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

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Abstract: (1) *Clematis* sect. *Viticella* is revised in this paper. Thirteen species, one subspecies, and two varieties, inclucling two new species, *Clematis inciso-denticulata* W. T. Wang and *C. xiangguiensis* W. T. Wang, and one new rank, *C. cadmia* Buch.-Ham. ex Hook. f. & Thoms. var. *leptomera* (Hance) W. T. Wang, are recognized. They are keyed, described, and illustrated, and classified into three subsections and four series. Brief taxonomic history and geographical distribution of the section are given. (2) The relationships among the infrasectional groups are briefly discussed. Subsect. *Hancocokianae* with 4-sepalled flowers, undilated spreading sepals, and glabrous stamens is considered the extant primitive group of sect. *Viticella*. Subsect. *Floridae*, characterized by having 5—8-sepalled flowers, spreading and strongly dilated sepals, glabrous stamens, and pantoporate pollen, and subsect. *Viticellae*, characterized by having 4-sepalled flowers, usually ascending more or less dilated sepals, usually ciliate stamen filaments, and tricolpate pollen, might all be derived from subsect. *Hancockianae*. (3) East China, where are concentrated eight species, one subspecies, and one variety, belonging to three subsections and three series, is the distribution centre of the section, and is surmized to be the centre of origin of it too.

Key words: *Clematis*; sect. *Viticella*; taxonomic revision

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1 Brief taxonomic history

In 1753, in his "Species plantarum", Linnaeus described nine species of the genus *Clematis*. Of them, *Clematis viticella* L. is the first species of sect. *Viticella* known to science.

In 1794, on the basis of *Viticella deltoidea* Moench (=*C. viticella* L.) Moench established his new monotypic genus *Viticella*.

In 1818, in the first revision of the *Clematis*, de Candolle sunk the genus *Viticella* to sectional rank. In this section, four species were included. Of them, three species, *C. viticella* L., *C. campaniflora* Brot., and *C. florida* Thunb. ex Murray are really the members of that section, while the forth one, *C. crispa* L., should be a member of sect. *Viorna* (Reichb.) Prantl (Wang & Li, 2005b).

In his account of trib. *Clematideae*, Spach (1839) restored Moench's genus *Viticella*, and in it followed de Candolle to recognize the four species mentioned above.

In a paper dealing with the eastern Asian flora, Maximowicz (1879) described a new species, *Clematis hancockiana* Maxim. on the basis of a flowering specimen collected from Ningbo, Zhejiang Province, China by W. Hancock, and considered that this new species was related to the North American *C. crispa* L., a member of sect. *Viorna* as stated above. On account of its primiaive floral structure *C. hancocdiana* was regarded as the extant primitive species of sect. *Viticella* by me (Wang & Li, 2005b).

In his monograph of *Clematis*, Kuntze (1885) recognized three species belonging to sect. *Viticella*. Of them, *C. viticella* L. and *C. bracteata* Kurz (=*C. cadmia* Buch.-Ham. ex Hook. f. & Thoms.) were placed in his sect. 1. *Scandentes aperculatae*. Here, *C. viticella* was

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associated with several Asian and American species of sect. *Viorna*, e. g. *C. fusca* Turca., *C. viorna* L., and *C. simsii* Sweet, and, at the same time, *C. campaniflora* Brot., a close ally of *C. viticella*, with another two species, *C. crispa* L. and *C. walteri* Pursh, of sect. *Viorna*, was treated as subspecies under *C. viticella*. The third species recognized by Kuntze, *C. florida* Thunb. ex Murray, was placed in his sect. 2. *Scandentes perulatae*, and associated with species of sect. *Clematis*, such as *C. parviloba* Gardn. & Champ. *C. puberula* Hook. f. & Thoms., and *C. pierotii* Miq. Besides, *C. hancockiana* was treated as one of the synonyms under *C. florida*, and *C. lanuginosa* Lindl., an ally of *C. florida*, was treated as its subspecies.

In his comprehensive classification of the *Clematis*, Prantl (1888) recognized the sectional status of *Viticella*, and gave it the precise diagnosis: Perigonblätter in der Knospe eingefaltet, zuletzt ausgebreitet oder abstehend, vom Grunde an mit breitem Saum. In this section, seven species were recognized, and classified into two groups (subsections) according to the number and extending direction of sepals, and *C. hancockiana* was not included. In the first group, subsect. *Euviticellae*, characterized by having four erect sepals per flower, are accommodated *C. viticella*, *C. campaniflora*, and *C. scandens* Huter, and in the second group, subsect. *Floridae*, characterized by having usually five to eight spreading sepals per flower, are included *C. patens* Morr. & Decne., *C. lanuginosa* Lindl., *C. florida*, and *C. bracteata*. Here, it can be seen that in sect. *Viticella* defined by Prantl, no species belonging to sect. *Viorna* or to sect. *Clematis* were mixed, and the two subsections exactly represented the two evolutionary lines within this section, and the section *Viticella* circumscribed by him and the two subsections established by him all proved to be monophyletic groups. However, afterwards, Prantl's excellent classification of sect. *Viticella* was adopted only by Schneider (1906) and by me (Wang & Li, 2005b).

In his revision of the Chinese *Clematis*, Handel-Mazzetti (1939) recognized six species of sect. *Viticella*: *C. cadmia*, *C. florida*, *C. courtoisii* Hand.-Mazz., *C. hancockiana*, *C. longistyla* Hand-Mazz., and *C. lanuginosa*, of which two species were described as new. Unfortunately, in his revision, some misidentifications were made: one specimen, Morse 30, collected from Hunan Province, and two specimens, Faber s. n. and Hickin s. n., collected from Zhejiang Province, all belonging to *C. huchouensis* Tamura (1968), were misidentified as *C. cadmia*, and one specimen, Mesny s. n., belonging to *C. cadmia* and collected from Guangxi Province, and two specimens, Handel-Mzzetti 11907 and 11997, belonging to *C. xiangguiensis* W. T. Wang, a new species described in the present paper and collected from Hunan Province, were all misidentified as *C. florida*. Thus, in Handel-Mazzetti's revision, two another new species of sect. *Viticella* were overlooked.

In 1955, according to flower position Tamura subdivided sect. *Viticella* into subsect. *Floridae* Prantl and subsect. *Patentes* Tamura. In 1967, to this section he added a new subsect. *Viticellae* Tamura, and raised subsect. *Patentes* to sectional rank. In 1987 and 1995, he restored his former subdivision of sect. *Viticella* proposed in 1955, and sunk both subsect. *Euviticellae* Prantl and his subsect. *Viticellae* into the synonymy under subsect. *Floridae*.

In the account of the Chinese *Clematis*, Fang (1980) recognized eight species of sect. *Viticella*. Of them, *C. hancockiana* and *C. huchouensis* were placed between *C. courtoisii* and *C. florida*. Just as Handel-Mazzetti did in 1939, he also misidentified the specimens belonging to a new species, *C. xiangguiensis*, as *C. florida*. Fang's account of sect. *Viticella* was adopted by Wang & Bartholomew (2001).

Keener & Dennis (1982) treated sect. *Viticella* as a subgenus in dealing with the classification of the genus *Clematis* in North America, and their treatment was adopted by Snoeijer (1992) in his classification of that genus. Snoeijer subdivided subgen. *Viticella* into three sections, i. e. sect. *Viticella* s. str., sect. *Floridae*, and sect. *Patentes*, and misplaced a member of sect. *Floridae*, *C. cadmia*, in sect. *Viticella* s. str.

In his monograph of the *Clematis*, Johnson (1997) recognized eleven species of sect. *Viticella*, and classified them into four subsections. In subsect. 1. *Viticella*, he correctly associated the Chinese *C. huchouensis* with the European *C. campaniflora*, *C. scandens*, and *C. viticella*

for the first time. The primitive species *C. hancockiana* together with another four species, *C. cadmia*, *C. courtoisii*, *C. florida*, and *C. longistyla*, was put in subsect. 2. *Floridae*. The remaining two subsections, subsect. 3. *Lanuginosae* and subsect. 4. *Patentes*, are all monotypic, accommodating *C. lanuginosa* and *C. patens* respectively. Johnson's classification of sect. *Viticella* was adopted by Grey-Wilson (2000), however with two changes, i. e. the incorrect transfer of *C. cadmia* from subsect. *Floridae* to subsect. *Viticella*, and the removal of subsect. *Patentes* to before subsect. *Lanuginosae*.

Wang (Wang & Li, 2005b) adopted Prantl's two subsections of sect. *Viticella* as mentioned above, and added a new monotypic subsect. *Hancockianae*, based on *C. hancockiana*, as the primitive group of that section on account of the primitive floral structure of that species. Subsect. *Floridae* was subdivided into ser. *Floridae* and ser. *Patentes* according to flower position, and subsect. *Viticellae* into ser. *Huchouenses* and ser. *Viticellae* according to sepal colour, breadth of dilated sepal margin, and stamen hair-covering. Wang's above treatment of sect. *Viticella* is retained in the present paper.

2 Relationships among the infrasectional groups

Sect. *Viticella* is characterized by having sepals more or less strongly dilated after anthesis. This advanced feature is rare in the genus *Clematis*, occurring also in sect. *Fruticella* Tamura (Wang & Li, 2005a) and a species of sect. *Viorna*, *C. crispa* L. (Erickson, 1943; Wang & Li, 2005b). However, in sect. *Viticella*, there is an exception in this connection, i. e. *C. hancockiana*, an endemic in East China, in which the flower is moderate in size and has four spreading oblong sepals entirely not dilated after anthesis and glabrous stamens with linear filaments and anthers. With such a floral structure remarkably resembling that of sect. *Clematis*, *C. hancockiana* may be considered the extant primitive species of sect. *Viticella*, and sect. *Viticella* may be surmized to be derived from sect. *Clematis* (Wang, 2003; Wang & Li, 2005b).

In addition to possess primitive floral structure, *C. hancockiana* still has some advanced features, such as the purple colour of sepal, the often narrowly linear anthers, and the pantoporate pollen (Zhang, 1987; Xie, 2005). And, the phenomelon that a species simultaneously possesses both primitive and advanced features appears to imply that *C. hancockiana* is not the primitive species of sect. *Viticella*, and the real primitive one of that section, perhaps having 4-sepalled flowers, white spreading undilated sepals, glabrous stamens with oblong or narrowly oblong anthers, and tricolpate pollen, might have been extinct long ago (Wang & Li, 2005b).

Subsect. *Floridae* is similar to subsect. *Hancockianae* in also having pantoporate pollen (Zhang, 1987; Kapoor *et al.*, 1989; Yano, 1992; Nowike & Skvarla, 1995; Xie, 2005). Within it, the species of ser. *Floridae* show particular resemblance to *C. hancockiana* in their once to twice ternate or pinnate leaves, axillary 1-flowered, conspicuously 2-bracteate cymes, and spreading sepals, differing only in the usually larger, 5—6-sepalled flowers and the strongly dilated sepals. Ser. *Patentes* is closely related to ser. *Floridae*, differing from the latter only in the solitary, terminal, 6 — 8-sepalled flowers. These two groups might all be derived from the group represented by *C. hancockiana*.

In ser. *Floridae*, *C. courtoisii*, like *C. hancockiana*, *C. patens*, *C. lanuginosa*, and most species of *Clematis*, has achenes with strongly elongate plumose persistent styles up to 4 cm long. However, in another three species of this series, the styles are less or much less elongate and not plumose after anthesis: In *C. florida*, the persistent styles are slightly elongate, tail-like, and with appressed hairs (Schneider, 1906); in *C. xiangguiensis*, the persistent styles are also slightly elongate, ca. 8 mm long, with spreading short hairs below, glabrous above, and on the apex with a depressed-capitate stigma (in the remaining species of sect. *Viticella* and most species of *Clematis*, the stigmas are thinly clavate in outline); and in *C. cadmia*, the persistent styles are much less or even not elongate, subulate in outline, only 1—5 mm long, covered with appressed short hairs. The phenomenon of shortening of persistent style seems to be connected with the change of fruit dispersal modes, from wind dispersal to animal dispersal.

