branches glabrous, on nodes densely furfuraceous; leaflets coriaceous; petioles and peduncles glabrous, furfuraceous 41. **C. napoensis**
 12. Branches, petioles and peduncles sparsely puberulous, not furfuraceous; leaflets subcoriaceous 42. **C. jialasaensis**
 13. Sepals 10–13 × 2.6–3.8 mm 42a. var. **jialasaensis**
 13. Sepals 14–20 × 4–6 mm 42b. var. **macrantha**
 11. Leaflets papery or thinly papery; pedicels hairy.
 14. Leaflets papery, on both surfaces indistinctly and finely reticulate; cymes 3-flowered, not panicle-like; sepals 13–19 × 5–9 mm 43. **C. chengguensis**
 14. Leaflets thinly papery, not reticulate; cymes 10-flowered, panicle-like; sepals ca. 11 × 4 mm 44. **C. sinii**
 10. Sepals 4(–6), reddish, coriaceous, on both surfaces densely puberulous; cymes 1–3-flowered 45. **C. theobromina**
9. Anthers at apex minutely apiculate.
 15. Branches densely puberulous or velutinous; leaflets at margin entire or few dentate, adaxially puberulous, abaxially velutinous or densely puberulous, reticulate ... 40. **C. thaiana**
 15. Branches puberulous, glabrescent or subglabrous; leaflets at margin entire, on both surfaces glabrous or near base sparsely puberulous, not reticulate.
 16. Pedicels puberulous.
 17. Leaflets papery, narrowly ovate or long elliptic, at both ends more or less attenuate 47. **C. pingbianensis**
 17. Leaflets usually subcoriaceous, oblong-ovate, at apex acuminate, at base rounded or subcordate 48. **C. meyeniana**
 18. Leaflets not rugose.
 19. Axillary cymes many-flowered 48a. var. **meyeniana**
 19. Axillary cymes 1-flowered 48b. var. **uniflora**
 18. Leaflets adaxially finely rugose 48c. var. **granulata**
 16. Pedicels glabrous 50. **C. finetiana**
 20. Axillary cymes not much branched, 1–7-flowered 50a. var. **finetiana**
 20. Axillary cymes often much branched, (5–)15–21-flowered 50b. var. **lutchuensis**
8. Leaves 5-foliolately pedate, pinnate, or bipinnate.
 21. Leaves 5-foliolately pedate 50c. var. **pedata**

21. Leaves pinnate or bipinnate.
22. Leaflets adaxially on veins sparsely puberulous or subglabrous, abaxially densely puberulous, ovate; leaves pinnate; sepals 4(–5–6) 51. *C. shensiensis*
22. Leaflets on both surfaces glabrous.
23. Leaves pinnate; leaflets not reticulate; petioles not connate.
24. Leaflets lanceolate or linear, at margin entire; sepals 4–6 52. *C. quinquefoliolata*
24. Leaflets deltoid, ovate, or elliptic, at margin serrate or entire; sepals (5–)6 53. *C. akoensis*
23. Leaves bipinnate or pinnate; leaflets on both surfaces reticulate; petioles of the same pair of leaves often connate at base; sepals 5–(6–7) 54. *C. dilatata*
5. Achenes strongly compressed, flattened, more or less tumidly rimmed, rarely narrowly rimmed (*C. lathyriifolia*) at margin (achenes unknown in *C. linearifoliola*, *C. papuligera*, and *C. tunisiatica*).
25. Leaflets subcoriaceous, on both surfaces reticulate.
26. Leaves pinnate 59. *C. pashanensis*
27. Anthers at apex obtuse 59a. var. *pashanensis*
27. Anthers at apex minutely apiculate 59b. var. *latisejala*
26. Leaves bipinnate 60. *C. kirilowii*
28. Leaflets oblong, ovate, or lanceolate 60a. var. *kirilowii*
28. Leaflets narrowly lanceolate or linear 60b. var. *chanetii*
25. Leaflets papery, not reticulate, or abaxially slightly reticulate.
29. Woody vines.
30. Plants entirely or only sepals and stamens (*C. linearifoliola*) turning black when drying.
31. Sepals 4 (in *C. chinensis* var. *fujisanensis* sometimes 5 or 6), 6–15(–20–22) mm long; leaves pinnate, seldom bipinnate.
32. Plants entirely turning black when drying; leaflets ovate or lanceolate 58. *C. chinensis*
33. Branches glabrous or sparsely puberulous; leaflets on both surfaces only on basal veins very sparsely puberulous, glabrescent, or subglabrous.
34. Leaves pinnate.
35. Sepals 4, 6–13 × 1.8–3(–4) mm; axillary cymes usually many-flowered, panicle-like 58a. var. *chinensis*
35. Sepals larger, (8–)10–22 × (2–)3–5 mm.
36. Axillary cymes 3–many-flowered; sepals 4(–6), (8–)10–22 × (2–)3–5 mm 58b. var. *fujisanensis*
36. Axillary cymes 1(–3)-flowered; sepals 4, 10–20 × 4 mm 58c. var. *anhweiensis*
34. Leaves bipinnate; sepals 4, 8–15 × 2–4 mm 58d. var. *bipinnata*
33. Branches and leaflets abaxially more or less densely puberulous; leaves pinnate; sepals 4, smaller, 6–9 × 2–3 mm 58e. var. *vestita*
32. Stem and leaves not turning black, only sepals and stamens turning black when drying; leaflets narrowly linear or lanceolate-linear 62. *C. linearifoliola*
31. Sepals (4–)5–(6–7), larger, 12–26 × 4–8 mm; leaves bipinnate or pinnate 61. *C. obscura*
30. Plants including flowers and achenes not turning black when drying.
37. Leaflets abaxially on veins sparsely papillate 64. *C. papuligera*
37. Leaflets abaxially not papillate.
38. Leaves pinnate; leaflets usually ovate, at margin entire, undivided; eastern Asiatic species.....

- 63. **C. terniflora**
39. Pedicels puberulous.
40. Axillary cymes usually many-flowered ; pedicels 0.5 – 3 cm long ; sepals 5.5 – 15 (– 20) × 2 – 5 (– 6) mm 63a. var. **terniflora**
40. Axillary cymes 3 – 9-flowered ; pedicels 1.5 – 5.4 cm long ; sepals 15 – 25 × 4 – 9 mm ...
..... 63b. var. **boninensis**
39. Pedicels subglabrous or glabrous.
41. Leaves 5 – 7-foliolate ; sepals outside sparsely puberulous ; anthers linear , at apex minutely apiculate , seldom obtuse ; achenes broadly ovate or elliptic , 4 – 6 mm long
..... 63c. var. **mandshurica**
41. Leaves 5 – 11-foliolate ; sepals outside densely puberulous ; anthers narrowly oblong , at apex obtuse ; achenes elliptic or suborbicular , 5 – 6 mm long 63d. var. **garanbiensis**
38. Leaves usually bipinnate , sometimes pinnate or thrice pinnatisect ; Mediterranean species
..... 65. **C. flammula**
42. Lower leaves similar to upper ones.
43. Leaves twice or once pinnate ; leaflets ovate , lanceolate , or linear-lanceolate.
44. Leaflets narrowly to broadly ovate.
45. Leaflets at apex acute or acuminate.
46. Leaflets undivided , seldom 2-lobed ; sepals usually 6 – 12 mm long.
47. Leaves twice or once pinnate ; leaflets up to 6 cm long
..... 65a. var. **flammula**
47. Leaves twice pinnate ; leaflets smaller , 0.9 – 2 (– 3) cm long
..... 65c. var. **caespitosa**
46. Leaflets 1 – 2 cm long , usually 2 – 3-lobed or 2 – 3-fid ; sepals 4 – 8 mm long ...
..... 65d. var. **parviflora**
45. Leaflets at apex obtuse or rounded ; sepals ca. 7 mm long 65b. var. **fragrans**
44. Leaflets narrowly lanceolate or linear-lanceolate , undivided ; leaves bipinnate ; sepals 9 – 12 mm long 65e. var. **maritima**
43. Leaves thrice pinnatisect , ultimate lobes linear or narrowly linear , 3 – 22 × 1 – 2 (– 4) mm , entire , seldom 1 – 2-denticulate ; sepals 9 – 13 (– 16) mm long
..... 65f. var. **stenophylla**
42. Lower leaves with cordate or ovate leaflets , upper leaves thrice pinnatisect with linear or narrowly linear lobes 65g. var. **heterophylla**
29. Erect small shrubs , half-shrubs , or perennial herbs.
48. Leaves all simple , lower ones undivided , upper ones 3-sect ; terminal cyme 3-flowered ; sepals 4
..... 66. **C. tunisiatica**
48. Lower or lowermost leaves simple , upper ones ternate or pinnate , or leaves all pinnate or bipinnate ; terminal inflorescence many-flowered , panicle-like.
49. Lower leaves simple , upper ones ternate , sometimes uppermost ones 5-foliolately pinnate ; sepals 4 (– 6) 67. **C. elisabethae-carolae**
49. Leaves most or all once or twice pinnate , sometimes the lowermost ones being simple ; sepals 4 , occasionally 5 in *C. recta*.
50. Leaves once pinnate ; leaflets 1.5 – 8.5 × 0.8 – 5 cm , undivided ; achenes tumidly rimmed at margin ; persistent styles ca. 1.8 cm long 68. **C. recta**
50. Leaves once or twice pinnate ; leaflets smaller , 0.8 – 4.2 × 0.8 – 3.2 cm , undivided or 2 – 3-lobed ; achenes narrowly rimmed at margin ; persistent styles ca. 3.5 cm long
..... 69. **C. lathyrifolia**

4. Achenes less compressed, subulate-terete or narrowly lanceolate.
51. Branches glabrous; achenes subulate-terete; persistent styles 1.5–3 cm long 70. *C. uncinata*
52. Ovaries and achenes glabrous.
53. Leaflets subcoriaceous or papery, abaxially less glaucous, slightly reticulate 70a. var. *uncinata*
53. Leaflets coriaceous, abaxially glaucous, not reticulate 70b. var. *coriacea*
52. Ovaries and achenes puberulous 70c. var. *okinawensis*
51. Branches on nodes puberulous; achenes narrowly lanceolate, puberulous; persistent styles ca. 6 cm long 71. *C. sigensis*
3. Inflorescences alone arising from axillary buds of old branch.
54. Leaves ternate; leaflets ovate or oblong.
55. Leaflets reticulate; sepals 4, 5–7 mm long 55. *C. lingyunensis*
55. Leaflets not reticulate; sepals 4–6, larger, 12–47 mm long 56. *C. armandii*
56. Inflorescences 7–many-flowered, usually panicle-like; sepals 4(–5), 12–24 mm long 56a. var. *armandii*
56. Inflorescences 1–3-flowered, not panicle-like; sepals 4–6, 15–47 mm long.
57. Leaflets at apex acuminate; sepals 21–47 mm long.
58. Inflorescences 3-flowered; sepals 4–5, 21–40 mm long 56b. var. *farquhariana*
58. Inflorescences 1–3-flowered; sepals 4–6, 37–47 mm long 56c. var. *hefengensis*
57. Leaflets at apex retuse; sepals ca. 15 mm long; inflorescences 3-flowered 56d. var. *retusifolia*
54. Leaves pinnate or ternate; leaflets narrowly lanceolate 57. *C. zygophylla*
2. Hornotinous branch or sometimes inflorescence also with leaves together arising from an axillary bud of old branch; leaves bipinnate; leaflets at margin incised-dentate 72. *C. zemuensis*
1. Sepals on both surfaces entirely hairless; leaves pinnate; leaflets at margin dentate or entire, 3-parted or 3-lobed 73. *C. sichotealinensis*

Ser. 1. **Meyeniana** Tamura in Sci. Rep. Osaka Univ. 4: 54. 1955; et in Acta Phytotax. Geobot. 16: 81. 1956. — Sect. *Flammula* subsect. *Meyeniana* (Tamura) M. Johnson, *Clematis* 605. 1997; Grey-Wils., *Clematis* 104. 2000. Type: *C. meyeniana* Walp.

Woody vines. Hornotinous branches alone arising from axillary buds of old branch. Leaves ternate or once to twice pinnate, seldom simple; leaflets papery or coriaceous, at margin entire, seldom serrate or dentate, undivided. Flowers small or medium-sized, in (1–)few–many-flowered cymes arising from leaf axils of hornotinous branch. Sepals 4(–5–6). Achenes compressed, but neither flattened, nor tumidly rimmed.

Fifteen species, mostly occurring in eastern Asia, only one endemic to southern India.

40. *Clematis thaiana* Tamura in J. Phytogeogr. Taxon. 28(1): 14. 1980; et in Thai For. Bull. Bot. 25: 67. 1997. Type: Thailand. Chiang Mai: Doi Chiang Dao, 1979-10-27, Shimizu et al. T21172 (holotype, KYO); same locality, 2000 m, Smitinand & Abbe 6259 (paratype, K!); same locality, Smitinand & Anderson 7337 (paratypes, K!, KYO!); same locality, Smitinand, Poore & Robins 7792s (paratype, KYO!); same locality, Shimizu, Koyama & Nalampoon T10030 (paratype, KYO!).

Woody vine. Branches obscurely 10-sulcate, densely appressed-puberulous or tawny-velutinous. Leaves ternate; leaflets subcoriaceous or papery, narrowly ovate, broadly lanceolate, ovate, or oblong-ovate, 4–10 × 1.8–4.5 cm, at apex acuminate or attenuate, at base rounded,

subcordate, or subtruncate, at margin entire or coarsely 1–3-dentate, adaxially appressed-puberulous, abaxially velutinous or densely puberulous and reticulate, basal veins abaxially prominent; petioles 4–9.5 cm long. Cymes axillary and terminal, 5–many-flowered, often panicle-like; peduncle 1.8–6 cm long, with rhachis and pedicels tawny-velutinous; bracts petiolate, leaflet-like. Flower 1–2 cm in diam.; pedicel 3–14 cm long. Sepals 4, white, narrowly oblong or oblanceolate-oblong, 7–10 × 2–2.2 mm, at apex slightly acute, inside glabrous, outside velutinous. Stamens 4–6 mm long, glabrous; anthers linear, 2–3 mm long, at apex minutely apiculate. Ovaries pubescent; styles ca. 4 mm long, densely villous. Achenes compressed, ovate-elliptic or ovate, 3.5–4 × 2.5–3.5 mm, densely appressed-pubescent; persistent styles 1.2–2.5 cm long, yellowish-plumose. Fl. Sept. – Nov.

N Thailand. Among thickets or on limestone rocks; 1900–2175 m.

41. *Clematis napoensis* W. T. Wang in Acta Phytotax. Sin. 37(3):217, fig. 2:1–4. 1999; W. T. Wang & Barth. in Fl. China 6:354. 2001. Type: China. Guangxi (广西): Napo (那坡), near city, in bushes on a lime-stone hill, 1998-04-12, H. N. Qin et al. 442 (holotype, PE!).

那坡铁线莲

Woody vine. Branches shallowly 12-sulcate, glabrous, on nodes densely minutely white furfuraceous. Leaves ternate, glabrous; leaflets coriaceous, ovate or narrowly ovate, 10.5–14.5 × 4.8–8 cm, at apex slightly acute or acuminate, at base subcordate or truncate-rounded, at margin entire, on both surfaces finely reticulate, basal veins distinctly prominent; petioles ca. 8 cm long, at apex and base white furfuraceous. Cymes axillary, many-flowered, panicle-like, glabrous; peduncles ca. 8 cm long, at apex and base white-furfuraceous; bracts narrowly triangular, ca. 4 mm long. Flower 1.5–2 cm in diam.; pedicel slender, 0.8–1.8 cm long, glabrous. Sepals 4, white, oblanceolate or narrowly oblong, rarely narrowly obovate, 8–12 × 2.5–3.5 (–4.2) mm, at apex slightly obtuse, rarely truncate. Stamens 4.8–6 mm long, glabrous; anthers linear, 2.5–3 mm long, at apex obtuse. Ovaries pubescent; styles ca. 5 mm long, densely villous. Fl. Apr.

China (SW Guangxi). In bushes on lime-stone hill; 800 m.

42. *Clematis jialasaensis* W. T. Wang in Acta Bot. Yunnan. 8:268, fig. 3:1–2. 1986; Grey-Wils., Clematis 108. 2000; W. T. Wang & Barth. in Fl. China 6:354. 2001. Type: China. Xizang (西藏): Mêdog (墨脱), Jialasa (迦拉萨), between Lusangu (鲁三古) and Longle (隆勒), 2100 m, 1983-04-18, Z. C. Ni 73 (holotype, PE!).

This species is endemic to SW China, consisting of two varieties, one confined to SE Xizang, the other to NE Yunnan.

迦拉萨铁线莲

42a. var. *jialasaensis*

Woody vine. Branches shallowly 10-sulcate, on nodes sparsely puberulous, elsewhere glabrous. Leaves ternate; leaflets subcoriaceous, narrowly ovate or ovate, 6–9.5 × 2.7–4.5 cm, at apex acute or acuminate, at base subcordate or cordate-rounded, at margin entire, on both surfaces glabrous and finely reticulate, basal veins on both surfaces prominent; petioles 6.5–7.4 cm long, sparsely puberulous. Cymes axillary and terminal, many-flowered, panicle-like; peduncles 3.5–7.5 cm long, sparsely puberulous; bracts narrowly triangular or subulate, 3.5–5.5 mm long. Flower 2–2.5 cm in diam.; pedicel 1.5–2.5 cm long, glabrous. Sepals 4, white, spatulate-linear or narrowly oblong, 10–13 × 2.6–3.8 mm, at apex acute, inside glabrous, outside on margin velutinous, elsewhere glabrous. Stamens 6–7.5 mm long, glabrous; anthers linear, 3.2–4.2 mm long,

at apex obtuse. Ovaries pubescent ; styles ca. 6 mm long , densely villous. Fl. Apr.

China (SW Xizang). At forest margins in valley ; 2100 m.

42b. var. *macrantha* W. T. Wang in Acta Phytotax. Sin. 39 (1) : 4. 2001 ; W. T. Wang & Barth. in Fl. China 6 : 354. 2001. Type : China. Yunnan (云南) : Tchen-fang-chan , 1907-04-15 , Ducloux 2021 (holotype , P !).

滇北铁线莲

This variety differs from var. *jalasaensis* in its larger flowers 2.5 – 3.7 cm in diam. , with sepals 14 – 20 mm long , (3 – 4) – 6 mm broad. Fl. Apr.

China (SW Sichuan , NE Yunnan). At forest edges ; 1200 – 2000 m.

Additional specimen examined. **China. Sichuan** (四川) : Leibo (雷波), M. Y. He & Z. M. Tan 117028 (SZ).

43. *Clematis chengguensis* W. T. Wang , sp. nov. Type : China. Shaanxi (陕西) : Chenggu (城固), Panlong (盘龙), Xinglong (兴龙), in bushes in valley , fl. white , 1972-04-02 , S. M. Su 420 (holotype , here designated , WUK).

城固铁线莲 Fig. 17 : C , D

Arcte affinis *C. jalasaensi* W. T. Wang et *C. sinii* W. T. Wang , ab illa differt ramis sparse pubescentibus , foliolis papyraceis , cymis tantum axillaribus 3-floris , pedicellis sparse pubescentibus ; ab hac foliolis utrinque inconspicue subtiliterque reticulatis , cymis 3-floris haud paniculiformibus , sepalis majoribus 13 – 19 mm longis 5 – 9 mm latis .

Liana lignosa. Rami teretes , ca. 2.2 mm diametro , vadoso 10-sulcati , sparse pubescentes. Folia ternata ; foliola papyracea , ovata , anguste ovata vel elliptica , 5.5 – 8.4 cm longa , 3 – 4 cm lata , apice acuta vel breviter acuminata , basi rotundata , margine integra , utrinque inconspicue subtiliterque reticulata , glabra , nervis basalibus subtus fere planis ; petioli 5 – 6 cm longi , sparse pubescentes. Cymae axillares , 3-florae ; pedunculi 3.5 – 6.5 cm longi , basi et apice sparse pubescentes vel glabri. Flos 2.5 – 3.5 cm diametro ; pedicellus 2.4 – 4.2 cm longus , sparse pubescens. Sepala 4 , white , oblongo-ovata vel oblanceolata , 13 – 19 mm longa , 5 – 9 mm lata , apice obtusa vel subtruncata , intus glabra , extus sparse adpresseque puberula vel subglabra , ad marginem velutina. Stamina 25 – 35 , 8 – 10 mm longa , glabra , filamentis linearibus , antheris linearibus 3 – 4 mm longis apice obtusis. Carpella ca. 16 , ovaris dense pubescentibus , stylis ca. 7 mm longis dense villosis .

Woody vine. Branches terete , ca. 2.2 mm in diam. , shallowly 10-sulcate , sparsely pubescent. Leaves ternate ; leaflets papery , ovate , narrowly ovate , or elliptic , 5.5 – 8.4 × 3 – 4 cm , at apex acute or shortly acuminate , at base rounded , at margin entire , on both surfaces indistinctly and finely reticulate , glabrous , basal veins abaxially nearly flat ; petioles 5 – 6 cm long , sparsely pubescent. Cymes axillary , 3-flowered ; peduncles 3.5 – 6.5 cm long , at base and apex sparsely pubescent or glabrous ; bracts lanceolate-linear , ca. 9 mm long. Flower 2.5 – 3.5 cm in diam. ; pedicel 2.4 – 4.2 cm long , sparsely pubescent. Sepals 4 , white , oblong-ovate or oblanceolate , 13 – 19 × 5 – 9 mm , at apex obtuse or subtruncate , inside glabrous , outside sparsely appressed-puberulous or subglabrous , on margin velutinous. Stamens 8 – 10 mm long ; anthers linear , 3 – 4 mm long , at apex obtuse. Ovaries densely pubescent ; styles ca. 7 mm long , densely villous. Fl. Apr.

China (SW Shaanxi). In bushes in valley .

44. *Clematis sinii* W. T. Wang in Acta Phytotax. Sin. 39 (4) : 314 , fig. 2 : 1 – 2. 2001 ; W.

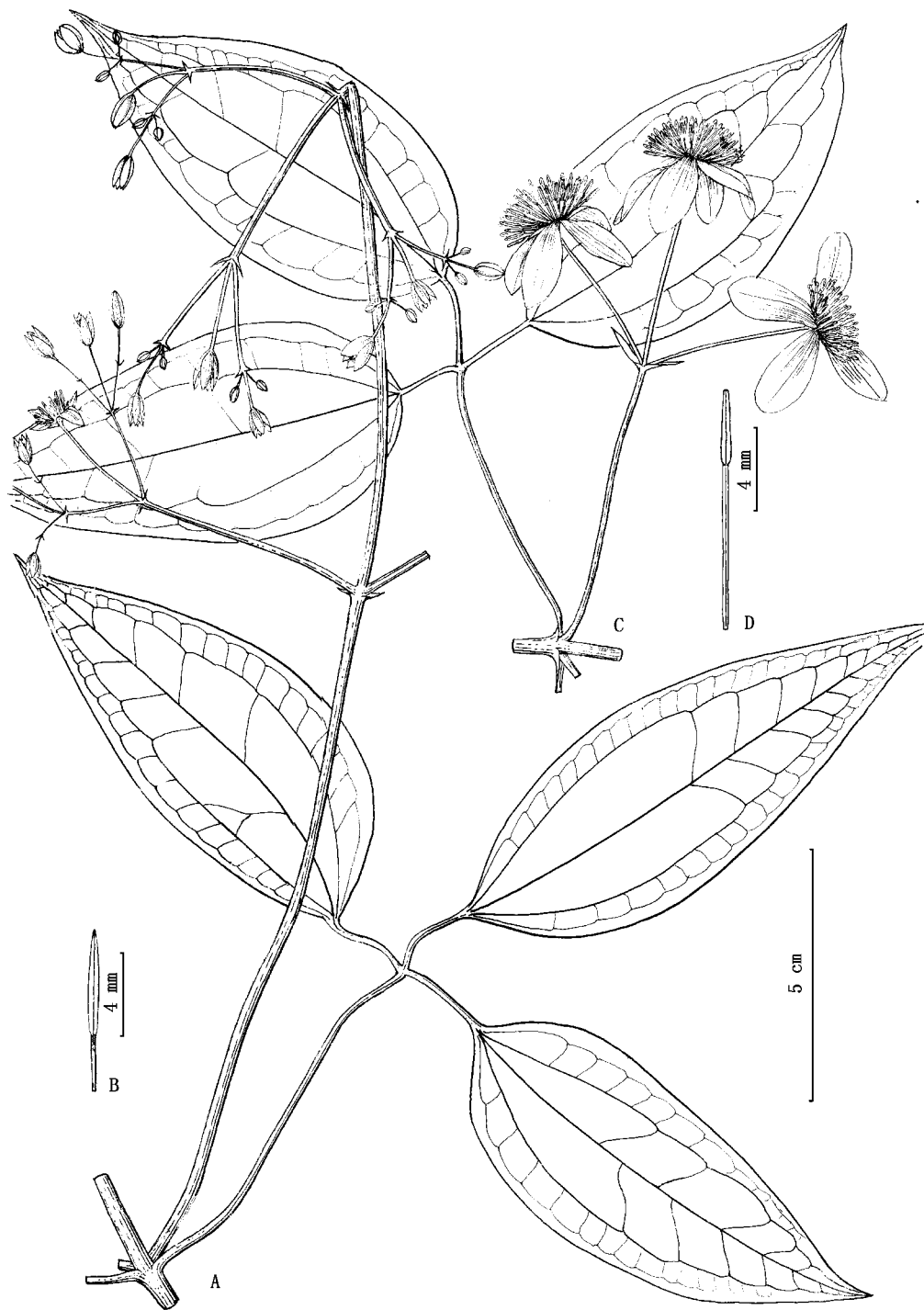


Fig. 17. A, B, *Clematis pingbianensis* W. T. Wang. A, flowering branch; B, stamen. (from P. Y. Mao 2471) C, D, *C. chengguensis* W. T. Wang. C, flowering branch; D, stamen. (from S. M. Su 420)

T. Wang & Barth. in Fl. China 6 : 354. 2001. Type : China. Guangxi (广西) : Dayaoshan (大瑶山), Kuchun, 1934-06-27, S. S. Sin 23329 (holotype, IBSC!).

辛氏铁线莲

Woody vine. Branches subterete, shallowly 8-sulcate, very sparsely puberulous or subglabrous. Leaves ternate; leaflets thinly papery, narrowly ovate or broadly lanceolate, 7–8.8 × 2.5–3.4 cm, at apex long acuminate or attenuate, at base rounded, at margin entire, on both surfaces glabrous or abaxially near base on midrib very sparsely pilose, basal veins abaxially slightly prominent; petioles 5.5–6.8 cm long. Cymes axillary, ca. 10-flowered, panicle-like; peduncles 4.4–4.8 cm long, subglabrous; bracts triangular, ca. 3.5 mm long, sparsely ciliolate. Flower ca. 1.2 cm in diam.; pedicel slender, 1.2–2.2 cm long, sparsely puberulous. Sepals 4, oblong, ca. 11 × 4 mm, at apex acute, on both surfaces glabrous except the outside velutinous margin. Stamens 5–8 mm long, glabrous; anthers linear, 3.2–3.8 mm long, at apex obtuse, seldom minutely apiculate. Ovaries densely puberulous; styles ca. 6 mm long, densely villous. Fl. Jun.

China (NE Guangxi).

45. *Clematis theobromina* Dunn in Kew Bull. 1914 : 181. 1914; Gamble, Presid. Madras 1 : 3. 1915; Gupta in Bull. Nat. Bot. Gard. Lucknow 80 : pl. 44. 1963; Kapoor in l. c. 124 : 71. 1966; Rau in Sharma et al., Fl. Ind. 1 : 77. 1993; M. Johnson, Klematis 525. 1997; Grey-Wils., Clematis 58. 2000; W. T. Wang in Acta Phytotax. Sin. 38 (5) : 410. 2000. Type : India. Conoor : Nilgiri Hills, 1870-03-19, Clarke 11080 (lectotype, K!); same locality, Clarke 10987 (syntype, K!).

Woody vine. Branches shallowly 8-sulcate, on nodes sparsely puberulous, elsewhere glabrous. Leaves ternate, glabrous; leaflets papery, ovate or elliptic-ovate, 4.4–11.8 × 3–6.8 cm, at apex acuminate or acute, at base subcordate or subtruncate, at margin entire, basal veins 5–7, abaxially slightly prominent; petioles 5–9 cm long, at base slightly dilated and often connate with that of the opposite leaf. Cymes axillary, singular, often 3-flowered, or two together arising from a leaf axil of hornotinous branch, then one larger, long pedunculate (peduncle 3.5–10 cm long), 3-flowered, with usually leaf-like bracts 3.5–9 cm long, the other one smaller, 1-flowered, shortly pedunculate (peduncle 0.9–1.2 cm long), with subulate or elliptic bracts 5–11 mm long. Flower ca. 4 cm in diam.; pedicel 3.5–9 cm long, glabrous. Sepals 4(–6), reddish, coriaceous, narrowly obovate or obovate-oblong, ca. 19 × 7–8 mm, at apex slightly acute, on both surfaces densely appressed-puberulous, on margin velutinous. Stamens 7–18 mm long, glabrous; anthers linear or narrowly oblong, ca. 3 mm long, at apex obtuse. Ovaries pubescent; styles ca. 6 mm long, densely villous. Fl. Mar.

India (Tamil Nadu, Nilgiri Hills). In evergreen forests; 1800–2400 m (fide Rau, 1993).

46. *Clematis xinhuiensis* R. J. Wang in J. Trop. Subtrop. Bot. 7 (1) : 24, fig. 1. 1999; W. T. Wang & Barth. in Fl. China 6 : 353. 2001. Type : China. Guangdong (广东) : Xinhui (新会), Gudoushan Forestry Plantation, Wuzhishan Reservoir, 1981-09-11, W. C. Ko & B. H. Chen 112 (holotype, IBSC!).

新会铁线莲

Woody vine. Branches terete, shallowly sulcate, sparsely puberulous, glabrescent. Leaves simple; leaf blades coriaceous, broadly lanceolate or ovate, 9–12.5 × 4.5–5.5 cm, at apex acuminate or acute, at base subtruncate, at margin entire, on both surfaces glabrous, basal veins 3–5, prominent; petioles 1.5–2 cm long. Cymes terminal, many-flowered, panicle-like;

peduncles 10 – 18 cm long ; bracts foliaceous. Flower ca. 1 cm in diam. ; pedicel ca. 1 cm long. Sepals 4 , white , oblong , 7 – 8 × 2 – 3 mm , at apex obtuse or rounded , inside glabrous , outside on margin velutinous , elsewhere glabrous. Stamens ca. 7 mm long , glabrous ; anthers slightly longer than filaments , linear , ca. 4 mm long , at apex obtuse. Ovaries densely puberulous ; styles ca. 6 mm long , densely villous. Fl. Sept.

China (S Guangdong).

47. *Clematis pingbianensis* W. T. Wang , sp. nov. Type : China. Yunnan (云南) : Pingbian (屏边) , Xinnong Village (新农乡) , Shitouzhai (石头寨) , 1380 m , in sparse forest , scandent shrub , fl. yellowish , 1953-07-14 , P. Y. Mao 2471 (holotype , here designated , WUK) ; Guangnan (广南) , Ma-gei , hilly slope , fl. white , 1940-03-04 , C. W. Wang 87416 (paratype , WUK).

屏边铁线莲 Fig. 17 : A , B

Arcte affinis *C. meyeniana* Walp. , quae foliolis crassioribus vulgo subcoriaceis oblongo-ovatis apice acuminatis basi rotundatis truncato-rotundatis vel subcordatis distinguitur.

Liana lignosa. Rami teretes , ca. 3 mm diametro , vadose 12-sulcati , sparse puberuli. Folia ternata ; foliola papyracea , anguste ovata vel longe elliptica , 9 – 10.2 cm longa , 3.2 – 3.8 cm lata , apice et basi plus minusve attenuata , margine integra , utrinque glabra , nervis basalibus planis ; petioli 6.5 – 7 cm longi , basi et apice sparse puberuli. Cymae axillares , (5 – 9 – 30-florae , saepe paniculiformes ; pedunculi 6 – 13 cm longi , sparse puberuli ; bractae triangulares vel triangulari-subulatae , 3 – 4.5 mm longae. Flos ca. 2 cm diametro ; pedicellus 0.8 – 1.4 cm longus , puberulus. Sepala 4 , alba vel luteola , lanceolato-oblonga vel anguste oblonga , 10 – 12 mm longa , 2.2 – 3.2 mm lata , apice acuta vel leviter obtusa , intus glabra , extus glabra vel sparse adpressequae puberula , ad marginem velutina. Stamina ca. 40 , 4 – 8 mm longa , glabra , filamentis linearibus , antheris linearibus 3 – 4 mm longis apice minute apiculatis. Carpella ca. 15 , ovariis dense pubescentibus , stylis ca. 4 mm longis dense villosis.