Subsect. *Viticellae* is characterized by having 4-sepalled flower, ascending dilated sepals, often ciliate stamen filaments, tricolpate pollen (Yano, 1992; Xie, 2005), and flattened, tumidly rimmed achene with short hard subulate persistent style (Here, the short persistent style, like that of *C. cadmia* mentioned above, may be resulted from the adaptation to animal dispersal of fruit), and might originate from the extinct primitive species of sect. *Viticella* stated above. Within this subsection, the eastern Asian species, *C. huchouensis*, has white narrowly dilated sepals and glabrous stamens, while in its another three European allies, *C. campaniflora*, *C. rigoi*, and *C. viticella*, the sepals are usually purple, blue, or red in colour, and more or less strongly dilated after anthesis, and the stamen filaments are often ciliate near apex. So, these three European species, forming a nature group, are more advanced than *C. huchouensis*, and might be derived from the group represented by the latter.

Perhaps due to that *C. viticella* and *C. crispa* of sect. *Viorna* possess similar purple, ascending or erect, dilated sepals, hairy stamen filaments, and similar achenes, de Candolle (1818), Spach (1885), and Erickson (1943) all associated them together. Besides, Tamura (1967) posited that the *C. florida* group seems to have phyletical relationships to subsect. *Crispae* of sect. *Viorna*. However, according to my understanding about the relationships among *C. hancockiana*, subsect. *Floridae*, and subsect. *Viticellae* just mentioned, the resemblance between the *C. viticella* group and *C. crispa* with its allies of sect. *Viorna* appears to be resulted from convergence (Wang & Li, 2005b).

3 Geographical distribution

Sect. *Viticella* here defined consists of thirteen species, one subspecies, and two varieties, of which ten species occur in eastern Asia, and three species in southwestern Asia and southern Europe (Fig. 1).

Subsect. *Hanockianae* is monotypic, restricted in geographical distribution to the subtropical regions of East China.

Subsect. *Floridae* with eight species occurs in eastern Asia. In it, ser. *Floridae* consists of six species. Of them, five species are mainly concentrated to the subtropical regions of central and southeastern China, with one variety of an advanced species, *C. cadmia* var. *cadmia*, extending from there westwards along the montane regions of northern Indo-China Peninsula and southern Yunnan Plateau to northeastern India, and an another variety, *C. cadmia* var. *leptomera*, endemic to South China. The sixth species, *C. florida*, consists of two cultivars, var. *florida* and var. *flore-pleno*, being all raised in Japan. However, of them, var. *flore-pleno* also occurs in the wild disjunctively in Yunnan Province of Southwest China and Zhejiang Province of East China. The second ser. *Patentes* consists of two species and one subspecies. Of them, *C. patens* ssp. *tientaiensis* and *C. lanuginosa* are all endemic to Zhejiang Province of East China, and *C. patens* ssp. *patens* occurs in eastern Shandong and Liaoning Provinces, China, Korea, and Japan.

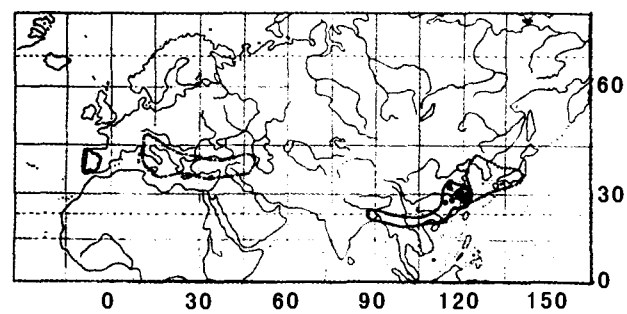

Fig. 1 Map showing distribution of the infrasectional groups of sect. *Viticella*

Subsect. *Hancockianae* ▲
Subsect. *Floridae*
Ser. *Floridae* ——
Ser. *Patentes* ·····
Subsect. *Viticellae*
Ser. *Huchouenses*●
Ser. *Viticellae* — · —

Subsect. *Viticellae* consists of four species. Its primitive group, the monotypic ser. *Huchouenses*, somewhat like subsect. *Hancockianae*, is endemic to the subtropical regions of East snd Central China. The primitive species, *C. campaniflora*, and one of the two advanced species, *C. rigoi*, of ser. *Viticellae*, are confined in distribution to Portugal and southern Italy respectively. Another advanced species of ser. *Viticellae*, *C. viticella*, has a wider distribution area, ranging from southwestern Asia westwards to southern Europe. The disjunctive distribution between ser. *Huchouenses* and ser. *Viticellae*

might be caused by the uplift of the Qinghai-Xizang Plateau in the Tertiary (Hsü, 1983; Wang, 1989).

Judging from what stated above, I would surmise that the subtropical regions of East China, where are concentrated eight species, one subspecies, and one variety belonging to three subsections and three series, is the distribution centre of sect. *Viticella*, and in these regions this section might originate from sect. *Clematis*.

4 Taxonomic treatment

Clematis L. sect. **Viticella** (Moench) DC., Syst. 1: 160. 1818; et Prodr. 1: 8. 1824; Prantl in Bot. Jahrb. 9: 259. 1888; et in Engler & Prantl, Nat. Pflanzenfam. 3(2): 63. 1888; Koehne, Deut. Dendr. 152. 1893; Schneid., Ill. Handb. Laubh. 1: 285. 1906; Hand.-Mazz. in Acta Hort. Gotob. 13: 198. 1939; Rehd., Man. Cult. Trees & Shrubs, ed. 2, 212. 1951; Tamura in Sci. Rep. Osaka Univ. 16(2): 34. 1967; M. Y. Fang in Fl. Reip. Pop. Sin. 28: 199. 1980; Tamura in Acta Phytotax. Geobot. 38: 43. 1987; et in Hiepko, Nat. Pflanzenfam., Zwei. Aufl., 17a(4): 384. 1995; M. Johnson, Klematis 665. 1997; Grey-Wilson, *Clematis* 114. 2000; W. T. Wang in Acta Phytotax. Sin. 43: 473. 2005. ——*Viticella* Moench, Method. 296. 1794; Spach, Hist. Nat. Veg. Phan. 7: 263. 1839; Small, Fl. SE Unit. Stat. 437. 1903. ——*Clematis* subgen. *Viticella* (Moench) Keener & Dennis in Taxon 31(1): 142. 1982; Snoeijer in Clematis 1992: 18. 1992. Type: *Viticella deltoidea* Moench = *Clematis viticella* L.

Clematis sect. *Tessen* Tamura in Sci. Rep. Osaka Univ. 4: 49. 1955; et in Acta Phytotax. Geobot. 16: 80. 1956. Type: *C. florida* Thunb.

Woody or perennial herbaceous vines. Seedling leaves opposite (known from *C. patens* Morr. & Decne., *C. campaniflora* Brot., and *C. viticella* L.-Essig, 1991). Cauline leaves once or twice ternate or pinnate, rare simple. Flowers bisexual, medium-sized or large, in axillary cymes, or solitary, terminal. Sepals 4—8, white, blue, or purple, spreading or ascending, valvate, usually after anthesis more or less strongly dilated, rarely not dilated (*C. hancockiana* Maxin.). Stamens numerous; filaments linear, rarely oblanceolate-linear, glabrous or near apex ciliate; anthers linear, narrowly linear, or narrowly oblong, glabrous, apex obtuse or minutely apiculate. Carpels numerous; styles densely hairy, rarely glabrous; stigmas thinly clavate, rarely depressed-capitate. Achenes compressed; persistent styles strongly elongate, plumose, or slightly or not elongate, not plumose, tail-like or subulate.

Thirteen species with one subspecies and two varieties disjunctively distributed in eastern Asia and southwestern Asia and southern Europe.

Many *Clematis* species with beautiful flowers have came into cultivation as ornamentals. Of them the large-flowered ones, *C. patens*, *C. lanuginosa* et al., are all confined to sect. *Viticella*. Since 1835 up to date, some or more than two hundred large-flowered cultivars have been raised by hybridization of them and certain cultivars they produced, and enormously enriched the catalogue of garden plants of the *Clematis*. Most of these cultivars have flowers 10—20 cm in diameter, and in some of them, such as *Clematis* 'Belle Nantaise', *C.* 'Laura', *C.* 'Lawsoniana', *C.* 'Madame van Houtte', *C.* 'Sho-un', *C.* 'The First Lady', *C.* 'Titania', and *C.* 'W. E. Gladstone', the flowers are up to 23—25 cm in diameter (Johnson, 1997; Toomey & Leeds, 2001).

Key to infrasectional taxa

1. Sepals 4, spreading, purple, narrowly oblong, after anthesis not dilated; stamens glabrous; pollen pantoporate; flowers in axillary 1-flowered conspicuously 2-bracteate cymes ..... subsect. 1. **Hancockianae**
   1. **C. hancockiana**

1. Sepals narrowly lanceolate or lanceolate, after anthesis more or less strongly dilated.
   2. Sepals 5—8, spreading, white, rarely purplish, narrowly lanceolate, after anthesis strongly dilated; stamens glabrous; pollen pantoporate; achenes 2—4.8 mm broad, rarely rimmed (*C. cadmia*), with usually plumose or tail-like, rarely subulate (*C. cadmia*) persistent styles ..... subsect. 2. **Floridae**
      3. Flowers in axillary 1-flowered conspicuously 2-bracteate cymes; sepals 5—6, white. ..... ser. 1. **Floridae**
         4. Stamens all fertile.
            5. Ovaries globose, ca. 1 mm in diam.; styles 2.5—7.5 mm long, after anthesis more or less strongly elongate, 0.8—5 cm long, plumose, with spreading hairs 0.5—4 mm long; achenes not rimmed.
               6. Stigmas thinly clavate.

7. Leaflet margin entire.
8. Persistent styles strongly elongate, plumose, 1.2—5 cm long, with spreading long hairs up to 3—4 mm long.
9. Filaments as broad as anthers; styles 5—7.5 mm long, below densely villous, above glabrous …… 2. **C. longistyla**
9. Filaments broader than anthers; styles ca. 4 mm long, from base nearly to apex densely villous … 3. **C. courtoisii**
8. Persistent styles less elongate, tail-like, with appressed hairs …… 5. **C. floridavar. florida**
7. Leaflet margin denticulate or dentate.
10. Leaflets mostly entire, only those of upper leaves with dentate margins; sepals 2.7—4.8×0.8—2.8 cm; filaments as broad as anthers; styles 5—7.5 mm long, below densely villous, above glabrous …… 2. **C. longistyla**
10. Leaflets of all leaves with incised-denticulate or dentate margins; sepals smaller, 1.7—2.2×0.6—0.9 cm; filaments narrower than anthers; styles ca. 4.6 mm long, from base to apex densely villous …… 4. **C. inciso-denticulata**
6. Stigmas depressed-capitate; styles 3—3.5 mm long, after anthesis elongate to 8 mm long, below with spreading short hairs, above glabrous …… 6. **C. xiangguiensis**
5. Ovaries narrowly ovoid, 1.5—2.5 mm long; styles shorter, 1—2 mm long, after anthesis slightly or not elongate, subulate, up to 5 mm long, with short, appressed hairs 0.1—0.5 mm long; achenes rimmed …… 7. **C. cadmia**
11. Style subulate, apex tapering …… 7a. var. **cadmia**
11. Style oblong, apex truncate-rounded …… 7b. var. **leptomera**
4. Stamens all sterile, modified into petal-like narrowly lanceolate staminodes …… 5b. **C. florida** var. **flore-pleno**
3. Flowers solitary, terminal; sepals 5—8 …… Ser. 2. **Patentes**
12. Leaves abaxially on veins sparsely pubescent …… 8. **C. patens**
13. Leaves ternate or 5-foliolately pinnate, sometimes simple; pedicels 4.6—10 cm long; sepals 7—8, white, rarely purplish … 8a. ssp. **patens**
13. Leaves ternate or simple; pedicels shorter, 3.5—4 cm long; sepals 5—6, white …… 8b. ssp. **tientaiensis**
12. Leaves simple or ternate, abaxially velutinous; sepals 5—6, purplish …… 9. **C. lanuginosa**
2. Sepals 4, usually ascending, after anthesis more or less dilated; pollen tricolpate; achenes larger, 5—7 mm broad, tumidly rimmed, with short hard subulate persistent styles …… Subsect. 3. **Viticellae**
14. Sepals white, after anthesis slightly dilated; stamens glabraus …… Ser. 1. **Huchouenses**
10. **C. huchouensis**
14. Sepals purple, blue, or red, rarely white, after anthesis slightly or strongly dilated; stamen filaments often near apex sparsely ciliate …… Ser. 2. **Viticellae**
15. Sepals plus dilated margins obovate-oblong, 1—2.4×0.4—0.9 cm (dilated margins 1.5—4.5 mm broad per side).
16. Sepals plus dilated margins 1—1.5×0.4—0.5 cm (dilated margins 1.5—2.5 mm broad per side); connective apicula ca. 0.1 long; styles not grooved, densely puberulous below; leaflets abaxially subglabrous or sparsely puberulous …… 11. **C. campaniflora**
16. Sepals larger, plus dilated margins 1.8—2.4×0.6—0.9 cm (dilated margins 3—4.5 mm broad per side); connective apicula 0.3—0.6 mm long; styles grooved, glabrous or only on base pubescent; leaflets abaxially densely puberulous …… 12. **C. rigoi**
15. Sepals larger, plus dilated margins broadly rhombic-obovate, 1.7—3×(1—)1.5—2.2 cm (dilated margins 4—10 mm broad per side); styles grooved, glabrous; connective not apiculate or with apicula less than 0.1 mm long; leaflets on both surfaces sparsely puberulous or abaxially densely puberulous …… 13. **C. viticella**

Subsect. 1. **Hancockianae** W. T. Wang in Acta Phytotax. Sin. 43: 474. 2005. Type: *C. hancockiana* Maxim.

Leaves 1—2-pinnate or ternate. Flowers in axillary 1-flowered, manifestly 2-bracteate cymes. Sepals 4, spreading, purple, narrowly oblong, after anthesis not dilated, lateral basal veins with many veinlets. Stamens glabrous. Pollen pantoporate. Achenes not rimmed, with elongate plumose persistent styles.

One species, endemic to E China.

1. Clematis hancockiana Maxim. in Bull. Soc. Nat. Mosc. 54: 1. 1879; Courtois in Mem. Hist. Nat. Emp. Chin. 6: 26, pl. 8. 1918; Hand.-Mazz. in Acta Hort. Gotob. 13: 201. 1939; M. Y. Fang in Fl. Reip. Pop. Sin. 28: 204, pl. 65. 1980; Anonymous in Fl. Jiangsu. 2: 82. 1982; X. W. Wang in Fl. Anhui 2: 533. 1986; Z. H. Lin in Fl. Zhejiang 2: 298. 1992; Zhu & Yang, Clav. Fam. Gen. Sp. Sperm. Henan. 105. 1994; Johnson, Klematis 679. 1997; Grey-Wilson, *Clematis* 120. 2000; W. T. Wang & Barth. in Fl. China 6: 372. 2001. ——*C. florida* var. *hancockiana* (Maxim.) Courtois in Bull. Soc. Bot. France 72: 434. 1925. Type: China. Zhejiang (浙江): Ningbo (宁波), alt. 600 feet, hill tops, flowers deep purple, 1877-05-13, Hancock 67 (holotype, LE!; isotype, K!).

C. tsengiana Metcalf in Lingnan Sci. J. 20: 129, pl. 4. 1941. Type: China. Zhejiang (浙江): Tiantai (天台), 1924-05-16, R. C. Ching (秦仁昌) 1555 (holotype, SYS, not seen; isotypes, NAS!, PE!, US!).

毛萼铁线莲

Fig. 2: A-E (p. 7)

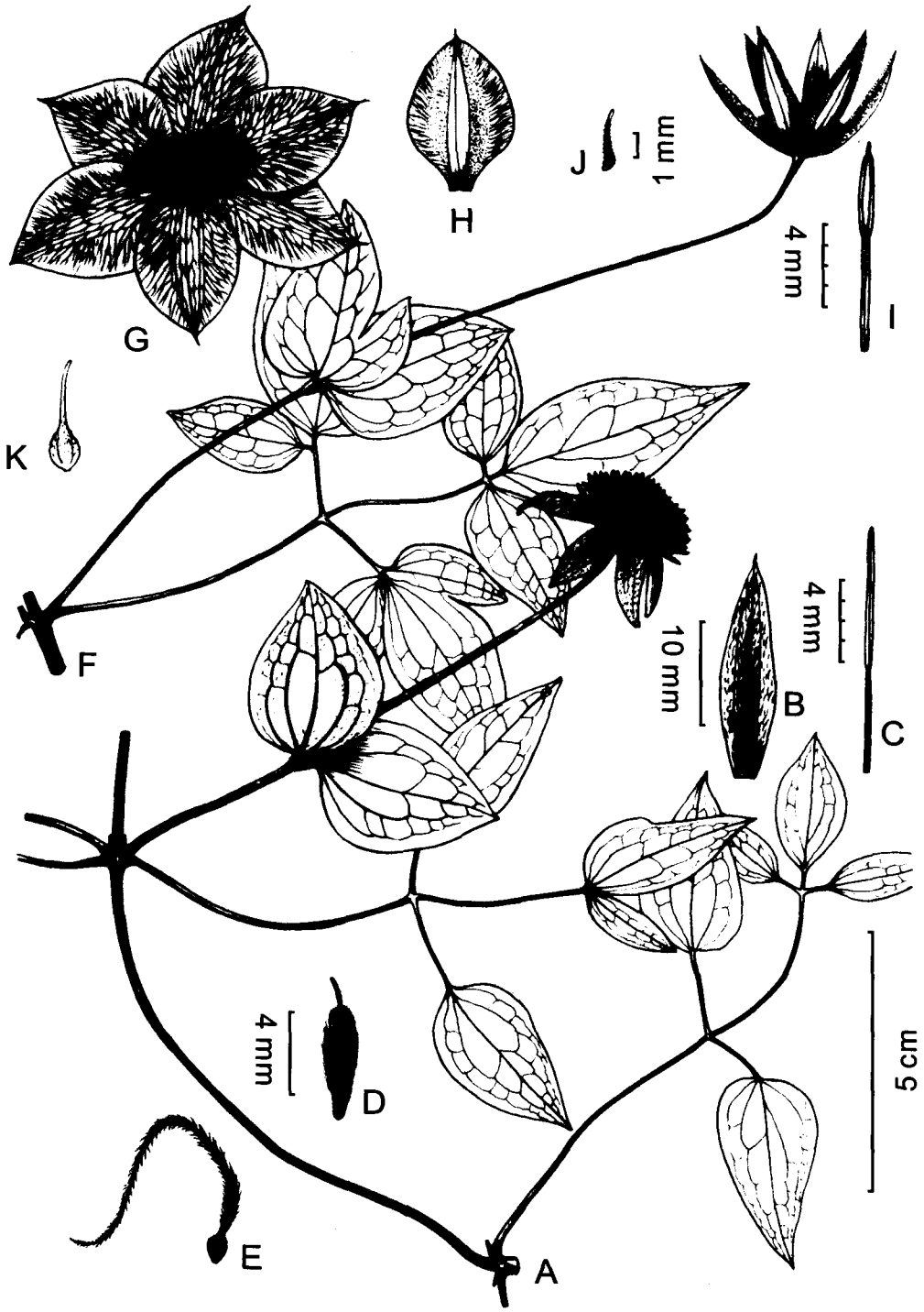

Fig. 2 **A-E, Clematis hancockiana** Maxim. **A**, flowering branch; **B**, sepal outside; **C**, stamen; **D**, carpel (from S. Y. Zhang 565); **E**, achene (from S. H. Mao 163). **F-K, C. florida** Thunb. ex Murray var. **florida** **F**, flowering branch; **G**, flower; **H**, sepal outside; **I**, stamen; **J**, carpel (from Maximowicz s. n.); **K**, achene (after Schneider, 1906). (Drawn by Sun Ying-Bao)

Perennial herbaceous vine. Stem shallowly 4—6-sulcate, sparsely pubescent, glabrescent, with tumid nodes. Leaves 1—2-pinnate or ternate; leaflets papery, narrowly ovate or ovate, 3—6. 5×1. 4—3. 5 cm, apex

acute and apiculate, base broadly cunate or rounded, margin entire, undivided or 3-lobulate, both surfaces on midrib sparsely pubescent, basal veins abaxially slightly prominent or nearly flat; petioles 4 — 7. 5 cm long. Cymes axillary, 1-flowered; peduncles 2 — 5 cm long; bracts sessile, broadly ovate, 2. 5—4 cm long, entire, undivided or 3-lobulate. Flower 3—5 cm in diam. ; pedicel 4. 5 — 7 cm long, pubescent. Sepals 4, purple, narrowly oblong, 1. 5—2. 9×0. 5—0. 7 cm, inside glabrous, outside densely or sparsely pubescent, on margin velutinous, apex slightly acute. Stamens 0. 9—1. 7 cm long, glabrous; filaments linear, 3—10 mm long; anthers narrowly linear, 6—8 mm long, apex minutely apiculate. Ovaries pubescent; styles 8—10 mm long, densely villous. Achenes compressed, rhombic-obovate, ca. 5×3. 2 mm, pubescent; persistent styles 3. 5 — 5 cm long, yellowish-plumose. Fl. May.

China (SE Anhui, S Henan, Hubei, SE Jiangsu, E Jiangxi, N & E Zhejiang). On slopes or in bushes; 100 —500 m.

Additional specimens examined. **China. Anhui** (安徽): She Xian (歙县), J. N. Dong (董建农) 761 (NAS). **Henan** (河南): Jigong Shan (鸡公山), K. C. Kuan & T. L. Dai (关克俭, 戴天伦) 119 (NAS, PE); Luoshan (罗山), Pl. Resour. Exped. (植物资源队) D0310 (PE); Xinyang (信阳), K. C. Kuan & T. L. Dai 368 (NAS, PE). **Hubei** (湖北): Without precise locality, Y. H. Zhang (张应汉) 298 (PE). **Jiangsu** (江苏): Yixing (宜兴), R. C. Ching & Tso (秦仁昌等) 424, 505 (NAS), S. H. Mao (毛少华) 163 (NAS, PE). **Jiangxi** (江西): Nancheng (南城), Magu Shan (麻姑山), Anonymous 5 (BNU). **Zhejiang** (浙江): Hangzhou (杭州), S. Y. Zhang (章绍尧) 565, 610 (HHBG, NAS, PE); Tiantai (天台), T. Y. Chou (周太炎) 1137 (NAS); Yuhang (余杭), Hangzhou Bot. Gard. Exped. (杭州植物园队) 79-882 (HHBG).

Subsect. 2. **Floridae** Prantl in Bot. Jahrb. 9: 259. 1888; Schneid. , Ill. Handb. Laubh. 1: 286. 1906; Hand. -Mazz. in Acta Hort. Gotob. 13: 198. 1939; Tamura in Sci. Rep. Osaka Univ. 4: 50. 1955; in Acta Phytotax. Geobot. 38: 43. 1987; et in Hiepko, Nat. Pflanzenfam. , Zwei. Aufl. , 17a (4): 385. 1995; M. Johnson, Klematis 675. 1997; Grey-Wilson, *Clematis* 120. 2000; W. T. Wang in Acta Phytotax. Sin. 43: 474. 2005. Lectotype: *C. florida* Thunb. ex Murray (Tamura, 1955).

Sepals 5 — 8, spreading, white, rarely purple, narrowly lanceolate, 3-veined, strongly dilated after anthesis; lateral basal veins with numerous, parallel, 1 — 3 times dichotomous veinlets. Stamens glabrous. Pollen pantoporate. Achenes rarely rimmed (*C. cadmia*).

Eight species, distributed in E Asia.

Ser. 1. **Floridae** W. T. Wang in Acta Phytotax. Sin. 43: 475. 2005. Type: *C. florida* Thunb. ex Murray.

Subgen. *Viticella* sect. *Floridae* Snoeijer in Clematis 1992: 19. 1992, nom. illegit.