Woody vine. Branches terete , ca. 3 mm in diam. , shallowly 12-sulcate , sparsely puberulous. Leaves ternate ; leaflets papery , narrowly ovate or long elliptic , 9 – 10.2 × 3.2 – 3.8 cm , at both ends more or less attenuate , at margin entire , on both surfaces glabrous , basal veins flat ; petioles 6.5 – 7 cm long , at base and apex sparsely puberulous. Cymes axillary , (5 – 9 – 30-flowered , often panicle-like ; peduncles 6 – 13 cm long , sparsely puberulous ; bracts triangular or triangular-subulate , 3 – 4.5 mm long. Flower ca. 2 cm in diam. ; pedicel 0.8 – 1.4 cm long , puberulous. Sepals 4 , white or yellowish , lanceolate-oblong or narrowly oblong , 10 – 12 × 2.2 – 3.2 mm , at apex acute or slightly obtuse , inside glabrous , outside glabrous or sparsely appressed-puberulous , on margin velutinous. Stamens 4 – 8 mm long ; anthers linear , 3 – 4 mm long , at apex minutely apiculate. Ovaries densely pubescent ; styles ca. 4 mm long , densely villous. Fl. Mar. – Jul.

China (SE Yunnan). In sparse forests or on slopes ; 1380 m.

48. *Clematis meyeniana* Walp. in Nov. Act. Nat. Cur. 19(1) : 297. 1843 ; Benth. in Hooker , Kew Gard. Misc. 3 : 256. 1843 ; et Fl. Hongk. 6. 1861 ; Maxim. in Bull. Acad. Sci. St. Petersburg. 22 : 220. 1877 ; Forb. & Hemsl. in J. Linn. Soc. Bot. 23 : 5. 1886 ; Franch. in Bull. Soc. Bot. France 33 : 360. 1886 ; Hook. f. in Curtis , Bot. Mag. 129 : t. 7897. 1903 ; Finet & Gagnep. in Bull. Soc. Bot. France 50 : 530. 1903 ; Lévl. , Fl. Kouy-Tcheou 333. 1915 ; Sprague in Kew Bull. 1916 : 46. 1916 ; Chun in Sunyatsenia 1 : 230. 1934 ; Gagnep. , Fl. Gén. Indo-Chin. Suppl. 1 : 3. 1938 ; Hand.-Mazz. in Acta Hort. Gotob. 13 : 207. 1939 ; Pei in Sunyatsenia 4 : 163. 1940 ; Rehd. , Man. Cult. Tr. & Shr. , ed. 2 , 216. 1940 ; How & W. T. Wang in Fl.

Hainan. 1 : 306. 1964 ; Anonymous in Iconogr. Corm. Sin. 1 : 747 , fig. 1494. 1972 ; M. C. Chang in Fl. Reip. Pop. Sin. 28 : 171 , fig. 22. 1980 ; Tamura in J. Phytogeogr. Taxon. 28 (1) : 14. 1980 ; C. Y. Wu , Ind. Fl. Yunnan. 1 : 111. 1984 ; Lin & Zhao in Fl. Fujian. 2 : 26. 1985 ; Y. K. Li in Fl. Guizhou. 3 : 55. 1986 ; W. T. Wang in Fl. Guangxi 1 : 284. 1991 ; Z. H. Lin in Fl. Zhejiang 2 : 293. 1992 ; Tamura in Thai For. Bull. Bot. 25 : 69. 1997 , excl. syn. *C. meyeniana* var. *insularis* Sprague ; M. Johnson , *Clematis* 640. 1997 ; K. M. Li in Fl. Hunan 2 : 684. 2000 ; Grey-Wils. , *Clematis* 109. 2000 ; W. T. Wang in Fl. Yunnan. 11 : 225. 2000 ; W. T. Wang & Barth. in Fl. China 6 : 354. 2001. — *C. hedysarifolia* DC. var. *meyeniana* (Walp.) Lévl. in Bull. Acad. Int. Geogr. Bot. 11 : 299. 1902 , quoad nom. tantum. Type : China. Hong Kong (香港) : Cap. Syng-moon , type specimen not seen.

C. oreophila Hance in Walp. Ann. Bot. Syst. 2 : 3. 1851. Type : China. Hong Kong (香港) : ad montium Cacumina , Fortune 486 (holotype , K !).

C. hotae Kurz , For. Fl. Brit. Burma 1 : 17. 1877. Type : Myanmar. Hothe , 1868-08-14 , Anderson s. n. (isotype , K !).

C. craibiana Lace in Kew Bull. 1915 : 395. 1915. Type : Myanmar. Maymyo Plateau , 1913-03-12 , Lace 6122 (holotype , K !).

C. meyeniana f. *major* Sprague in Kew Bull. 1916 : 46. 1916 ; Hand.-Mazz. in Acta Hort. Gotob. 13 : 207. 1939. Type : China. Guangdong (广东) : North River , Ford 166 (holotype , K) ; Luofushan (罗浮山) , Ford 103 (paratype , K !).

C. meyeniana f. *retusa* Sprague in l. c. ; Hand.-Mazz. in l. c. Type : no type specimen designated.

C. hedysarifolia auct. non DC. : Bot. Reg. 7 : t. 599. 1821.

毛柱铁线莲

This species consists of three varieties , occurring in southern subtropical regions of China and adjacent countries.

48a. var. **meyeniana** Fig. 18 : D – F

Woody vine. Branches shallowly 10-sulcate , puberulous , glabrescent. Leaves ternate , seldom simple ; leaflets subcoriaceous or papery , ovate , elliptic-ovate , or narrowly ovate , 7.5 – 14 (– 14) × 1.5 – 5 (– 9.5) cm , at apex acuminate or acute , at base rounded , subcordate , or broadly cuneate , at margin entire , on both surfaces near base sparsely puberulous , glabrescent , adaxially smooth , basal veins abaxially prominent ; petioles 2 – 11 cm long , sparsely puberulous. Cymes axillary and terminal , many-flowered , panicle-like ; peduncles 2.6 – 7.5 cm long , sparsely puberulous ; bracts subulate , 3.5 – 6 mm long. Flower 1.6 – 2.5 cm in diam. ; pedicel 0.6 – 1.6 cm long , puberulous. Sepals 4 , white , narrowly oblong or lanceolate , 8 – 13 × 2.2 – 4 mm , at apex obtuse , sometimes mucronate , inside glabrous , outside on margin velutinous , elsewhere glabrous. Stamens 5 – 9.5 mm long , glabrous ; anthers narrowly oblong or linear , 3 – 5.5 mm long , at apex minutely apiculate. Ovaries puberulous ; styles 5 – 9 mm long , densely villous. Achenes compressed , lanceolate or obliquely elliptic , 5 – 7 × 1.8 – 2.2 mm , pubescent , slightly rimmed ; persistent styles 2 – 4 cm long , fulvous-plumose. Fl. Jun. – Aug.

China (Fujian , Guangdong , Guangxi , S Guizhou , Hainan , Hong Kong , S Hunan , Jiangxi , Macao , Sichuan , Yunnan , S Zhejiang) , Laos , N Myanmar , Thailand , Vietnam. In bushes or sparse forests , or by streams ; 20 – 1800 m.

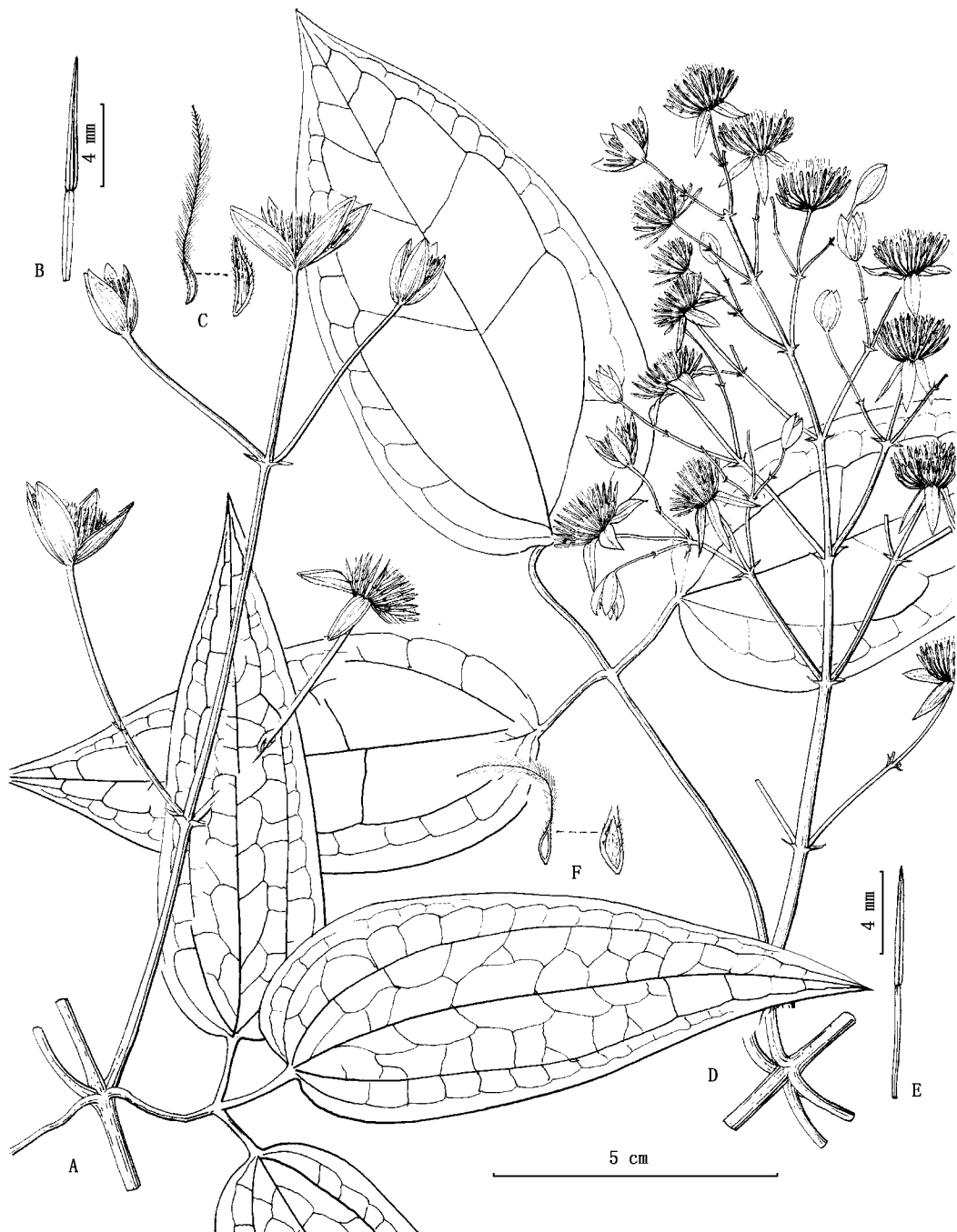


Fig. 18. A – C, *Clematis finetiana* Lévl. & Van. var. *finetiana*. A, flowering branch; B, stamen; (from Hunan Museum Exped. s. n.) C, achene (from Wulingshan Exped. 98-1584). D – F, *C. meyeniana* Walp. var. *meyeniana*. D, flowering branch; E, stamen; (from C. Wang 30632) F, achene (from Bot. Inst. Exped. 485).

Additional specimens examined. **China. Fujian** (福建): Nanjing (南靖), Xiamen Univ. Exped. 63-93 (PE); Longyan (龙岩), Y. Ling 4457 (PE); Pinghe (平和), G. S. He 1181 (PE); Shunchang (顺昌), M. S. Li 5384 (PE). **Guangdong** (广东): Lianshan (连山), P. X. Tan 58455 (PE); Liannan (连南), P. X. Tan 59555 (PE); Yangshan (阳山), Liangguang Exped. 320 (PE); Lechang (乐昌), C. L. Tso 20879 (G); Yingde (英德), Tutcher 10675 (K), H. Y. Liang 60822 (PE); Huaiji (怀集), W. T. Tsang 22912 (G, GH); Qingyuan (清源), C. Wang 30632 (PE); Hua Xian (花县), C. Wang 164682 (PE); Xinfeng (新丰), Y. W. Taam 564 (GH); Deqing (德庆), Y. G. Liu 938 (PE); Xinyi (信宜), Y. Tsiang 2714 (PE); Dinghushan (鼎湖山), G. L. Shi 13076 (PE); Luofushan (罗浮山), Merrill 10376, 11031 (GH), W. T. Tsang 9937 (GH, PE, US); Huidong (惠东), Z. F. Wei 121071 (PE); Lufeng (陆丰), Z. F. Wei 121273 (PE); Dapu (大埔), X. G. Li 202714 (PE). **Guangxi** (广西): Lingyun (凌云), R. C. Ching 6890 (PE), Steward et al. 525 (GH); Huanjiang (环江), S. C. Chen 15484 (PE); Rongshui (融水), S. C. Chen 16230 (PE); Luocheng (罗城), S. C. Chen 14980 (PE); Maoershan (猫儿山), G. Z. Li 15249 (PE); Ziyuan (资源), Z. S. Chung 83608 (GH); Shangsi (上思), W. T. Tsang 22672, 24157 (GH); Pingxiang (凭祥), D. Z. Fu et al. 917 (PE). **Guizhou** (贵州): Xingyi (兴义), Guizhou Exped. 60-6821 (PE); Xingren (兴仁), Guizhou Exped. 60-8488 (PE); Zhenfeng (贞丰), Y. Tsiang 4537 (PE); Pinfa (平伐), Cavalerie 991, 2344 (P); Leishan (雷山), T. P. Jian et al. 50855 (PE); Libo (荔波), Libo Exped. 59-1135 (PE). **Hainan** (海南): Lingao (临高), W. T. Tsang 15708 (GH); Ta Hian, Gressitt 758 (GH). **Hong Kong** (香港): Lantau Isl., Y. W. Taam 1639 (G, GH, K); Taimoshan, S. Y. Hu 10611 (GH, PE, US); Maonshan, S. Y. Hu 10540 (GH, K, PE); Fenghuangshan, N. K. Chun 4184 (PE); Mt. Victoria, H. C. Tang 235 (GH). **Hunan** (湖南): Xuefengshan (雪峰山), Z. T. Li 3008 (PE); Wugang (武功), P. C. Tsoong 1299 (PE); Xinning (新宁), L. H. Liu 15449 (PE); Yizhang (宜章), S. C. Chen 2045 (PE). **Jiangxi** (江西): Xunwu (寻乌), Z. S. Yuo 2068 (PE); Shangyou (上犹), Jiangxi Exped. 70-483 (PE); Gan Xian (赣县), Z. B. Yang 1204 (PE); Dayu (大余), Z. S. Yuo 1335 (PE); Xingguo (兴国), Inst. Bot. Exped. 485 (PE); Lianhua (莲花), S. S. Lai 1507 (PE); Wugongshan (武功山), Jiangxi Exped. 54-946 (PE); Yichun (宜春), Z. S. Yuo 3431 (PE); Tonggu (铜鼓), S. S. Lai 3678 (PE). **Macao** (澳门): Vachell 254 (K). **Yunnan** (云南): Funing (富宁), C. W. Wang 89140 (PE); Jinping (金平), P. I. Mao 415 (PE); Mengzi (蒙自), Henry 9349 (GH); Mengla (勐腊), ?267 (PE); Simao (思茅), Henry 12270, 12270A (GH, K), P. I. Mao 5784 (PE); Shuangjiang (双江), J. S. Xin 1192 (PE); Zhenkang (镇康), M. Chen 3784 (PE); Tengchong (腾冲), Forrest 8839, Howell 42 (K). **Zhejiang** (浙江): Longquan (龙泉), S. Y. Zhang 2867 (PE).

N Myanmar. Treamgle, F. Kingdon Ward 21249 (P).

Vietnam. Annam, Poilane 11036 (P).

48b. var. uniflora W. T. Wang in Acta Phytotax. Sin. 36(2):158. 1998; Grey-Wils., Clematis 110. 2000; W. T. Wang & Barth. in Fl. China 6:355. 2001. Type: China. Fujian (福建): Jiangle (将乐), Longqishan (龙栖山), 1991-06-22, Longqishan Exped. 1528 (holotype, PE!).

单花毛柱铁线莲

This variety differs from var. *meyeniana* in its 1-flowered axillary cymes. Leaflets adaxially smooth. Fl. Jun.

China (NW Fujian). In forests on slopes; 1300–1500 m.

48c. var. **granulata** Finet & Gagnep. in Bull. Soc. Bot. France 50 : 530. 1903 ; et in Lecomte , Fl. Gén. Indo-Chin. 1 : 4. 1907 ; Sprague in Kew Bull. 1916 : 46. 1916 ; Chun in Sunyatsenia 1 : 230. 1934 ; Hand.-Mazz. in Acta Hort. Gotob. 13 : 207. 1939 ; How & W. T. Wang in Fl. Hainan. 1 : 307. 1964 ; Anonymous in Iconogr. Corm. Sin. 1 : 747. 1972 ; M. C. Chang in Fl. Reip. Pop. Sin. 28 : 173. 1980 ; C. Y. Wu , Ind. Fl. Yunnan. 1 : 111. 1984 ; W. T. Wang in Fl. Guangxi 1 : 287. 1991 ; M. Johnson , Klematis 641. 1997 ; Grey-Wils. , Clematis 110. 2000 ; W. T. Wang in Fl. Yunnan. 11 : 225. 2000 ; W. T. Wang & Barth. in Fl. China 6 : 355. 2001. — *C. granulata* (Finet & Gagnep.) Ohwi in Acta Phytotax. Geobot. 6 : 147. 1937 ; Ho , Ill. Fl. Vietnam 1 : 317 , fig. 1274. 1999. Type : Vietnam. Quang-yen , Balansa 3375 (lectotype , P !) ; Mt. Bavi , Balansa 3374 (syntype , P !) ; Tu-Phap , Balansa 3376 (syntype , P !). China. Hainan (海南) , 1889-11 , Henry 8087 (syntype , K !).

沙叶铁线莲

This variety differs from var. *meyeniana* in its adaxially finely rugose leaflets. Its axillary cymes are many-flowered , panicle-like.

China (Guangdong , Guangxi , Hainan , Hong Kong , SE Yunnan) , Laos , Vietnam. At forest margins , in bushes or forests , or by streams ; 60 – 1300 m.

Additional specimens examined. **China. Guangdong** (广东) : Maoming (茂名) , L. Deng 1728 (PE) ; Xuwen (徐闻) , Xuwen Exped. 54-460 (PE) ; Gaozhou (高州) , Y. Tsiang 931 (GH). **Guangxi** (广西) : Longzhou (龙州) , Guangxi Exped. 53-2960 (PE) , Morse 604 (US) ; Pingxiang (凭祥) , D. Z. Fu et al. 86-1238 (PE) ; Fangcheng (防城) , W. T. Tsang 26589 (GH , K , P) ; Shangsi (上思) , W. T. Tsang 23866 (GH) ; Yongning (邕宁) , Y. Wan 17619 (PE) ; Yulin (玉林) , Z. C. Zhang 40406 (PE) ; Cangwu (苍梧) , S. C. Chen 9969 (PE) ; Wuming (武鸣) , Guangxi Exped. 53-2748 (PE) ; Baise (百色) , R. C. Ching 7390 (PE). **Hainan** (海南) : Chengmai (澄迈) , W. T. Tsang 17357 (GH , US) , C. I. Lei 707 , 733 (K , PE) ; Wenchang (文昌) , H. Fung 20340 (GH , K , PE) ; Wanning (万宁) , Y. Zhong 4029 (PE) ; Baoting (保亭) , F. C. How 73465 (GH , PE) ; Sanya (三亚) , S. K. Lau 396 (GH , PE). **Hong Kong** (香港) : Mt. Maonshan , S. Y. Hu 10556 (K , PE) ; Fau Tan Valley , S. Y. Hu 12322 (PE). **Yunnan** (云南) : Hekou (河口) , W. X. Liu 278 (PE).

Vietnam. Tonkin : Ha-coi , W. T. Tsang 29195 (GH , LE , P) , 29211 (GH , P) ; Phuc Yen , Petelot 2622 (GH) ; Dam-ha , W. T. Tsang 29954 , 30160 (P , PE). Annam : Hue , Clemens 3934 (GH) , Harmand s. n. (P).

49. Clematis chekiangensis Pei in Contr. Biol. Lab. Sci. Soc. China 10 : 105. 1936 ; M. C. Chang in Fl. Reip. Pop. Sin. 28 : 175 , fig. 24. 1980 ; Z. H. Lin in Fl. Zhejiang. 2 : 292 , fig. 2 – 388. 1992 ; M. Johnson , Klematis 636. 1997 ; Grey-Wils. , Clematis 104. 2000 ; W. T. Wang & Barth. in Fl. China 6 : 355. 2001. Type : China. Zhejiang (浙江) : Qingyuan (庆元) , Yinglingshan (应岭山) , 1934-06-06 , S. Chen 3343 (lectotype , here designated , NAS !) , 3347 (syntype).

浙江铁线莲

Woody vine. Branches sparsely puberulous , glabrescent. Leaves simple , sometimes ternate ; leaf blades papery , narrowly oblong or oblong-lanceolate , 4 – 12 × 2 – 5 cm , at apex attenuate or acuminate , at base subcordate or rounded , at margin entire , on both surfaces glabrous , basal veins flat ; petioles 3 – 6 cm long. Cymes terminal , ca. 10-flowered ; peduncles ca. 7 cm long ; bracts petiolate , narrowly ovate. Flower ca. 1.5 cm in diam. ; pedicel 1 – 2.5 cm long. Sepals 4 , white ,

oblong, 8 – 10 × 5 – 6 mm, at apex rounded, inside glabrous, outside puberulous, on margin velutinous. Stamens ca. 4.8 mm long, glabrous; anthers broadly linear or narrowly oblong, 3 – 3.2 mm long, at apex minutely apiculate. Ovaries pubescent; styles ca. 6 mm long, densely villous. Achenes (immature) compressed, fusiform, ca. 5 × 2.5 mm, puberulous; persistent styles ca. 2.5 cm long, plumose. Fl. Jun.

China (S Zhejiang). In forests on slopes.

50. *Clematis finetiana* Lévl. & Van. in Bull. Soc. Bot. France 51 : 219. 1904; Lévl., Fl. Kouy-Tcheou 332. 1915; Hand.-Mazz. in Acta Hort. Gotob. 13 : 207. 1939; Rehd., Man. Cult. Tr. & Shr., ed. 2, 215. 1940; Lauener & Green in Not. R. Bot. Gard. Edinb. 23(4) : 581. 1961; Anonymous in Iconogr. Corm. Sin. 1 : 748, fig. 1495. 1972; Anonymous in Fl. Hupeh. 1 : 369. 1976; M. C. Chang in Fl. Reip. Pop. Sin. 28 : 174, fig. 23. 1980; Ding et al., Fl. Henan. 1 : 459. 1981; Anonymous in Fl. Jiangsu. 2 : 173. 1982; C. Y. Wu, Ind. Fl. Yunnan. 1 : 109. 1984; Lin & Zhao in Fl. Fujian. 2 : 26. 1985; Y. K. Li in Fl. Guizhou. 3 : 57. 1986; X. W. Wang in Fl. Anhui 2 : 338. 1986; W. T. Wang in Fl. Guangxi 1 : 287. 1991; Z. H. Lin in Fl. Zhejiang 2 : 293. 1992; W. T. Wang in Keys Vasc. Pl. Wuling Mount. 166. 1995; M. Johnson, *Clematis* 636. 1997; K. M. Li in Fl. Hunan 2 : 684. 2000; Grey-Wils., *Clematis* 109. 2000; W. T. Wang & Barth. in Fl. China 6 : 355. 2001. Type: China. Guizhou (贵州): Pinfa (平伐), 1902-10-05, Cavalerie 605 (lectotype, here designated, E!; isoelectotypes, GH!, K!, P!); same locality, 1902-05-05, Cavalerie 1347 (syntype, E!; isosyntype, GH!).

C. pavoliniana Pamp. in Nuov. Giorn. Bot. Ital., 2 ser., 17 : 290. 1910; Rehd. & Wils. in Sarg., Pl. Wils. 1 : 328. 1913; Sprague in Curtis, Bot. Mag. 142 : t. 8655. 1916; Hutch. in Gard. Chron. 67 : 177. 1920; Chun in Sunyatsenia 1 : 231. 1934; Rehd. in J. Arn. Arb. 18 : 256. 1937; Pei in Contr. Biol. Lab. Sci. Soc. China 10 : 108. 1936; et in Man. Sperm. S. Jiangsu 284, fig. 448. 1959. — *C. meyeniana* Walp. var. *pavoliniana* (Pamp.) Sprague in Kew Bull. 1916 : 47. 1916. Syntypes: China. Hubei (湖北): Aiu-Hou-Miao, 1909-04-19, Silvestri 648 (photo, GH!); Eon-Sien, 1906-09, Silvestri 650 (photo, GH!).

C. meyeniana Walp. var. *insularis* Sprague in Kew Bull. 1916 : 46. 1916; H. Eichler in Bibl. Bot. 124 : 30. 1958; M. Johnson, *Clematis* 641. 1997; Grey-Wils., *Clematis* 110. 2000; W. T. Wang in Acta Phytotax. Sin. 39(1) : 5. 2001; W. T. Wang & Barth. in Fl. China 6 : 355. 2001, syn. nov. Type: China. Taiwan (台湾): Danshui (Tamsuy 淡水), Oldham 1 (holotype, K!; isotypes, GH!, LE!, P!).

山木通

This species consists of three varieties, wide-spread in the subtropical regions of China and Japan, with one of them from Taiwan Island southward extending to the Philippines.

50a. var. *finetiana* Fig. 18 : A – C

Woody vine. Branches shallowly 6 – 8-sulcate, near nodes puberulous, glabrescent. Leaves ternate; leaflets subcoriaceous or coriaceous, ovate-lanceolate, narrowly ovate, or ovate, 3.5 – 10 (– 15) × 1.5 – 3.5 (– 6) cm, at apex acute or attenuate, at base rounded or subcordate, at margin entire, on both surfaces glabrous, basal veins abaxially slightly prominent; petioles 2 – 7.8 cm long, subglabrous. Cymes axillary and terminal, the axillary ones 1 – 5 (– 9)-flowered, often raceme-like; peduncles 1.5 – 9 cm long; bracts triangular or subulate, 2 – 5 mm long. Flower 2 – 4 cm in diam.; pedicel 1.5 – 6 cm long, glabrous. Sepals 4 (– 6), white, narrowly oblong,

obovate-oblong, or narrowly lanceolate, 10 – 20 × 2 – 5 mm, at apex acute or slightly obtuse, inside glabrous, outside on margin velutinous, elsewhere glabrous. Stamens 7 – 12 mm long, glabrous; anthers linear or narrowly oblong, 4 – 6.5 mm long, at apex minutely apiculate. Ovaries pubescent; styles ca. 7 mm long, densely villous. Achenes compressed, falcate-fusiform, ca. 5 × 1.5 mm, pubescent, at margin indistinctly rimmed; persistent styles 1.5 – 2.5 cm long, fulvous-plumose. Fl. Apr. – Jun.

China (S Anhui, Fujian, N Guangdong, N Guangxi, Guizhou, S Henan, Hubei, Hunan, S Jiangsu, Jiangxi, S Shaanxi, Sichuan, Taiwan, NE Yunnan, Zhejiang), S Japan. In sparse forests or bushes or by streams; 100 – 1200 m.

Additional specimens examined. **China. Anhui** (安徽): Qimen (祁门), M. B. Deng 4943 (PE); Huangshan (黄山), W. C. Cheng 3842, P. C. Tsoong 3432 (PE); Jiuhuashan (九华山), R. C. Ching 2704 (GH, K); Yuexi (岳西), Anhui Exped. 59-145 (PE); Jinzhai (金寨), ?211 (PE). **Fujian** (福建): Xiamen (厦门), Fortune A14 (K); Liancheng (连城), Y. Ling 3331 (PE); Longqishan (龙栖山), Longqishan Exped. 91-1242 (PE); Fuzhou (福州), Carless 559 (K); Nanping (南平), G. S. He 5493 (PE); Shunchang (顺昌), Z. Y. Li 5493 (PE); Taining (泰宁), G. D. Ye 2109 (PE); Chongan (崇安), Wuyishan Exped. 79-347 (PE). **Guangdong** (广东): Yangshan (阳山), D. Z. Fu et al. 226 (PE); Ruyuan (乳源), Y. G. Liu 685 (PE); Lechang (乐昌), W. T. Tsang 20804 (GH, K); Lianping (连平), Y. G. Liu 126 (PE); Xinfeng (新丰), Y. W. Taam 477 (G, GH), 564 (KYO); Conghua (从化), L. Deng 8545 (PE); Jiaoling (蕉岭), L. Deng 4683 (PE); Shaan Sam Tsuen, McClure 1554 (KYO). **Guangxi** (广西): Yishan (宜山), F. M. Zhao 55796 (PE); Yangshuo (阳朔), R. H. Shan 644 (PE); Lingui (临桂), S. Q. Zhong 60037 (PE). **Guizhou** (贵州): Leishan (雷山), T. P. Jian 50891 (PE); Kaili (凯里), S Guizhou Exped. 59-1671 (PE); Pinfa (平伐), Cavalerie 1013 (P); Fanjingshan (梵净山), N Guizhou Exped. 59-2115 (PE); Songtao (松桃), Wulingshan Exped. 88-2 (PE). **Henan** (河南): Jigongshan (鸡公山), Sino-Germ. Exped. 56-833 (PE); Shangcheng (商城), Henan Exped. 59-122 (PE). **Hubei** (湖北): Hefeng (鹤峰), F. S. Peng 241 (PE); Changyang (长阳), T. P. Wang 11401 (PE); Yichang (宜昌), Henry 2744, 3529 (K, LE, P). **Hunan** (湖南): Xinning (新宁), C. S. Fan & Y. Y. Li 593 (G); Hengshan (衡山), Hunan Mus. Exped. s. n., Y. Liu 552 (PE); Wugang (武功), T. H. Wang 85 (GH); Zhijiang (芷江), Wulingshan Exped. 88-1584 (PE); Xinhuang (新晃), Wulingshan Exped. 88-859 (PE); Shimen (石门), Hupingshan Exped. 87274 (PE). **Jiangsu** (江苏): Yixing (宜兴), C. L. Tso 441 (PE). **Jiangxi** (江西): Longnan (龙南), S. K. Lau 4811 (G, GH); Xunwu (寻乌), Z. S. Yuo 1733 (PE); Huichang (会昌), Q. M. Hu 3040 (PE); Ruijin (瑞金), Q. M. Hu 4446 (PE); Guangchang (广昌), Z. S. Yuo 2334 (PE); Dayu (大余), Z. S. Yuo 1107 (PE); Jinggangshan (井冈山), J. Xiong 2334 (PE); Lianhua (莲花), M. X. Nie 6964 (PE); Wugongshan (武功山), Jiangxi Exped. 54-1488 (PE); Pingxiang (萍乡), Jiangxi Exped. 54-3055 (PE); Yihuang (宜黄), Q. H. Li 1651 (PE); Shangrao (上饶), M. X. Nie 4928 (PE); Wuyuan (婺源), Q. H. Li 186 (PE); Yongxiu (永修), S. S. Lai 2201 (PE); Lushan (庐山), K. K. Tsoong 191, H. H. Hu 2585 (PE). **Shaanxi** (陕西): Chenggu (城固), X. M. Su 420 (PE). **Sichuan** (四川): Fengjie (奉节), H. F. Zhou 107973 (PE); Beipei (北碚), S. J. Wang 1150 (WUK); Emeishan (峨眉山), T. T. Yü 326 (GH). **Taiwan** (台湾): Jilong (基隆), Faurie 1269 (P), Simoda 5610B (KYO); Sintikuryu, Kaiko, Simoda 3386D (KYO); Taibei (台北), T. Y. Yang s. n. (PE).

Yunnan (云南): Longki, Delavay 5146 (G). **Zhejiang** (浙江): Yunhe (云和), Y. Y. Ho 3589 (PE); Longquan (龙泉), S. Chen 3097 (PE); Lishui (丽水), K. K. Tsoong 273 (PE); Suichang (遂昌), Zhejiang Exped. 59-25521 (PE); Changhua (昌化), Y. Y. Ho 22569 (PE); Tianmushan (天目山), Y. Y. Ho 21916 (PE); Hangzhou (杭州), K. K. Tsoong 449 (PE); Tiantaishan (天台山), R. C. Ching 1470 (P); Zhenhai (镇海), Y. Y. Ho 1255 (PE); Ningbo (宁波), Fortune 14 (P), Hancock 1 (LE), 15 (K).