Leaves 1 — 2-ternate or 1 — 2-pinnate. Flowers in axillary 1-flowered manifestly 2-bracteate cymes. Sepals 5 — 6, white. Achenes only in *C. cadmia* broadly rimmed; persistent styles either strongly elongate, plumose, or less elongate, tail-like or subulate, with appressed short hairs.

Six species, widespread in Bangladesh, E S & SW China, NE India, N Myanmar, and N Viet Nam.

2. Clematis longistyla Hand. -Mazz. in Acta Hort. Gotob. 13: 201. 1939; Anonymous, Fl. Hupeh. 1: 365. 1976; M. Y Fang in Fl. Reip. Pop. Sin. 28: 303. 1980; Ding *et al.* , Fl. Henan. 1: 449. 1981; M. Johnson, Klematis 679. 1997; Grey-wilson, *Clematis* 121. 2000; W. T. Wang & Barth. in Fl. China 6: 372. 2001. Type: China. Hubei (湖北): Yichang (宜昌) Henry 3516A (holotype, K!), 791 (paratypes, GH!, K!), 1398 (paratypes, K!, P!), 3516 (paratypes, GH!, K!, P!, US!), E. H. Wilson 166 (paratypes, GH!, K!, P!).

C. patens auct. non Morr. & Decne. : Hance in J. Bot. 18: 257. 1880; Forbes & Hemsl. in J. Linn. Soc. Bot. 23: 6. 1886.

C. florida auct. non Thunb. ex Murray: Henry in Gard. Chron. , ser. 3, 32: 51, fig. 20. 1902; Finet & Gagnep. in Bull. Soc. Bot. France 50: 553. 1903, p. p. quod pl. Hubei. ; Rehd. & Wils. in Sarg. , Pl. Wils. 1: 325. 1913.

光柱铁线莲

Fig. 3: A-D (p. 9)

Perennial herbaceous vine. Stem shallowly 4 — 6-sulcate, sparsely puberulous, glabrescent. Leaves 1 — 2-ternate or pinnate; leaflets papery, 0. 8 — 6×0. 5 — 1. 8 (—3. 2) cm, apex acute or acuminate, base rounded,

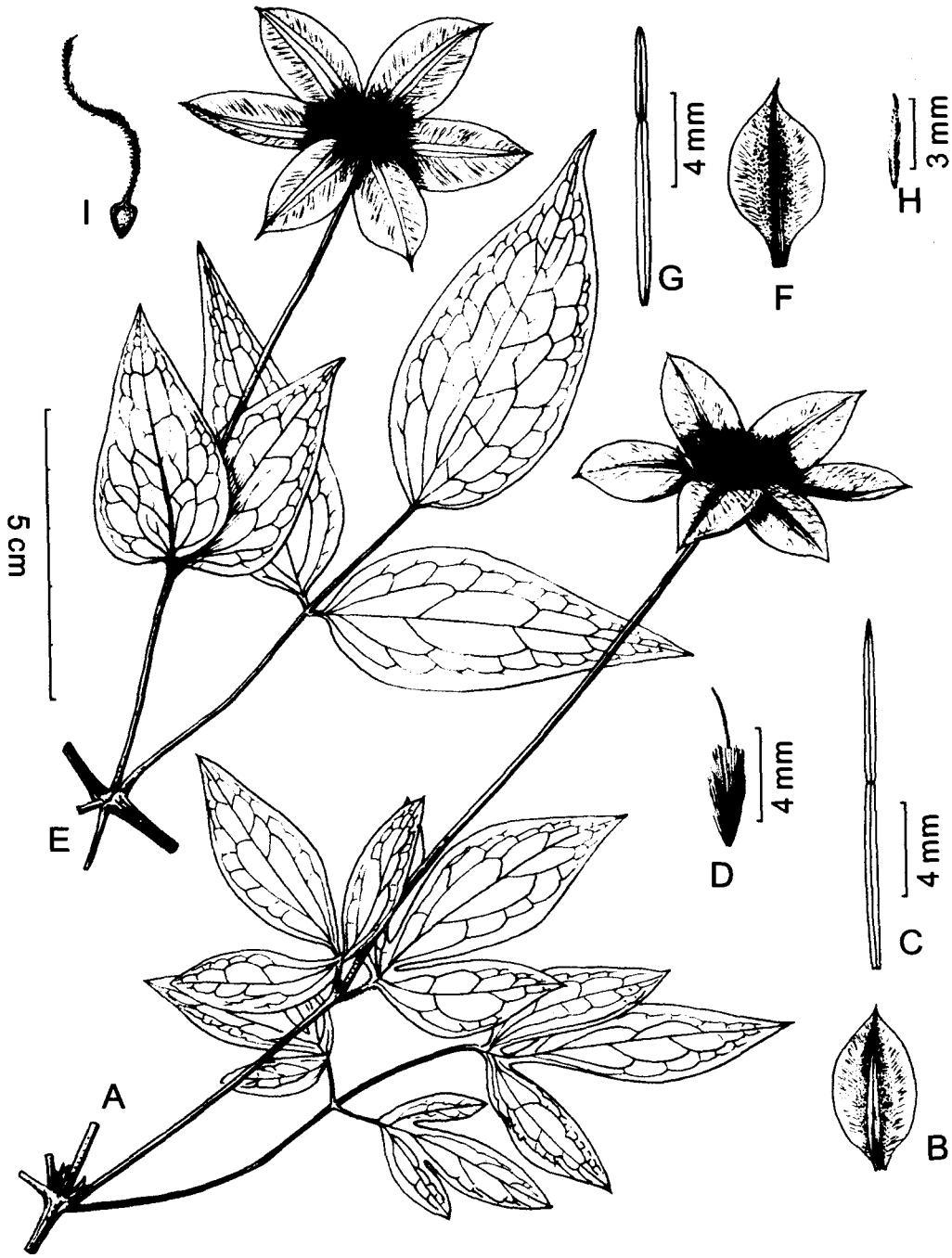

Fig. 3 **A-D, Clematis longistyla** Hand.-Mazz. **A**, flowering branch; **B**, sepal outside; **C**, stamen; **D**, carpel (from Silvestri 3891). **E-I, C. courtoisii** Hand.-Mazz. **E**, flowering branch; **F**, sepal outside; **G**, stamen; **H**, carpel (from X. Y. He 21837); **I**, achene (from Anhui Exped 60397). (Drawn by Sun Ying-Bao)

cuneate, or subcordate, margin entire or 1—3-denticulate per side, both surfaces sparsely puberulous, slightly reticulate, basal veins abaxially prominent; petioles 1.8—4 cm long. Cymes axillary, 1-flowered; peduncles 2—8.5 cm long; bracts shortly petiolate, ternate or simple, 3-parted or undivided. Flower 3—9 cm in diam.; pedicel 3.5—11 cm long, above puberulous or subglabrous. Sepals 5—6, white, plus dilated margins elliptic or narrowly

elliptic,2.7—4.8×0.8—2.8 cm,inside glabrous,outside along midrib densely velutinous,on dilated margins glabrous,apex acute. Stamens 6—18 mm long,glabrous;filaments linear,3—7.5 mm long;anthers linear,3—6 mm long,apex minutely apiculate. Ovaries pubescent;styles 5—7.5 mm long,below densely brownish-villous,above glabrous. Fl. May.

China (S Henan,Hubei,Zhejiang). On slopes or by strems; 500 m.

Additional specimens examined. **Henan** (河南): Jigong Shan (鸡公山), Sino-Germany Exped. 56-904 (PE). **Hubei**(湖北):Boakang (保康),S. Y. Wang (王诗云) 409 (HIB);Shennongjia (神农架),Z. D. Jiang 276 (GH);Wuchang (武昌),C. H. Qian (钱重海) 1245,1367 (NAS). **Zhejiang** (浙江):Jinhua (金华), Virgil King 39 (NAS).

3. Clematis courtoisii Hand.-Mazz. in Acta Hort. Gotob. 13:200. 1939;M. Y. Fang in Fl. Reip. Pop. Sin. 28:204, pl. 64. 1980;Anonymous in Fl. Jiangsu. 2:169. 1982;X. W. Wang in Fl. Anhui 2:334,fig. 640. 1986;Z. H. Lin in Fl. Zhejiang 2:299,fig. 2-399. 1992;Zhu & Yang,Clav. Fam. Gen. Sp. Sperm. Henan. 105. 1994;M. Johnson,Klematis 120. 1997;K. M. Liu in Fl. Hunan 2:399. 2000; Grey-Wilson,*Clematis* 120. 2000;W. T. Wang & Barth. in Fl. China 6:372. 2001. Type:China. Anhui (安徽): without precise locality,1925,R. C. Ching (秦仁昌) 2731 (holotype, K!; isotype, GH!).

C. florida auct. non Thunb. ex Murray :Courtois in Bull. Soc. Bot. France 72:431. 1925;Rehd. in J. Arn. Arb. 8:106. 1927, p. p. quoad R. C. Ching 2731.

大花铁线莲

Fig. 3: E-I (p. 9)

Perennial herbaceous vine. Stem shallowly 5-sulcate,sparsely pubescent,often glabrescent,with tumid nodes. Leaves 1—2-ternate or pinnate;leaflets papery, long elliptic,narrowly ovate or ovate,3—6.5×1.4—2 cm, apex acuminate or acute, base broadly cuneate, rounded,or truncate,margin entire,undivided,sometimes 2—3-lobed,both surfaces on veins sparsely pubescent, abaxial surface more or less reticulate,basal veins abaxially prominent;petioles 3—7 cm long,slightly dilated at base. Cymes axillary,1-flowered;peduncles 2.5—7 cm long;bracts shortly petiolate,ovate or broadly ovate,3.4—6.2 cm long,undivided or 2—3-lobed. Flower 5—9.5 cm in diam.;pedicel 3.4—6.8 cm long,densely puberulous. Sepals 6,white or tinged with purplish,plus dilated margins long elliptic or elliptic,2.2—5.2×1—2.3 cm, inside glabrous,outside along midrib sparsely pubescent, along lateral basal veins velutinous,on dilated margins glabrous,apex acute. Stamens 8—17 mm long,glabrous; filaments oblanceolate-linear, 5—9 mm long, broader than anther;anthers linear,4—6.5 mm long,apex minutely apiculate or obtuse. Ovaries pubescent;styles ca. 4 mm long,densely villous. Achenes compressed,obovate, 3.5—4.5×2—4 mm, sparsely pubescent; persistent styles 1.2—4 cm long, fulvous-plumose. Fl. May-Jun.

China (W & S Anhui, S Henan, E Hubei,S Hunan, SW Jiangsu, Zhejiang). On slopes,by streams, or in forests; 50—520 m.

Additional specimens examined. **China. Anhui** (安徽):Huang Shan (黄山), Z. N. Yan (严增南) 2565 (NAS);Huoshan (霍山),M. B. Deng & G. Yao (邓懋彬, 姚淦) 80004,80987 (NAS);Jinzhai (金寨),Anhui Exped. (安徽队) 59-252 (NAS,PE),M. B. Deng 81702 (NAS);Jiuhua Shan (九华山),Anhui Exped. 59-5841 (NAS,PE);She Xian (歙县),Anhui Exped. 59-1072 (NAS);Yuexi (岳西),Anhui Exped. 59-252a (NAS,PE),X. L. Liu (刘晓龙) 485 (PE). **Henan** (河南): Huangbai Shan (黄柏山), Anonymous 163 (NAS);Jigong Shan (鸡公山),Y. R. Pei (裴元蓉) 1060(NAS);Luoshan (罗山),Pl. Res. Exped. (植物资源队) D116(PE);Shangcheng (商城),Henan Exped. (河南队) 59-276 (PE); Xin Xian (新县), Henan Exped. 59-8773 (PE). **Hubei** (湖北):Luotian (罗田), W. J. Li & H. J. Zheng (李文杰,郑宏钧) 110(HIB); Tongshan (通山), Anonymous 2864(NAS). **Hunan** (湖南):Qiyang (祁阳),Y. Tsiang & S. C. Chen (蒋英,陈少卿) 331 (NAS). **Jiangsu** (江苏):without precise locality,F. X. Liu (刘昉勋) 615(NAS). **Zhejiang** (浙江): Anji (安吉), Z. X. Zhang (张紫绪) 80 (NAS);Fuyang (富阳),C. Z. Zheng (郑朝宗) 5217 (PE);Jiande (建德),L. Hong (洪林) s. n. (HHBG); Tianmu Shan (天目山),K. K. Tsoong (钟观光) 369 (PE),X. Y. He (贺贤育) 21590,21837,22328(NAS, PE);Xiaofeng (孝丰),X. Y. He 24194 (NAS,PE); Yuqian (于潜), K. K. Tsoong 370 (PE), Y. L. Keng

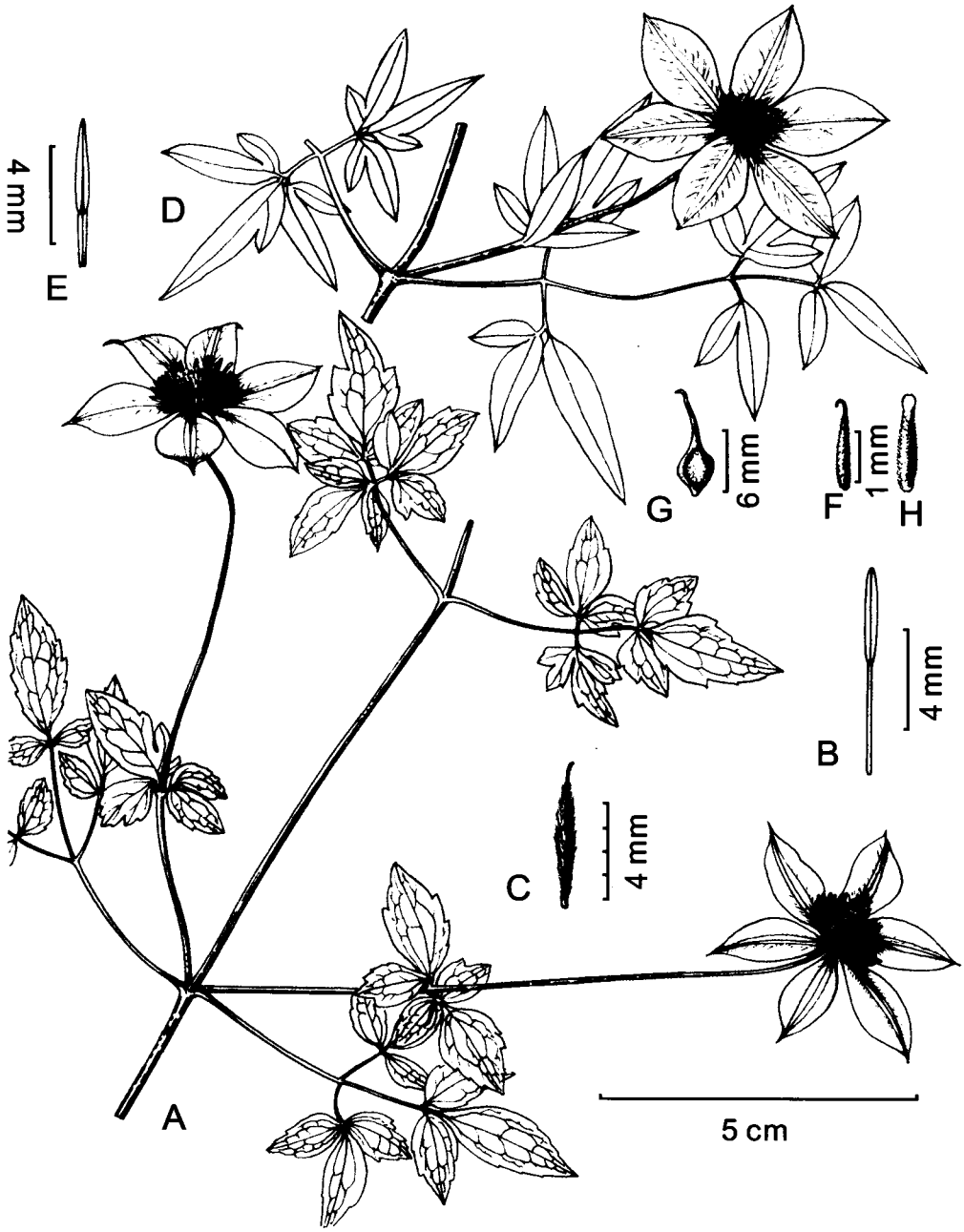

Fig. 4 **A-C, Clematis inciso-denticulata** W. T. Wang **A**, flowering branch; **B**, stamen; **C**, carpel (from S. P. Barchet s. n.). **D-G, C. cadmia** Buch.-Ham. ex Hook. f. & Thoms. var. **cadmia** **D**, flowering branch; **E**, stamen; **F**, carpel (from Y. L. Keng 2164); **G**, achene (from S. J. Shen 381). **H, C. cadmia** var. **leptomera** (Hance) W. T. Wang carpel (from G. L. Shi 13249). (Drawn by Sun Ying-Bao)

(耿以礼) 534 (NAS); Zhuji (诸暨), S. Chen (陈诗) 231 (NAS.).

4. Clematis inciso-denticulata W. T. Wang, sp. nov. Type: China. Zhejiang (浙江), without precise locality and other field notes, S. P. Barchet s. n. (holotype, US).

齿缺铁线莲

Fig. 4: A-C

Affinis *C. longistylae* Hand.-Mazz. et *C. courtosii* Hand.-Mazz., a quibus foliolis omnibus margine inciso-denticulatis vel dentatis, floribus minoribus, sepalis extus

ad margines dilatatos velutinis, filamentis antheris angustioribus, et ab illa stylis tota longitudine piliferis differt.

Liana sublignosa. Rami hornotini graciles, circ. 1. 2 mm diametro, vadose 4-sulcati, cum pedunculis crispule adpresseque puberuli, in foliorum nonnuliorum axillis foliis parvis breviter petiolatis ternatis praediti. Folia opposita, 1—2-pinnata, pinnis 2-jugatis; foliola chartacea, ovata vel rhombico-ovata, 1—2. 3 cm longa, 0. 6—1. 2 cm lata, apice obtusiuscula, apiculata, basi rotundata vel late cuneata, margine inciso-denticulata vel dentata, indivisa vel 2—3-lobata, interdum 3-partita, utrinque sparse puberula vel supra subglabra, nervis basalibus subtus prominentibus; petioli graciles, 2—2. 6 cm longi, sparse puberuli. Cymae axillares, 1-florae; pedunculi graciles, 2—3. 2 cm longi; bracteae subsessiles, ovatae, 1. 2—1. 8 cm longae, 2—3-sectae, segmentis ovatis. Flos 3. 4—4. 2 cm diametro; pedicellus gracilis, 6—6. 4 cm longus, vadose 4—6-sulcatus, puberulus. Sepala 6, patentia, alba, cum marginibus dilatatis anguste rhombica, 1. 7—2. 2 cm longa, 6—9 mm lata, apice apiculata, intus glabra, extus adpresse puberula, ad margines dilatatos velutina. Stamina numerosa, 6—10 mm longa, glabra, filamentis linearibus 3—5 mm longis antheris angustioribus, antheris linearibus vel anguste oblongis 3—4 mm longis apice minute apiculatis. Carpella numerosa, circ. 6 mm longa, ovariis dense puberulis, stylis circ. 4. 6 mm longis inferne dense villosis superne pubescentibus, stigmatibus clavatis circ. 0. 3 mm longis.

China (Zhejiang).

5. Clematis florida Thunb. ex Murray in L., Syst. Veg., ed. 14, 512. 1784; Thunb., Fl. Jap. 240. 1784; Willd., Sp. Pl. 2: 1287. 1799; Andr. in Bot. Repos. 6: 440, pl. 402. 1804; Sims in Curtis, Bot. Mag. 22: t. 834. 1825; DC., Syst. 1: 160. 1818; et Prodr. 1: 8. 1824; Sieb. & Zucc., Fl. Jap. Fam. Nat. 1: 176. 1849; Miq., Ann. Mus. Bot. Lugd.-Bat. 3: 1. 1867; Franch. & Sav., Enum. Pl. Jap. 1: 2. 1875; Maxim. in Mél. Biol. 9: 599. 1877 et in Bull. Acad. Sci. St. Petersb. 22: 221. 1877; Lavall., Clemat. 16, t. 5. 1884; Kuntze in Verh. Bot. Ver. Brand. 26: 148. 1885, p. p.; Makino in Bot. Mag. Tokyo 8: 330. 1897; Huth in Bull. Herb. Boiss. 5: 1064. 1897; Finet & Gagnep. in Bull. Soc. Bot. France 50: 553, t. 16, fig. k. 1903, p. p. excl. pl. Hubei et Vietnam.; Schneid., Ill. Handb. Laubh. 1: 286, fig. 188: d-f. 1906; Nakai in J. Coll. Sci. Univ. Tokyo 26: 5. 1909; Matsum., Ind. Pl. Jap. 2: 110. 1912; Merr. in J. Arn. Arb. 19: 338. 1938; L. H. Bailey, Man. Cult. Pl., rev. ed., 393. 1949; Rehd., Man. Cult. Trees & Shrubs, ed. 2, 213. 1951; Makino, Ill. Fl. Jap., rev. ed., 553, fig. 1657. 1953; Ohwi, Fl. Jap. 442. 1965; T. B. Lee, Ill. Fl. Korea 344, fig. 1373. 1979; Kitam. & Murata, Colour. Ill. Herb. Pl. Jap., rev. ed., 2: 226. 1980; Ohwi & Kitag., New Fl. Jap. 681. 1992; Y. N. Lee, Fl. Korea 104, fig. 478. 1996; M. Johnson, Klematis 677. 1997, p. p. excl. distr. Sinic. et syn. *C. leptomera* Hance; Grey-Wilson, *Clematis* 121. 2000, p. p. excl. distr. Sinic. et syn. *C. leptomera* Hance; Toomey & Leeds, Ill. Encycl. *Clematis* 191, cum photogr. 2001. —— *Atragene florida* (Thunb. ex Murray) Pers., Synop. Pl. 2: 98. 1807. ——*Viticella florida* (Thunb. ex Murray) Bercht. & Presl, Rost. i. Ranunc. 10. 1820. ——*Viticella florida* (Thunb. ex Murray) Spach, Hist. Nat. Veg. Phan. 7: 264. 1839. ——*Sieboldia florida* (Thunb. ex Murray) Hoffmgg. ex Hynh., Nom. 2: 666. 1841. Type: Japan, UPS no. 13017 (holotype, UPS!).

Anemone japonica Houtt., Nat. Hist. II, 9: 191, t. 55, fig. 1. 1778. ——*Clematis japonica* (Houtt.) Makino in Bot. Mag. Tokyo 26: 81. 1912, non *Clematis japonica* Thunb., 1784. Type: Japan, Thunberg s. n. (holotype, G).

Sieboldia bicolor Hoffmgg. ex Heynh., Nom. 2: 666. 1841. Type unknown.

Clematis hakonensis Franch. & Sav., Enum. Pl. Jap. 2: 263. 1879; Lavall., Clemat. t. 4. 1884. ——*C. florida* var. *hakonensis* (Franch. & Sav.) Huth in Bull. Herb. Boiss. 5: 1065. 1897. Type: Japan. Odawara, 1867-05, Savatier s. n. (holotype, P!).