Japan. Ryukyu Isls. : Iriomota Isl. , Noshiro 5164 (KYO) , Furuse 2946 , 5492 (K) ; Okinawa : Oogimi-son , Furuse 4703 (K) ; Tokunoshima Isl. , Kato & Miki 353 (KYO) .

50b. var. **lutchuensis** (Koidz.) W. T. Wang, st. et comb. nov. — *C. lutchuensis* Koidz. in Bot. Mag. Tokyo 39 : 14. 1925. Type : Japan. Prov. Ohsumi : Ohshima Isl. , 1900-06 , Faurie 3830 (holotype , KYO !).

C. meyeniana auct. non Walp. : Merr. & Rolfe in Philip. J. Sci. Bot. 3 : 98. 1908 ; Ohwi , Fl. Jap. 443. 1965 ; Liu & Hsieh in Fl. Taiwan 2 : 486. 1976 ; T. Y. Yang & T. C. Huang in Taiwania 40 (3) : 228 , fig. 9. 1995 ; et in Fl. Taiwan , ed. 2 , 2 : 532 , pl. 249. 1995 .

C. meyeniana var. *insularis* auct. non Sprague : H. Eichler in Bibl. Bot. 124 : 30. 1958 ; W. T. Wang in Acta Phytotax. Sin. 39 (1) : 5. 2001 , p. p.

多花山木通

This variety differs from var. *finetiana* in its usually much-branched , (5 –)15 – 21-flowered cymes .

China (Taiwan) , S Japan , Philippines (Luzon) .

Additional specimens examined. **China.** **Taiwan** (台湾) : Suitoika , Faurie 170 (P). **Japan.** Pref. Kagoshima , Tokunoshima Isl. , Murata 56216 , 56238 (KYO) ; Ohshima-gun , Okada 1036 (KYO) , Murata & Endo 137 (KYO , LE) . Ryukyu Isls. : Iriomota Isl. , Murata & Tabata 712 (KYO) ; Irumi Isl. , Koidzumi s. n. (KYO) ; Izena Isl. , Tamura et al. 26759 (KYO) ; Yaeyama , Okada & Ueda 2654 , 2771 (KYO) . **Philippines.** Luzon : Mt. Santo Tomas , Sinclair & Edano 9716 (K) .

In habit and in floral structure this variety is very similar to *C. meyeniana* . Thus , it has long been misidentified as that species . It differs mainly in its glabrous pedicels from *C. meyeniana* , of which the pedicels are puberulous . Judging by what mentioned above , I think that var. *lutchuensis* may be regarded as an intermediate form between *C. meyeniana* and *C. finetiana* var. *finetiana* , in which the axillary cymes are less branched and few flowered , and the pedicels are glabrous (see above description) .

50c. var. **pedata** W. T. Wang in Acta Bot. Yunnan. 8 (3) : 269. 1986 ; et in Keys Vasc. Pl. Wuling Mount. 166. 1995 ; M. Johnson , Clematis 637. 1997 ; K. M. Liu in Fl. Hunan 2 : 687. 2000 ; Grey-Wils. , Clematis 109. 2000 ; W. T. Wang & Barth. in Fl. China 6 : 355. 2001 . Type : China. Hunan (湖南) : Dayong (大庸) , Zhangjiajie (张家界) , 1984-09-16 , W Hunan Exped. 1256 (holotype , PE !).

鸟足叶铁线莲

This variety differs from var. *finetiana* in its 5-foliolately pedate leaves . Its axillary cymes are 3 – 5-flowered .

China (NW Hunan) . On slopes ; 600 m .

51. **Clematis shensiensis** W. T. Wang in Acta Phytotax. Sin. 6 (4) : 378 , pl. 59 , fig. 6. 1957 ; Anonymous in Fl. Tsinling. 1 (2) : 295 , fig. 252. 1974 ; M. C. Chang in Fl. Reip. Pop. Sin. 28 : 171. 1980 ; Ding et al. , Fl. Henan. 1 : 455. 1981 ; Y. Z. Ling et al. , Fl. Shanxi. 1 :

642. 1992 ; M. Johnson, *Klematis* 630. 1997 ; J. Q. Fu in *Fl. Loe.-Plat. Sin.* 1 : 449. 2000 ; Grey-Wils., *Clematis* 133. 2000 ; W. T. Wang & Barth. in *Fl. China* 6 : 355. 2001. Type : China. Shaanxi (陕西) : Zhongnanshan (终南山), 1200 m, 1933-06-01, H. W. Kung 2538 (holotype, PE ! ; isotype, WUK !).

C. wutangensis W. T. Wang ex Anonymous in *Fl. Hupeh.* 1 : 369. 1976, nom. seminud.

陕西铁线莲 Fig. 19 : D - F

Woody vine. Branches shallowly 10-sulcate, puberulous. Leaves pinnate, 5-foliolate ; leaflets papery, ovate or broadly ovate, 2.5 - 7 × 1.5 - 5.5 cm, at apex acute, acuminate, or obtuse, at base subcordate, cordate, truncate, or rounded, at margin entire, adaxially on veins sparsely puberulous or subglabrous, abaxially densely curled-puberulous, basal veins abaxially slightly prominent ; petioles 3 - 6 cm long. Cymes axillary and terminal, 3 - 7-flowered ; peduncles 3.5 - 12 cm long ; bracts petiolate, ovate or narrowly ovate, 1 - 4.5 cm long, or foliaceous. Flower 2.5 - 4.6 cm in diam. ; pedicel 1 - 3.2 cm long, densely puberulous. Sepals 4 - 5 - 6, white, obovate-oblong or narrowly oblong, 13 - 20 (- 24) × 4 - 7 mm, at apex obtuse, inside glabrous, outside puberulous, on margin velutinous. Stamens 8 - 11 mm long, glabrous ; anthers linear or narrowly oblong, 3.2 - 4.5 mm long, at apex minutely apiculate. Ovaries pubescent ; styles 5 - 8 mm long, densely villous. Achenes compressed, elliptic, 6 - 8 × 3.5 - 5 mm, pubescent ; persistent styles 2.5 - 4.5 cm long, fulvous-plumose. Fl. May - Jun.

China (W Henan, W Hubei, S Shaanxi, S Shanxi). In bushes, by streams, or on cliffs ; 700 - 1500 m.

Additional specimens examined. **China. Henan** (河南) : Lingbao (灵宝), *Loe.-Plat. Exped.* 2402 (WUK) ; Song Xian (嵩县), *Forest Exped.* 56-798, *Henan Exped.* 59-35156 (PE). **Hubei** (湖北) : Wudangshan (武当山), *Z. D. Jiang* 45 (HIB), *J. Q. Xing* 12537, 12711 (WUK). **Shaanxi** (陕西) : Shangnan (商南), *P. C. Kuo* 4273 (WUK) ; Huashan (华山), *T. N. Liou* 10888, *W. Y. Hsia* 4310, *Loe.-Plat. Exped.* 2246 (WUK) ; Nanwutaishan (南五台山), *Y. Ling* 247 (PE) ; Zhongnanshan (终南山), *Y. Y. Pai* 1175 (PE) ; Hu Xian (户县), *Hugh s. n.* (BM), *K. T. Fu* 14792 (WUK) ; Taibaishan (太白山), *K. T. Fu* 8760 (WUK) ; Baoji (宝鸡), *Z. X. Hu* 280 (WUK). **Shanxi** (山西) : Ruicheng (芮城), *S. Y. Bao* 545 (PE) ; Xie Xian (解县), *Huanghe Exped.* 57-369 (PE).

52. Clematis quinquefoliolata Hutch. in *Gard. Chron.*, ser. 3, 41 : 3. 1907 ; Rehd. & Wils. in *Sarg. Pl. Wils.* 1 : 328. 1913 ; *Hand.-Mazz.* in *Acta Hort. Gotob.* 13 : 208. 1939 ; Rehd., *Man. Cult. Tr. & Shr.*, ed. 2, 216. 1940 ; Anonymous in *Fl. Hupeh.* 1 : 370, fig. 521. 1976 ; *M. C. Chang* in *Fl. Reip. Pop. Sin.* 28 : 171, pl. 51. 1980 ; *C. Y. Wu*, *Ind. Fl. Yunnan.* 1 : 113. 1984 ; *Y. K. Li* in *Fl. Guizhou.* 3 : 54. 1986 ; *W. T. Wang* in *Keys Vasc. Pl. Wuling Mount.* 167. 1995 ; *M. Johnson*, *Klematis* 642. 1997 ; *K. M. Li* in *Fl. Hunan* 2 : 690. 2000 ; *Grey-Wils.*, *Clematis* 105. 2000 ; *W. T. Wang* in *Fl. Yunnan.* 11 : 226. 2000 ; *W. T. Wang & Barth.* in *Fl. China* 6 : 356. 2001. Type : China. Hubei (湖北) : Yichang (宜昌), *Henry* 4185 (lectotype, here designated, K ! ; isolectotypes, GH !, US !), 308 (syntype, K !), *E. H. Wilson* 713 (syntype, K !), 1442 (syntypes, GH !, K !, US !), 2310 (syntypes, GH !, K !).

五叶铁线莲 Fig. 19 : A - C

Woody vine. Branches shallowly 10 - 12-sulcate, sparsely puberulous, glabrescent. Leaves pinnate, 5-foliolate ; leaflets papery or subcoriaceous, linear-lanceolate, lanceolate, linear, or long ovate, (2.8 - 4 - 11) × (0.45 - 1) - 3.2 cm, at apex attenuate, acute, or obtuse, at base

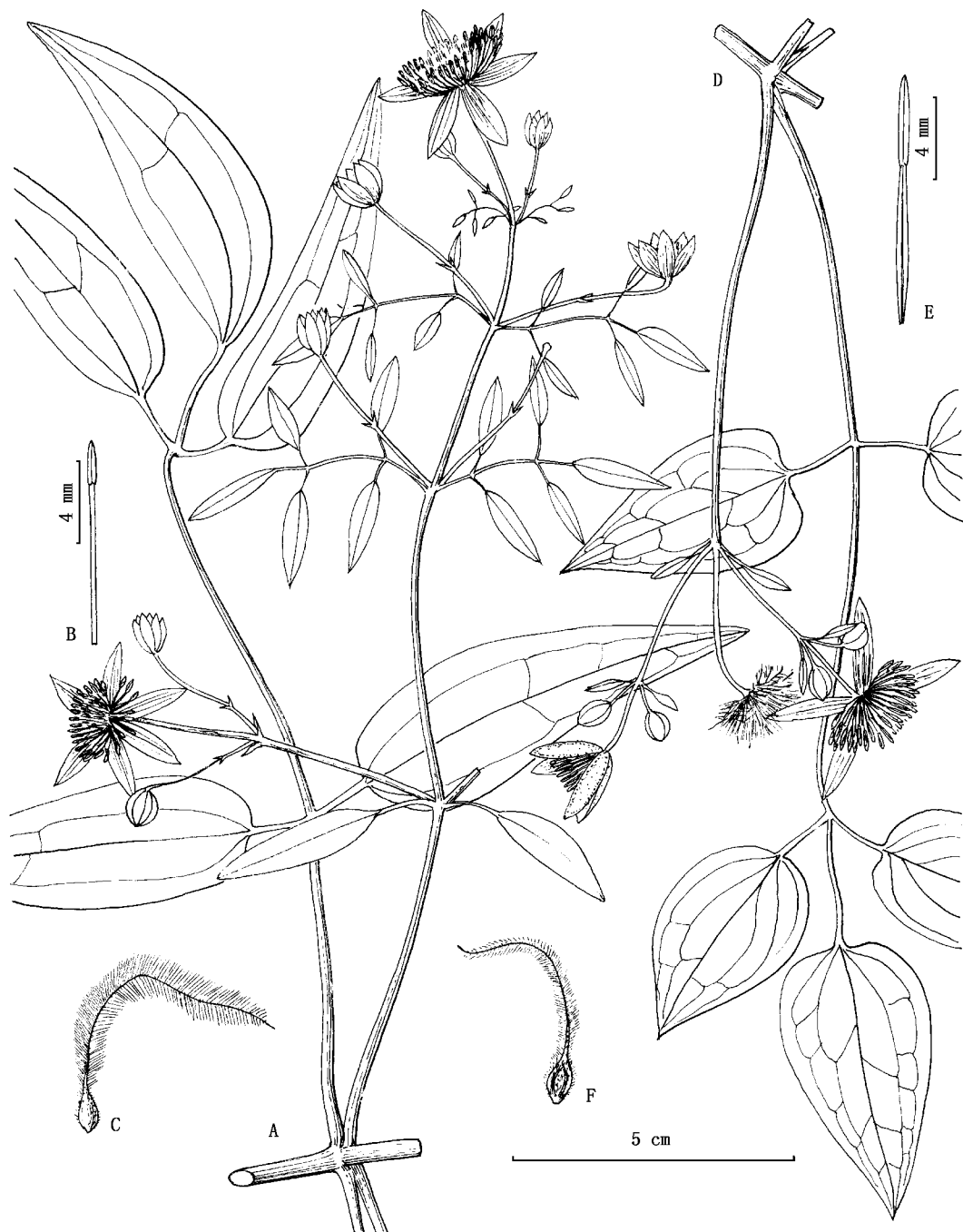


Fig. 19. A - C, *Clematis quinquefoliolata* Hutch. A, flowering branch; B, stamen; C, achene. (from E. H. Wilson 426) D - F, *C. shensiensis* W. T. Wang. D, flowering branch; E, stamen; (from K. T. Fu 8760) F, achene (from Henan Exped. 59-35156).

rounded or broadly cuneate, at margin entire, on both surfaces glabrous, basal veins abaxially slightly prominent; petioles 2.2–5.8 cm long, sparsely puberulous or glabrous. Cymes axillary or terminal, 3–7-flowered; peduncles 3.8–7 cm long; bracts foliaceous or simple, linear or lanceolate, 0.5–5.5 cm long. Flower 2.6–5 cm in diam.; pedicel 1.2–4 cm long, puberulous or glabrous. Sepals 4–6, white, narrowly oblong or obovate-oblong, 13–25 × 3.2–6.5 mm, at apex slightly obtuse, inside glabrous, outside puberulous or subglabrous, on margin velutinous. Stamens 7–15 mm long, glabrous; anthers narrowly oblong or linear, 2–3 mm long, at apex obtuse or minutely apiculate. Ovaries pubescent; styles 6–7 mm long, densely villous. Achenes compressed, elliptic or ovate, 5–5.5 × 2.8–3.5 mm, pubescent; persistent styles ca. 5 cm long, plumose. Fl. Jun. – Aug.

China (NE Guizhou, W Hubei, NW Hunan, Sichuan, CN Yunnan). On slopes, in bushes, or by streams.

Additional specimens examined. **China. Guizhou (贵州)**: Fanjingshan (梵净山), Z. S. Zhang et al. 401831 (PE). **Hubei (湖北)**: Nanto, Henry s. n. (K); Xingshan (兴山), H. J. Li 152 (HIB); Fang Xian (房县), E. H. Wilson 426 (GH, LE, US); Gianjiangkou, W. Y. Chun 3549 (GH, PE); Jianshi (建始), Henry 7523 (K). **Hunan (湖南)**: Shimen (石门), L. H. Liu 17472 (HNNU); Sangzhi (桑植), Chen & Peng 1131 (HUTM); Yongshun (永顺), D. G. Zhan (HIB). **Sichuan (四川)**: Nanchuan (南川), G. F. Li 53542 (HIB). **Yunnan (云南)**: Songming (嵩明), ?51338 (KUN).

53. Clematis akoensis Hayata in J. Coll. Sci. Univ. Tokyo 30:13. 1911; et Ic. Pl. Formos. 1:21, pl. 2. 1911; T. C. Huang in Fl. Taiwan 6:48. 1979; W. T. Wang in Bull. Bot. Res. Harbin 7(2):102. 1987; T. Y. Yang & T. C. Huang in Taiwania 40(3):211, fig. 1. 1995; et in Fl. Taiwan, ed. 2, 2:516, pl. 239. 1996; Grey-Wils., Clematis 99. 2000; W. T. Wang & Barth. in Fl. China 6:357. 2001. Type: China. Taiwan (台湾): Pingdong (屏东), Ako, Miharashi-toge, 1907-04, Kawakami & Mori 3137 (holotype, TI).

C. owatarii Hayata in J. Coll. Sci. Univ. Tokyo 30:17. 1911; et Ic. Pl. Formos. 1:23. 1911; T. S. Liu & Hsieh in Fl. Taiwan 2:488. 1976; W. T. Wang in Bull. Bot. Res. Harbin 7(2):101. 1987; M. Johnson, Klematis 616. 1997. Type: China. Taiwan (台湾): Pingdong (屏东), Ako, 1898-03-14, Owatari s. n. (holotype, TI!).

C. dolichosepala Hayata, Ic. Pl. Formos. 3:1. 1913; W. T. Wang in Bull. Bot. Res. Harbin 7(2):102. 1987. Type: China. Taiwan (台湾): Hengchun (恒春), Hierazen, 1910-02-16, Sasaki s. n. (holotype, TI!).

屏东铁线莲 Fig. 20 : C

Woody vine. Branches shallowly sulcate, glabrous. Leaves pinnate, 5-foliolate, sometimes ternate, glabrous; leaflets subcoriaceous, deltoid, cordate-ovate, ovate or broadly elliptic, (1.6–)3.3–5.8(–7.4) × (1.2–)3.4–5.4 cm, at apex acute, obtuse, or emarginate, at base subcordate, truncate, or broadly cuneate, at margin sparsely serrulate or entire, basal veins abaxially slightly prominent; petioles 4–7 cm long. Cymes axillary, (1–)5-flowered; peduncles 1–7.5 cm long; bracts petiolate, ovate, long elliptic, or linear. Flower 3.5–7.5 cm in diam.; pedicel 4–(8) cm long, glabrous. Sepals (5–)6, pinkish, obovate-oblong or oblong, 20–35 × 5–13 mm, at apex mucronate, inside glabrous, outside velutinous. Stamens 8–15 mm long, glabrous; anthers linear or narrowly oblong, 3.5–5 mm long, at apex minutely apiculate. Ovaries pubescent; styles ca. 10 mm long, densely villous. Achenes compressed, narrowly ovate or



Fig. 20. A, B, *Clematis dilatata* Pei. A, flowering branch; B, stamen. (from S. Y. Zhang 5175) C, *C. akoensis* Hayata flowering branch (from Y. P. Yang s. n.). D-F, *C. chinensis* Osbeck var. *chinensis*. D, flowering branch; E, stamen; (from W. T. Wang 80-1) F, achene (from J. Q. Tian et al. 263).

rhombic, 5–8 × ca. 3 mm, densely pubescent; persistent styles up to 4 cm long, plumose. Fl. Nov. to Feb. of the next year.

China (S Taiwan). In sunny places at forest margins; 0–800 m.

Additional specimens examined. **China. Taiwan** (台湾): Shinsuiei, Price 552 (K); Taidong (台东), S. Y. Lu s. n. (K); Pingdong (屏东), Y. P. Yang s. n. (GH).

54. Clematis dilatata Pei in Contr. Biol. Lab. Sci. Soc. China 10:105, fig. 15. 1936; Metcalf in Lingn. Sci. J. 20:129, pl. 5. 1941; M. C. Chang in Fl. Reip. Pop. Sin. 28:166, pl. 49. 1980; Z. H. Lin in Fl. Zhejiang 2:290, fig. 2-385. 1992; M. C. Chang et al., List Pl. E. China 163. 1993; M. Johnson, Klematis 607. 1997; Grey-Wils., Clematis 99. 2000; W. T. Wang & Barth. in Fl. China 6:359. 2001. Type: China. Zhejiang (浙江): Yunhe (云和), Mt. Niushoushan, 1933-06-25, S. Chen 1638 (syntype, NAS); Lishui (丽水), Mt. Baiyunshan, 1935-05, P. C. Tsoong 269 (syntype, NAS); Xianju (仙居), 1924-06-02, R. C. Ching 1768 (isosyntypes, GH!, MO!).

舟柄铁线莲 Fig. 20: A, B

Woody vine. Branches shallowly 10-sulcate, puberulous, glabrescent. Leaves twice or once pinnate; leaflets subcoriaceous, narrowly ovate, ovate, ovate-orbicular, or oblong-lanceolate, 3–10 × 1.5–5.2 cm, at apex acute or obtuse, at base rounded or subcordate, at margin entire, on both surfaces glabrous and conspicuously reticulate, basal veins slightly prominent; petioles 6.5–10 cm long, below toward base usually widened and connate with the base of opposite petiole, puberulous, glabrescent. Cymes axillary and terminal, 7–13-flowered; peduncles 3–8 cm long, puberulous; bracts linear or subulate, 7–10 mm long. Flower 3.4–5.5 cm in diam.; pedicel 2–5 cm long, densely puberulous. Sepals 5–(–7), white tinged with pink, oblanceolate or oblong, 1.8–3.5 × 0.5–1 cm, at apex acute, inside puberulous, outside velutinous or puberulous, on margin velutinous. Stamens 9–14 mm long, glabrous; anthers broadly linear or narrowly oblong, 3.2–4 mm long, at apex minutely apiculate. Ovaries puberulous; styles ca. 11 mm long, densely villous. Achenes compressed, narrowly ovate or lanceolate, 5–5.5 × 1.8–2 mm, pubescent; persistent styles ca. 3 cm long, plumose. Fl. May.

China (C & S Zhejiang). In forests or by streams in ravines.

Additional specimens examined. **China. Zhejiang** (浙江): Jingning (景宁), S. Y. Zhang 4933, 5175 (PE); Longquan (龙泉), Zhejiang Exped. 58-2170 (PE); Suichang (遂昌), Zhejiang Exped. 59-26547 (PE).

Ser. 2. **Armandianae** W. T. Wang in Acta Phytotax. Sin. 36(2):158. 1998. Type: *C. armandii* Franch.

Woody vines. Hornotinous branches alone arising from axillary buds of old branch. Leaves ternate or pinnate; leaflets coriaceous, at margin entire, undivided. Flowers small to large, in (1–) 3–many-flowered cymes arising singly or in pair from axillary buds of old branch. Sepals 4–(–6).

Three species, occurring in subtropical regions of China and adjacent countries.

55. Clematis lingyunensis W. T. Wang in Acta Bot. Yunnan. 8(3):266, fig. 3:3, 4. 1986; M. Johnson, Klematis 639. 1997; Grey-Wils., Clematis 104. 2000; W. T. Wang & Barth. in Fl. China 6:360. 2001. Type: China. Guangxi (广西): Lingyun (凌云), Yuhong (玉洪), 1957-04-16, C. Wang 43033 (holotype, PE!).

凌云铁线莲 Fig. 21: E, F

Woody vine. Branches shallowly 15-sulcate, only on nodes sparsely puberulous; bud scales

deltoid or triangular, 5 – 12 mm long, brown-puberulous, undivided or 3-lobed. Leaves ternate; leaflets coriaceous, ovate, 6.7 – 9.2 × 3.7 – 5.8 cm, at apex acuminate, at base subcordate, at margin entire, on both surfaces glabrous and finely reticulate, basal veins abaxially prominent; petioles 6 – 8 cm long, sparsely puberulous. Cymes ca. 3 arising from an axillary bud of old branch, the central one large, up to 20 cm long, many-flowered, panicle-like, the lateral ones smaller, 3.5 – 9 cm long, 5 – 9-flowered; peduncles 3 – 5 cm long, brownish puberulous; bracts linear-triangular or linear, ca. 9 mm long, undivided or 3-lobed, brownish puberulous. Flower 0.9 – 1.2 cm in diam.; pedicel 0.4 – 1.2 cm long, glabrous or very sparsely puberulous. Sepals 4, yellow, linear-lanceolate, broadly lanceolate, or long elliptic, 5 – 7 × 2 – 3 mm, at apex slightly obtuse, on both surfaces except outside velutinous margin glabrous. Stamens 3 – 3.2 mm long, glabrous; anthers linear, 2.5 – 2.8 mm long, at apex minutely apiculate. Ovaries densely puberulous; styles ca. 4 mm long, densely villous. Fl. Apr.

China (NW Guangxi, S Guizhou). In sparse forests by streams.

Additional specimen examined. **China. Guizhou (贵州)**: Chou-ly, Esquirol 4268 (P).

56. *Clematis armandii* Franch. in *Nouv. Arch. Mus. Hist. Nat. Paris*, ser. 2, 8 : 184, pl. 2. 1885; et *Pl. David*. 2 : 2, pl. 2. 1886; *Finet & Gagnep. in Bull. Soc. Bot. France* 50 : 526. 1903; et in *Lecomte, Fl. Gén. Indo-Chin.* 1 : 3. 1907; *Pamp. in Nuov. Giorn. Bot. Ital.*, n. ser., 17 : 269. 1910; *Rehd. & Wils. in Sarg., Pl. Wils.* 1 : 326. 1913; *Sprague in Curtis, Bot. Mag.* 140 : t. 8587. 1914; *Pei in Sinensia* 6 : 388. 1935; *Hand.-Mazz. in Acta Hort. Gotob.* 13 : 208. 1939; *Anonymous in Iconogr. Corm. Sin.* 1 : 748, fig. 1496. 1972; *Anonymous in Fl. Tsinling.* 1 (2) : 294. 1974; *Anonymous in Fl. Hupeh.* 1 : 368. 1976; *M. C. Chang in Fl. Reip. Pop. Sin.* 28 : 175, pl. 52. 1980, p. p.; *Ding et al., Fl. Henan.* 1 : 459. 1981; *C. Y. Wu, Ind. Fl. Yunnan.* 1 : 106. 1984; *M. Y. Fang in Fl. Xizang.* 2 : 90. 1985; *Lin & Zhao in Fl. Fujian.* 2 : 27. 1985; *Y. K. Li in Fl. Guizhou.* 3 : 57. 1986; *W. T. Wang in Fl. Guangxi* 1 : 287. 1991; *Z. H. Lin in Fl. Zhejiang* 2 : 291. 1992; *L. Q. Li in Vasc. Pl. Hengduan Mount.* 1 : 525. 1993; *W. T. Wang in Keys Vasc. Pl. Wuling Mount.* 166 : 1995; *M. Johnson, Clematis* 634. 1997; *Ho, Ill. Fl. Vietnam* 1 : 315, fig. 1267. 1999; *K. M. Liu in Fl. Hunan* 2 : 682. 2000; *Grey-Wils., Clematis* 107. 2000; *W. T. Wang in Acta Phytotax. Sin.* 38 (4) : 311. 2000; et in *Fl. Yunnan.* 11 : 226. 2000; *W. T. Wang & Barth. in Fl. China* 6 : 360. 2001. Type : China. Sichuan (四川) : Baoping (Mupin 宝兴), 1869-04, David s. n. (holotype, P!).

C. biondiana Pavol. in *Bull. Soc. Tosc. Ort.* 32 : 285. 1907; et in *Nuov. Giorn. Bot. Ital.*, n. ser., 15 : 401. 1908; *Pei in Sinensia* 6 : 389. 1935. — *C. armandii* var. *biondiana* (Pavol.) *Rehd. in J. Am. Arb.* 20 : 90. 1939. Type : China. Hubei (湖北) : Sian Menkvu, 1906-05-10, *Silvestri* s. n. (syntype); *Fang Sien*, 1906-05-20, *Silvestri* s. n. (syntype).

C. ornithopus Ulbr. in *Repert. Sp. Nov. Beih.* 12 : 375. 1922. Type : China. Sichuan (四川) : Wenchuan (汶川), *Limpricht* 1305 (holotype).

C. armandii var. *kiangnanensis* Coutois in *Bull. Soc. Bot. France* 72 : 428. 1925. Type : China. Jiangsu, *Courtois* 7186, 21042, 21120. Anhui, *Courtois* 8, 13, 20, 9403, 9487, 11356, 18588, 18780, 27632, 28465 (syntypes).

C. meyeniana Walp. var. *insularis* auct. non *Sprague* : *Gupta in Bull. Nat. Bot. Gard. Lucknow* 97 : pl. 56. 1964; *Kapoor in l. c.* 124 : 40. 1966; *Rau in Sharma et al., Fl. Ind.* 1 : 68. 1993.

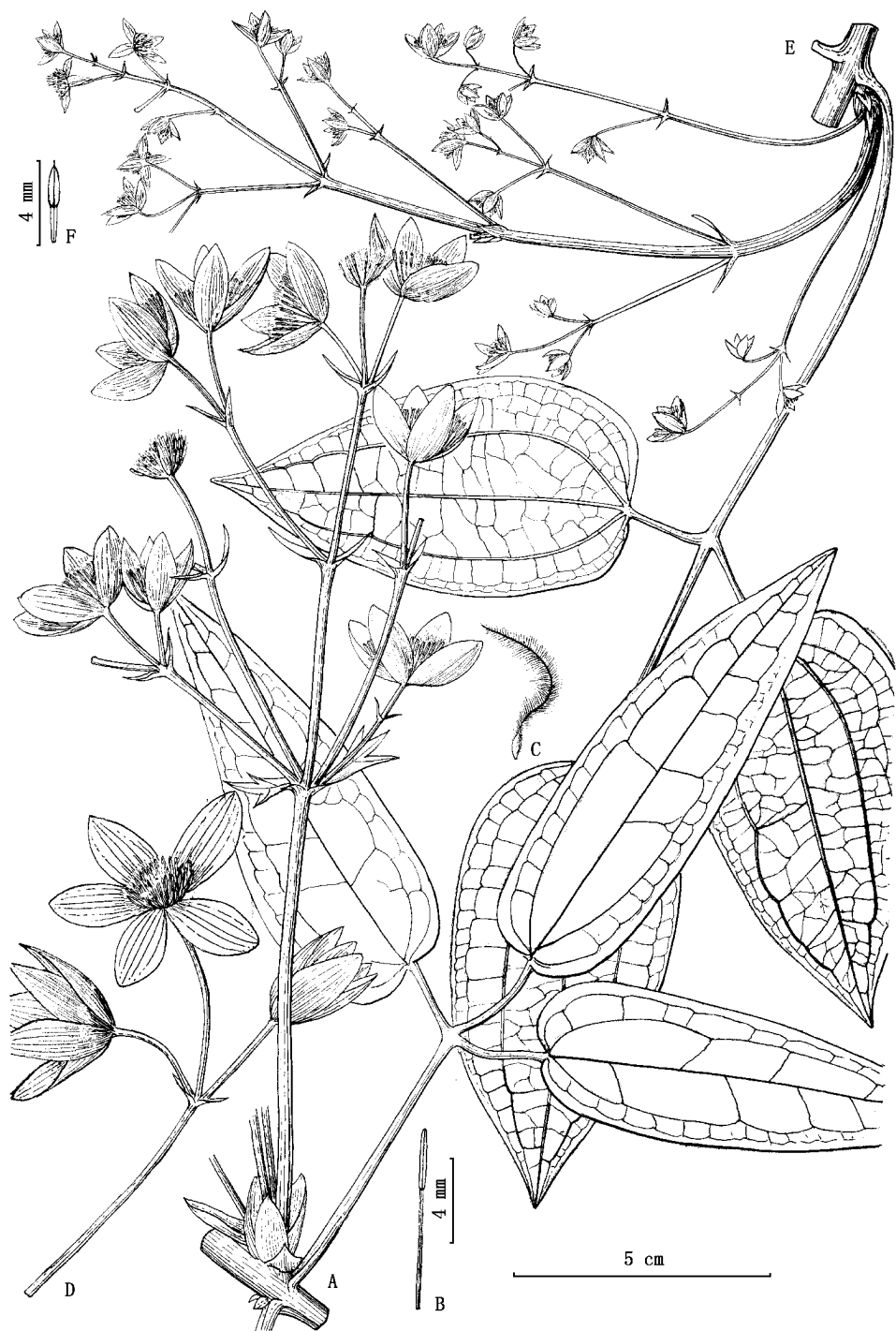


Fig. 21. A - C, *Clematis arandii* Franch. var. *arandii*. A, flowering branch; B, stamen; C, achene. (from S. X. Tan 123) D, *C. arandii* var. *farquhariana* (Rehd. & Wils.) W. T. Wang Inflorescence (from G. H. Yang 57626). E, F, *C. lingyunensis* W. T. Wang. E, flowering branch; F, stamen. (from C. Wang 43033)

This species consists of four varieties occurring in subtropical regions of China and adjacent countries.

56a. var. armandii Fig. 21 : A - C

Woody vine. Branches shallowly 10 - 16-sulcate, sparsely puberulous, glabrescent; bud scales ovate, triangular, or oblong, 0.8 - 2 cm long, puberulous. Leaves ternate; leaflets coriaceous, narrowly ovate, lanceolate, or ovate, 5 - 16 × 1.5 - 7 cm, at apex acuminate or attenuate, at base rounded, subcordate, or broadly cuneate, at margin entire, on both surfaces glabrous, basal veins abaxially prominent; petioles 3.6 - 11 cm long, below sparsely puberulous or glabrous. Cymes usually 1 - 3 arising from an axillary bud of old branch, 7 - many-flowered, seldom singly from leaf axils of hornotinous branch and 1 - many-flowered; peduncles 0.4 - 8 cm long, puberulous or glabrous; bracts narrowly oblong or linear, 0.7 - 2 cm long, undivided, sometimes 3-lobed. Flower 2.5 - 4.5 cm in diam.; pedicel 1.8 - 7 cm long, sparsely puberulous or glabrous. Sepals 4 (- 5), white, narrowly oblong, obovate-oblong, or oblong, 1.2 - 2.4 × 0.2 - 0.7 cm, at apex obtuse or rounded, inside glabrous, outside sparsely puberulous or glabrous, on margin velutinous. Stamens 6 - 11 mm long, glabrous; anthers linear or narrowly oblong, 3 - 4.5 mm long, at apex minutely apiculate or obtuse. Ovaries pubescent; styles 6 - 8 mm long, densely villous. Achenes compressed, narrowly ovate or elliptic-ovate, 4 - 5 × 2 - 3 mm, sparsely puberulous, slightly rimmed; persistent styles 1.6 - 4.8 cm long, plumose. Fl. Mar. - Apr.

China (W Anhui, Fujian, S Gansu, N Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangxi, S Shaanxi, Sichuan, E Xizang, Yunnan, S Zhejiang), NE India, N Myanmar, Vietnam. On slopes, in bushes, at forest margins, or by streams; 100 - 2400 m.

Additional specimens examined. **China. Anhui** (安徽): Jinzhai (金寨), ?211 (PE). **Fujian** (福建): Changting (长汀), ?811 (PE); Liancheng (连城), Y. Ling 3226 (PE); Yong'an (永安), Y. Ling 2956 (PE); Nanping (南平), G. S. He 1428 (PE). **Gansu** (甘肃): Wen Xian (文县), T. P. Wang 20437 (WUK), Z. Y. Zhang 14785 (PE). **Guangdong** (广东): Ruyuan (乳源), S. P. Ko 53986 (PE); Conghua (从化), L. Deng 8751 (PE). **Guangxi** (广西): Lingyun (凌云), S. P. Ko 28642 (PE); Rongan (融安), X. R. Chen 52986 (PE); Yangshuo (阳朔), R. H. Shan 608 (PE); Nanning (南宁), W. T. Tsang 21844 (LE). **Guizhou** (贵州): Anlong (安龙), Guizhou Exped. 60-5291 (PE); Wangmo (望谟), Guizhou Exped. 60-1875 (PE); Pinfa (平伐), Cavalerie 1758 (P), 2797 (K); Rongjiang (榕江), S Guizhou Exped. 2838 (PE); Gan-chouen, Cavalerie 4261 (GH); Tchen-fong, Cavalerie 350 (PE); Zunyi (遵义), P. C. Tsoong 359 (PE); Fanjingshan (梵净山), Y. Tsiang 7951 (GH, P). **Hubei** (湖北): Lichuan (利川), C. T. Hua 295 (PE); Xuanen (宣恩), H. J. Li 5152 (PE); Badong (巴东), Henry 502 (LE), H. C. Chow 208 (GH, PE); Yichang (宜昌), P. X. Dong 38 (PE); Xingshan (兴山), E. H. Wilson 95 (GH); Nang-tciang, Silvestri 3909 (GH); Without precise locality, Henry 1468, 3377, 5223A, 5998 (GH). **Hunan** (湖南): Shimen (石门), Hupingshan Exped. 87-174 (PE); Sangzhi (桑植), B. R. Liao 511 (HUTM); Longshan (龙山), L. H. Liu 1774 (PE); Suining (绥宁), Y. T. Liu 1091 (HUTM); Wugang (武功), L. H. Liu 15961 (HNNU); Changsha (长沙), P. J. Chen 35 (HUTM); Shuangpai (双牌), P. Z. Zhou 238 (HUTM); Yizhang (宜章), W. T. Tsang 23641 (G, GH). **Jiangxi** (江西): Suichuan (遂川), C. L. Jin s. n. (PE); Jinggangshan (井冈山), Jiangxi Univ. Exped. 660069 (PE); Nanfeng (南丰), Jiangxi Univ. Exped. 650258 (PE). **Shaanxi** (陕西): Chenggu (城固), T. N. Liou 11562 (PE); Hanzhong (汉中), Y. L. Qiao 1645 (WUK);

Nanzheng(南郑), X. X. Hou 279(WUK); Ziyang(紫阳), P. C. Kuo 2156(PE); Pingli(平利), K. M. Liou 8469(PE); Shanyang(山阳), J. X. Yang 2721(PE). **Sichuan**(四川): Jinyang(金阳), Liangshan Exped. 59-3402(PE); Leibo(雷波), M. Y. He 117028(PE); Pingshan(平山), Yibin Exped. 59-764(PE); Junlian(筠连), Yibin Exped. 59-66(PE); Xingwen(兴文), Yibin Exped. 59-390(PE); Emeishan(峨眉山), E. H. Wilson 4695(GH), W. P. Fang 15905, 16067, 16191(GH), G. H. Yang 54247, 54661(PE); Ya'an(雅安), 1893-04-01, Potanin s. n.(LE); Jiudingshan, E. H. Wilson 855(GH); Tianquan(天全), Z. G. Liu & Y. B. Yang 21854(WUK); Baoxing(宝兴), X. S. Zhang 4781(PE); Dujiangyan(都江堰), F. T. Wang 20500, 20695(GH, PE); Nanchuan(南川), F. T. Wang 10949, G. F. Li 60141, 60871, S. X. Tan 123(PE); Fengjie(奉节), H. F. Zhou 107889(PE); Wushan(巫山), T. P. Wang 10344(PE); Chengkou(城口), T. L. Dai 100035(PE); Jiange(剑阁), T. N. Liou & C. Wang 345(WUK). **Yunnan**(云南): Yangbi(漾濞), Forrest 21072(GH), R. C. Ching 22249(PE); Dali(大理), H. C. Wang 3572(PE); Shuangbai(双柏), W. C. Yin 636(PE); Yimen(易门), W. C. Yin 152(PE); Lufeng(禄丰), Forrest 193(GH); Kunming(昆明), Handel-Mazzetti 337, Schneider 184(G, GH, K), T. N. Liou 14924, 20379(PE); Songming(嵩明), B. Y. Qiu 51598(PE); Dongchuan(东川), Maire 3132(LE); Zhaotong(昭通), Ducloux 4955(K, P), H. T. Tsai 50885(PE); Qiaojia(巧家), Ducloux 6176(P); Tiensin, Maire s. n.(PE); Zhanyi(沾益), Y. H. Li 193(PE); Lu'nan(路南), F. C. How 74304(PE); Mile(弥勒), Ducloux 5671(GH, P); Mengzi(蒙自), Henry 9349, Hancock 99(K); Guangan(广南), C. W. Wang 87416(PE); Funing(富宁), C. W. Wang 88460(WUK); Xichou(西畴), C. W. Wang 85467(PE); Wenshan(文山), H. T. Tsai 51469(PE); Maguan(马关), H. T. Tsai 51946(GH, PE); Malipo(麻栗坡), C. W. Wang 86780(PE); Damenglong(大勐龙), C. W. Wang 78284(GH, PE); Simao(思茅), Henry 9349B(LE); Shuangjiang(双江), J. S. Xin 865(PE). **Zhejiang**(浙江): Qingyuan(庆元), B. Y. Ding 3870(HZU); Yunhe(云和), J. X. Wang 1981(PE).

India. Naga Hills, Bor 2854, 2881(K); Apa Tani Valley, Cox & Hutchinson 339(K).

Myanmar. Mangalon State: Manhsun, Dickason 9754(GH).

Vietnam. Tonkin: Kienkhe, Bon 1992(P).

56b. var. **farquhariana**(Rehd. & Wils.) W. T. Wang in Acta Phytotax. Sin. 36(2): 158. 1998; K. M. Liu in Fl. Hunan 2: 684. 2000; Grey-Wils., Clematis 108. 2000; W. T. Wang & Barth. in Fl. China 6: 360. 2001. — *C. armandii* f. *farquhariana* Rehd. & Wils. in Sarg., Pl. Wils. 1: 327. 1913; Hand.-Mazz. in Acta Hort. Gotob. 13: 208. 1939. Type: China. Hubei(湖北): Changyang(长阳), 1907-04, E. H. Wilson 95a(holotype, GH!).

大花小木通 Fig. 21: D

Leaflets at apex acuminate. Cymes usually 3-flowered. Sepals 4-5, larger, 2.1-4 × 0.1-1.2 cm.

China(W Hubei, W Hunan, S Shaanxi, E Sichuan). In bushes or sparse forests, or by streams; 550-1500 m.

Additional specimens examined. **China.** **Hubei**(湖北): Lichuan(利川), Y. C. Ye 315(PE); Without precise locality, Henry 5388, 5998(G). **Hunan**(湖南): Shimen(石门), C. M. Zhang 866022(HUIF); Xuefengshan(雪峰山), Z. T. Li 2367(PE). **Shaanxi**(陕西): Zhenping(镇坪), G. Y. Xu 4748, 4806(WUK); Pingli(平利), P. Y. Li 1702, 2482(WUK); Ankang(安康), Y. L. Qiao 1559(WUK); Hanzhong(汉中), Y. L. Qiao 1645

(WUK); Shanyang (山阳), J. X. Yang 2721 (WUK). **Sichuan** (四川): Nanchuan (南川), K. C. Kuan et al. 107 (PE); Fengjie (奉节), M. Y. Fang 24030, H. F. Zhou 107558 (PE); Wushan (巫山), G. H. Yang 57581, 57626, 58181 (PE); Chengkou (城口), T. L. Dai 100244 (PE).

56c. var. **hefengensis** (G. F. Tao) W. T. Wang in Acta Phytotax. Sin. 29(5):464. 1991; M. Johnson, Klematis 635. 1997; Grey-Wils., Clematis 108. 2000; W. T. Wang & Barth. in Fl. China 6:360. 2001. — *C. hefengensis* G. F. Tao in Acta Phytotax. Sin. 22(5):424, fig. 2. 1984. Type: China. Hubei (湖北): Hefeng (鹤峰), 1400 m, 1981-04-28, J. X. Hong 1226 (holotype, WUBI).

鹤峰铁线莲

Leaflets at apex acuminate. Cymes 1–3-flowered. Sepals 4–6, 3.7–4.7 × 1–2 cm.

China (SW Hubei). In forests or by streams; 1400 m.

Specimens examined. **China. Hubei** (湖北): Hefeng (鹤峰), J. X. Hong 1227, F. S. Peng 115 (PE).

56d. var. **retusifolia** (J. Q. Fu & S. B. Ho) W. T. Wang, st. et comb. nov. — *C. retusifolia* J. Q. Fu & S. B. Ho in Acta Bot. Bor.-Occ. Sin. 13(7):45, fig. 1. 1993. Type: China. Shaanxi (陕西): Zhenping (镇坪), Shangzhu Village (上竹乡), 1050 m, in valley, 1989-04-09, Y. Q. Zhao 551 (holotype, WUK).

凹叶铁线莲

Leaflets at apex retuse. Cymes 3-flowered. Sepals 4–6, ca. 1.5 cm long.

China (S Shaanxi). In valley; 1050 m.

57. Clematis zygophylla Hand.-Mazz. in Acta Hort. Gotob. 13:209. 1939; M. Johnson, Klematis 643. 1997; Grey-Wils., Clematis 106. 2000; W. T. Wang & Barth. in Fl. China 6:360. 2001. Type: China. Guizhou (贵州): Anshun (安顺), 1914, Cavalerie 4261 (holotype, K!).

安顺铁线莲

Woody vine. Branches shallowly sulcate; bud scales lanceolate, 0.8–2 cm long, brownish velutinous. Leaves pinnate or ternate, glabrous; leaflets subcoriaceous, narrowly lanceolate, 6–14 × 1–2 cm, at apex falcate-acuminate, at base cuneate or subrounded, at margin entire; petioles 4–6 cm long. Cymes axillary, many-flowered, panicle-like, arising from axillary buds of old branch; peduncles 8–9.5 cm long; bracts linear-lanceolate, often 3-lobed, brownish puberulous. Flower 3–3.5 cm in diam.; pedicel 1–2 cm long, glabrous. Sepals 4, linear-lanceolate or oblanceolate, 1.5–1.8 × 0.2–0.5 cm, at apex obtuse or slightly acute, inside glabrous, outside on margin velutinous, elsewhere glabrous. Stamens 5–8 mm long, glabrous; anthers linear or narrowly linear, 2.8–3 mm long, at apex obtuse. Ovaries pubescent; styles ca. 5 mm long, densely villous.

China (Guizhou: Anshun). Known only from the type specimen.

Ser. 3. **Rectae** Prantl ex Rehd. & Wils. in Sarg., Pl. Wils. 1:325. 1913, p. p.; Rehd., Man. Cult. Tr. & Shr., ed. 2, 215. 1941; Tamura in Sci. Rep. Osaka Univ. 4:54. 1955; et in Acta Phytotax. Geobot. 16(3):81. 1956. — Sect. *Rectae* Serov in Bot. Zhurn. 73(12):1739. 1988. Type: *C. recta* L.

Subsection *Rectae* ser. *Chinenses* Tamura in ll. cc. — Sect. *Flammula* subsect. *Chinenses* (Tamura) M. Johnson, Klematis 603. 1997; Grey-Wils., Clematis 110. 2000. Type: *C. chinensis* Osb.

Sect. *Flammula* DC. subsect. *Flammula* M. Johnson l. c. 602; Grey-Wils., l. c. 95.

2000. Type : *C. flammula* L.

Woody vines or erect half-shrubs, small shrubs, or perennial herbs. Hornotinous branches alone arising from axillary buds of old branch. Leaves pinnate, ternate, or simple; leaflets papery, rarely subcoriaceous, at margin entire, usually undivided. Flowers small or medium-sized, in terminal and axillary cymes. Sepals 4(-6), outside on margin velutinous, elsewhere hairy or glabrous. Achenes strongly compressed, flattened, tumidly rimmed at margin, rarely narrowly rimmed.

Twelve species, wide-spread in E & SW Asia, Europe, and N Africa.

58. *Clematis chinensis* Osbeck, Dagbok Ostind. Resa 204, 242. 1757; et Voy. China & East Ind. 1:393. 1771; Rehd. in J. Arn. Arb. 14:200. 1933; Merr. in Trans. Amer. Philos. Soc. Philad. 24(2):154. 1935; Hand.-Mazz. in Acta Hort. Gotob. 13:206. 1939; Pei in Sunyatse-nia 4:165. 1940; Tamura in Acta Phytotax. Geobot. 15:19. 1953; Lauener & Green in Not. R. Bot. Gard. Edinb. 23(4):580. 1961; How & W. T. Wang in Fl. Hainan. 1:305. 1964; Hatusima, Fl. Ryukyus 277. 1971; Anonymous in Iconogr. Corm. Sin. 1:746, fig. 1491. 1972; Anonymous in Fl. Tsinling. 1(2):293. 1974; Walker, Fl. Okinawa & S Ryukyu Isls. 462. 1976; Anonymous in Fl. Hupeh. 1:367. 1976; Anonymous in Liu & Hsieh in Fl. Taiwan 2:483. 1976; M. C. Chang in Fl. Reip. Pop. Sin. 28:161. 1980; Ding et al., Fl. Henan. 1:456. 1981; Anonymous in Fl. Jiangsu. 2:173, fig. 1000. 1982; Tamura in Satake et al., Wild Flow. Jap. 2:74. 1982; C. Y. Wu, Ind. Fl. Yunnan. 1:107. 1984; Lin & Zhao in Fl. Fujian. 2:24. 1985; Y. K. Li in Fl. Guizhou. 3:54. 1986; X. W. Wang in Fl. Anhui 2:336. 1986; W. T. Wang in Fl. Guangxi 1:287. 1991; Z. H. Lin in Fl. Zhejiang 2:294. 1992; W. T. Wang in Keys Vasc. Pl. Wuling Mount. 167. 1995; T. Y. Yang & T. C. Huang in Taiwania 40(3):214, fig. 3. 1995; et in Fl. Taiwan, ed. 2, 2:518, pl. 240. 1996; M. Johnson, Klematis 627. 1997; Ho, Ill. Fl. Vietnam 1:316, fig. 1271. 1999; K. M. Liu in Fl. Hunan 2:689. 2000; Grey-Wils., Clematis 111. 2000; W. T. Wang in Fl. Yunnan. 11:227. 2000; et in Acta Phytotax. Sin. 39(4):314. 2001; W. T. Wang & Barth. in Fl. China 6:356. 2001. Type: China. Guangdong (广东): Guangzhou (Canton 广州), 1751, Osbeck s. n. (holotype, S!).

C. chinensis Retz., Obs. Bot. 2:18, t. 2. 1791; DC., Syst. 1:137. 1818; et Prodr. 1:3. 1824; Forb. in J. Bot. 22:262. 1884; Forb. & Hemsl. in J. Linn. Soc. Bot. 23:3. 1886; Pritz. in Bot. Jahrb. 29:332. 1900; Finet & Gagnep. in Bull. Soc. Bot. France 50:535. 1903, p. p.; et in Lecomte, Fl. Gén. Indo-Chin. 1:5. 1907. — *C. recta* L. ssp. *chinensis* (Retz.) Kuntze in Verh. Bot. Ver. Brand. 26:114. 1885. Type: China. Canton or Macao, 1771, Bladh s. n. (holotype).

C. sinensis Lour., Fl. Cochinch. 345. 1790. Type: no type specimen designated.

C. minor Lour. l. c.; DC., Syst. 1:136. 1818; Forb. in J. Bot. 22:263. 1884. Type: no type specimen designated.

C. longiloba DC., Syst. 1:136. 1818. Type: China, Staunton s. n. (holotype, G!).

C. benthamiana Hemsl. in J. Linn. Soc. Bot. 23:2. 1886, nom. nud. Type: China. Zhejiang (浙江): Ningbo (宁波), Forbes 819 (syntype, BM!); Putuo (普陀), Carless s. n. (syntype, BM!). Fujian (福建): Xiamen (厦门), Fortune A89 (syntypes, K!, P!).

C. funebris Lévl. & Van. in Bull. Acad. Intern. Geogr. Bot. 11:168. 1902. Type: China. Guizhou (贵州): Ganpin, 1897-08-09, Martin & Bodinier 1787 (holotype, E!; isotype, P!).

C. oligocarpa Lévl. & Van. in Bull. Acad. Intern. Geogr. Bot. 17 (n. 210 – 211): ii. 1907. Type : China. Guizhou (贵州): Pinfa (平伐), 1902-08-20, Cavalerie 2490 (holotype, E !; isotypes, GH !, K !).

C. cavaleriei Lévl. & Port. in Repert. Sp. Nov. 9 : 20. 1910. Type : China. Guizhou (贵州): Lofou, 1909-03, Cavalerie 3582 (holotype, E !; isotypes, GH !, K !).

C. liukuensis Warb. in Repert. Sp. Nov. 16 : 352. 1920. Type : Japan. Ryukyu Isls., 1887-09, Warburg s. n. (holotype, not seen).

威灵仙

This species consists of five varieties wide-spread in the subtropical regions of China and adjacent countries.

58a. var. chinensis Fig. 20 : D – F (see p. 131)

Woody vine, turning black when drying. Branches 8 – 14-sulcate, glabrous or very sparsely puberulous. Leaves pinnate, usually 5-foliolate; leaflets papery, ovate, narrowly ovate, or lanceolate, sometimes lanceolate-linear or orbicular-ovate, 1.5 – 9.5 × 0.7 – 6.4 cm, at apex attenuate, acuminate, or acute, seldom obtuse, at base rounded, broadly cuneate, or subcordate, at margin entire, adaxially on veins sparsely puberulous, glabrescent, abaxially glabrous or on veins sparsely puberulous, basal veins abaxially slightly prominent; petioles 1.8 – 7.5 cm long. Cymes axillary and terminal, usually many-flowered, panicle-like; peduncles 3 – 8.5 cm long; bracts petiolate, elliptic or oblong, or sessile, small, linear. Flower 1.2 – 2.2 cm in diam.; pedicel 1.4 – 3 cm long, sparsely puberulous. Sepals 4, white, obovate-oblong, oblanceolate, or lanceolate, 6 – 13 × 1.8 – 3 (– 4) mm, at apex acute, inside glabrous, outside near apex puberulous, on margin velutinous. Stamens 3 – 6 mm long, glabrous; anthers narrowly oblong or linear, 2 – 3.5 mm long, at apex minutely apiculate or nearly obtuse. Ovaries pubescent; styles 3 – 5 mm long, densely villous. Achenes compressed, elliptic, 5 – 7 × 3.5 – 4 mm, puberulous; persistent styles 1.8 – 4 cm long, plumose. Fl. Jun. – Sept.

China (S Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hainan, S Henan, Hong Kong, Hubei, Hunan, S Jiangsu, Jiangxi, S Shaanxi, Sichuan, Taiwan, S Yunnan, Zhejiang), Japan (Ryukyu Isls.), Vietnam. On slopes, in bushes, or by streams; 140 – 1500 m.

Additional specimens examined. **China. Anhui** (安徽): Huangshan (黄山), K. C. Kuan 75242 (PE); Jiuhuashan (九华山), R. C. Ching 8418 (GH); Qianshan (潜山), C. S. Fan & Y. Y. Li 177 (G, GH); Jinzhai (金寨), X. S. Shen 1041 (ANUB); Huoshan (霍山), Anhui Exped. 59-50042 (PE); Shucheng (舒城), E China Station Exped. 4519 (PE); Tongling (铜陵), B. Q. Zhao 957 (ANUB); Chu Xian (滁县), Anhui Exped. 59-250 (ANUB). **Fujian** (福建): Xiamen (厦门), Fortune 94 (G, LE); Fuzhou (福州), T. C. Chang 4156 (G); Nanping (南平), P. C. Tsoong 347 (PE); Jianyang (建阳), T. P. Jian et al. 400313 (PE). **Guangdong** (广东): Zhaoqing (肇庆), G. L. Shi 13187 (PE); Dinghushan (鼎湖山), Y. Tsiang 1484 (GH); Guangzhou (广州), W. Y. Chun 5460 (PE), Y. Tsiang 1207 (G, GH, PE); Shantou (汕头), Q. J. Liang 1307 (PE); Qingyuan (清远), K. D. Zhuo 1090 (PE); Yingde (英德), H. Y. Liang 61090 (PE); Wengyuan (翁源), S. K. Lau 24274 (PE); Ruyuan (乳源), W. Y. Chun 10903 (PE); Lechang (乐昌), N. K. Chun 41933 (PE); Yangshan (阳山), T. M. Tsui 646 (GH, K, PE); Lian Xian (连县), D. Z. Fu et al. 413 (PE). **Guangxi** (广西): Yulin (玉林), Y. Z. Lin 315 (PE); He Xian (贺县), S. Q. Zhong 62730 (PE); Pingle (平乐), S. Q. Zhong 66871 (PE); Yangshuo (阳朔), R. H. Shan 580 (PE); Guilin

(桂林), W. T. Tsang 27986 (GH). **Guizhou** (贵州): Anlong (安龙), Guizhou Exped. 58-5854 (PE); Luodian (罗甸), S Guizhou Exped. 59-384 (PE); Dafang (大方), Bijie Exped. 59-1127 (PE); Chishui (赤水), Bijie Exped. 59-1361 (PE); Weng'an (瓮安), Libo Exped. 1742 (PE); Shibing (施秉), Wulingshan Exped. 88-3473 (PE). **Hainan** (海南): Changjiang (昌江), H. Y. Liang 66160 (GH, PE); Chung Kon, Gressitt 1038 (G). **Henan** (河南): Shangcheng (商城), Henan Exped. 59-8105 (PE); Xin Xian (新县), Xinxian Exped. 869 (PE); Jigongshan (鸡公山), Steward 9807 (K), 9743 (US). **Hong Kong** (香港): K. K. Tsong 655 (PE), H. C. Tang 2033 (GH). **Hubei** (湖北): Changyang (长阳), E. H. Wilson 1988 (K); Yichang (宜昌), Henry 1601, 4328 (K), 2033, 4347 (LE), E. H. Wilson 2477 (GH, K); Fang Xian (房县), K. M. Liou 9188 (PE); Xingshan (兴山), G. X. Fu 265 (PE); Wuchang (武昌), H. H. Chung 9107 (GH). **Hunan** (湖南): Yizhang (宜章), S. C. Chen 2373 (PE); Lingling (零陵), Handel-Mazzetti 11278 (GH); Dongan (东安), Y. Liu 657 (PE); Shaodong (邵东), B. G. Li 20 (HNNU); Hengshan (衡山), P. C. Tsong 1346 (PE); Changsha (长沙), Med. Inst. Exped. 104 (HUTM); Pingjiang (平江), S. F. Wu 8339 (SHTU). **Jiangsu** (江苏): Nanjing (南京), W. C. Cheng 195 (WUK); Yixing (宜兴), S. H. Mao 217 (PE); Suzhou (苏州), H. X. Ye 1049 (PE); Wuxi (无锡), H. B. Zhou 2573 (PE). **Jiangxi** (江西): Nanchang (南昌), H. H. Hu 1220 (GH); Xiushui (修水), S. S. Lai 2957 (PE); Wuning (武宁), S. S. Lai 2819 (PE); Lushan (庐山), H. H. Hu 2550, E. H. Wilson 1550 (GH, K), Steward 2449, Schindler 388 (LE), W. T. Wang 80-1 (PE); Guixi (贵溪), M. X. Nie 3941 (PE); Guangfeng (广丰), M. X. Nie 5678 (PE). **Shaanxi** (陕西): Hanzhong (汉中), J. W. Wang s. n. (PE); Mian Xian (勉县), K. T. Fu 3771 (WUK). **Sichuan** (四川): Jiading (嘉定), E. H. Wilson 1357 (GH, K); Hanyuan (汉源), T. P. Wang 8950 (PE); Ebian (峨边), C. W. Yao 4603 (PE); Leshan (乐山), F. T. Wang 23548 (GH, LE, PE); Emeishan (峨眉山), W. P. Fang 3340 (GH, K, PE), F. T. Wang 23282 (LE), J. Q. Tian et al. 263 (PE); Ya'an (雅安), T. P. Wang 8578 (PE); Dujiangyan (都江堰), Z. L. Wu 33753 (PE); Longchang (隆昌), Y. P. Xu 217 (WUK); Ziyang (资阳), Y. P. Xu 402 (WUK); Mianyang (绵阳), Y. P. Xu 112 (WUK); Jiange (剑阁), T. N. Liou & C. Wang 374 (WUK). **Taiwan** (台湾): Taizhong (台中), T. Y. Yang et al. 2232 (PE); Taidong (台东), H. Keng 1373 (US); Miaoli (苗栗), T. C. Huang 12673 (GH); Nantou (南投), T. Y. Yang et al. 5880 (PE); Hualian (花蓮), Tamura et al. 21746 (KYO); Taibei (台北), Tamura & Koyama 23492 (PE); Without precise locality, Swinhoe 54, Henry 189A (K). **Yunnan** (云南): Menghan, K. M. Feng 20758 (PE); Ma Hong, Maire 7448 (LE). **Zhejiang** (浙江): Jiande (建德), Zhejiang Exped. 29406 (HHBG); Changhua (昌化), Y. Y. Ho 23993 (PE); Hangzhou (杭州), T. Tang & W. Y. Hsia 206 (GH); Zhuji (诸暨), X. B. Li 821087 (PE); Dinghai (定海), S. Chen 4148 (PE); Ningbo (宁波), Faber s. n. (K); Pingyang (平阳), R. C. Ching 1997 (US).

Japan. Ryukyu Isls., Fruse 3301, 3343, 4632 (K).

Vietnam. Tonkin: Cho-gauh, Petelot 1152 (GH); Annam: Mai-lank, Poilane 10192 (GH).

58b. var. **fujisanensis** (Hisauti & Hara) W. T. Wang in Acta Phytotax. Sin. 39 (4): 317. 2001. — *C. fujisanensis* Hisauti & Hara in J. Jap. Bot. 15: 180. 1939; Ohwi, Fl. Jap. 443. 1965; Kitamura & Murata, Colour. Ill. Herb. Pl. Jap., rev. ed., 2: 227, fig. 102: 5. 1980; Tamura in Satake et al., Wild Flow. Jap. 2: 74. 1982; M. Johnson, Klematis 628. 1997; Grey-Wils., Clematis 112. 2000. Type: Japan. Omiyaguti, ca. 1000 m, 1932-08-23, Hisauti s. n.

(syntype); Prov. Sagami, Mt. Oyama, 1932-10-23, Hisauti s. n. (isotype, GH!).

C. kyushuensis Tamura in Acta Phytotax. Geogr. 15(1):19. 1953; M. Johnson, Klematis 629. 1997. Type: Japan. Prov. Satsuma, Ohsumi, 1915-09-12, Tashiro s. n. (holotype, KYO!).

This variety differs from var. *chinensis* in its larger flowers 1.5–4 cm in diam. with sepals (8–)10–22 mm long, (2–)3–5 mm broad. Leaves pinnate; leaflets ovate or triangular, at base truncate, subcordate, or rounded, at margin entire, rarely few dentate. Axillary inflorescences usually many-flowered and panicle-like. Sepals 4(–5–6). Fl. Aug. – Sept.

Japan (Kyushu, S Honshu). On slopes, by streams, or in bushes.

Additional specimens examined. **Japan.** Mt. Fuji, Hisauti s. n. (TI); Fukuka: Chikugo, Masatomi 76647 (KYO); Kumamoto, Mikge 7690 (KYO); Osumi, Tashiro s. n. (KYO); Sagami: Mt. Kintoki, Mizushima 1565 (TI); Satsuma, Tashiro s. n. (KYO); Sigami: Mt. Oyama, Hisauti s. n. (GH); Suruga, Momiyama 1091 (TI); Tokyo: Mt. Kawanori, Midorikawa s. n. (TI).

58c. var. **anhweiensis** (M. C. Chang) W. T. Wang in Acta Phytotax. Sin. 39(4):317. 2001; W. T. Wang & Barth. in Fl. China 6:356. 2001. — *C. anhweiensis* M. C. Chang in Fl. Reip. Pop. Sin. 28:162, pl. 48. 1980; X. W. Wang in Fl. Anhui 2:337, fig. 644. 1986; Z. H. Lin in Fl. Zhejiang 2:294, fig. 2-391. 1992; M. Johnson, Klematis 627. 1997; Grey-Wils., Clematis 111. 2000. Type: China. Anhui (安徽): Guichi (贵池), 200 m, 1959-07-01, Guichi Exped. 7022 (holotype, NAS!); She Xian (歙县), ?2234 (paratype).

安徽铁线莲

This variety differs from var. *chinensis* in its 1(–3)-flowered axillary cymes and larger sepals 10–20 mm long, ca. 4 mm broad. Leaves pinnate; leaflets narrowly ovate or ovate, at base rounded, truncate, or subcordate. Sepals 4. Fl. May.

China (S Anhui, W Zhejiang). On slopes, in bushes, or by streams.

Additional specimen examined. **China. Zhejiang (浙江):** Jiande (建德), Zhejiang Exped. 58-29406 (PE).

58d. var. **bipinnata** (Tamura) W. T. Wang in Acta Phytotax. Sin. 39(4):317. 2001. — *C. kyushuensis* Tamura var. *bipinnata* Tamura in Acta Phytotax. Geobot. 16(3):79. 1956. Type: Japan. Kyushu: Prov. Hiuga, Mera-mura, 1920-08, Tashiro s. n. (holotype, KYO!).

This variety differs from var. *chinensis* in its bipinnate leaves and slightly larger flowers 1.5–2.7 cm in diam. Leaflets lanceolate or narrowly ovate, 1.5–5 × 0.6–2.3 cm. Sepals 4, 8–15 × 2–4 mm. Fl. Aug. – Sept.

Japan (Kyushu).

Additional specimens examined. **Japan.** Higo: Kamagun, Hatusima 23954 (KYO); Satsuma, Ichiiki s. n. (KYO).