C. florida var. *normalis* Kuntze in Verh. Bot. Ver. Brand. 26: 149. 1885. No type specimen designated.

铁线莲

5a. var. florida Fig. 2: F-K (p. 7)

Perennial herbaceous vine. Branches shallowly 4—6-sulcate, appressed-puberulous. Leaves 1—2-pinnate; leaflets thinly or thickly papery, ovate, narrowly ovate, or elliptic, 2. 4—5 cm × 1. 2—2. 8 cm, apex acute, base broadly cuneate or rounded, margin entire, undivided or unequally 2-lobed, both surfaces on veins sparsely puberulous, basal veins abaxially slightly prominent; petioles 2. 8—5. 5 cm long, sparsely pubescent. Cymes axillary,

1-flowered; peduncles 2.5—6.5 cm long, puberulous; bracts very shortly petiolate, ovate or broadly ovate, 1.5—3.8 cm long, margin entire or 1—2-dentate, undivided or unequally 2—3-lobed. Flower 4.5—7 cm in diam.; pedicel 8—11 cm long, puberulous. Sepals 5—6, white, plus dilated margins rhombic-ovate or broadly rhombic, 2—3.5×1.1—2.3 cm, inside glabrous, outside appressed-puberulous, on dilated margins velutinous, apex mucronate. Stamens 7—13 mm long, glabrous; filaments linear; anthers linear, 2—4 mm long, apex minutely apiculate. Ovaries densely puberulous; styles ca. 2.5 mm long, densely appressed-puberulous, with hairs ca. 0.6 mm long. Achenes compressed, suborbicular, puberulous; persistent styles slightly elongate, tail-like, with appressed short hairs.

A cultigen raised long ago in Japan with unknown parentage.

Additional specimens examined. **Japan.** Kuroishi, 1886-05-30, Faurie 479 (G); Nagasaki, 1863, Maximowicz s. n. (P); Sendai, 1897-07-06, Faurie 4250 (WU); Tokyo Bot. Garden, 1898-06, Faurie 1372 (P, WU).

On the same type sheet, UPS no. 13017, deposited in UPS, two flowering branches were mounted, and in them, each flower bears several small narrowly oblanceolate staminodes about 8 mm long outside the numerous fertile stamens up to 13 mm long. In the specimens cited above, the stamens of each flower are all fertile, normally developed.

Before its publication in 1784, *C. florida* was introduced from Japan into Sweden in 1776 by the Swedish botanist C. P. Thunberg, and afterwardz played an important role in the breeding of new *Clematis* cultivars (Grey-Wilson, 2000; Toomey & Leeds, 2001).

Since the beginning of last century up to recently, Henry (1902), Rehder & Wilson (1913), Rehder (1923, 1927), Courtois (1925), Handel-Mazzetti (1931, 1939), Chun (1934), Pei (1940), Fang (1980), Johnson (1997), Grey-Wilson (2000), and Wang & Bartholomew (2001) successively reported the occurrence of *C. florida* from various provinces of Central, South, and East China respectively. After examining the herbarium material of all species belonging to subsect. *Floridae* available to me, however, I failed to find out any specimen collected from China representing *C. florida*, and believe, now, that the reports given by the botanists mentioned above were all based on misidentifications or incorrect information, *C. florida* does not, in fact, occur in the wild in China, and is actually a cultigen raised long ago in Japan with unknown parentage.

5b. var. **flore-pleno** G. Don, Gen. Hist. Dichlam. Pl. 1: 9. 1831. Type unknown.

C. florida var. *plena* D. Don in Sweet, Brit. Fl. Gard., ser. 2, 7: sub t. 396. 1837; M. Y. Fang in Fl. Reip. Pop. Sin. 28: 209, pl. 68. 1980; C. Y. Wu, Ind. Fl. Yunnan. 1: 109. 1984; S. R. Lin & Z. Zhao in Fl. Fujian. 2: 30. 1985; X. H. Lin in Fl. Zhejiang 2: 296. 1992; Grey-Wilson, *Clematis* 122, fig. 89. 2000; W. T. Wang in Fl. Yunnan. 11: 228. 2000; W. T. Wang & Barth. in Fl. China 6: 373. 2001. No type specimen designated.

C. florida flore pleno Lavall., Clemat. 17. 1884. No type specimen designated.

C. cadmia flore pleno Hand.-Mazz. ex M. Johnson, Klematis 676. 1997, nom. nud.; Grey-Wilson, *Clematis* 115. 2000.

C. 'Plena'. Toomey & Leeds, Ill. Encycl. *Clematis* 322, cum photogr. 2001.

C. florida var. *fortunei* auct. non Moore: How et al., Fl. Guangzhou. 95, fig. 30. 1959.

重瓣铁线莲

Fig. 5: C-E (p. 14)

Stamens all transformed into petaloid staminodes, which are white or greenish in colour, narrowly oblong or narrowly lanceolate, 5—12×0.5—3 mm, attenuate at apex, inside glabrous, outside densely appressed-puberulous. Fl. May-Jun.

China (wild in Yunnan and Zhejiang, cultivated in S Guangdong, N Fujian, E Sichuan) and Japan. On grassy slopes, in thickets, or by streams; 125—2 990 m.

Specimens examined. **China. Guangdong** (广东): Guangzhou (广州), W. Y. Chun (陈焕镛) 5498 (NAS), Levine 720 (GH, PE). **Sichuan** (四川): without precise locality, S. S. Chien (钱崇澍) 5342 (NAS). **Yunnan** (云南): Dongchuan (东川), Maire 447 (GH, P); Fengqing (凤庆), T. T. Yu (俞德浚) 16066 (GH, PE); Tonghai (通海), Y. Y. Hu & R. L. Xiong (胡月英, 熊若莉) s. n. (PE). **Zhejiang** (浙江): Huangyan (黄岩), D. X. Zuo

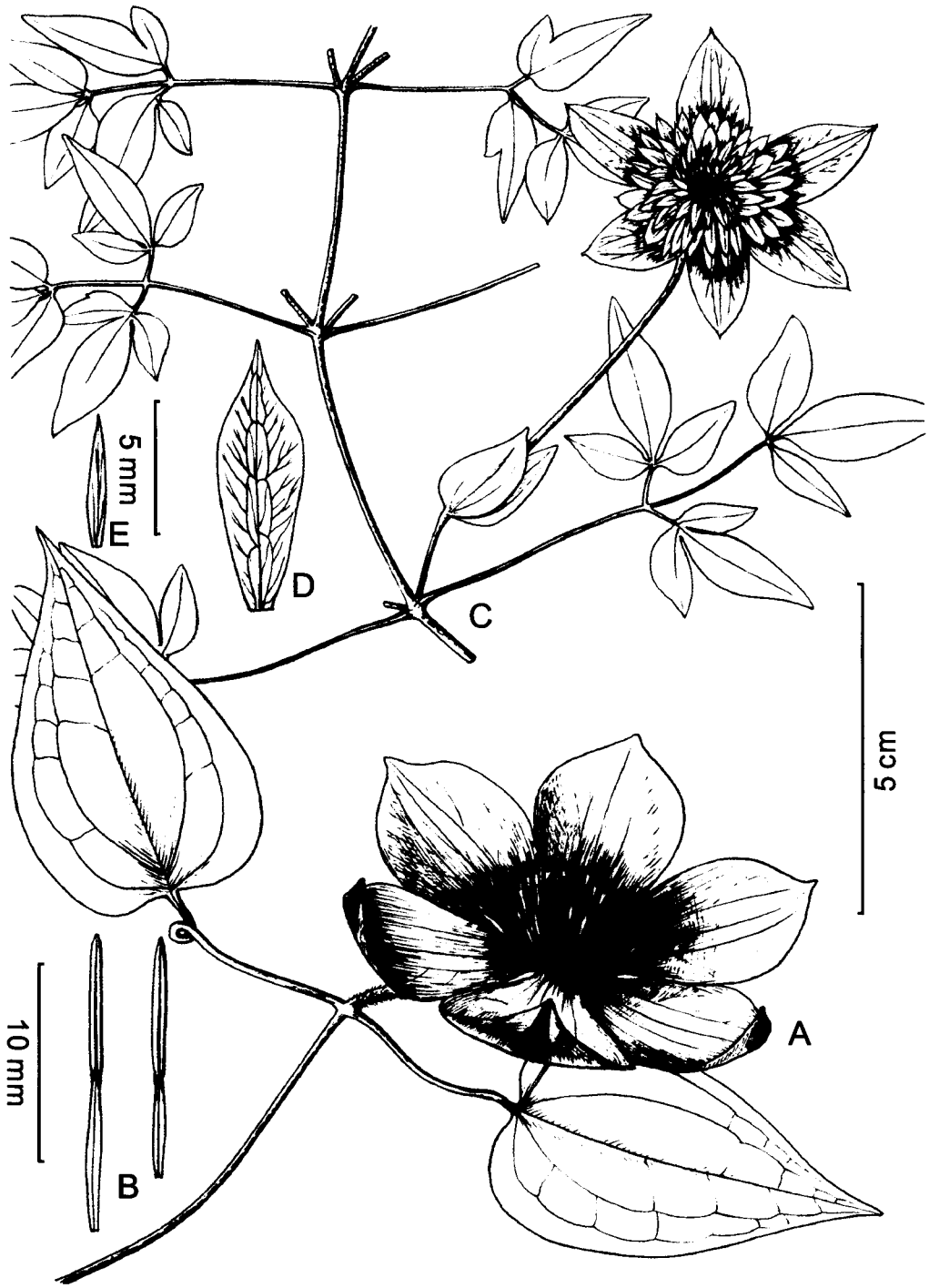

Fig. 5 **A-B, Clematis patens** Morr. & Decne. ssp. **tientaiensis** M. Y. Fang **A**, flowering branch; **B**, two stamens(from X. Y. He 1). **C-E, C. florida** Thunb. ex Murray var. **flore-pleno** G. Don C, flowering branch; **D**, outer staminode; **E**, inner staminode (from Y. Y. Hu & R. L. Xiong s. n.). (Drawn by Sun Ying-Bao)

(左大勋) 363 (NAS); Ping Yung, R. C. Ching (秦仁昌) 1976 (GH); Qingyuan (庆元), S. Chen (陈诗) 3294 (NAS, PE). **Japan.** Mirosaki, 1894-07-03, Faurie 13305 (G, WU).

Var. *flore-pleno* was initially a sport from *Clematis* 'Sieboldiana' (see below), and has been known in culti-

vation in Europe since 1835 (Grey-Wilson, 2000; Toomey & Leeds, 2001). It is very strange and difficult to interpret that this cultivar occurs also in the wild disjunctively in Yunnan Province, Southwest China and in Zhejiang Province, East China.

Two other cultivars, all raised long ago in Japan, are often treated as varieties of *C. florida*: *Clematis* 'Sieboldiana' (*C. florida* var. *sieboldiana* Morren, *C. florida* var. *sieboldii* G. Don, *C. florida* var. *bicolor* Lindl.) is similar to *C. florida* var. *flore-pleno*, differing mainly in its flowers with numerous deep purple petaloid staminodes, and was introduced by the Netherlandish botanist P. von Siebold from Japan to Leiden, Netherland, arriving in Britain in 1837; and *Clematis* 'Fortunei' (*C. florida* var. *fortunei* Moore) is characterized by its large double white flowers, and was introduced from Japan to Europe by the English plant collector R. Fortune about in 1863 (Grey-Wilson, 2000; Toomey & Leeds, 2001).

6. Clematis xiangguiensis W. T. Wang, sp. nov. Type: China. Guangxi (广西): Lingui (临桂), Ertang (二塘), roadside, fl. white, 1953-10, Guangxi Exped (广西队) 53-3954 (holotype, PE); Lingui, Huixian (会仙), 1958-04-20, S. Q. Zhong (钟树权) 61696 (IBK); Guilin (桂林), Yanshan (雁山), field margin, 175 m, fl. white, 1948-06-19, Z. N. Deng (邓志农) 13531 (IBSC); same locality, fr. greenish, 1950-06-12, C. H. Tsoong (钟济新) 808241 (IBK); Guilin, Dabu (大埠), fl. white, 1982-05-09, H. G. Ye (叶华谷) 549 (IBSC). Hunan (湖南): 'Djützitjian', alt. 350 m, in thickets, fl. white, 1918-02-04, Handel-Mazzetti 11997 (GH, WU); Lengshuijiang (冷水江), alt. 200 m, in bushes by river, fl. white, anthers black-blue, 1918-05-29, Handel-Mazzetti 11957 (GH, WU); Yuanjiang (沅江), 1947-05-05, Dahlström 39 (S).