58e. var. **vestita** (Rehd. & Wils.) W. T. Wang in Acta Phytotax. Sin. 36(2):158. 1998 et 39(4):317. 2001; Grey-Wils., Clematis 112. 2000; W. T. Wang & Barth. in Fl. China 6:357. 2001. — *C. chinensis* f. *vestita* Rehd. & Wils. in Sarg., Pl. Wils. 1:330. 1913; Bailey in Gent. Herb. 1:23. 1920; Rehd. in J. Arn Arb. 4:185. 1923; Hand.-Mazz. in Acta Hort. Gotob. 13:206. 1939; M. C. Chang in Fl. Reip. Pop. Sin. 28:162. 1980; Anonymous in Fl. Jiangsu. 2:173. 1982; X. W. Wang in Fl. Anhui 2:337. 1986; Z. H. Lin in Fl. Zhejiang 2:295. 1992; J. Q. Fu in Fl. Loe.-Plat. Sin. 1:447. 2000. Type: China. Hubei (湖

北): Yichang(宜昌), 300–1000 m, 1907-06, E. H. Wilson 2474 (holotype, GH!; isotypes, K!, US!).

毛叶威灵仙

This variety differs from var. *chinensis* and other varieties of *C. chinensis* in its leaflets being abaxially more or less densely puberulous. Leaves pinnate; leaflets ovate or lanceolate, 1.5–5 × 1–1.2 cm. Sepals 4, 6–9 × 2–3 mm.

China (Anhui, S Henan, Hubei, Jiangsu, S Shaanxi, Zhejiang). On grassy slopes.

Additional specimens examined. **China. Anhui** (安徽): Hefei (合肥), H. R. Zhou 163 (ANUB); Langyashan (狼牙山), Q. Shi 3 (SDMP); Fengyang (凤阳), Anhui Exped. 59-170 (PE). **Henan** (河南): Biyang (泌阳), Henan Exped. 59-30718 (PE). **Hubei** (湖北): Wuchang (武昌), X. Z. Sun 1811 (HIB). **Jiangsu** (江苏): Jiangning (江宁), Y. Huang 6110 (WUK); Danyang (丹阳), Jurong Exped. 58-329 (WUK); Xuzhou (徐州), Jiangsu Exped 58-20079 (WUK). **Shaanxi** (陕西): Yang Xian (洋县), T. N. Liou & P. C. Tsoong 3933 (PE); Hanzhong (汉中), J. W. Wang s. n. (PE). **Zhejiang** (浙江): Zhuji (诸暨), K. L. Chen 1450 (PE).

59. Clematis pashanensis (M. C. Chang) W. T. Wang in Fl. China 6: 357. 2001. — *C. kirilowii* Maxim. var. *pashanensis* M. C. Chang in Fl. Reip. Pop. Sin. 28: 159, 356. 1980; M. Johnson, *Clematis* 614. 1997; Grey-Wils., *Clematis* 98. 2000. Type: China. Hubei (湖北): Without precise locality, Autumn 1922, W. Y. Chun 3864 (holotype, NAS!; isotype, PE!); Xingshan (兴山), H. J. Li 1201 (paratype, PE!).

C. chinensis auct. non Osb.: Finet & Gagnep. in Bull. Soc. Bot. France 50: 535. 1903.

C. benthamica auct. non Hemsl.: Rehd. & Wils. in Sarg., Pl. Wils. 1: 330. 1903, p. max. p., quoad pl. Hubei.; Anonymous in Fl. Hubei 1: 367. 1976.

巴山铁线莲

This species consists of two varieties endemic in C & E China.

59a. var. pashanensis Fig. 22: H–J

Woody vine, not or occasionally turning black when drying. Branches 4–6-angulate, shallowly sulcate, puberulous, glabrescent. Leaves pinnate; leaflets subcoriaceous or chartaceous, narrowly ovate, ovate, or lanceolate, 3–9 × 1–4.6 cm, at apex acute, attenuate, or obtuse, at base rounded or broadly cuneate, at margin entire, undivided, seldom 2–3-lobed, on both surfaces near base or on midrib puberulous or glabrous, seldom abaxially densely puberulous, conspicuously reticulate, basal veins prominent; petioles 2.2–4.8 cm long. Cymes axillary and terminal, (1–3–∞) many-flowered, often panicle-like; peduncles 1–4.8 cm long; bracts often petiolate, narrowly ovate or lanceolate, 0.9–2.5 cm long, or sessile, linear, ca. 6 mm long. Flower 1.4–2.6 cm in diam.; pedicel 1.2–3 cm long, puberulous. Sepals 4, white, narrowly obovate, obovate-oblong, suboblong, or oblanceolate, 7–14 × 3–5 mm, at apex obtuse or rounded, inside glabrous, outside sparsely puberulous, on margin velutinous. Stamens 4–6.5 mm long, glabrous; anthers linear, sometimes narrowly oblong, (1.5–)2–3.2 mm long, at apex obtuse. Ovaries densely puberulous; styles 2.5–4 mm long, densely villous. Achenes strongly compressed, elliptic, 5–7 × 3–3.2 mm, appressed-puberulous, tumidly rimmed; persistent styles 1.8–2.4 cm long, tawny-plumose. Fl. Jun. – Sept.

China (S Anhui, W & S Henan, W Hubei, S Jiangsu, S Shaanxi, S Shandong, E Sichuan). On slopes, in bushes, or by streams; 120–1000 m.

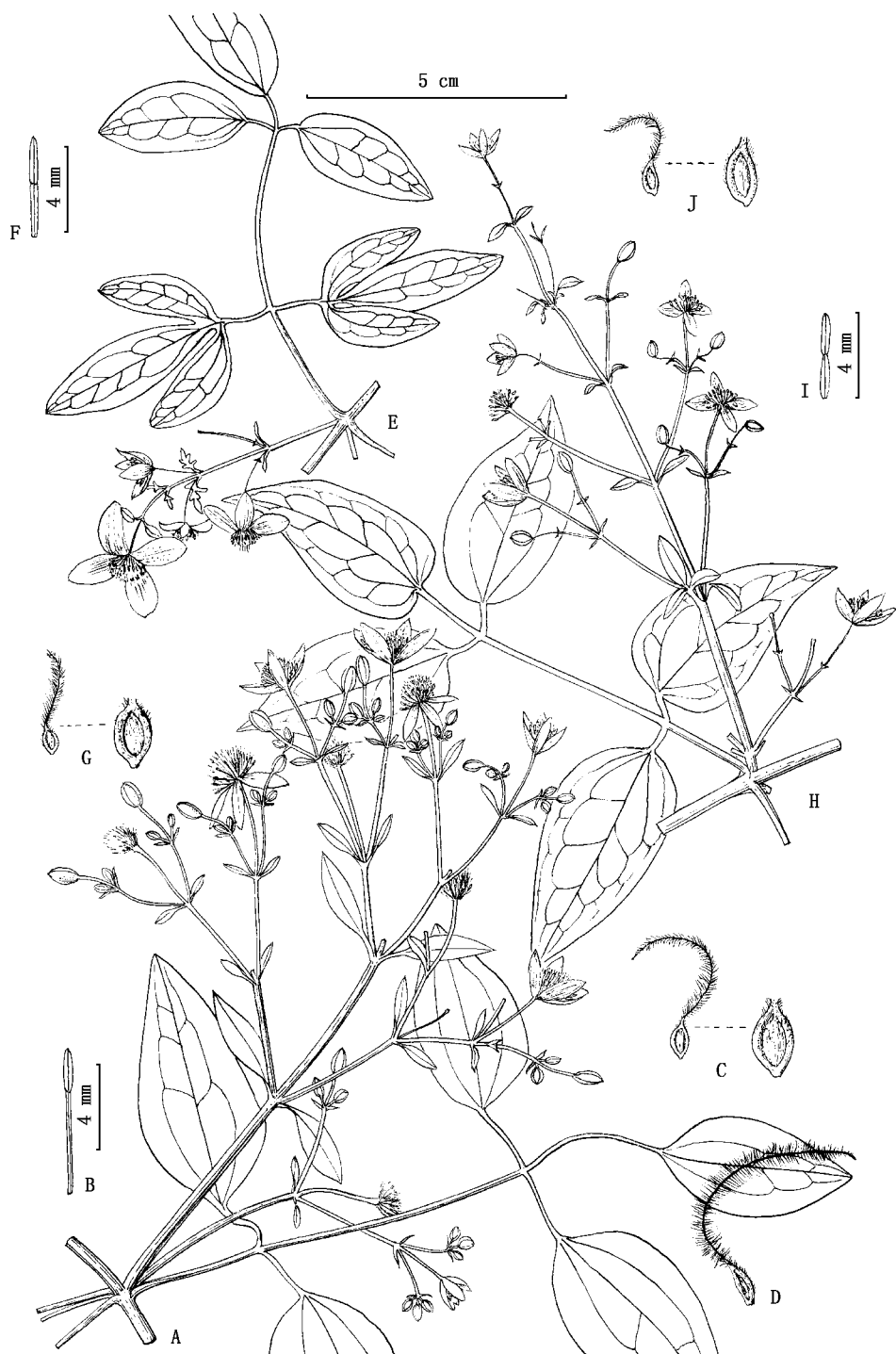


Fig. 22. A - C, *Clematis terniflora* DC. var. *terniflora*. A, flowering branch; B, stamen; (from W. Y. Hsia 206) C, achene (from Hangzhou Bot. Gard. Exped. 1226). D. *C. terniflora* var. *boninensis* (Hayata) W. T. Wang Achene (from Otomo s. n.). E - G, *C. kirilowii* Maxim. var. *kirilowii*. E, flowering branch; F, stamen; (from K. M. Liou 7350) G, achene (from T. Y. Chow et al. 7356). H - J. *C. pashanensis* (M. C. Chang) W. T. Wang var. *pashanensis*. H, flowering branch; I, stamen; (from T. P. Wang 10790) J, achene (from W. C. Cheng 266).

Additional specimens examined. **China. Anhui** (安徽): Taiping (太平), Anhui Exped. 59-848 (PE). **Henan** (河南): Xinyang (信阳), Y. L. Chen & T. L. Min 19 (PE); Tongbai (桐柏), Henan Forest Exped. 56-481 (PE); Zhenping (镇平), K. C. Kuan 505 (PE); Luanchuan (栾川), Henan Exped. 60-2090 (PE); Lushi (卢氏), K. M. Liou 4836 (PE); Lingbao (灵宝), Loe.-Plat. Exped. 2431 (WUK); Shan Xian (陕县), Loe.-Plat. Exped. 1300 (WUK). **Hubei** (湖北): Badong (巴东), E. H. Wilson 2476 (GH, K), T. P. Wang 10790 (PE); Yichang (宜昌), Henry 309A, 1637, 4339 (K), 1497, 1518 (GH, K); Xingshan (兴山), G. X. Fu & Z. S. Zhang 318 (PE); Fang Xian (房县), K. M. Liou 9024 (PE), 9188 (WUK); Jun Xian (均县), J. Q. Xing 11861 (WUK); Zaoyang (枣阳), L. Xie 200231 (PE). **Jiangsu** (江苏): Jiangpu (江浦), Jiangsu Exped. 58-8092 (PE); Nanjing (南京), C. N. Chen 2131, C. Pei 3113 (PE); Zhenjiang (镇江), E China Station Exped. 3007 (PE). **Shaanxi** (陕西): Ziyang (紫阳), P. Y. Li 4934 (WUK); Ankang (安康), P. Y. Li 11021 (WUK); Xunyang (旬阳), P. Y. Li 10946 (WUK); Xixiang (西乡), X. X. Hou 1257 (WUK); Chenggu (城固), K. T. Fu 5367 (PE, WUK); Mian Xian (勉县), J. W. Wang 2 (PE); Yang Xian (洋县), P. C. Kuo 2029 (WUK); Shanyang (山阳), Z. Y. Zhang 16054 (WUK); Lantian (蓝田), T. P. Wang 2183 (PE, WUK). **Shandong** (山东): Fei Xian (费县), T. Y. Cheo & L. Yen 9 (G). **Sichuan** (四川): Wushan (巫山), K. K. Tsoong 4286, T. P. Wang 10779 (PE); Wuxi (巫溪), K. L. Chü 1735 (PE); Fengjie (奉节), K. K. Tsoong 620 (PE), R. C. Ching 3340 (K).

59b. var. **latisejala** (M. C. Chang) W. T. Wang in Fl. China 6: 358. 2001. — *C. terniflora* DC. var. *latisejala* M. C. Chang in Fl. Reip. Pop. Sin. 28: 168, 357, pl. 50. 1980; Y. J. Ling in Fl. Shanxi. 1: 642. 1992; C. S. Zhu et al., Clav. Fam. Gen. Sp. Sperm. Henan. 106. 1994; J. Q. Fu in Fl. Loe.-Plat. Sin. 1: 449. 2000. — *C. kirilowii* Maxim. var. *latisejala* (M. C. Chang) W. T. Wang in Acta Phytotax. Sin. 36(2): 158. 1998; Grey-Wils., Clematis 99. 2000. Type: China. Shaanxi (陕西): Huashan (华山), 1939-06-10, T. N. Liou 10725 (holotype, PE!). Henan (河南): Lushi (卢氏), C. C. Fu 514 (paratype).

微尖巴山铁线莲

This variety differs from var. *pashanensis* mainly in its anthers being at apex minutely apiculate. Leaflets narrowly ovate or lanceolate, sometimes ovate, 2.5–10 × 0.6–4.5 cm, undivided, on both surfaces subglabrous or on basal veins sparsely puberulous, seldom abaxially more or less densely puberulous. Sepals 4(–6), obovate-oblong, 8–15 × 3–7 mm. Anthers linear, 2.2–3.2(–3.5) mm long, at apex minutely apiculate.

China (W Henan, W Hubei, SE Shaanxi, S Shanxi). On slopes, in bushes or on rocks; 350–2000 m.

Additional specimens examined. **China. Henan** (河南): Neixiang (内乡), Henan Exped. 60-871 (PE); Xixia (西峡), Henan Exped. 59-656, 59-734 (PE); Luanchuan (栾川), Loe.-Plat. Exped. 2780 (WUK); Song Xian (嵩县), Henan Exped. 59-1941 (PE); Lushi (卢氏), K. M. Liou 4876 (PE); Lingbao (灵宝), K. M. Liou 4257 (PE). **Hubei** (湖北): Shennongjia (神农架), Shennongjia Exped. 76-20181 (PE). **Shaanxi** (陕西): Huashan (华山), T. N. Liou 10644, 10650, K. S. Hao 4204 (PE); Huayin (华阴), W. Y. Hsia 4369 (PE); Shangnan (商南), H. J. Wang 295 (WUK); Shanyang (山阳), J. X. Yang 2755, Z. Y. Zhang 15662, 16032 (PE); Ningshan (宁陕), J. Q. Xing 737 (WUK). **Shanxi** (山西): Xia Xian (夏县), T. W. Liu 360, 552 (PE).

60. *Clematis kirilowii* Maxim. in Bull. Acad. Sci. St. Petersb. 22 : 210. 1876 ; et in Mém. Biol. 9 : 582. 1877 ; Forb. & Hemsl. in J. Linn. Soc. Bot. 23 : 5. 1886 ; Rehd. in J. Arn. Arb. 4 : 191. 1923 ; Hand.-Mazz. in Acta Hort. Gotob. 13 : 205. 1939 ; M. C. Chang in Fl. Reip. Pop. Sin. 28 : 159, pl. 47. 1980 ; Ding et al. , Fl. Henan. 1 : 453. 1981 ; Anonymous in Fl. Jiangsu. 2 : 174. 1982 ; M. C. Chang in Iconogr. Corm. Sin. Suppl. 1 : 466, fig. 8626. 1982 ; He , Fl. Beijing, rev. ed. , 1 : 251. 1984 ; J. W. Wang in Fl. Hebei. 1 : 476. 1986 ; Y. J. Ling et al. in Fl. Shanxi. 1 : 637. 1992 ; M. Johnson , *Clematis* 614. 1997 ; J. Q. Fu in Fl. Loe.-Plat. Sin. 1 : 445. 2000 ; Grey-Wils. , *Clematis* 98. 2000 ; W. T. Wang & Barth. in Fl. China 6 : 358. 2001. — *C. recta* L. ssp. *kirilowii* (Maxim.) Kuntze in Verh. Bot. Ver. Brand. 26 : 116. 1885. Type : China. Beijing (北京), Kirilow s. n. (holotype, LE!).

C. matsumurana Yabe in Bot. Mag. Tokyo 29 : 240. 1915. Type : China. Beijing (北京) : Fangshan (房山), 1905-07, Yabe s. n. (holotype).

太行铁线莲

This species consists of two varieties endemic in N China.

60a. var. *kirilowii* Fig. 22 : E – G

Woody vine, turning black when drying. Branches shallowly 4 – 8-sulcate, sparsely puberulous. Leaves twice or once pinnate ; leaflets coriaceous, oblong, elliptic, narrowly ovate, ovate, or lanceolate, 1.5 – 6 × 0.5 – 2.8 cm, at apex acute, acuminate, obtuse, or sometimes emarginate, at base rounded, truncate, or cuneate, at margin entire, undivided or 2 – 3-fid, on both surfaces on veins very sparsely puberulous or subglabrous and conspicuously reticulate, basal veins prominent ; petioles 1.4 – 4.5 cm long. Cymes axillary and terminal, (1 – 3) – many-flowered ; peduncles 0.9 – 6.7 cm long ; bracts sessile or petiolate, triangular, linear, or elliptic, 0.1 – 1.1 cm long. Flower 1.4 – 3 cm in diam. ; pedicel 1 – 2.5 cm long, puberulous. Sepals 4 (– 5 – 6), white, obovate-oblong, 0.7 – 1.5 × 0.35 – 0.6 cm, at apex subtruncate, inside glabrous, outside appressed-puberulous, on margin velutinous. Stamens 4 – 7 mm long, glabrous ; anthers narrowly oblong, 2 – 3 mm long, at apex obtuse. Ovaries puberulous ; styles 3 – 5 mm long, densely villous. Achenes strongly compressed, elliptic or broadly elliptic, 4 – 5 × 3 – 4 mm, appressed-puberulous, at apex pubescent, tumidly rimmed at margin ; persistent styles 1 – 1.8 cm long, plumose. Fl. Jun. – Aug.

China (N Anhui, W Hebei, W Henan, N Jiangsu, Shandong, S Shaanxi, SE Shanxi). On grassy slopes or in thickets ; 200 – 1700 m.

Additional specimens examined. **China. Anhui** (安徽) : Xiao Xian (萧县), F. X. Liu 10200 (PE) ; Suixi (濉溪), Anhui Exped. 59-164 (PE). **Hebei** (河北) : She Xian (涉县), K. C. Kuan 5442 (PE) ; Ci Xian (磁县), K. C. Kuan 6039 (PE) ; Wu'an (武安), H. F. Chow 43093 (PE) ; Neiqiu (内丘), Y. Liu 12829, 12995 (PE) ; Langyashan (狼牙山), Hebei Exped. 59-3361 (PE). **Beijing** (北京) : Shangfangshan (上方山), S. Y. He 1014 (GH) ; Zhoukoudian (周口店), H. Smith 868, Bohlin 232 (UPS). **Henan** (河南) : Huangchuan (潢川), Henan Exped. 59-29020 (PE) ; Neixiang (内乡), Henan Exped. 60-654 (PE) ; Yiyang (宜阳), Kaifeng Norm. Coll. Exped. 22061 (PE) ; Yanshi (偃师), K. S. Hao 3565 ; Dengfeng (登封), K. S. Hao 3581 (PE) ; Yuzhou (禹州), Henan Exped. 59-1506 (PE) ; Mianchi (淝池), Loe.-Plat. Exped. 1418 (WUK) ; Luoyang (洛阳), K. S. Hao 3752 (WUK) ; Lin Xian (林县), Meyer 1848 (K, LE, P). **Jiangsu** (江苏) : Yuntaishan (云台山), F. X. Liu 10545 (PE). **Shandong** (山东) : Meng Shan (蒙山), T. Y. Cheo 344 (GH), 6120 (PE) ; Taishan

(泰山), T. Y. Cheo 5256, 7536 (PE); Boshan (博山), Licent 6334 (K, P); Yidu (益都), T. Y. Cheo 5256 (PE); Qingdao (青岛), Sino-Germany Exped. 56-576A (PE). **Shaanxi** (陕西): Xunyang (旬阳), P. Y. Li 10946 (NWTG); Ziyang (紫阳), P. Y. Li 4934 (PE). **Shanxi** (山西): Xia Xian (夏县), T. W. Liu 562 (PE); Yicheng (翼城), X. Y. Liu 20391 (PE); Yuanqu (垣曲), H. Smith 6404 (UPS); Jincheng (晋城), K. M. Liou 7320 (PE); Lingchuan (陵川), K. M. Liou 7795 (PE).

60b. var. **chanetii** (Lévl.) Hand.-Mazz. in Acta Hort. Gotob. 13:205. 1939; Lauener & Green in Not. R. Bot. Gard. Edinb. 23(4):582. 1961; M. C. Chang in Fl. Reip. Pop. Sin. 28:159. 1980; Anonymous in Fl. Jiangsu. 2:174. 1982; J. W. Wang in Fl. Hebei. 1:476. 1986; Y. J. Ling et al. in Fl. Shanxi. 1:637. 1992; M. Johnson, Klematis 614. 1997; J. Q. Fu in Fl. Loe.-Plat. Sin. 1:447. 2000; Grey-Wils., Clematis 99. 2000; W. T. Wang & Barth. in Fl. China 6:358. 2001. — *C. chanetii* Lévl. in Repert. Sp. Nov. 11:495. 1913; et in Bull. Acad. Intern. Geogr. Bot. 27:83. 1917; Rehd. in J. Arn. Arb. 10:188. 1929. Type: China. Hebei (河北): Tche Ly, 1910-10, Chanet 560 (holotype, E!).

狭裂太行铁线莲

This variety differs from var. *kirilowii* in its narrowly lanceolate or linear leaflets 1.4–6 cm long and 0.2–1 cm broad. Fl. Jun. – Aug.

China (W Hebei, Henan, N Jiangsu, Shandong, SE Shanxi). On slopes or in bushes; 150–850 m.

Additional specimens examined. **China. Hebei** (河北): Tche Ly, Chanet 1305 (K). **Beijing** (北京): Fangshan (房山), H. F. Chow 41672 (PE); Zhoukoudian (周口店), Sino-Germ. Exped. 56-583 (PE); Liulihe (琉璃河), Inst. Bot. Exped. 56-3401 (PE). **Henan** (河南): Lin Xian (林县), Loe.-Plat. Exped. 787 (WUK); Without precise locality, Henan Exped. 59-20405 (PE). **Shanxi** (山西): Jincheng (晋城), K. M. Liou 7280, 7462 (PE); Lingchuan (陵川), K. M. Liou 7573, 7807 (PE).

61. Clematis obscura Maxim. in Acta Hort. Petrop. 11:6. 1890; Rehd. & Wils. in Sarg., Pl. Wils. 1:329. 1913; Rehd. in J. Arn. Arb. 4:184. 1923; Kozl. in Publ. Mus. Hoangho Pailho Tien Tsin 22:13. 1933; Hand.-Mazz. in Acta Hort. Gotob. 13:207. 1939; Anonymous in Iconogr. Corm. Sin. 1:746, fig. 1492. 1972; Anonymous in Fl. Tsinling. 1(2):293. 1974; Anonymous in Fl. Hupeh. 1:368. 1996; M. C. Chang in Fl. Reip. Pop. Sin. 28:164, fig. 21. 1980; Ding et al., Fl. Henan. 1:455. 1981; Y. J. Ling et al. in Fl. Shanxi. 1:637. 1992; M. Johnson, Klematis 630. 1997; J. Q. Fu in Fl. Loe.-Plat. Sin. 1:447. 2000; Grey-Wils., Clematis 110. 2000; W. T. Wang & Barth. in Fl. China 6:358. 2001. Type: China. Gansu (甘肃): valle fl. Poiho, infra vicum Terga, 1885-07-12, Potanin s. n. (lectotype, here designated, LE!; isolectotype, PE!). Sichuan (四川): Oppido Nanping (南坪), 1885-07-19, Potanin s. n. (syntype, LE!; isosyntype, PE!).

秦岭铁线莲 Fig. 23: C–E

Woody vine, turning black when drying. Branches shallowly 8–10-sulcate, sparsely puberulous, glabrescent. Leaves twice or once pinnate, 5–11-foliate; leaflets papery, ovate, triangular-ovate, or lanceolate, 1.2–7.8 × 0.5–3 cm, at apex acute, attenuate, or acuminate, at base cuneate, rounded, or subcordate, at margin entire, undivided or 2–3-lobed, on both surfaces on veins sparsely puberulous or subglabrous, basal veins abaxially slightly prominent; petioles 1.2–5.5 cm long. Cymes axillary and terminal, 1–3(–5)-flowered; peduncles 1–7.6 cm long,

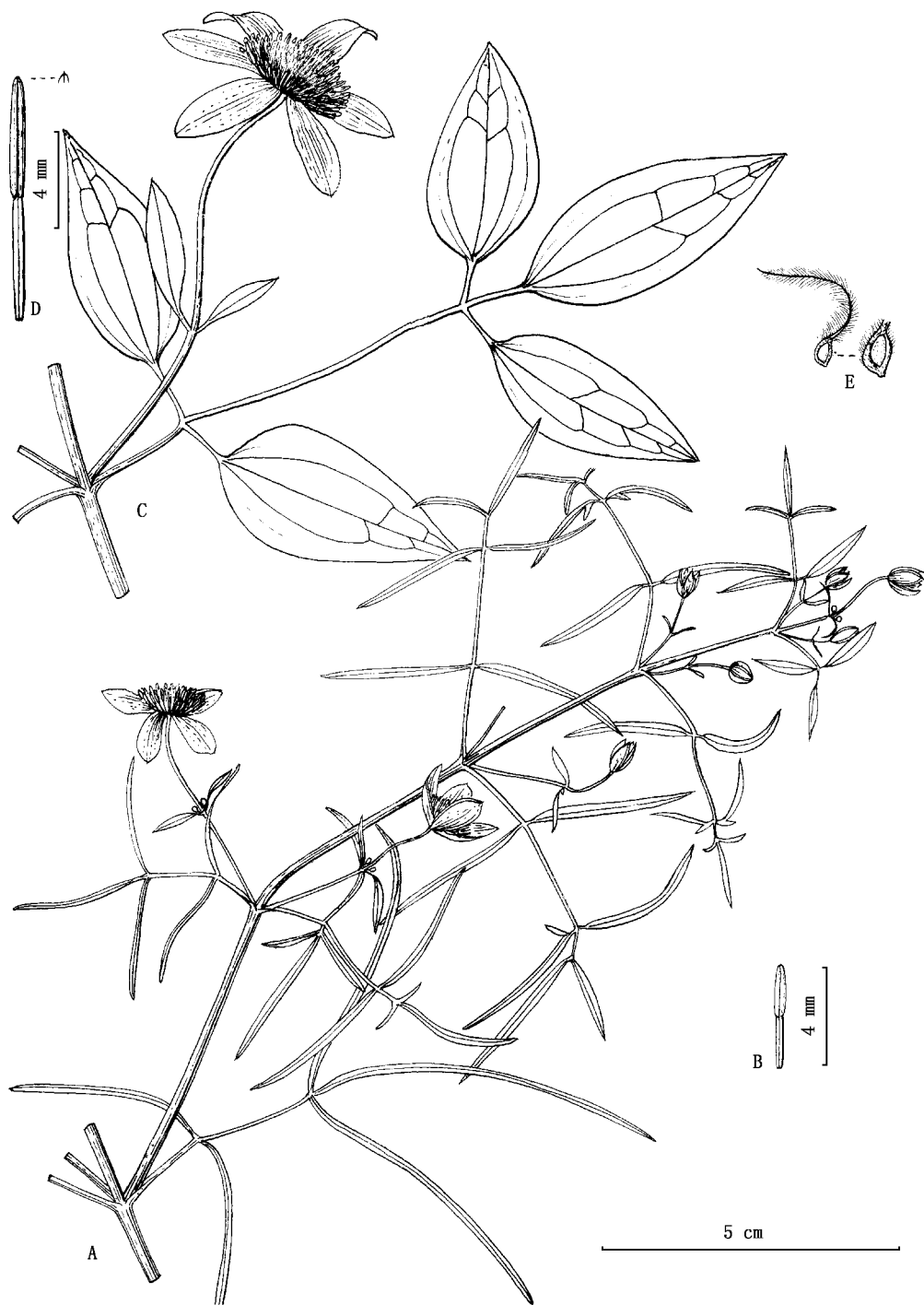


Fig. 23. A, B, *Clematis linearifoliola* W. T. Wang. A, flowering branch; B, stamen. (from J. W. Wang & Z. C. Shi s. n.)
 C - E, *C. obscura* Maxim. C, flowering branch; D, stamen; (from J. X. Yang 489) E, achene (from K. M. Liou 2593).

sparsely puberulous; bracts often petiolate, ovate, narrowly ovate, or long elliptic, 0.8–5 cm long, seldom ternate. Flower 2.5–4.8 cm in diam.; pedicel 3–8 cm long, subglabrous or sparsely puberulous. Sepals (4–5–6–7), white, oblong, obovate-oblong, or lanceolate, 1.2–2.6 × 0.4–0.8 mm, at apex acute or obtuse, inside glabrous, outside only on margin velutinous, elsewhere glabrous. Stamens 5–8 mm long, glabrous; anthers linear, 3.8–4.5 mm long, at apex minutely apiculate. Ovaries densely puberulous; styles ca. 4 mm long, densely villous. Achenes strongly compressed, flattened, broadly elliptic or ovate, 4.5–5 × 2.8–3 mm, appressed-puberulous, slightly tumidly rimmed; persistent styles up to 2.5 cm long, fulvous-plumose. Fl. Apr. – Jun.

China (S Gansu, W Henan, W Hubei, S Shaanxi, S Shanxi, NW Sichuan). On slopes or in bushes; 400–2600 m.

Additional specimens examined. **China. Gansu** (甘肃): Zhouqu (舟曲), S. Jiang 375 (PE); Hui Xian (徽县), Q. R. Wang 11434 (PE); Min Xian (岷县), T. P. Wang 15255 (PE); Wudu (武都), K. S. Hao 425 (P, PE); Tianshui (天水), K. T. Fu 15240 (WUK). **Hubei** (湖北): Xingshan (兴山), E. H. Wilson 2478 (GH, K, US). **Shaanxi** (陕西): Hanzhong (汉中), Purdom 382 (GH, K, US); Shiquan (石泉), J. Q. Xing 8454 (WUK); Feng Xian (凤县), S. Jiang 254 (PE); Foping (佛坪), P. C. Kuo 1441 (PE); Taibaishan (太白山), Purdom s. n. (K), K. T. Fu 2613 (PE); Mei Xian (眉县), Fenzel 269 (PE); Zhouzhi (周至), S. T. Wang 429 (PE); Chang'an (长安), Huanghe Exped. 56-19 (PE); Nanwutaishan (南五台山), T. N. Liou & P. C. Tsong 65 (PE); Zhongnanshan (终南山), H. W. Kung 2624 (PE); Shang Xian (商县), T. P. Wang 16016 (PE); Huashan (华山), W. Y. Hsia 24 (PE); Huayin (华阴), W. Y. Hsia 183 (PE); Huanglong (黄龙), J. X. Yang 5879 (WUK); Yichuan (宜川), K. T. Fu 8072 (PE). **Shanxi** (山西): Yongji (永济), T. W. Liu 39, 151 (PE); Xiezhou (解州), Licent 1883 (PE); Yuanqu (垣曲), S. Y. Bao 92 (PE); Yangcheng (阳城), S. Y. Bao 727 (PE); Jishan (稷山), Z. Y. Zhang 18722 (WUK); Yicheng (翼城), Huanghe Exped. 57-117 (PE); Hongdong (洪洞), K. C. Kuan & Y. L. Chen 749 (PE); Huo Xian (霍县), T. P. Wang 2593 (PE); Pu Xian (蒲县), T. P. Wang 3758 (PE); Lingshi (灵石), T. Tang 863 (GH, US); Jiexiu (介休), H. Smith 5680 (GH, UPS). **Sichuan** (四川): Songpan (松潘), E. H. Wilson 4549 (GH, K, US); Jiudingshan Mt., E. H. Wilson 2472 (GH, K, US); Mao Xian (茂县), Z. He 13081, 13952 (PE).

62. Clematis linearifoliola W. T. Wang, sp. nov. Type: China. Shaanxi (陕西): Baocheng (褒城), Lianchengshan (连城山), 650 m, in valley, fl. white, turning black when drying, 1977-08-23, J. W. Wang & Z. C. Shi s. n. (holotype, here designated, PE); Lantian (蓝田), Qinggang Village (青岗乡), 1300 m, on river bank, herb prostrate without flowers, 1958-10-04, G. X. Su 250 (paratype, WUK).