C. florida auct. non Thunb. ex Murray: Rehd. in J. Arn. Arb. 4: 183. 1923, p. p. quoad Handel-Mazzetti 11957 et 11997; Hand.-Mazz., Symb. Sin. 7: 319. 1931; et in Acta Hort. Gotob. 13: 199. 1939, p. p. quoad Handel-Mazzetti 11957 et 11997; M. Y. Fang in Fl. Reip. Pop. Sin. 28: 309, pl. 67. 1980; W. T. Wang in Fl. Guangxi 1: 290. 1991; et in High. Pl. China 3; 514, fig. 816. 2000; K. M. Liu in Fl. Hunan. 2: 680. 2000; W. T. Wang & Barth. in Fl. China 6: 372. 2001.

湘桂铁线莲

Fig. 6 (p. 16)

Affinis *C. courtoisii* Hand.-Mazz., a qua foliolis et floribus minoribus, stylis persistentibus leviter elongatis usque ad 8 mm longis inferne pilis brevibus tectis superne glabris, stigmatibus depresse capitatis differt.

Liana sublignosa. Caulis circ. 1 m longus, gracilis, vadose 4—6-sulcatus, adpresse puberulus, nodis tumidis. Folia opposita, 1—2-pinnata vel 1—2-ternata; foliola papyracea, ovata, anguste ovata vel lanceolata, 1—5 cm longa, 0.4—2 cm lata, apice acuta, basi rotundata, subtruncata vel late cuneata, margine integra, indivisa, interdum 2—3-partita, utrinque ad nervos sparsissime puberula, nervis basalibus subtus prominulis vel planis; petioli 1.8—4 cm longi. Cymae axillares, 1-florae; pedunculi 1—4.5 cm longi; bracteae sessiles vel subsessiles, late ovatae vel ovato-triangulares, 1.5—3 cm longae, indivisae, raro inaequaliter 2-partitae. Flos 3—5.5 cm diametro; pedicellus 3.2—6 cm longus, puberulus. Sepala 6, patentia, alba, cum marginibus dilatatis obovata vel rhombico-obovata, 2—3 cm longa, 1—1.5 cm lata, apice acuta et apiculata, intus glabra, extus secus nervos basales laterales velutina, ad margines dilatatos glabra. Stamina numerosa, 5—9.5 mm longa, glabra, filamentis linearibus 2.5—5 mm longis, antheris linearibus vel oblongis 2.5—4 mm longis apice obtusis vel leviter acutis. Carpella 15—40, circ. 5 mm longa, ovariis pubescentibus, stylis 3—4 mm longis inferne dense pubescentibus superne glabris, stigmatibus depresse capitatis persistentibus. Achenia compressa, late obovata vel rhombico-orbicularia, circ. 3.5 mm longa, 3 mm lata, puberula, stylis persistentibus circ. 8 mm longis inferne pilis patentibus 0.5—0.8 mm longis puberulis superne glabris.

China (NE Guangxi, C & SW Hunan). In bushes or thickets, or at field edges or roadside; 175—350 m.

7. Clematis cadmia Buch.-Ham [ex Wall., Cat. n. 4669. 1828, nom. nud.] ex Hook. f. & Thoms., Fl. Ind. 5. 1855; et in Hook. f., Fl. Brit. Ind. 1: 2. 1875; Kurz, For. Fl. Brit. Burma 1: 16. 1877; Finet & Gagnep. in Bull. Soc. Bot. France 50: 554. 1903; et in Lecomte, Fl. Gén Indo-Chin. 1: 7. 1907; Kanjilal et al., Fl. Assam 1 (1): 2. 1933; Hand.-Mazz. in Acta Hort. Gotob. 13: 198. 1939; Mukerjee in Bull. Bot. Surv. Ind. 1: 178. 1959; Gupta in Bull.

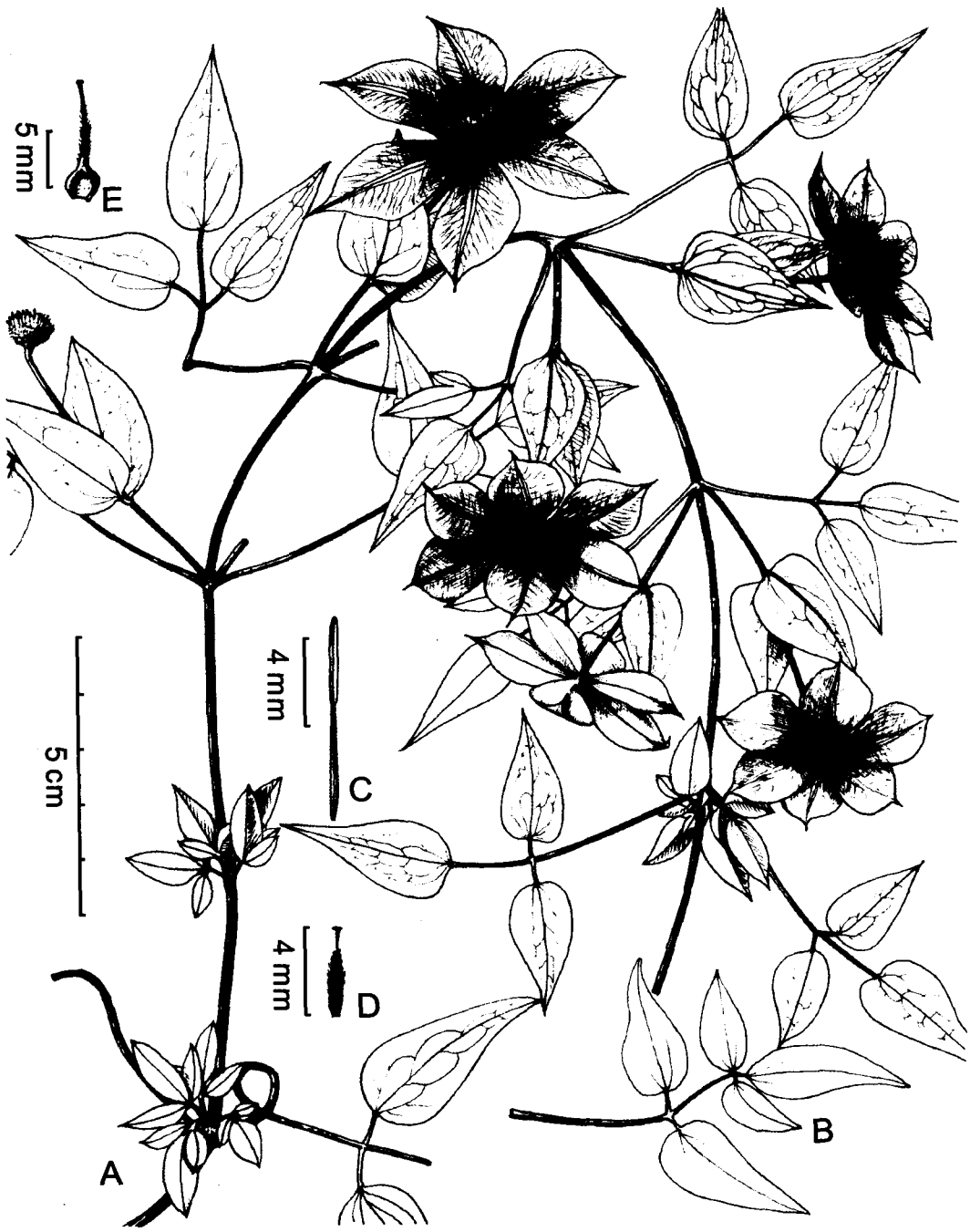

Fig. 6 **Clematis xiangguiensis** W. T. Wang **A**, flowering branch; **B**, a pinnate leaf; **C**, stamen; **D**, carpel (from Guangxi Exped. 3984); **E**, achene (from Z. S. Chung 808241). (Drawn by Sun Ying-Bao)

Nat. Bot. Gard. Lucknow 54: pl. 7. 1961; Kapoor in l. c. 78: 3. 1962 et 78: 124. 1966; Anonymous in Iconogr. Corm. Sin. 1: 742, fig. 1484. 1972; M. Y. Fang in Fl. Reip. Pop. Sin. 28: 212, pl. 69. 1980; Anonymous in Fl. Jiangsu. 2: 168, fig. 992. 1982; X. W. Wang in Fl. Anhui 2: 333. 1986; P. Ho, Ill. Fl. Vietnam 1: 392, fig. 1098. 1991; Z. H. Lin in Fl. Zhejiang 2: 297. 1992; Rau in Sharma et al., Fl. Ind. 1: 60. 1993; M. Johnson, Klematis 675. 1997; Grey-Wilson, *Clematis* 114. 2000; W. T. Wang & Barth. in Fl. China 6: 373. 2001, p. p.; W. T. Wang in Fl. Jiangxi 2: 170. 2004. Type: India. Khasia, Wallich 4669 (holotype, K).

C. sulcata Wall., Cat. no. 4667. 1828, nom. nud.

Thalictrum bracteatum Roxb., Fl. Ind., ed. 2, 2: 671. 1832. ——*Climatis bracteata* (Roxb.) Kurz in J. As. Soc. 43(2): 1874, non *C. bracteata* DC., 1818; Kuntze in Verh. Bot. Ver. Brand. 26: 139. 1885; Prantl in Bot. Jahrb. 9: 259. 1888. Type: India. Assam: Sylhet, Wallich 4667 (holotype, K!; isotypes, BM!, G!).

C. stronachii Hance in J. Bot. 16: 103. 1880; Forb. & Hemsl. in J. Linn. Soc. Bot. 23: 7. 1886; Courtois in Bull. Soc. Bot. France 72: 441. 1925. —*C. bracteata* (Roxb.) Kurz var. *stronachii* (Hance) Kuntze in Verh. Bot. Ver. Brand. 26: 140. 1885. Type: China. Circ. Chin Kiang, 1876, Stronach s. n. (holotype, BM!).

C. florida auct. non Thunb. ex Murray: Finet & Gagnep. in Bull. Soc. Bot. France 50: 553. 1903, p. p. quoad Balansa 3372; Rehd. in J. Arn. Arb. 8: 106. 1927, p. p. quoad R. C. Ching 2707; Anonymous in Fl. Hupeh. 1: 367. 1976, p. p. excl. fig. 511; Z. H. Peng et al., Encycl. Pl. Three Gorg. Yangtze River, China 195. 2005, p. p. excl. fig. 228.

短柱铁线莲

7a. var. **cadmia** Fig. 4: D-G (p. 11)

Perennial herbaceous vine. Branches shallowly 5-sulcate, sparsely puberulous or glabrous. Leaves 1—2-pinnate; leaflets papery, narrowly ovate, ovate, or lanceolate, 1.5—5×0.6—2 cm, apex attenuate, acuminate, or acute, base broadly cuneate or rounded, margin entire, undivided or 2—3-lobed, both surfaces only on midrib sparsely puberulous, elsewhere glabrous, basal veins nearly flat on both surfaces; petioles 2—5.5 cm long, puberulous or subglabrous. Cymes axillary, 1-flowerwd; peduncles 1.2—1.8 cm long, above puberulous; bracts ovate or broadly ovate, 0.7—4.5 cm long. Flower 3—7 cm in diam.; pedicel 3.5—7 cm long, sparsely puberulous or subglabrous. Sepals (4—) 5—6, spreading, white or pinkish, plus dilated margins obovate or oblanceolate, 1.4—3.7×0.5—2 cm, inside glabrous, outside puberulous, on dilated margins glabrous, apex acute. Stamens 5—10 mm long, glabrous; filaments usually shorter than anthers, 2—3.5 mm long; anthers linear or narrowly oblong, 4—6 mm long, apex minutely apiculate. Ovaries appresed-puberulous; styles subulate, 1—2 mm long, below appresed-puberulous, apex tapering, stright or recurved. Achenes compressed, rhombic or narrowly elliptic, 5—8×3—4.8 mm, sparsely appressed-puberulous, broadly rimmed; persistent styles subulate, 1—5 mm long. Fl. Mar.-May.

Bangladesh, China (S Anhui, Hubei, Hunan, S Jiangsu, N Jiangxi, Yunnan, Zhejiang), NE India, N Myanmar, N Viet Nam. In grassy places or by streams; 100—1600 m.