条形铁线莲 Fig. 23 : A, B

Ob sepala et stamina siccitate nigrescentia species nova fortasse affinis *C. chinensi* Osbeck et *C. obscurae* Maxim., a quibus caulibus et foliis siccitate haud nigrescentibus, foliolis anguste linearibus vel lanceolato-linearibus facile distincta.

Liana suffrutescens. Rami graciles, 1.4–1.8 mm diametro, vadosae 6-sulcati, ad nodos sparse puberuli, alibi glabri. Folia semel vel bis pinnata, pinnis 2-jugatis; foliola sessilia vel brevissime petiolulata, papyracea, anguste linearia vel anguste lanceolato-linearia, 2.2–6.6 cm longa, 1–3.2 mm lata, apice pungentia vel acuta, basi attenuata vel late cuneata, margine integra,

supra ad costam mediam sparsissime puberula, subtus glabra, nervis basalibus 1–3 subtus leviter prominentibus vel fere planis; petioli 1–2 cm longi, 4-angulati, basi et apice sparse puberuli. Cymae axillares et terminales, 7–9-florae, racemiformes; pedunculi ca. 4 mm longi; bracteae primariae parvae, triangulares, ca. 2.5 mm longae, secundariae foliaceae. Flos 1.2–2 cm diametro; pedicellus gracilis, 1–1.8 cm longus, puberulus. Sepala 4, alba, siccitate nigrescentia, anguste obovata vel oblongo-obovata, 6–11 mm longa, 3–5 mm lata, apice rotundato-obtusa, margine superne interdum erosa, intus glabra, extus sparse puberula, ad marginem velutina. Stamina 18–26, siccitate nigrescentia, 3.2–4.5 mm longa, glabra, filamentis linearibus vel anguste oblongis, antheris linearibus vel anguste oblongis 2–2.2 mm longis apice obtusis. Carpella ca. 6, ovarii dense pubescentibus, stylis ca. 2.8 mm longis dense villosis.

Suffrutescent vine. Branches slender, 1.4–1.8 mm in diam., shallowly 6-sulcate, on nodes sparsely puberulous, elsewhere glabrous. Leaves once or twice pinnate, with 2 pairs of pinnae; leaflets sessile or shortly petiolulate, papery, narrowly linear or narrowly lanceolate-linear, 2.2–6.6 × 1–3.2 mm, at apex pungent or acute, at base attenuate or broadly cuneate, at margin entire, adaxially on midrib very sparsely puberulous, abaxially glabrous, basal veins 1 or 3, abaxially slightly prominent or nearly flat; petioles 1–2 cm long, 4-angulate, at base and apex sparsely puberulous. Cymes axillary and terminal, 7–9-flowered, raceme-like; peduncles ca. 4 mm long; primary bracts small, triangular, ca. 2.5 mm long, secondary bracts foliaceous. Flower 1.2–2 cm in diam.; pedicel slender, 1–1.8 cm long, puberulous. Sepals 4, white, turning black when drying, narrowly obovate or oblong-obovate, 6–11 × 3–5 mm, at apex rounded-obtuse, at margin above sometimes erose, inside glabrous, outside sparsely puberulous, on margin velutinous. Stamens turning black when drying, 3.2–4.5 mm long; anthers linear or narrowly oblong, 2–2.2 mm long, at apex obtuse. Ovaries densely pubescent; styles ca. 2.8 mm long, densely villous. Fl. Aug.

China (S Shaanxi). In valley or on river banks; 650–1300 m.

63. *Clematis terniflora* DC., Syst. 1:137. 1818; et Prodr. 1:3. 1824, sphalm. *C. tenuiflora*, excl. syn.; Huth in Bull. Herb. Boiss. 5:1061. 1897; Matsum., Ind. Pl. Jap. 2:112. 1912; Ohwi in Acta Phytotax. Geobot. 7:43. 1938; Hara in J. Jap. Bot. 50(5):155. 1975; Anonymous in Fl. Hupeh. 1:371. 1976; T. B. Lee., Ill. Fl. Korea 345, fig. 1378. 1979; Kitamura & Murata, Colour. Ill. Herb. Pl. Jap. 2:227, pl. 52:445. 1980; M. C. Chang in Fl. Reip. Pop. Sin. 28:166. 1980; Ding et al., Fl. Henan. 1:456. 1981; Anonymous in Fl. Jiangsu. 2:174. 1982; Tamura in Satake et al., Wild Flow. Jap. 2:74, pl. 72, fig. 4, 5. 1982; X. W. Wang in Fl. Anhui 2:338, fig. 645. 1986; Z. H. Lin in Fl. Zhejiang 2:295, fig. 2-394. 1992; Y. N. Lee, Fl. Korea 168. 1996; M. Johnson, Klematis 621. 1997; Grey-Wils., Clematis 103. 2000; W. T. Wang & Barth. in Fl. China 6:357. 2001. — *C. recta* L. ssp. *terniflora* (DC.) Kuntze in Verh. Bot. Ver. Brand. 26:114. 1885. Type: China. Zhejiang (浙江), Staunton s. n. (holotype, BM!).

C. paniculata Thunb. in Trans. Linn. Soc. 2:337. 1794, non Gmelin, 1791; DC., Syst. 1:136. 1818; et Prodr. 1:3. 1824; Franch. & Sav., Enum. Pl. Jap. 1:1. 1875; Maxim. in Bull. Acad. Sci. St. Petersburg. 22:219. 1876; Franch. in Nouv. Arch. Mus. Nat. Hist. Paris, ser. 2, 5:164. 1882; Forb. & Hemsl. in J. Linn. Soc. Bot. 23:6. 1886; Makino in Bot. Mag. Tokyo 8:331. 1897; Huth in Bull. Herb. Boiss. 5:1060. 1897; Nakai in J. Coll. Sci. Univ. Tokyo 26(1):10. 1909; Matsum., Ind. Pl. Jap. 2:112. 1912; Rehd. & Wils. in

Sarg., Pl. Wils. 1 : 330. 1913 ; Hand.-Mazz. in Acta Hort. Gotob. 13 : 206. 1939 ; Makino, Ill. Fl. Jap., rev. ed., 551, fig. 1653. 1953 ; Anonymous in Iconogr. Corm. Sin. 1 : 745, fig. 1490. 1972 ; Anonymous in Fl. Tsinling. 1 (2): 292. 1974, p. p. — *C. recta* L. ssp. *paniculata* (Thunb.) Kuntze in l. c. 115. — *C. recta* var. *paniculata* (Thunb.) Pavol. in Nuov. Giorn. Bot. Ital. 15 (2): 401. 1908. Type : Japan, Thunberg UPS 130 (holotype, UPS !).

C. flammula L. var. *robusta* Carr. in Rev. Hort. 46 : 465, fig. 59. 1874. — *C. dioscoreifolia* Lévl. & Van. var. *robusta* (Carr.) Rehd. in J. Arn. Arb. 26 : 70. 1945. — *C. maximowicziana* Franch. & Sav. var. *robusta* (Carr.) Nakai in Bull. Nat. Sci. Mus. Tokyo 33 : 7. 1953 ; Lauener & Green in Not. R. Bot. Gard. Edinb. 23 (4): 582. 1961. — *C. terniflora* DC. var. *robusta* (Carr.) Tamura in Acta Phytotax. Geobot. 15 : 18. 1953 ; M. Johnson, Klematis 623. 1997. Type : unknown.

C. maximowicziana Franch. & Sav., Enum. Pl. Jap. 2 : 261. 1879 ; Ohwi, Fl. Jap. 443. 1965. — *C. parviloba* Gardn. & Champ. var. *maximowicziana* (Franch. & Sav.) Huth in Bull. Herb. Boiss. 5 : 1061. 1897. Type : Japan, Yokoska, type specimen not seen.

C. dioscoreifolia Lévl. & Van. in Repert. Sp. Nov. 7 : 339. 1909 ; Nakai in J. Coll. Sci. Univ. Tokyo 31 : 427. 1911. — *C. paniculata* Thunb. var. *dioscoreifolia* (Lévl. & Van.) Rehd. in J. Arn. Arb. 1 : 195. 1920 et 10 : 188. 1929. — *C. maximowicziana* var. *dioscoreifolia* (Lévl. & Van.) Nakai in Bull. Nat. Sci. Mus. Tokyo 31 : 27. 1952. Type : Korea. Quelpaert, in sepibus Hongno, 1908-09-02, Taquet 502 (holotype, E !).

圆锥铁线莲

This species consists of four varieties occurring in eastern Asia.

63a. var. *terniflora* Fig. 22 : A – C (see p. 143)

Woody vine. Branches shallowly 4 – 10-sulcate, sparsely puberulous or only on nodes puberulous, glabrescent. Leaves pinnate, \mathfrak{X} (7)-foliolate ; leaflets papery, ovate or narrowly ovate, sometimes ovate-lanceolate, $2.5 - 8 \times 1 - 5$ cm, at apex acute or obtuse, at base rounded, subcordate, or broadly cuneate, at margin entire, on both surfaces on veins sparsely puberulous or subglabrous, basal veins abaxially slightly prominent or nearly flat ; petioles 2.5 – 4.5 cm long. Cymes axillary or terminal, usually many-flowered ; peduncles 1 – 7 cm long ; bracts linear, elliptic, or oblong, 0.8 – 3.5 (5) cm long. Flower 1 – 3 cm in diam. ; pedicel 0.5 – 3 cm long, puberulous. Sepals 4, white, oblong or obovate-oblong, $5.5 - 15 (- 20) \times 2 - 5 (- 6)$ mm, at apex slightly acute or obtuse, inside glabrous, outside puberulous or glabrous, on margin velutinous. Stamens 3 – 7 mm long, glabrous ; anthers linear or narrowly oblong, 2 – 3 mm long, at apex obtuse, rarely minutely apiculate. Ovaries puberulous ; styles 4 – 7 mm long, densely villous. Achenes strongly compressed, orange-yellow, broadly elliptic, obovate, or rhombic, $5 - 9 \times 3 - 6$ mm, appressed-puberulous, tumidly rimmed ; persistent styles 1.2 – 4 cm long, plumose. Fl. Jun. – Sept.

China (S Anhui, S Henan, C Hubei, S Jiangsu, N Jiangxi, Zhejiang), Japan, S Korea. On slopes, in bushes, or at forest edges ; 50 – 800 m.

Additional specimens examined. **China**. **Anhui** (安徽) : Xiuning (休宁), X. L. Liu 252 (PE) ; She Xian (歙县), G. S. Zhou et al. 8 (PE) ; Huangshan (黄山), R. C. Ching 8685 (US) ; Jiuhuashan (九华山), C. S. Fan & Y. Y. Li 4, R. C. Ching 8427 (K), 8430 (US) ; Tongcheng (桐城), E China Station Exped. 4341 (PE) ; Guangde (广德), Anhui Exped. 59-3370 (PE). **Henan** (河南) : Xinyang (信阳), Y. L. Chen 19 (PE) ; Tongbai (桐柏), ? 123 (PE) ;

Queshan (确山), Henan Exped. 59-30030 (PE); Yuzhou (禹州), Henan Exped. 59-55001 (PE); Dengfeng (登封), Henan Exped. 59-51659 (PE); Luoning (洛宁), C. C. Li 22 (PE). **Hubei** (湖北): Hanyang (汉阳), D. R. Wang 320 (PE); Wuchang (武昌), Y. H. Zhang 888 (HIB). **Jiangsu** (江苏): Jiangpu (江浦), S. L. Liu 1680 (PE); Nanjing (南京), W. C. Cheng 460 (K), 595 (PE); Jurong (句容), M. B. Deng 3514 (PE); Zhenjiang (镇江), E China Station Exped. 2956 (PE); Yixing (宜兴), K. Ling 12234, 12265 (GH), W. Z. Fang 39 (PE); Suzhou (苏州), T. N. Liou 1402 (K, PE); Wu Xian (吴县), W. Z. Fang 194 (PE); Changshu (常熟), W. X. Wu 4584 (PE); Nantong (南通), Y. Z. Sun 967 (PE). **Shanghai** (上海): Xisheshan (西佘山), L. Q. Qiu 1649 (SHM). **Jiangxi** (江西): Lushan (庐山), Bullock 103, 104 (K), E. H. Wilson 1548 (GH), H. H. Chung 558 (GH); Jiujiang (九江), Sheare s. n. (K). **Zhejiang** (浙江): Jiande (建德), Hangzhou Bot. Gard. Exped. 29406 (HHBG); Hangzhou (杭州), K. K. Tsong s. n., W. Y. Hsia 206 (PE); Tianmushan (天目山), M. Chen 564, X. Y. He 24798 (PE); Moganshan (莫干山), Cheo & Wilson 819 (GH).

Japan. Nagasaki, Oldham 3 (S), Eijkman s. n. (UPS), Tateish et al. 8740 (MO), Ohba 34 (GH); Idzu, Furuse 28499 (PE, S); Izu Islands, Murata 8316 (MO, PE); Harima, Furuse 9828 (K, PE); Hyogo, Rokko Mt., Muroi 6734 (GH); Kyoto, Takahashi 1307 (GH, MO); Ohmi, Tamura 8827 (PE); Sagami, Furuse 34670 (PE); Yamagata, Kato 3060 (PE); Okinawa, Furuse 3301, 3599 (PE).

Korea. Quelpaert Island, E. H. Wilson 9416 (GH, K).

63b. var. **boninensis** (Hayata) W. T. Wang, st. et comb. nov. — *C. boninensis* Hayata in J. Coll. Sci. Univ. Tokyo 33(1):14. 1911. Type: Japan. Bonin Island: Chichijima, Okada s. n. (holotype).

Fig. 22 : D

This variety differs from var. *terniflora* in its 3 – 9-flowered axillary cymes, longer pedicels (1.5 – 5.4 cm), and larger sepals being broadly oblanceolate, 15 – 25 mm long, 4 – 9 mm broad, at apex acute. Achenes long rhombic-elliptic, 8 – 9 × 3.2 – 3.8 mm, at both ends tapering. Fl. Apr. – May.

Japan (Bonin Island). In thickets.

Specimens examined. Bonin Island, Otomo s. n. (GH), Furuse & Nagasawa 7290, 7389, 7478 (S), Yamazaki 11062, 11088 (TI).

63c. var. **mandshurica** (Rupr.) Ohwi in Acta Phytotax. Geobot. 7:43. 1938; M. C. Chang in Fl. Reip. Pop. Sin. 28:170. 1980; W. T. Wang in Fl. China 6:357. 2001. — *C. mandshurica* Rupr. in Bull. Phys. Math. Acad. Sci. St. Petersburg. 15:358. 1857; Maxim., Prim. Fl. Amur. 10. 1859; Kom. in Acta Hort. Petrop. 22:282. 1903; Krash. in Kom., Fl. URSS 7:319, pl. 20, fig. 11. 1937; Kitagawa, Lineam. Fl. Mansh. 218. 1939; Anonymous in Fl. Pl. Herb. Chin. Bor.-Or. 3:169, pl. 74. 1975; Y. Z. Zhao in Fl. Intramongol., ed. 2, 2:522, pl. 211, fig. 4. 1990; Y. N. Lee, Fl. Korea 166, fig. 487. 1996; M. Johnson, Klematis 615. 1997; Grey-Wils., Clematis 96. 2000; W. T. Wang & Barth. in Fl. China 6:357. 2001. — *C. recta* L. var. *mandshurica* (Rupr.) Maxim. in Bull. Acad. Sci. St. Petersburg. 22:218. 1876; Forb. & Hemsl. in J. Linn. Soc. Bot. 23:7. 1886; Nakai in J. Coll. Sci. Univ. Tokyo 26(1):9. 1909. Type: Russia. Amur, 1855-08-28, Maximowicz s. n. (lectotype, LE!; isolecotypes, GH!, K!).

C. liaotungensis Kitagawa in Rep. Inst. Sci. Res. Manch. II, 7:291. 1938; et Lineam.

Fl. Mansh. 218. 1939. Type : China. Liaoning(辽宁): Chienshan Mt. , 1926-06-27 , Sato 3034 (holotype).

C. recta auct. non L. : Regel in Mem. Acad. Sci. St. Petersburg. , ser. 7 , 4 : 4. 1861 ; Finet & Gagnep. in Bull. Soc. Bot. France 50 : 535. 1903 , p. p.

C. terniflora auct. non DC. : Hand.-Mazz. in Acta. Hort. Gotob. 13 : 205. 1939 ; Tamura in Acta Phytotax. Geobot. 15 : 18. 1953.

辣蓼铁线莲

This variety differs from var. *terniflora* in its pedicels being glabrous or only puberulous at apex. Leaves 5 - 7-foliolate. Sepals 8 - 15(- 17) mm long , outside sparsely puberulous. Anthers linear , at apex minutely apiculate , seldom obtuse. Achenes broadly elliptic or suborbicular , 4 - 6 × 2.5 - 4 mm.

China (Heilongjiang , Jilin , Liaoning , Nei Mongol) , N Korea , Russia (E Siberia). In bushes or thickets on slopes.

Additional specimens examined. **China. Heilongjiang (黑龙江)** : Harbin (哈尔滨) , Skvortzov s. n. (GH) ; Dailing (带岭) , T. N. Liou et al. 7171 (PE) ; Hegang (鹤岗) , Sino-Germ. Exped. 56-27 (PE) ; Jixian (集贤) , Y. L. Zhang et al. 1692 (PE) ; Fujin (富锦) , Y. L. Zhang et al. 1574 (PE). **Jilin (吉林)** : Ninguta , Komarov 707 (GH) ; Changchun (长春) , P. Y. Fu et al. 650 (PE) ; Jilin (吉林) , P. Y. Fu et al. 2175 (PE) ; Huadian (桦甸) , Y. C. Ma 10270 (PE) ; Emu (额穆) , H. W. Kung 1847 (PE) ; Antu (安图) , P. Y. Fu et al. 1516 (PE). **Liaoning (辽宁)** : Dalian (大连) , C. Q. Lin 653 (PE) ; Changhai (长海) , Y. C. Zhu et al. 121 (PE) ; Fenghuangshan (凤凰山) , Sato 3031 (PE) ; coast of Manchuria , Wilford 1103 (GH , K , S) ; Huanren (桓仁) , C. S. Wang 3821 (PE) ; Caohekou (草河口) , W. Z. Gong 8 (PE) ; Qianshan (千山) , Ross 367 (K) , Sato 3036 (PE) ; Benxi (本溪) , W. Wang 302 (PE) ; Fushun (抚顺) , W. Wang 512 (PE) ; Shenyang (沈阳) , Ross 559 , Webster 23 , 36 (K) , Litvinov 3233 (GH) ; Tieling (铁岭) , H. W. Kung 474 (PE) ; Beizhen (北镇) , Q. T. Li et al. 2864 (PE).

Korea. Chinampo , Faurie 13 (G) ; Kogen , Fukuthima & Nakao s. n. (KYO) ; Kokaido , Koidzumi s. n. (KYO) ; Kyebangsang , Hagman 207 (UPS) ; Pyengyang , Faurie 16 (KYO) ; Samsongsan , Moran 4284 (GH , US) ; Seoul , Sontag s. n. (LE).

Russia. Amur , Schrenk s. n. (GH) , Karo 105 (G , K , P , S , US) , 2914 (G , GH , K , MO , PE , S , US) , Komarov 707 (K , P) ; Prov. Primorje , Vasilew s. n. (MO) , Ulanova 5677 (G , K , S).

63d. var. **garanbiensis** (Hayata) M. C. Chang in Fl. Reip. Pop. Sin. 28 : 170. 1980 ; T. Y. Yang & T. C. Huang in Taiwania 40 (3) : 245 , fig. 20. 1995 ; et in Fl. Taiwan , ed. 2 , 2 : 541 , pl. 255. 1996 ; M. Johnson , Klematis 623. 1997 ; Grey-Wils. , Clematis 104. 2000 ; W. T. Wang & Barth. in Fl. China 6 : 357. 2001. — *C. garanbiensis* Hayata , Ic. Pl. Formos. 9 : 1. 1920. Type : China. Taiwan (台湾) : Pingdong (屏东) , Garanbi , Kawakami 1620 (holotype ; photo , PE !).

C. paniculata auct. non Thunb. : Hayata in J. Coll. Sci. Univ. Tokyo 30 : 18. 1911.

C. terniflora var. *robusta* auct. non (Carr.) Tamura : Liu & Hsieh in Fl. Taiwan 2 : 492. 1976.

鹅銮鼻铁线莲

This variety differs from var. *terniflora* in its 5 - 11-foliolate leaves , glabrous pedicels , outside densely puberulous pedicels , and narrowly oblong anthers. Achenes broadly elliptic or suborbicular ,

5 – 6 mm long.

China (S Taiwan). In coastal areas.

I have not seen any specimen of this variety except a photo of the holotype. Upon the excellent description written by Yang and Huang (1995 & 1996, l. c.) the above diagnosis is made.

Unclear infraspecific taxa : 1. *Clematis recta* L. var. *koreana* Nakai et f. *lancifolia* Nakai in J. Coll. Sci. Univ. Tokyo 26 (1) : 9 – 10. 1909 ; 2. *C. paniculata* Thunb. var. *denticulata* Nakai. See Y. N. Lee, Fl. Korea 168. 1996.

64. *Clematis papuligera* Ohwi in Acta Phytotax. Geobot. 7 : 44. 1938 ; M. Johnson, Klematis 616. 1997 ; Grey-Wils., Clematis 104. 2000. Type : Korea. Kokaido : Chojusan Mt., 1935-07-29, Koidzumi s. n. (holotype, KYO !).

Woody vine. Branches shallowly sulcate, glabrescent. Leaves pinnate, 5-foliolate, upper ones ternate, glabrous ; leaflets papery, broadly ovate or elliptic, 5 – 10 × 4 – 7.6 cm, at apex acute, at base rounded or subtruncate, at margin entire, basal veins 3 – 5, abaxially prominent ; petioles 2 – 5 cm long. Cymes axillary or terminal, many-flowered, panicle-like ; peduncles 3.5 – 8 cm long ; bracts subulate. Flower 2 – 2.5 cm in diam. ; pedicel 1 – 3 cm long, subglabrous. Sepals 4, lanceolate-oblong, 9 – 14 × 3 – 4.8 mm, at apex acute, inside glabrous, outside on margin velutinous, elsewhere glabrous. Stamens ca. 7 mm long, glabrous ; anthers linear, 2 mm long, at apex minutely apiculate. Ovaries appressed-puberulous ; styles ca. 4 mm long, densely villous. Fl. Jul.

Korea.

65. *Clematis flammula* L., Sp. Pl. 1 : 544. 1753 ; All., Fl. Pedem. 1 : 297. 1785 ; Lam. & DC., Fl. Fran. 4 (2) : 873. 1805 ; DC., Syst. 1 : 134. 1818 ; et Prodr. 1 : 2. 1824 ; Moris., Fl. Sardoia 1 : 11. 1837 ; Reichb., Ic. Fl. Germ. et Helvet. 19, t. 63. 1840 ; Ledeb., Fl. Ross. 1 : 3. 1842 ; Gren. & Godr., Fl. France 1 : 3. 1848 ; Vis., Fl. Dalmat. 3 : 76. 1850 ; Schur, Enum. Pl. Transsilv. 2. 1866 ; Boiss., Fl. Or. 1 : 4. 1867 ; Koch, Dendr. 421. 1869 ; Ball. in J. Linn. Soc. Bot. 16 (93) : 303. 1877 ; Mora, Fl. Fun. Penin. Iber. 6 : 676. 1878 ; Willk. in Willk. & Lange, Prodr. Fl. Hispan. 3 : 953. 1880 ; Arcan., Comp. Fl. Ital. 2. 1882 ; Tristr., Fauna Fl. Palest. 207. 1884 ; Batt. in Batt. & Trab., Fl. Alger. 3. 1888 ; Rouy & Fouc., Fl. France 1 : 3. 1893 ; Fritsch in Verh. K. K. Zool.-Bot. Ges. Wien 44 : 99. 1894 ; Posp., Fl. Österr. Küsten. 2 : 69. 1898 ; Halacsy, Consp. Fl. Graec. 1 : 2. 1901 ; Busch, Fl. Caucas. Crit. 3 : 110. 1902 ; Hegi, Ill. Fl. Mitt.-Europ. 3 : 513, fig. 665. 1909-12 ; Briq., Prodr. Fl. Corse 1 : 595. 1910 ; Muschl., Man. Fl. Egypt. 364. 1912 ; Bonn., Fl. Comp. Ill. France, Suisse et Belg. 11. 1912 ; Cout., Fl. Portug. 228. 1913 ; Schinz in Fl. Schweiz 2 : 115. 1914 ; Fiori, Iconogr. Fl. Ital. 189, fig. 1528. 1921 ; Hayek, Prodr. Fl. Penin. Balcan. 1 : 3222. 1927 ; Pamp., Fl. Repub. San Marino 116. 1930 ; Boul., Fl. Liban et Syrie 1 : 3. 1932 ; Asch. & Graebn., Synop. Mitt.-Europ. Fl. 5 (3) : 60. 1935 ; Krash. in Kom., Fl. URSS 7 : 319. 1937 ; Reching., Fl. Aegaea 184. 1943 ; Maire, Fl. Afr. Nord. 11 : 106. 1964 ; Tutin in Fl. Europ. 1 : 221. 1964 ; Davis et al. in Fl. Turkey 1 : 139. 1965 ; Zohary, Fl. Palest. 1 : 200. 1966 ; Stoj. et al., Fl. Bulgar. 1 : 415, fig. 544. 1966 ; Markova in Fl. Reip. Pop. Bulgar. 4 : 113, t. 18, fig. 1. 1970 ; Zimmerm. in Hegi's Ill. Fl. Mitt.-Europ., ed. 2, 3 (3) : 186, fig. 123. 1975 ; Zangh., Fl. Ital. 1 : 692. 1976 ; Hess et al., Fl. Schweiz 2 : 60. 1977 ; Barcelo, Fl. Mallorca 2 : 188. 1978 ; Pott.-Alapet., Fl. Tunis. 1 : 152. 1979 ; Pignatti, Fl. Ital. 1 : 299. 1982 ; Qaiser in Jafr. & El.-Gadi, Fl. Libya 108. 1984 ; Rollan, Clav. Fl. Espana 2 : 281. 1985 ; Carva in Castr. et al., Fl. Iber. 1 : 268. 1986 ; Valdes in Valdes et al., Fl. Vasc.

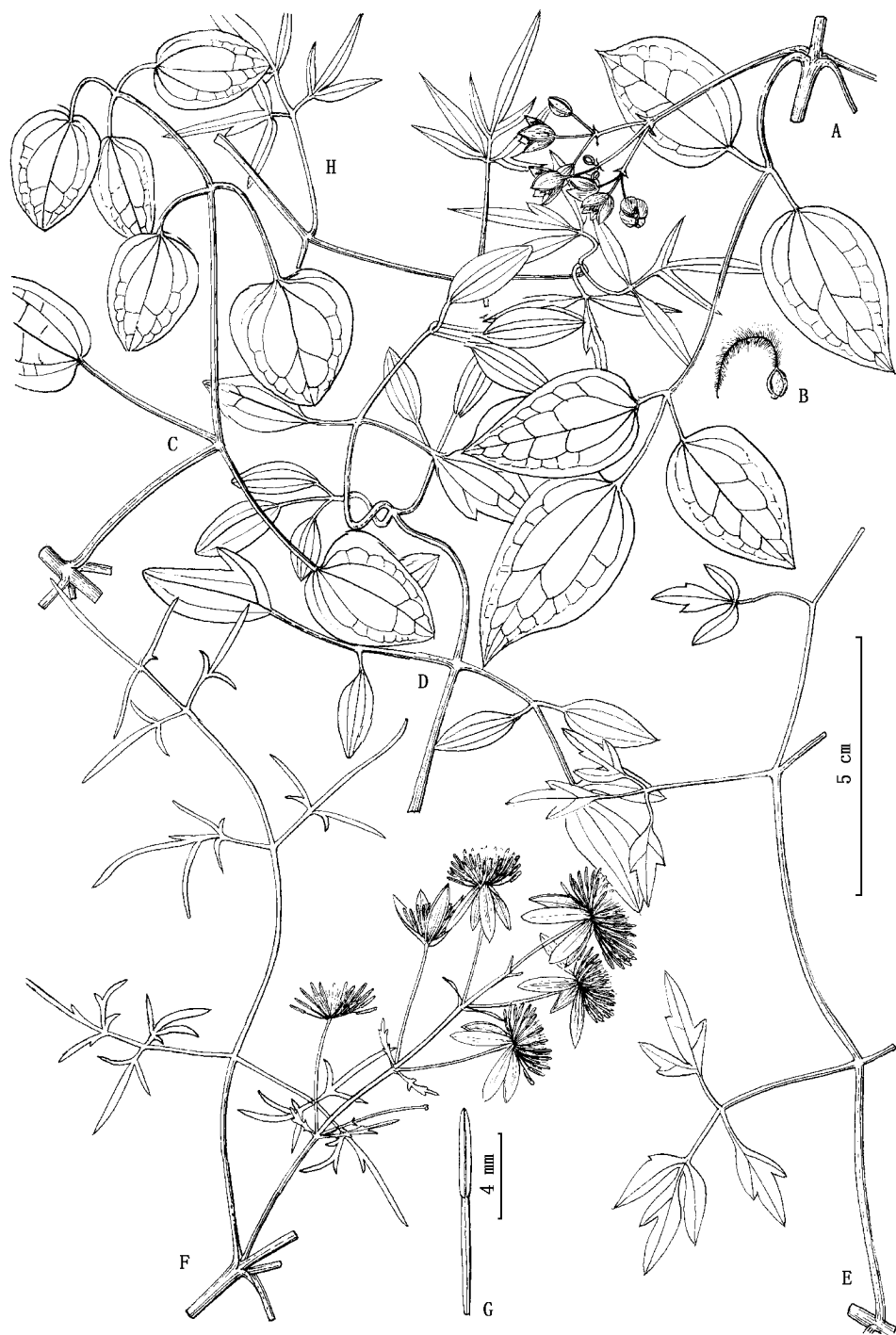


Fig. 24. *Clematis flammula* L. A, B, var. *flammula*. A, flowering branch (from LINN 712-12); B, achene (from Cacciato s. n.). C, var. *fragrans* Ten. Leaf (from Weber s. n.). D, var. *caespitosa* (Scop.) DC. Leaf (from Cacciato s. n.). E, var. *parviflora* Pomel. Leaf. (from X. P. Wang & A. M. Lu 62) F, G, var. *stenophylla* Heldr. ex Kuntze. F, flowering branch; G, stamen. (from Heldreich 3644) H, var. *maritima* (L.) DC. Leaf (from Maillefer & Perriz 2525).

Andaluc. Occ. 1 : 119. 1987 ; Serov in Bot. Zhurn. 73 (12) : 1739. 1988 ; Reching. , Fl. Iran 171 : 230. 1992 ; Turland et al. , Fl. Cret. 131. 1993 ; M. Johnson , *Clematis* 608. 1997 ; Grey-Wils. , *Clematis* 99. 2000. — *C. flammula* var. *vulgaris* DC. , Syst. 1 : 134. 1818 ; et Prodr. 1 : 2. 1824 ; Reichb. , Ic. Fl. Germ. et Helvet. 19. 1840 ; Hegi , Ill. Fl. Mitt.-Europ. 3 : 514. 1909-12 ; Maire , Fl. Afr. Nord. 11 : 108. 1964 ; Pott.-Alapet. , Fl. Tunis. 1 : 153. 1979 ; Barcelo , Fl. Mallorca 2 : 188. 1978 ; Valdes in Valdes et al. , Fl. Vasc. Andaluc. 1 : 119. 1987. — *C. recta* L. ssp. *flammula* (L.) Kuntze in Verh. Bot. Ver. Brand. 26 : 115. 1885. — *C. flammula* L. var. *genuina* Batt. in Batt. & Trab. , Fl. Alger. 3. 1888. — *C. flammula* var. *typica* Posp. , Fl. Österr. Küsten. 2 : 68. 1898. Type : “ Habitat Monspelii , Jenae , inque Rhetiae sepibus ” , LINN 712-12 (lectotype !).

? *C. diversifolia* Gilib. , Exercit. Phytol. 1 : 383. 1792. Type : unknown.

C. suaveolens Salisb. , Prodr. Stirp. 371. 1796. Type : unknown.

? *C. flammula* β *rubella* Pers. , Syn. 2 : 100. 1807 ; DC. , Syst. 1 : 134. 1818 ; et Prodr. 1 : 2. 1824. — *C. recta* L. ssp. *flammula* var. *rubella* (Pers.) Kuntze in Verh. Bot. Ver. Brand. 26 : 115. 1885. Type : unknown.

C. flammula var. *grandiflora* Pomel , Nouv. Mater. Fl. Atlan. 347. 1874. Type : unknown.

C. flammula is a greatly variable and polytypic species , and difficult to be dealt with taxonomically. In the present revision seven varieties are recognized , mostly confined in geographical distribution to the Mediterranean region , with one , var. *flammula* , northward extending to central Europe and Caucasus (Grey-Wilson , 2000). Further study of the relationships among these varieties is needed.

65a. var. **flammula** Fig. 24 : A , B

Woody vine. Branches terete , shallowly 8 – 12-sulcate , subglabrous or sparsely puberulous. Leaves pinnate or bipinnate , seldom simple ; leaflets papery or thickly papery , ovate , narrowly ovate , or lanceolate , 1 – 6 \times 0.6 – 3.5 cm , at apex acute or slightly acute , at base truncate , rounded , or broadly cuneate , at margin entire , undivided , sometimes 2 – 3-lobed , on both surfaces on midrib or basal veins below sparsely puberulous or glabrous , midrib abaxially prominent ; petioles 1.5 – 5 cm long. Cymes axillary and terminal , usually many-flowered , panicle-like ; peduncles 2.8 – 6 cm long ; bracts petiolate , ovate , up to 3 cm long , 3-lobed to 3-sect , or undivided , or small , sessile , subulate , ca. 4 mm long. Flower 1 – 2.5 cm in diam. ; pedicel 0.8 – 2.2 cm long , puberulous or subglabrous. Sepals 4 , white , seldom pink , narrowly oblong or oblong , 6 – 12 (18) \times 2 – 3 mm , at apex obtuse , inside glabrous , outside sparsely puberulous , on margin velutinous. Stamens 6 – 10 mm long , glabrous ; anthers linear , 2.2 – 4 mm long , at apex minutely apiculate or obtuse. Achenes strongly compressed , orange , broadly ovate or suborbicular , 4.5 – 5 \times 4 – 4.5 mm , appressed-puberulous , tumidly rimmed ; persistent styles 1.8 – 3 cm long , plumose. Fl. Jun. – Sept.

SW Asia (Iran , Lebanon , Syria , Turkey) , S Europe (Albania , Bulgaria , France , Greece , Italy , Portugal , Spain , Switzerland , Yugoslavia) , N Africa (Algeria , Morocco). On slopes , in bushes , or by streams.

Specimens examined. **Lebanon**. Beirut , Samuelsson 1955 (S) ; Bhamdoun , Bertschinger 1213 (S). **Syria**. Amanus Mt. , Manoog 306 (S) ; Hermon Mt. , Kotschy 158 (S). **France**. Ande , Baichere 1062 (G) ; Corse , Aellen 2462 (US) , Houard s. n. (G). **Greece**. Attica ,

Lindberg s. n. (S). **Italy**. Castal Porzoano , Cacciato s. n. (S); Liguria , Segelberg s. n. (S); Sorrento , Ahlfvengren s. n. (S); Toscano , Erik Wall 20 (S). **Spain**. Barcelona , Toodoro 6745 (G , LE); Granada , Willkomm 161 (G); Laracha , Cabalov s. n. (G); Malaga , Erlandsson s. n. (S); Puerto Santa Maria , Bourgeau 1 (G). **Switzerland**. Geneva , Schmidely s. n. (G). **Algeria**. Birmandreis , Gandoger 560 (LE); Dellys , Al. Meyer 2723 (G). **Morocco**. Demnate , Cosson s. n. (S); Rabat , Lewalle 13912 (G); Tanger , Pitard 2915 (G).

65b. var. **fragrans** Ten. , Fl. Napol. 1 : 32 , t. 48. 1811 ; Asch. & Graebn. , Synop. Mitteleurop. Fl. 5 (3) : 60. 1935 ; M. Johnson , Klematis 609. 1997 ; Grey-Wils. , Clematis 101. 2000. — *C. recta* L. ssp. *flammula* var. *fragrans* (Ten.) Kuntze in Verh. Bot. Ver. Brand. 26 : 115. 1885. — *C. flammula* subvar. *fragrans* (Ten.) Lara in Anal. Soc. Esp. Hist. Nat. 27 : 86. 1898. Type : Italy. Napoli , Tenore s. n. (? isotype , G !).

C. flammula var. *rotundifolia* DC. , Syst. 1 : 134. 1818 ; et Prodr. 1 : 2. 1824 ; Reichb. , Ic. Fl. Germ. et Helvet. 19 , t. 62. 1840 ; Hegi , Ill. Fl. Mitt.-Europ. 3 : 514. 1909-12 ; Maire , Fl. Afr. Nord. 11 : 108. 1964. — *C. flammula* var. *typica* Posp. subvar. *rotundifolia* (DC.) Briq. , Prodr. Fl. Corse 1 : 595. 1910. Type : specimen made from a cultivated plant introduced from Napoli , Italy (holotype , G !).

Fig. 24 : C

This variety differs from var. *flammula* in its obtuse leaflets. Leaflets broadly ovate , orbicular-ovate , ovate , or oblong-elliptic , 1 – 3 × 0.8 – 2.3 cm. Sepals ca. 7 × 2.5 mm.

S Europe (France , Italy , Spain) , N Africa (Algeria).

Additional specimens examined. **France**. Corse , Stefani s. n. (G , US); Ande , Pons 1062 (G); Fabregues , Weber s. n. (G); Gironde , Pitard s. n. (G); Pyrenees orient. , Rouy 1269 (G). **Italy**. Napoli , Leresche s. n. (G). **Spain**. Barcelona , Secondaire 4541 (G); Malaga , Pajaron 3 (G); Tarragona , Teodoro 6334 (G). **Algeria**. Constantine , Choulette 101 (G); Kerrata , Reverchon 294 (G).

65c. var. **caespitosa** (Scop.) DC. , Prodr. 1 : 2. 1824 ; Reichb. , Ic. Fl. Germ. et Helvet. 19. 1840 ; Hegi , Ill. Fl. Mitt.-Europ. 3 : 514. 1909-12 ; Pamp. , Fl. Repubbl. San Marino 116. 1930 ; Asch. & Graebn. , Synop. Mitteleurop. Fl. 5 (3) : 60. 1935 ; Zangh. , Fl. Ital. 1 : 155. 1976. — *C. caespitosa* Scop. , Fl. Carniol. , ed. 2 , 1 : 389. 1772. — *C. recta* L. ssp. *flammula* var. *caespitosa* (Scop.) Kuntze in Verh. Bot. Ver. Brand. 26 : 116. 1885. — *C. flammula* var. *typica* Posp. f. *caespitosa* (Scop.) Posp. , Fl. Österr. Küsten. 2 : 69. 1898. Type : described from Carniola (former Austrian Crownland and N Yugoslavia) , no type specimen designated.

Fig. 24 : D

This variety differs from var. *flammula* in its smaller leaflets 0.9 – 2 (– 3) cm long , 0.4 – 0.8 (– 1.3) cm broad. Leaves bipinnate ; leaflets narrowly ovate or elliptic , usually entire at margin , undivided. Sepals 7 – 11 × 2.2 – 3 mm.

SW Asia (Lebanon , Syria , Turkey) , S Europe (Austria , France , Greece , Italy , Jugoslavia , Portugal , Spain) , N Africa (Algeria , Central Africa , Morocco , Tunisia).

Specimens examined. **Lebanon**. Beirut , Peyron s. n. , Mouterde 412 (G). **Syria**. Arayah , Post s. n. (G); Amanus Mt. , Haradjian 306 (G); Kessab-Chanarjou , Palvot s. n. (G). **Turkey**. Roumeli Hissar , Post s. n. (G). **France**. Corse , Thomas. s. n. , Dittrich 4490 , Mermoud s. n. (G); Aude , Pons 3601 (G , S); Avignon , Richard s. n. (G); Montpellier , Pavillon

s. n. (G). **Greece**. Achaias , Strid 30636 (G); Fokidos , Kit Tan et al. 6674 (G); Ioanninon , Strid 30381 (G); Lakonias , Vold 9771 (G); Penninsula Sithonia , Rechinger 44679 (S). **Italy**. Capoliveri , Geissler 5786 (G); Circeo , Cacciato s. n. (G); Ceriale , Terretaz 20720 (G); Paostum , Lucion s. n. (G). **Jugoslavia**. Maledonija , Greuter 17838 (G). **Portugal**. Algarve , Malato-Beliz & Guerra 16282 (G). **Spain**. Andalucia , Reverchon s. n. (G); Jean , Blanco 69 , Fernandez 296 (G); Puerto Santa Maria , Bourgeau 1 (G); Valentina , Reverchon 1364 (UPS).

65d. var. **parviflora** Pomel , Nouv. Mater. Fl. Atlan. 247. 1874 ; Maire , Fl. Afr. Nord. 11 : 108. 1964 ; M. Johnson , Klematis 609. 1997 ; Grey-Wils. , Clematis 101. 2000. Type : described from Garrouban , NW Africa , no type specimen designated.

C. flammula var. *sancti-marini* Pamp. in Museum 1 : 142. 1917 ; et Prodr. Fl. Ciren. 202. 1930 ; et Fl. Repubbl. San Marino 116. 1930. Type : Italy. San Marino : Pietraminuta , 1916-10-14 , Pampanini 1358 (holotype , FI ; photo , PE !).

Fig. 24 : E

This variety differs from var. *flammula* in its 2 – 3-pinnate leaves , smaller , often 2 – 3-lobed or 2 – 3-fid leaflets 10 – 20 mm long , 5 – 13 mm broad , and smaller flowers with sepals 4 – 8 mm long.

S Europe (Albania , Croatia , Greece , Italy) , NW Africa.

Specimens examined. **Albania**. Tirana : Mullet , X. P. Wang & A. M. Lu 62 (PE) ; Salunda , X. P. Wang & A. M. Lu 347 (PE). **Croatia**. Dalmatia , Lenander s. n. (S). **Greece**. In-sula Euboea , Rechinger 19134 (US).

65e. var. **maritima** (L.) DC. , Syst. 1 : 134. 1818 ; et Prodr. 1 : 2. 1824 ; Moris , Fl. Sardoa. 1 : 11. 1837 ; Reichb. , Ic. Fl. Germ. et Helvet. 19. 1840 ; Gren. & Godr. , Fl. France 1 : 3. 1848 ; Mora , Fl. Fun. Penin. Iber. 6 : 676. 1878 ; Batt. in Batt. & Trab. , Fl. Alger. 3. 1888 ; Posp. , Fl. Österr. Küsten. 2 : 69. 1898 ; Coste , Fl. Corse 1 : 35. 1901 ; Briq. , Prodr. Fl. Corse 1 : 595. 1910 ; Hegi , Ill. Fl. Mitt.-Europ. 3 : 514. 1909-12 ; Bonn. , Fl. Comp. Ill. France , Suisse et Belg. 12 , 1912 ; Cout. , Fl. Portug. 228. 1913 ; Post. , Fl. Syria , Palest. et Sina. 3. 1932 ; Asch. & Graebn. , Synop. Mitteleurop. Fl. 5 (3) : 60. 1935 ; Pignatti , Fl. Ital. 1 : 299. 1982 ; M. Johnson , Klematis 609. 1997 ; Grey-Wils. , Clematis 101. 2000. — *C. maritima* L. , Sp. Pl. , ed. 2 , 1 : 767. 1762. — *C. recta* L. ssp. *maritima* (L.) Kuntze in Verh. Bot. Ver. Brand. 26 : 114. 1885. Type : “ Habitat ad littora maris Adriatici , Venetiis , Mospelii ” , type specimens not seen.

C. flammula β *lanceolata* Vis. , Fl. Dalmat. 3 : 76. 1880. Type : Dalmatia , no type specimen designated.

Fig. 24 : H

This variety differs from var. *flammula* in its usually narrowly lanceolate or linear-lanceolate leaflets. Leaves bipinnate ; leaflets or ultimate lobes narrowly lanceolate , linear-lanceolate , or sometimes lanceolate or narrowly linear , 12 – 45 (– 50) \times 2 – 8 (– 10) mm. Sepals 9 – 12 \times 2 – 3 mm.

SW Asia (Lebanon , Syria , Turkey) , S Europe (Croatia , France , Greece , Portugal , Spain , Switzerland) , N Africa (Algeria , Morocco , Tunisia).

Specimens examined. **Lebanon**. Baurou , Gombault 1490 (P). **Syria**. Raschaya , Kotschy 173 (G , P). **Turkey**. Araya , Mouterde 12402 (G) ; Bosphorus , Post s. n. (G) ; Neba Barouk , Mouterde 10303 (G). **Croatia**. Dalmatia , Maillefer & Perriraz 2525 (S) ; Zengg , Dabiasch s. n. (US). **France**. Alpes-Maritimes , Faust s. n. , Ayasse s. n. (G) ; Frejus , Romieux s. n. (G) ;

Mazargue, Roun s. n. (G); Montpellier, Kralik s. n. (G). **Greece.** Achaia, Guid 2597 (UPS), Strid 30623 (G); Arachova, Lager s. n. (G). **Portugal.** Algarve, Rainha 5983 (G); Baixo Alentejo, Rainha 4830 (G). **Spain.** Barcelona, Teodoro 6746 (G). **Switzerland.** Vaud, Meylan 2458 (G).

65f. var. **stenophylla** Heldr. ex Kuntze in Verh. Bot. Ver. Brand. 26 : 114. 1885; Rouy & Fouc., Fl. France 1 : 4. 1893; Halac., Consp. Fl. Graec. 1 : 2. 1901. — *C. flammula* var. *maritima* f. *stenophylla* (Heldr. ex Kuntze) Asch. & Graebn., Synop. Mitteleurop. Fl. 5 (3): 60. 1935; M. Johnson, Klematis 609. 1997. Type : Syria, Libanon, Cephalonia, Montenegro, Dalmatia, Venezia, Nizza, Marseille, Montpellier, Huyères', no type specimen designated.

Fig. 24 : F, G

? *C. angustifolia* Jacq., Enum. Stirp. Spont. Cresc. Agr. Vindobon. 310. 1762. —
? *C. flammula* β *angustifolia* (Jacq.) Arcan., Comp. Fl. Ital. 226. 1894. Type : S Austria, Jacquin s. n. (holotype, WU).

C. canaliculata Lag., Gén. et Sp. Nov. 17. 1816. Type : Spain : " in Murciae et Granatae Provinciis locis saxosis, petrosisque ", no type specimen designated.

C. flammula var. *bonifaciensis* Boy., Fl. Sud. Corse 57. 1906. Type : France. Corse, no type specimen designated.

C. flammula var. *sancti-marini* Pamp. f. *angustissima* Pamp. in Nuov. Giorn. Bot. Ital. n. s., 31 (3): 211. 1924; et Prodr. Fl. Ciren. 203. 1930; M. Johnson, Klematis 609. 1997. Type : Libya. Cirenaica : Merg, 1922-05-28, Maugini s. n. (holotype, FI ; photo, PE !).

This variety differs from var. *flammula* in its thrice pinnatisect leaves with linear or narrowly linear ultimate lobes, and broader sepals. Leaf lobes $3 - 22 \times 1 - 2 (- 4)$ mm, at margin entire, seldom 1 - 2-denticulate. Sepals $9 - 13 (- 16) \times 3 - 4.2 (- 6)$ mm.

S Europe (Croatia, Greece, Spain), N Africa (Libya).

Specimens examined. **Croatia.** Zengg, Dabiasch s. n. (US). **Greece.** Cephalonia, Heldreich 3644 (G). **Spain.** Cartagena, Jimenz s. n. (S); Murcia, Bourgeau s. n. (G); Barranca del Rio Seyura, Reverchon 1364 (G).

65g. var. **heterophylla** Vis., Fl. Dalmat. 3 : 76. 1850; M. Johnson, Klematis 609. 1997; Grey-Wils., Clematis 101. 2000. Type : Croatia. Dalmatia, no type specimen designated.

This variety differs from var. *flammula* and other varieties of *C. flammula* in its lower leaves with cordate or ovate leaflets and upper leaves being twice or thrice pinnatisect to linear or narrowly lanceolate ultimate lobes.

S Europe (Croatia, Greece).

Specimen examined. **Greece.** Achaia, Strid 30655 (G).

66. **Clematis tunisiatica** W. T. Wang, sp. nov. Type : Tunisia. Ain Draham, 1905-07, Thibault s. n. (holotype, here designated, G).

Fig. 25 : D, E

Arcte affinis *C. elisabethae-carolae* Greuter, quae plantis suffrutescentibus, foliis superis ternatis vel pinnatis, inflorescentiis multifloris paniculiformibus, petiolis longioribus usque ad 2.6 - 2.8 cm longis, antheris minoribus 2.2 - 3 mm longis differt.

Herba perennis, erecta. Rhizoma robustum, ca. 6 cm longum, 6 mm crassum. Caulis e basi ramosus, ramo florifero unico ca. 20 cm alto 6-angulato ad nodos sparse puberulo alibi glabro folia 8-jugata gerente, ramis sterilibus duobus usque ad 3.5 cm longis folia 2-jugata gerentibus. Folia



Fig. 25. A - C, *Clematis recta* L. A, upper part of a flowering plant; B, stamen; C, achene. (from Elisabethstrasse 9) D, E, *C. tunisiatica* W. T. Wang. D, flowering plant; E, stamen. (from Thibault s. n.)

opposita, simplicia, breviter petiolata; laminae foliorum inferiorum chartaceae, triangulares vel anguste triangulares, 3–4.9 cm longae, 1.5–2.2 cm latae, apice acutae vel attenuatae, basi subtruncatae vel late cuneatae, margine integrae, indivisae, utrinque subglabrae, nervis basalibus 5 subtus leviter prominentibus, eae foliorum superiorum minores 1.3–4 cm longae, 3-sectae, segmentis lanceolatis, utrinque basi pilosae, eae foliorum supremorum minimae, anguste ovatae, 7–8 mm longae, basi cuneatae, indivisae, utrinque prope basin pilosae; petioli 1.5–9 mm longi, subglabri. Cyma terminalis, 3-flora; bracteae anguste ellipticae, ca. 6 mm longae, 1.8 mm latae. Flos ca. 2.2 cm diametro; pedicellus 1.8–2.2 cm longus, glaber; bracteolae anguste ovatae vel lanceolatae, 1.1–1.8 mm longae. Sepala 4, patentia, anguste oblonga, 11 mm longa, 2.2–3 mm lata, apice obtusiuscula, intus glabra, extus ad marginem velutina alibi glabra. Stamina ca. 17, ca. 8 mm longa, glabra, filamentis anguste linearibus, antheris linearibus 3.2–3.8 mm longis apice obtusis. Carpella ca. 5, ovariis dense adpresseque puberulis, stylis ca. 5.5 mm longis dense villosis.

Erect perennial herb. Rhizome robust, ca. 6 cm long, 6 mm thick. Stem branched from base, with 1 flowering branch and 2 sterile branches which are up to 3.5 cm tall, with 2 pairs of leaves, Flowering branch ca. 20 cm tall, 6-angulate, with 8 pairs of leaves, on nodes sparsely puberulous, elsewhere glabrous. Leaves simple; leaf blades of lower leaves chartaceous, triangular or narrowly triangular, 3–4.9 × 1.5–2.2 cm, at apex acute or attenuate, at base subtruncate or broadly cuneate, at margin entire, undivided, on both surfaces subglabrous, basal veins 5, abaxially slightly prominent; leaf blades of upper leaves smaller, 1.3–4 cm long, 3-sect, with lanceolate segments, on both surfaces near base pilose; leaf blades of uppermost leaves very small, narrowly ovate, 7–8 mm long, at base cuneate, undivided; petioles 1.5–9 mm long, subglabrous. Cyme terminal, 3-flowered; bracts narrowly elliptic, ca. 6 × 1.5 mm. Flower ca. 2.2 cm in diam.; pedicel 1.8–2.2 cm long, glabrous; bracteoles narrowly ovate or lanceolate, 1.1–1.8 mm long. Sepals 4, narrowly oblong, 11 × 2.2–3 mm, at apex slightly obtuse, inside glabrous, outside on margin velutinous, elsewhere glabrous. Stamens ca. 8 mm long, glabrous; anthers linear, 3.2–3.8 mm long, at apex obtuse. Ovaries densely appressed-puberulous; styles ca. 5.5 mm long, densely villous. Fl. Jul.

Tunisia.

67. Clematis elisabethae-carolae Greuter in Candollea 20 : 213, fig. 12. 1965; Turland et al., Fl. Cret. Area 131, pl. 6, fig. 3. 1993; Tutin & Akeroyd in Fl. Europ., ed. 2, 1 : 267. 1993; Strid, Mount. Fl. Greece 1 : 208. 1995?; M. Johnson, Klematis 607. 1997; Grey-Wils., Clematis 101. 2000. Type: Greece. Crete: Prov. Sfakia: Valley Amudzara, 1800 m, 1962-07-02, Greuter 4848 (holotype, GR; isotype, G!).

Small evergreen half-shrub, ca. 2 m tall. Branches slender, ca. 2.2 mm thick, below 6-angulate, indistinctly longitudinally 6-ribbed, above shallowly 10-sulcate, on nodes pubescent, elsewhere subglabrous or glabrous. Lower leaves simple, leaf blades chartaceous, ovate, 4.2–6.8 × 3–4.9 cm, at apex acute, at base subcordate or truncate, often abruptly cuneate, at margin entire, adaxially glabrous, abaxially only near base sparsely pilose, with basal veins abaxially slightly prominent and petioles 2–2.6 cm long; upper leaves ternate, sometimes uppermost ones 5-foliolately pinnate, with leaflets ovate or narrowly ovate, sometimes lanceolate, 2–4.4 × 1–2.4 cm, at apex acute or attenuate, on both surfaces near base sparsely pilose and with petioles 1.6–2.8 cm long. Panicles terminal, many-flowered; bracts petiolate, simple or ternate. Flower 2.2–

2.8 cm in diam. ; pedicel 1.4 – 3 cm long , glabrous or subglabrous. Sepals 4(– 6), white , obovate-oblong , 10 – 14 × 4.2 – 6.5 mm , at apex obtuse , inside glabrous , outside above sparsely pilose , on margin velutinous. Stamens 5 – 7.5 mm long , glabrous ; anthers linear , 2.2 – 3 mm long , at apex obtuse. Ovaries densely puberulous ; styles ca. 6.5 mm long , densely villous. Achenes strongly compressed , elliptic , ca. 5 × 2.8 mm , puberulous , tumidly rimmed ; persistent styles ca. 3.2 cm long , plumose. Fl. Jul.

Greece (Crete). On rocks in valley ; 1250 – 1850 m.

Additional specimen examined. **Greece.** Crete : Valley Amudzara , 1800 m , Greuter 7542 (G).

68. *Clematis recta* L. , Sp. Pl. 1 : 544. 1753 ; Jacq. , Fl. Austr. Ic. t. 291. 1775 ; Gren. & Godr. , Fl. France 1 : 3. 1848 ; Schur , Enum. Pl. Transsilv. 1. 1866 ; Boiss. , Fl. Or. 1 : 3. 1867 ; Mora , Fl. Fun. Penin. Iber. 6 : 676. 1878 ; Willk. in Willk. & Lange , Prodr. Fl. Hispan. 3 : 954. 1880 ; Arcan. , Comp. Fl. Ital. 2. 1882 ; Tristr. , Fauna Fl. Palest. 207. 1884 ; Beck , Fl. Nied.-Österr. 1 : 411. 1890 ; Rouy & Fouc. , Fl. France 1 : 3. 1893 ; Posp. , Fl. Österr. Küsten. 2 : 68. 1898 ; Halacsy , Consp. Fl. Graec. 1 : 3. 1901 ; Hegi , Ill. Fl. Mitt.-Europ. 3 : 515. 1909-12 ; Briq. , Prodr. Fl. Corse 1 : 594. 1910 ; Schinz in Schinz & Kell. , Fl. Schweiz 2 : 115. 1914 ; Fiori , Iconogr. Fl. Ital. 189 , fig. 1527. 1921 ; Szafera , Fl. Polska 3 : 26. 1927 ; Krash. in Kom. , Fl. URSS 7 : 318. 1937 ; Tutin in Fl. Europ. 1 : 221. 1964 ; Markova in Fl. Reip. Pop. Bulgar. 4 : 114. 1970 ; Zimmern. in Hegi 's Ill. Fl. Mitt.-Europ. , ed. 2 , 3 (3) : 188. 1975 ; Fütal & Bert. , Fl. Slov. 3 : 263. 1982 ; Pignatti , Fl. Ital. 1 : 299. 1982 ; Carva. in Castr. et al. , Fl. Iber. 1 : 269. 1986 ; M. Johnson , *Clematis* 618. 1997 ; Grey-Wils. , *Clematis* 97. 2000. — *C. recta* L. ssp. *normalis* Kuntze in Verh. Bot. Ver. Brand. 26 : 113. 1885 , p. p. Type : “ Habitat in collibus Austriae , Pannoniae , Tatariae , Monspeliis ” , LINN 712-14 (lectotype !).

C. hispanica Mill. , Gard. Dict. , ed. 8 , *Clematis* n. 3. 1768. Type : unknown.

C. erecta All. , Fl. Pedem. 1 : 296. 1875 ; DC. , Syst. 1 : 133. 1818 ; et Prodr. 1 : 2. 1824 ; Reihb. , Fl. Germ. Excurs. 734. 1832 ; et Ic. Fl. Germ. et Helvet. 19 , t. 61. 1840. Type : described from northern Italy , type specimen unknown.

C. corymbosa Juss. ex Poir. , Encyc. Suppl. 2 : 297. 1811. — *C. recta* L. ssp. *normalis* var. *corymbosa* (Juss. ex Poir.) Kuntze in l. c. Type : unknown.

C. bracteosa Banks ex Steud. , Nom. 204 , 205. 1821 , nom. nud.

C. erecta All. β *umbellata* Reichb. , Fl. Germ. Excurs. 734. 1832 ; et Ic. Fl. Germ. et Helvet. 19. 1840. — *C. recta* L. ssp. *normalis* var. *umbellata* (Reihb.) Kuntze in l. c. Type : unknown.

C. recta L. var. *subumbellata* Schur , Enum. Pl. Transsilv. 1. 1866. Type : described from Transsilvania , no type specimen designated.

C. recta L. var. *saxatilis* Wierzb. ex Schur , l. c. Type : described from Transsilvania , no type specimen designated.

C. recta L. var. *flexuosa* Liev. , var. *genuina* Liev. , var. *heterophylla* Liev. et var. *homophylla* Liev. in Österr. Bot. Zeitsch. 21 : 116. 1871. Type : no type specimen designated.

C. recta L. var. *tarnopoliensis* Zapal. , Consp. Fl. Galic. Crit. 2 : 246. 1908. Type : described from eastsouthern Poland , type specimen unknown.

Perennial herb. Stem 50 – 150 cm tall, terete, shallowly 10 – 20-sulcate, on nodes sparsely puberulous, elsewhere glabrous. Leaves pinnate, 5 – 7-foliolate, sometimes lowermost ones simple; leaflets papery, narrowly ovate, ovate, or lanceolate, 1.5 – 8.5 × 0.8 – 5 cm, at apex acute or attenuate, at base truncate, subcordate, or rounded, at margin entire, undivided, adaxially nearly glabrous, abaxially sparsely puberulous, basal veins abaxially prominent; petioles 1 – 7 cm long. Panicles terminal, usually many-flowered; bracts foliaceous. Flower 1 – 2 cm in diam.; pedicel 0.8 – 2.8 cm long, glabrous or sparsely puberulous. Sepals 4(– 5), white, narrowly oblong, 6 – 12 × 1.8 – 4 mm, at apex rounded or obtuse, on both surfaces glabrous, outside on margin velutinous. Stamens 4 – 7 mm long, glabrous; anthers linear or narrowly oblong, 2 – 3 mm long, at apex obtuse. Ovaries densely puberulous; styles 3.5 – 5 mm long, densely villous. Achenes strongly compressed, ovate or broadly elliptic, ca. 5 × 4 mm, sparsely appressed-puberulous, tumidly rimmed at margin; persistent styles ca. 1.8 cm long, plumose.

C & S Europe (Austria, Bulgaria, Czech, France, Germany, Hungaria, Italy, Poland, Romania, S Russia, Slovakia, Slovenia, N Spain, Switzerland, Ukraine, Yugoslavia). On slopes, in thickets or bushes; 50 – 1900 m.

Specimens examined. **Austria.** Perchtoldsdorf, D. Y. Hong s. n. (PE); Tirol, Porta s. n. (S); Vienna, Nyman s. n. (S). **Czech.** Bohemia, Deyl s. n. (G, PE), Klustersky s. n. (LE); Moravia, Suza 213 (G, LE, S). **France.** Alpes-Maritimes, Chopinet s. n. (P); Haute-Alpes, Neyra 1063 (P); Aude, Baichere 1063 (G, P); Valle Agly, Sennen s. n. (S); Draguignan, Graves s. n. (G); Rouen, Tidestrom 13327 (US); Sorede, Castanier 3587 (S). **Germany.** Haritun, Stotzner s. n. (S); Laxonia, Norman s. n. (S); Magdeburg, Toiges s. n. (G); Tessin, Simonet s. n. (G); Thungen, Würzburg 251 (G). **Hungaria.** Budapest, Romieux s. n. (G); Lipotmefo, Thellevy s. n. (S); Nagymaros, Filarszky 584 (LE). **Italy.** Alpes Bergomia, Charpin & Greuter 8561 (G); Laria, Lager s. n. (G); Lombaidict, Lenander s. n. (S); Venetia, Pampanini 567 (LE); Vicenza, Schreiber s. n. (LE); Verona, Segelberg s. n. (S). **Romania.** Moldova, Popp 2427 (G); Valachi, Guyot 109 (G). **Russia.** Saratov, Blumberg 1351 (G, S). **Slovakia.** Bohmen, K. Anderberg s. n. (S). **Slovenia.** Iska-dalca, Segelberg s. n. (S). **Spain.** Barcelona, Conzalo 6835 (G, LE); Cabanas, Sennen 223 (G, S); Cerdagne, Sennen 6497 (G, LE); Costa Brava, Hummel s. n. (S); Huesca, Sandwith 4715 (LE); Jaca, Montserrat 622874 (G), Willkomm 369 (LE). **Switzerland.** Lugano, Kohler s. n. (G); Valais, Marret 141 (S), Wolf s. n. (G). **Ukraine.** Kiev, Elin s. n. (S). **Yugoslavia.** Hercegovina, Frost-Olsen 2035 (G); Julische Alpen, Dittrich 1440 (G).

Unclear varieties: 1. *Clematis recta* L. ssp. *normalis* Kuntze var. *solitariiflora* Kuntze, var. *magnusiana* Kuntze, and var. *stricta* (Wender.) Kuntze (*C. stricta* Wender. in Ind. Sem. Marburg. 1836) in Verh. Bot. Ver. Brand. 26:113. 1885; 2. *C. recta* L. var. *magocsyana* Soó in Bot. Köz. 22:72. 1925.

69. Clematis lathyriifolia Bess. ex Trautv., Delect. Sem. Hort. Bot. Univ. Kiov. a. 1841; Bess. ex Reichb., Fl. Germ. Excur. 134. 1830, pro syn. *C. recta* L.; Serov in Bot. Zhurn. 73 (12):1739. 1988; Lufarov & Serov in l. c. 84 (6):134. 1997. Type: Ukraine: Cult. Cremeneci, Besser s. n. (holotype, LE!).

C. pseudoflammula Schmalh. ex Lipsky in Zap., Kievsk. Obsheh. Estestv. 12:230. 1894; et in Acta Hort. Petrop. 13:276. 1894; Krash in Kom., Fl. URSS 7:319. 1937; Grossh., Fl. Kavkaza 4:43. 1950; M. Johnson, Klematis 617. 1997; Grey-Wils., Clematis 98. 2000. Type:

Caucasia : on the way to Tjategegorsk , 1886-05-31 , Lipsky s. n. (holotype , LE !).

Small half-shrub. Stem 25 – 100 cm tall , shallowly 6 – 10-sulcate , glabrous or very sparsely puberulous , usually simplex. Leaves pinnate or bipinnate , the lowermost ones often simple ; leaflets papery , narrowly ovate or ovate , 0.8 – 4.2 × 0.8 – 3.2 cm , at apex slightly obtuse or acute , at base rounded or broadly cuneate , at margin entire , usually undivided , sometimes 2 – 3-lobed , adaxially on midrib puberulous or subglabrous , abaxially sparsely puberulous or subglabrous , basal veins abaxially prominent ; petioles 0.7 – 3 cm long. Panicle terminal , many-flowered , with leaf-like bracts. Flower 1.2 – 2 cm in diam. ; pedicel 0.7 – 2 cm long subglabrous or glabrous. Sepals 4 , oblanceolate-oblong , oblong , or narrowly oblong , 6 – 12 × 2 – 4 mm , at apex obtuse or rounded , inside glabrous , outside glabrous or very sparsely puberulous , on margin velutinous. Stamens 3.6 – 5.8 mm long , glabrous ; filaments often rugose ; anthers linear , 2 – 3 mm long , at apex obtuse or minutely apiculate. Ovaries densely puberulous ; styles ca. 4 mm long , densely villous. Achenes strongly compressed , elliptic , ca. 4 × 2.5 mm , appressed-puberulous , narrowly rimmed at margin ; persistent styles ca. 3.5 cm long , plumose. Fl. Apr. – May.

Georgia , S Russia , Ukraine. On grassy slopes ; ca. 500 m.

Additional specimens examined. **Caucasia**. Gora Brukovaya , Akinfiev s. n. (LE) ; Kalmok , Sergutschav s. n. (LE) ; Krasnodar : Sergievskaja , Koso-Poljansky 7112 (S) ; Kuban , Lipsky s. n. (LE) ; Staoropo Gub , Lipsky s. n. , Akinfiev s. n. (LE).

Ser. 4. **Uncinatae** Tamura in Rep. Sci. Osaka Univ. 4 : 53. 1955 ; et in Acta Phytotax. Geobot. 38 : 43. 1987 ; et in Heipko , Engler 's Nat. Pflanzenfam. , ed. 2 , 17a (4) : 383. 1995 ; W. T. Wang in Acta Phytotax. Sin. 36 (2) : 159. 1998. — Sect. *Flammula* subsect. *Uncinatae* (Tamura) M. Johnson , *Clematis* 606. 1997 ; Grey-Wils. , *Clematis* 112. 2000. Type : *C. uncinata* Champ. ex Benth.

Woody vines. Hornotinous branches alone arising from axillary buds of old branch. Leaves once to twice pinnate ; leaflets papery or coriaceous , at margin entire , undivided. Flowers medium-sized , in few – many-flowered cymes arising from leaf axils of hornotinous branch. Sepals 4 , outside at least on margin velutinous. Achenes subulate-terete or narrowly lanceolate.

Two species distributed in E Asia and E Africa.

70. *Clematis uncinata* Champ. ex Benth. in J. Bot. 3 : 255. 1851 ; et Fl. Hongk. 6. 1861 ; Maxim. in Bull. Acad. Sci. St. Petersb. 22 : 220. 1876 ; et in Mél. Biol. 9 : 577. 1876 ; Forb. & Hemsl. in J. Linn. Soc. Bot. 23 : 7. 1886 ; Pritz. in Bot. Jahrb. 29 : 332. 1900 ; Finet & Gagnep. in Bull. Soc. Bot. France 50 : 523. 1903 , p. p. ; et in Lecomte , Fl. Gén. Indo-Chine 1 : 2. 1907 ; Pamp. in Nuov. Giorn. Bot. Ital. , n. ser. , 17 : 271. 1910 ; Dunn & Tutch. in Kew Bull. Misc. Inform. , add. ser. , 10 : 26. 1912 ; Rehd. & Wils. in Sarg. , Pl. Wils. 1 : 327. 1913 ; Rehd. in J. Arn. Arb. 8 : 106. 1927 et 10 : 188. 1929 ; Pei in Contr. Biol. Lab. Sci. Soc. China 10 : 108. 1936 ; et in Sunyatsenia 4 : 162. 1940 ; Rehd. , Man. Cult. Tr. & Shr. , ed. 2 , 216. 1940 ; Tamura in Acta Phytotax. Geobot. 15 (1) : 18. 1953 ; W. T. Wang in Acta Phytotax. Sin. 6 (4) : 373. 1957 ; Lauener & Green in Not. R. Bot. Gard. Edinb. 23 (4) : 584. 1961 ; Anonymous in Iconogr. Corm. Sin. 1 : 747 , fig. 1493. 1972 ; Anonymous in Fl. Hupeh. 1 : 366. 1976 ; M. C. Chang in Fl. Reip. Pop. Sin. 28 : 165. 1980 ; Ding et al. , Fl. Henan. 1 : 450. 1981 ; Anonymous in Fl. Jiangsu. 2 : 171. 1982 ; Tamura in Acta Phytotax. Geobot. 34 : 97. 1983 ; C. Y. Wu , Ind. Fl. Yunnan. 1 : 114. 1984 ; Lin & Zhao in Fl. Fujian. 2 : 25. 1985 ; Y. K. Li in Fl. Guizhou. 3 : 54. 1986 ; X. W. Wang in Fl. Anhui 2 : 335. 1986 ;

W. T. Wang in Bull. Bot. Res. Harbin 7(2):100. 1987; et in Fl. Guangxi 1:287. 1991; Z. H. Lin in Fl. Zhejiang 2:284. 1992; W. T. Wang in Keys Vasc. Pl. Wuling Mount. 166. 1995; T. Y. Yang & T. C. Huang in Taiwania 40(3):248, fig. 22:1-9. 1995; et in Fl. Taiwan, ed. 2, 2:544, pl. 257, fig. 1-9. 1996; M. Johnson, Klematis 645. 1997; Ho, Ill. Fl. Vietnam 1:319, fig. 1283. 1999; K. M. Liu in Fl. Hunan 2:689. 2000; Grey-Wils., Clematis 112. 2000; W. T. Wang in Acta Phytotax. Sin. 38(4):312. 2000; et in Fl. Yunnan. 11:227. 2000; W. T. Wang & Barth. in Fl. China 6:359. 2001. — *C. recta* L. ssp. *chinesis* (Retz.) Kuntze var. *uncinata* (Champ. ex Benth.) Kuntze in Verh. Bot. Ver. Brand. 26:115. 1885. Type: China. Hong Kong(香港): Parker Mt., near Saywan, 1848-07-10, Champion s. n. (holotype, K!).

C. leiocarpa Oliv. in Hook., Icon. Pl. 16:pl. 1533. 1886, p. p. quoad fig. rami floriferi. Type: China. Hubei(湖北): Yichang(宜昌), Henry 714 A (syntype, K!).

C. ovatifolia Ito ex Maxim. in Bull. Acad. Sci. St. Petersburg. 31:12. 1886; et in Mém. Biol. 12:415. 1886; Makino in Bot. Mag. Tokyo 11:330. 1897. — *C. uncinata* var. *ovatifolia* (Ito ex Maxim.) Ohwi ex Tamura in Acta Phytotax. Geobot. 15(1):18. 1953 et 34:97. 1983; Ohwi in Bull. Nat. Sci. Mus. 33:71. 1953; et Fl. Jap. 443. 1965; W. T. Wang in Bull. Bot. Res. Harbin 7(2):101. 1987; M. Johnson, Klematis 647. 1997. Type: Japan. Sikoku: Prov. Kii, Kumano Mt., Ito s. n. (holotype, LE!).

C. drakeana Lévl. & Van. in Bull. Acad. Intern. Geogr. Bot. 11:168. 1902. Type: China. Guizhou(贵州): Guiyang(贵阳), 1898-06-20, Bodinier 1680 (syntype, E!); Ganpin, 1897-07-03, Martin & Bodinier 1680bis (syntype, E!).

C. gagnepiniana Lévl. & Van. in Bull. Soc. Bot. France 51:29. 1904. Type: China. Guizhou(贵州): Pinfa(平伐), 1902-09-30, Cavalerie 664 (holotype, E!).

C. uncinata var. *floribunda* Hayata in J. Coll. Sci. Univ. Tokyo 30:18. 1911; Liu & Hsieh in Fl. Taiwan 2:493. 1976. — *C. floribunda* (Hayata) Yamam. in J. Soc. Trop. Agr. 4:188. 1932. Type: China. Taiwan(台湾): Taiku, 1908-08-01, Kawakami 58 (holotype, TI!).

C. alsomitriifolia Hayata, Ic. Pl. Formos. 3:1. 1913; Liu & Hsieh in Fl. Taiwan 2:482. 1976, excl. syn.; Tamura in Satake et al., Wild Flow. Jap. 2:74. 1982. Type: China. Taiwan(台湾): without precise locality, 1912-08, Mori s. n. (holotype, TI!).

C. uncinata var. *bitemata* W. T. Wang in Acta Phytotax. Sin. 6(4):374. 1957; Anonymous in Fl. Tsinling. 1(2):294. 1974; Ding et al., Fl. Henan. 1:451. 1981. Type: China. Yunnan(云南): Wenshan(文山), K. M. Feng 11018 (holotype, PE!).

C. uncinata var. *taitongensis* Liu & Qu in Quart. J. Chin. For. 9(2):122, fig. 5. 1976. Type: China. Taiwan(台湾): Taidong(台东), Y. C. Liu et al. 879 (holotype, TCF, according to Yang & Huang, 1995).

柱果铁线莲

This species consists of three varieties wide-spread in subtropical regions of China and adjacent countries.

70a. var. *uncinata* Fig. 26:A-C

Woody vine. Branches shallowly 10-14-sulcate, glabrous, slightly glaucous. Leaves once or twice pinnate, glabrous; leaflets subcoriaceous or papery, ovate-elliptic, ovate, narrowly ovate, or lanceolate, 3-13 × 1.5-5 cm, at apex acuminate, acute, or attenuate, at base rounded, broadly

cuneate, subcordate, or truncate, at margin entire, abaxially slightly glaucous and slightly reticulate, with veinlets more or less prominent; petioles 3–8.5 cm long. Cymes axillary and terminal, usually many-flowered, panicle-like, glabrous; peduncles 1–8 cm long; bracts sessile, subulate, 3–8 mm long, sometimes petiolate, lanceolate, up to 3.5 cm long. Flower 1.7–3 cm in diam.; pedicel 1–2.2 cm long. Sepals 4, white, narrowly oblong or narrowly obovate-oblong, 10–15 × 2–3.8(–5) mm, at apex acute, inside glabrous, outside on margin velutinous, elsewhere glabrous. Stamens (3–)8–11 mm long, glabrous; anthers linear or narrowly oblong, 2.8–3.2 mm long, at apex minutely apiculate. Ovaries glabrous; styles 5–8 mm long, densely villous. Achenes subulate-terete, 5–7 × 1.4–1.8 mm, glabrous, smooth; persistent styles 1.5–3(–3) cm long, plumose. Fl. Jun. – Jul.

China (S Anhui, Fujian, S Gansu, Guangdong, Guangxi, Guizhou, Hong Kong, Hunan, S Jiangsu, Jiangxi, S Shaanxi, Sichuan, Taiwan, SE Yunnan, Zhejiang), S Japan, Vietnam. In bushes, at forest edges, or by streams; 100–2500 m.

Additional specimens examined. **China.** **Anhui** (安徽): Huangshan (黄山), R. C. Ching 2938 (GH, US), T. N. Liou & P. C. Tsoong 3085 (PE); Jixi (绩溪), X. L. Liu 122 (PE); Guichi (贵池), Anhui Exped. 59-7011 (PE); Jinzhai (金寨), X. S. Shen 596 (ANUB). **Fujian** (福建): Liancheng (连城), Y. Ling s. n. (PE); Fuzhou (福州), Norton 1391 (GH); Nanping (南平), G. S. He 1507 (PE); Jiangle (将乐), Longxishan Exped. 92-3022 (PE); Shunchang (顺昌), M. S. Li 5678 (PE); Taining (泰宁), M. S. Li 804 (PE); Chongan (崇安), Wuyishan Exped. 79-136 (PE). **Guangdong** (广东): Zhaoqing (肇庆), G. L. Shi 13016 (PE); Gaoyao (高要), C. Wang 164527 (PE); Deqing (德庆), Y. G. Liu 973 (PE); Huaiji (怀集), W. T. Tsang 23156 (G, LE); Guangzhou (广州), Y. Tsiang 3319 (K, PE); Luofushan (罗浮山), Ford 104 (US); Zijin (紫金), Z. F. Wei 120983 (PE); Mei Xian (梅县), W. T. Tsang 21349 (K, LE, P, PE); Dapu (大浦), W. T. Tsang 21006, 21174 (K, PE); Jiaoling (蕉岭), X. G. Li 202257 (PE); Ruyuan (乳源), S. P. Kau 53512, Y. G. Liu 777 (PE); Yangshan (阳山), T. M. Tsui 500 (K, P, PE, US); Liannan (连南), P. X. Tan 58912 (PE). **Guangxi** (广西): Longzhou (龙州), ?21444 (PE); Shangsi (上思), D. Z. Fu et al. 776 (PE); Wuming (武鸣), S. Q. Zhong 20873 (PE); Pingguo (平果), Y. K. Li 1308 (PE); Lingyun (凌云), R. C. Ching 6861 (PE); Donglan (东兰), R. C. Ching 6561 (GH); Tiane (天峨), Z. T. Li 601221 (PE); Longsheng (龙胜), Guangfu Exped. 934 (PE); Guilin (桂林), W. T. Tsang 28027 (US); Yangshuo (阳朔), R. H. Shan 1115 (PE); Xiangzhou (象州), W. L. Sha 59354 (PE); Cangwu (苍梧), S. C. Chen 10118 (PE). **Guizhou** (贵州): Xingyi (兴义), P. C. Tsoong 1610 (PE); Xingren (兴仁), Guizhou Exped. 60-6595 (PE); Anlong (安龙), Anshun Exped. 59-302 (PE); Dushan (独山), Libo Exped. 59-1548 (PE); Pinfa (平伐), Cavalerie 293 (K, P), 3010 (GH, K); Leishan (雷山), C. P. Jian et al. 50884 (PE); Duyun (都匀), Y. Tsiang 5656 (P); Guiyang (贵阳), Z. Y. Cao 217 (PE); Zunyi (遵义), Steward et al. 63 (LE, P, PE, US); Shibing (施秉), Wulingshan Exped. 88-3504 (PE); Dejiang (德江), N Guizhou Exped. 59-1648 (PE); Songtao (松桃), N Guizhou Exped. 59-1548 (PE). **Hong Kong** (香港): Violet Hill, S. Y. Hu 12639, 13786 (PE). **Hubei** (湖北): Yichang (宜昌), Henry 3922 (K); Badong (巴东), Henry 1413 (K). **Hunan** (湖南): Yizhang (宜章), B. G. Li 146 (HUTM); Changning (常宁), C. S. Fan & Y. Y. Li 278 (G, LE); Xinning (新宁), L. H. Liu 15492 (PE); Wugang (武冈), Handel-Mazzetti 12396 (GH); Xinhuang (新晃), Wulingshan Exped. 88-817 (PE); Yuanling (沅陵), G. F. Zhang 534 (PE);

Shimen (石门), Hupingshan Exped. 87-1107 (PE); Hengshan (衡山), Y. Liu 215 (PE). **Jiangsu** (江苏): Yixing (宜兴), W. Z. Fang 152 (PE). **Jiangxi** (江西): Shangyou (上犹), G. Yao 1433 (PE); Jinggangshan (井冈山), J. Xiong 2877 (PE); Nanfeng (南丰), P. C. Tsoong 451 (PE); Qianshan (铅山), S. S. Lai 4246 (PE); Yushan (玉山), S. S. Lai 6219 (PE); Shangrao (上饶), S. S. Lai 4962 (PE); Lushan (庐山), E. H. Wilson 1549 (GH, US). **Shaanxi** (陕西): Yang Xian (洋县), K. T. Fu 5263 (PE). **Sichuan** (四川): Youyang (酉阳), S. X. Tan 298 (PE); Pengshui (彭水), F. D. Pu 233 (PE); Nanchuan (南川), G. F. Li 64277 (PE); Beipei (北碚), Chuanqian Exped. 725 (PE); Fengjie (奉节), H. F. Zhou 26959 (PE); Wanyuan (万源), P. Y. Li 5922 (PE); Emeishan (峨眉山), Faber 732, 737 (K), E. H. Wilson 4698 (GH, K), W. P. Fang 3189 (K, P), F. T. Wang 23164 (LE, PE, UPS); Dujiangyan (都江堰), W. P. Fang 19003 (PE). **Taiwan** (台湾): Nantou (南投), Tamura & Koyama 23117 (KYO); Xinzhu (新竹), K. Y. Wang 34 (GH); Taoyuan (桃园), Tamura & Koyama 23074 (KYO); Bankinsing, Henry 465 (GH). **Yunnan** (云南): Mengzi (蒙自), Henry 9431c, 9431d (GH, LE, US). **Zhejiang** (浙江): Qingyuan (庆元), R. C. Ching 2565 (K, P); Taishun (泰顺), R. C. Ching 257 (GH, US); Yunhe (云和), S. Chen 773 (PE); Longquan (龙泉), S. Y. Zhang 3147 (PE); Chun'an (淳安), Zhejiang Exped. 58-30216 (PE); Tianmushan (天目山), T. N. Liou 153 (PE); Moganshan (莫干山), Meyer 1580 (GH); Yandangshan (雁荡山), C. Y. Chiao 14648 (GH); Xiangshan (象山), Y. Y. He 430 (PE); Tiantaishan (天台山), Y. Y. He 27940 (PE); Zhuji (诸暨), K. L. Chen 1441 (PE); Ningbo (宁波), Faber s. n. (K), S. Y. Zhang 905 (PE); Zhenhai (镇海), S. Chen 4223 (PE); Putuo (普陀), R. H. Chang 323 (ZJFC).

Vietnam. Tonkin: Chapa, Petelot 5469 (GH); Cho Ganh, Petelot 945 (GH, P, US); Dang Xa Mt., Bon 4172 (P); Kien Khe, Bon 3894 (P); Lac Cho, Bon 4797 (P).

70b. var. coriacea Pamp. in Nuov. Giorn. Bot. Ital., n. ser., 22: 288. 1915; Hand.-Mazz. in Acta Hort. Gotob. 13: 207. 1939; W. T. Wang in Acta Phytotax. Sin. 6(4): 375. 1957; Anonymous in Iconogr. Corm. Sin. 1: 747. 1972; Anonymous in Fl. Tsinling. 1(2): 294. 1974; Anonymous in Fl. Hupeh. 1: 367. 1976; M. C. Chang in Fl. Reip. Pop. Sin. 28: 166. 1980; Ding et al., Fl. Henan. 1: 451. 1981; C. S. Zhu & H. W. Yang, Clav. Sperm. Henan. 105. 1994; M. Johnson, Klematis 646. 1997; K. M. Liu in Fl. Hunan 2: 689. 2000; Grey-Wils., Clematis 113. 2000; W. T. Wang in Acta Phytotax. Sin. 38(4): 312. 2000; W. T. Wang & Barth. in Fl. China 6: 359. 2001. Type: China. NW Hubei (湖北), Silvestri 3936 (holotype; photo, GH!).

C. leiocarpa Oliv. in Hook., Icon. Pl. 16: pl. 1533. 1886, p. p. quoad fig. rami fructiferi; Diels in Bot. Jahrb. 29: 332. 1900. Type: China. Hubei (湖北): Yichang (宜昌), Henry 309 (syntype, K!).

皱叶铁线莲

This variety differs from var. *uncinata* in its leaflets being thicker, coriaceous, after drying adaxially slightly rugose, abaxially strongly glaucous, not reticulate, with basal veins and veinlets not visible. Sepals 10–15 × 2–3.8(–5) mm. Ovaries and achenes glabrous.

China (S Gansu, SW Henan, W Hubei, NW Hunan, S Shaanxi, Sichuan). On slopes, in bushes or forests, by streams; 550–2000 m.

Specimens examined. **China**. **Gansu** (甘肃): Wen Xian (文县), Z. Y. Zhang 15387 (PE); Kang Xian (康县), Z. Y. Zhang 16993 (PE). **Hubei** (湖北): Jianshi (建始), H. C.



Fig. 26. A - C, *Clematis uncinata* Champ. var. *uncinata*. A, flowering plant; B, stamen; (from Y. G. Liu 777) C, achene (from T. P. Ko 53512). D - F, *C. sigensis* Engler. D, flowering branch; E, stamen; (from Ruffo 236) F, achene (from Luke 1625).

Chow 1516 (PE); Badong (巴东), T. P. Wang 10847 (PE); Yichang (宜昌), Henry 1413, 1596 (P), 2888 (G, K), 3622A (K), T. P. Wang 11316 (PE); Xingshan (兴山), G. X. Fu 329 (PE); Fang Xian (房县), K. M. Liou 9862 (PE); Without precise locality, E. H. Wilson 403 (GH, LE). **Hunan** (湖南): Shimen (石门), Hupingshan Exped. 87-253 (PE); Yuanling (沅陵), G. F. Zhang 556 (PE). **Shaanxi** (陕西): Pingli (平利), P. Y. Li 1695 (WUK); Ankang (安康), P. Y. Li 7655 (WUK); Mian Xian (勉县), K. T. Fu 3704 (PE); Ziyang (紫阳), P. Y. Li 4719 (PE); Xixiang (西乡), P. C. Kuo 2117 (PE). **Sichuan** (四川): Mao Xian (茂县), F. T. Wang 21880 (PE); Guangyuan (广元), W. C. Cheng 2619 (PE); Zhao-hua (昭化), K. S. Hao 325 (P, PE); Chengkou (城口), Farges 834 (G, K, LE, P), W. P. Fang 10334, T. L. Dai 100930, 107222 (PE); Wuxi (巫溪), G. H. Yang 58405 (PE); Wushan (巫山), H. F. Zhou 109621 (PE); Fengjie (奉节), M. Y. Fang 23982 (PE); Nanchuan (南川), K. C. Kuan et al. 1405 (PE).

70c. var. **okinawensis** (Ohwi) Ohwi, Fl. Jap. 515. 1953; et in Bull. Nat. Sci. Mus. Tokyo 33: 71. 1953; Tamura in Acta Phytotax. Geobot. 34: 98. 1983; T. Y. Yang & T. C. Huang in Taiwan 40(3): 252, fig. 22: 10. 1995; et in Fl. Taiwan, ed. 2, 2: 544, pl. 257, fig. 10. 1996; Grey-Wils., Clematis, 113. 2000; W. T. Wang & Barth. in Fl. China 6: 359. 2001. — *C. okinawensis* Ohwi in Acta Phytotax. Geobot. 6(3): 146. 1937; Tamura in l. c.; M. Johnson, Klematis 644. 1997. Type: Japan. Ryukyu Isls.: Okinawa, Naha, Tokura s. n. (holotype, KYO!).

C. trichocarpa Tamura in Acta Phytotax. Geobot. 16: 79. 1956; Liu & Hsieh in Fl. Taiwan 2: 492. 1976. — *C. okinawensis* var. *trichocarpa* (Tamura) Tamura in Acta Phytotax. Geobot. 34: 98. 1983; M. Johnson, Klematis 644. 1997. Type: China. Taiwan (台湾): Raisha, Soma 1017 (holotype).

C. alsomitrifolia auct. non Hayata: Tamura in Acta Phytotax. Geobot. 15(1): 18. 1953.

毛柱果铁线莲

This variety differs from var. *uncinata* and var. *coriacea* in its puberulous ovaries and achenes. Leaflets coriaceous. Sepals 6–9 × 3–7 mm.

China (Taiwan), S Japan. In open land or at forest edges; up to 600 m.

Additional specimens examined. **Japan.** Okinawa, Ohwi s. n. (K), Sonohara s. n. (KYO), Towa 903 (KYO).

71. **Clematis sigensis** Engler in Bot. Jahrb. 45: 271, fig. 2: A, B. 1910; et Pflanzenwelt Afr. 3(2): 172, fig. 104: A, B. 1915; Staner & Leonard in Bull. Soc. R. Bot. Belg. 82: 338. 1950; Beentje in Utafiti 2(1): 16. 1989; M. Johnson, Klematis 465. 1997; W. T. Wang in Acta Phytotax. Sin. 38(5): 410. 2000. Type: Tanzania. Lushoto District: Sigi Valley, 500 m, 1903-07, Warnecke 452 (holotype, not seen).

C. simensis auct. non Fresen.: Milne-Redhead & Turrill, Fl. Trop. East Afr. 2. 1952, p. p. quoad syn. *C. sigensis* Engler.

Fig. 26: D–F

Woody vine. Branches shallowly 10–12-sulcate, near nodes sparsely puberulous. Leaves pinnate, 5-foliate; leaflets thickly papery, narrowly ovate, ovate, or elliptic-ovate, 3.2–11 × 2–5.5 cm, at apex acuminate or acute, at base rounded, at margin entire, on both surfaces on basal veins very sparsely puberulous or subglabrous, finely reticulate, basal veins abaxially prominent; petioles 4.2–6.8 cm long, sparsely puberulous or subglabrous. Cymes axillary, (1–)5–12-

flowered ; peduncles 2.2 – 6 cm long ; bracts often ternate. Flower 2.2 – 3.4 cm in diam. ; pedicel 2 – 3.5 cm long , very sparsely puberulous. Sepals 4 , white , narrowly oblanceolate-oblong , narrowly oblong , or narrowly lanceolate , 12 – 18 × 3 – 8 mm , at apex obtuse or slightly acute , inside glabrous , outside sparsely appressed-puberulous , on margin velutinous. Stamens 6 – 8 mm long , glabrous ; anthers linear , 5 – 5.2 mm long , at apex obtuse , sometimes indistinctly minutely apiculate. Ovaries densely puberulous ; styles 7 – 9 mm long , densely villous. Achenes compressed , narrowly lanceolate , ca. 5.5 × 1.5 mm , appressed-puberulous ; persistent styles ca. 6 cm long , plumose. Fl. Jul. – Oct.

Kenya , Tanzania. In open slopes or in forests ; 370 – 1800 m.

Specimens examined. **Kenya.** Koiogwe District : Mnyussi , Sem Sei 1793 (K) ; Kwale District : Shimba Hills , Luke 1625 (K). **Tanzania.** Muheza District : Kawundagere , Ruffo 236 (K) ; Lushoto District : Sigi Valley , Zimmermann 6395 (K , S) ; Sibulungu , Zimmermann 6394 (K).

Ser. 5. **Zemuensis** W. T. Wang in Acta Phytotax. Sin. 38 (6) : 505. 2000. Type : *C. zemuensis* W. W. Smith.

Woody vines. Hornotinous branch with ca. 3 pairs of leaves together arising from an axillary bud of old branch. Leaves bipinnate ; leaflets thinly papery , up to 3 cm long , at margin incised-dentate , often 3-lobed or 3-parted. Flowers medium-sized , in 1 – 7 – many-flowered cymes solitarily with several leaves together arising from an axillary bud of old branch or solitarily from lower leaf axils of hornotinous branch. Sepals 4 (– 5) , outside appressed-puberulous , on margin velutinous.

One species , endemic to the Himalayan region.

72. *Clematis zemuensis* W. W. Smith in Rec. Bot. Surv. Ind. 4 : 166. 1913 ; Mukerjee in Bull. Bot. Surv. Ind. 1 (1) : 140. 1959 ; Gupta in Bull. Nat. Bot. Gard. Lucknow 54 : pl. 21. 1961 ; Kapoor in l. c. 78 : 4. 1962 et 124 : 2. 1966 ; Hara in Hara & Williams , Enum. Flow. Pl. Nepal 2 : 16. 1979 ; Grierson & Long , Fl. Bhutan 1 (2) : 291. 1984 ; Rau in Sharma et al. , Fl. Ind. 1 : 80. 1993 ; M. Johnson , *Clematis* 450. 1997 ; Grey-Wils. , *Clematis* 44. 2000 ; W. T. Wang in Acta Phytotax. Sin. 38 (6) : 505. 2000. Type : Sikkim. Zemu Valley , 9000 ft. , 1909-07-20 , W. W. Smith & Cave 2671 (holotype , E ! ; isotype , K !).

Fig. 27 : C – E

Woody vine. Branches 6-angulate , shallowly 6-sulcate , appressed-puberulous , glabrescent. Leaves bipinnate , sometimes pinnate ; leaflets thinly papery or herbaceous , narrowly to broadly ovate or rhombic-ovate , 1 – 3.2 × 1 – 2.2 cm , at apex long acuminate , sometimes acute , at base broadly cuneate or subtruncate , at margin incised-dentate , undivided or 3-lobed or 3-parted , on both surfaces appressed-puberulous , basal veins abaxially flat ; petioles slender , 1.5 – 5.2 cm long. Cymes (1 – 3 (– 7))-flowered ; peduncles 2.2 – 4.4 cm long , puberulous ; bracts sessile , linear-lanceolate or oblanceolate , or sometimes shortly petiolate , with 2 oblong lobes , 3 – 5 mm long. Flower 2.2 – 3 cm in diam. ; pedicel slender , 2.5 – 6.5 cm long , appressed-puberulous. Sepals 4 (5) , white , obovate-oblong or oblong , 12 – 16 × 3 – 5.5 mm , at apex shortly cuspidate , inside glabrous , outside appressed-puberulous , on margin velutinous. Stamens 5 – 7.5 mm long , glabrous ; anthers linear or narrowly oblong , 2.8 – 3.2 mm long , at apex obtuse. Ovaries only above on margin puberulous , elsewhere glabrous ; styles ca. 5 mm long , densely villous. Fl. Jul.

Bhutan , Nepal , Sikkim. In bushes ; 2200 – 3000 m.

Additional specimens examined. **Nepal.** Lumsum , Stainton , Sykes & Williams 3514 (G , GH) ; Phulchoki , south of Kathmandu , Hara et al. 723354 (GH).



Fig. 27. A, B, *Clematis sichotealinensis* Ulanova. A, flowering branch; B, stamen. (from Ulanova & Gorovoi 6372) C - E, *C. zemuensis* W. W. Smith. C, flowering branch; D, flower; E, stamen. (from Stainton et al. 3514)

Ser. 6. **Sichotealinenses** W. T. Wang in Acta Phytotax. Sin. 38 (6): 504. 2000. Type : *C. sichotealinensis* Ulanova.

Woody vines. Homotinous branches alone arising from axillary buds of old branch. Leaves bipinnate ; leaflets papery or subcoriaceous , up to 2.8 cm long , at margin few dentate or entire , 3-parted or 3-lobed. Flowers small , in 3 – 5-flowered cymes arising from leaf axils of homotinous branch. Sepals 4 , glabrous.

One species , endemic to Far East Region of Russia.

73. *Clematis sichotealinensis* Ulanova in Bot. Zhurn. 66 (9) : 1325. 1981 ; Serov in l. c. 73 (12) : 1739. 1988 ; M. Johnson , *Clematis* 620. 1997 ; Grey-Wils. , *Clematis* 96. 2000 ; W. T. Wang in Acta Phytotax. Sin. 38 (6) : 504. 2000. Type : Russia. Prov. Primorskij Kraj : Distr. Anuczino , Sichote-Aline Mts. , 1977-06-28 , Ulanova & Gorovoi 6372 (holotype , LE ! ; isotypes , G ! , GH ! , MO ! , S !).

Fig. 27 : A , B

Woody vine. Branches nearly terete , shallowly 10-sulcate , only on nodes pubescent , elsewhere glabrous. Leaves bipinnate , usually with 2 pairs of pinnae ; leaflets papery , narrowly to broadly ovate , rarely suborbicular or broadly obovate , 0.8 – 2.8 × 0.5 – 1.6 cm , at apex attenuate or acute , rarely obtuse , at base rounded or broadly cuneate , at margin few dentate or entire , 3-parted or 3-lobed (terminal lobes lanceolate) , adaxially glabrous or near margin very sparsely pilose , abaxially only on midrib sparsely pilose or glabrous , basal veins abaxially slightly prominent ; petioles 1.4 – 2.5 cm long. Cymes axillary and terminal , 1 – 5-flowered ; peduncles 2.5 – 4.5 cm long , glabrous ; bracts similar to leaflets , or foliaceous. Flower ca. 2 cm in diam. ; pedicel slender , 2 – 3 cm long , glabrous. Sepals 4 , white , oblong-elliptic , ca. 12 × 6 mm , at apex slightly obtuse and mucronate , on both surfaces glabrous. Stamens 5 – 6 mm long , glabrous ; anthers linear , 2 – 2.7 mm long , at apex minutely apiculate. Ovaries puberulous ; styles ca. 6 mm long , densely villous. Achenes compressed , broadly elliptic , ca. 5 × 4 mm , appressed-puberulous , rimmed at margin ; persistent styles 1.6 – 2.7 cm long , plumose. Fl. Jun.

Russia (Far East Region). On stony slopes .

Additional specimens examined. **Russia**. Prov. Pimorskij Kraj , Schischkin 668 , N894 , Vasiliev et al. s. n. , Karev 88 (LE).

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铁线莲属威灵仙组修订(续)

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