Additional specimens examined. **Bangladesh.** Caraghola Ghat, Kurz s. n. (K). **China. Anhui** (安徽): Anqing (安庆), Migo s. n. (NAS); Jiuhua Shan (九华山), R. C. Ching (秦仁昌) 2707 (GH, IBSC, K); Tongling (铜陵). Datong (大通), K. K. Tsoong (钟观光) 3366 (PE), Steward 5247 (NAS, K); Wuhu (芜湖), Migo s. n. (NAS). **Hubei** (湖北): Xianning (咸宁), C. H. Qian (钱重海) 106 (HIB); Wuchang (武昌), C. H. Qian 232 (HIB, NAS). **Hunan** (湖南): Changsha (长沙), Grubb134 (BM). **Jiangsu** (江苏): Jurong (句荣), Chen & Teng 209 (NAS, PE), C. C. Chang (张肇骞) 1243 (NAS); Nanjing (南京), W. P. Fang (方文培) 122, Y. C. Wang 269 (K), Y. L. Keng (耿以礼) 2164 (PE), L. F. Tsu 278 (G, GH); Zhenjiang (镇江), Carles 422 (K). **Jiangxi** (江西): Jiujiang (九江), Bullock 106 (K); Lu Shan (庐山), S. J. Shen (沈绍金) 381 (PE); Nanchang (南昌), X. X. Yang (杨祥学) 10458 (PE); Pengze (彭泽), H. D. Zhang (张海道) 4822 (PE). **Yunnan** (云南): without precise locality, 1868, Anderson s. n. (K). **Zhejiang** (浙江): Kaotze, C. L. Tso (左景烈) 329 (NAS); Meichi, 1881-04-16, Forbes 8B (LE). **India.** Assam: Barapanar, Tessier-Yandell 308 (K); Sylhet, C. B. Clarke 42738 (K), 43182D (G), 43182E (G-Boiss.); without precise locality, Fischer s. n. (UPS), Masters s. n. (E, K, P), Prain s. n. (US). Manipur: F. Kingdon Ward 7734 (K), 11299 (BM), Watt 6241 (K, P). **Myanmar.** Katha, Lace 5720 (K); Kooakdweng of the Irrawaddi, Griffith 3 (K); Mogoung Valley, Bayfield s. n. (K); Myitkyina, Lace 5158 (K); Svibo, Kyeiw s. n. (E). **Viet Nam.** Tonkin: Hai-phong, Balansa 1575 (P); Mt. Bavi, Balansa 3372 (P); Phan Me, Petelot 4826 (P, US); Sai Wong Mo Shan, W. T. Tsang 30012 (P).

7b. var. **leptomera** (Hance) W. T. Wang, st. nov. —— *C. leptomera* Hance in J. Bot. 18: 257. 1880; Forb. &

Hemsl. in J. Linn. Soc. Bot. 23:5. 1886. ——*C. bracteata* (Roxb.) Kurz var. *leptomera* (Hance) Kuntze in Verh. Bot. Ver. Brand. 26:140. 1885. Type: China. Guangxi (广西): Wuzhou (梧州), 1879-03, Mesny 20799 (holotype, BM!).

C. flarida auct. non Thunb. ex Murray: Hand.-Mazz. in Acta Hort. Gotob. 13:200. 1939, p. p. quoad syn. *C. leptomera* Hance; Chun in Sunyatsenia 1:228. 1934; Pei in Sunyatsenia 4:165. 1940; How et al., Fl. Guangzhou. 95. 1956; M. Y. Fang in Fl. Reip. Pop. Sin. 28:209. 1980, p. p. quoad syn. *C. leptomera* Hance; M. Johnson, Klematis 678. 1997, p. p. quoad syn. *C. leptomera* Hance; Grey-Wilson, *Clematis* 121. 2000, p. p. quoad syn. *C. leptomera* Hance; R. J. Wang in Fl. Guangdong 5:15. 2003.

宽短柱铁线莲

Fig. 4: H (p. 11)

This variety differs from var. *cadmia* in its styles being oblong or broadly oblong in outline and with truncate-rounded apexes. Fl. Nov.-Jun. of next year.

China (Guangdong and E Guangxi). In grassy places, in sparse forests, or by streams.

Additional specimens examined. **Guangdong** (广东): Dinghu Shan (鼎湖山), N. Y. Liang (梁向日) 60017 (IBSC), G. L. Shi (石国良) 13249 (IBSC, PE); Gaoyao (高要), C. Wang (黄志) 62703(IBSC); Luofu Shan (罗浮山), McClure 13176 (P, PE); Nam Kong Hau, McClure 1352 (BM, G, K, NAS, PE); Nanhai (南海), S. P. Kao (高锡朋) 50007, 52024 (IBSC); Qingyuan (清远), C. Wang 30488 (IBSC); Zijin (紫金), C. L. Tso (左景烈) 21492 (IBSC). **Guangxi** (广西): Wuzhou (梧州), Z. R. Wang (汪振儒) 302, S. T. Huang (黄山涛) 1006(NAS).

Ser. 2. **Patentes** (Tamura) W. T. Wang in Acta Phytotax. Sin. 43:475. 2005. ——sect. *Viticella* subsect. *Patentes* Tamura in Sci. Rep. Osaka Univ. 4:50. 1955; in Acta Phytotax. Geobot. 38:43. 1987; et in Hiepko, Nat. Pflanzenfam., Zwei. Aufl., 17a(4):385. 1995; M. Johnson, Klematis 682. 1997; Grey-Wilson, *Clematis* 123. 2000. ——*Clematis* sect. *Patemtes* (Tamura) Tamura in Sci. Rep. Osaka Univ. 16(2):34. 1967. ——subgen. *Viticella* sect. *Patentes* Snoeijer in Clematis 1992:19. 1992. Type: *C. patens* Morr. & Decne.

Sect. *Viticella* subsect. *Lanuginosae* M. Johnson, l. c. 681; Grey-wilson, l. c. 124. Type: *C. lanuginosa* Lindl.

Leaves simple or ternate, rarely pinnate. Flowers terminal, solitary. Sepals 5—8, white or purple. Achenes not tumidly rimmed; persistent styles strongly elongate, plumose.

Two species, occurring in E & NE China, Korea, and Japan.

8. Clematis patens Morr. & Decne. in Bull. Acad. Roy. Sci. Brux. 3:173. 1836; Franch. & Sav., Enum. Pl. Jap. 2:262. 1875; Maxim. in Mel. Biol. 9:599. 1877; et in Bull. Acad Sci. St. Petersb. 22:222. 1877; Lavall., Clemat. t. 2-3. 1884; Makino in Bot. Mag. Tokyo 8:330. 1897; Palibin in Acta Hort. Petrop. 17:12. 1898; Finet & Gagnep. in Bull. Soc. Bot. France 50:552. 1903; Nakai in J. Coll. Sci. Univ. Tokyo 26:5. 1909; Loesn. in Beih. Bot. Centralbl. 37:122. 1919; Matsum., Ind. Pl. Jap. 2:112. 1912; Spring. in Nat. Hort. Mag. 1935:88, pl. 67. 1935; Kitag., Lineam. Fl. Mansh. 218. 1939; L. H. Bailey, Man. Cult. Pl., rev. ed., 393. 1949; Rehd., Man. Cult. Trees & Shrubs, ed. 2, 213. 1951; Makino, Ill. Fl. Jap., rev. ed., 553, fig. 1658. 1953; Liou et al., Keys Pl. NE China 78. 1959; Ohwi, Fl. Jap. 442. 1965; Noda, Pl. N-E Prov. China 525. 1970; Anonymous in Fl. Pl. Herb. Chin. Bor.-Or. 3:177, pl. 77, fig, 7-10. 1975; T. B. Lee, Ill. Fl. Korea 344, fig. 1373. 1979; M. Y. Fang in Fl. Reip. Pop. Sin. 28:200, pl. 63. 1980; Kitamura & Murata, Colour. Ill. Herb. Pl. Jap., rev. ed., 2:226, pl 51:442 1980; Tamura in Satake et al., Wild Flow. Jap. 2:73, pl. 70:3. 1982; Ohwi & Kitag., New Fl. Jap. 681. 1992; Y. N. Lee, Fl. Korea 167, fig. 493. 1996; Y. J. Zheng in Fl. Shandong 2:24. 1997; M. Johnson, Klematis 682. 1997; Grey-wilson, Clematis 123, fig. 91. 2000; W. T. Wang & Barth. in Fl. China 6:371. 2001; S. J. Fan et al., Fl. Laoshan. 1:241. 2003. Described from Japan, no type specimen designated.

C. caerulea Lindl. in Bot. Reg., new ser., 10: t. 1953. 1837. Type unknown.

C. azurea Sieb. ex Steud., Nom. Bot., ed, 2, 1:378. 1841, nom. nud.

C. azurea var. *grandiflora* Sieb. ex Loudon, Encycl, Trees & Shrubs 11. 1842. Type unknown.

C. caerulea var. *grandiflora* Hook. in Curtis, Bot. Mag. 69:t. 3983. 1843. No type specimen designated.

C. patens var. *sophia* Houtte, Fl. Serres et Jard. Europ, 8: 279, pl. 852. 1852-53. Type unknown.

C. luloni Hort. ex Koch, Deut. Dendr. 1: 435. 1869. Type unknown.

C. kasugunuma Sieb. & Vriese ex M. Johnson, Klematis 682. 1997, pro syn.

C. florida auct. non Thunb. ex Murray: Loesn. in Centralbl. 37: 123. 1919; Rehd. in J. Arn. Arb. 4: 183. 1923, p. p. quoad pl. Shandong.

转子莲

8a. ssp. **patens** Fig. 7: A-C (p. 20)

Perennial herbaceous vine. Stem shallowly 5—6-sulcate, sparsely pubescent. Leaves usually ternate, sometimes pinnate, 5-foliolate; leaflets papery, ovate or narrowly ovate, 3—7×1.5—5 cm, apex acuminate or acute, base rounded, truncate, broadly cuneate, or subcordate, margin entire, both surfaces on veins sparsely pubescent, basal veins abaxially slightly prominent; petioles 4—8 cm long. Flower solitary, terminal, 7—12 cm in diam.; pedicel 4.6—10 cm long, pubescent. Sepals 7—8, white, rarely purplish, plus dilated margins obovate or narrowly obovate, 3.5—6×1.5—3 cm, inside glabrous, outside along central basal vein appressed-pubescent, along lateral basal veins velutions, on dilated margins glabrous. Stamens 12—20 mm long, glabrous; anthers, linear, 6—8 mm long, apex obtuse or apiculate. Ovaries pubescent; styles ca. 9 mm long, below the middle densely villous. Achenes compressed, broadly elliptic, 3.5—5×3—4.5 mm, appressed-pubescent; persistent styles 3—3.8 cm long, yellowish-plumose. Fl. May-Jun.

China (SE Liaoning, E Shandong), Japan, Korea. On grassy slopes, in bushes, or by river; 200—1 000 m.

Specimens examined. **China. Liaoning** (辽宁): Caohekou (草河口), W. Z. Gong (龚维忠) 10 (PE); Fenghuang Shan (凤凰山), D. C. Zhao et al. (赵大昌等) 326, Yabe s. n. (PE); Zhuanghe (庄河), W. Wang et al. (王薇等) 129 (PE). **Shandong** (山东): Lao Shan (崂山), Sino-Germany Exped. (中德队) 56-757, T. Y. Chou et al. (周太炎等) 1086 (NAS, PE). **Japan.** Honshu: Gifu, Sato 19420 (GH, P); Ibaraki, Furuse s. n. (S); Kaza Kuruma, Tschonoski 2348 (LE); Kurochi, Faurie 479 (P); Miyagi, Yokota s. n. (GH); Nikko, Matsumura s. n. (US); Senano, Tschonoski s. n. (GH); Sendai, Faurie 2229 (K), Iisiba s. n. (GH); Shimotouke, E. H. Wilson s. n. (GH); Tachigi, Yamazaki 10351 (GH), Tateishi 1608 (PE); Yokoska, Savatier 3631 (P). Hokkaido: Hakodake, Albrecht s. n. (K, LE); Sapporo, Arimoto s. n. (GH). **Korea.** Huki: Poulp Han San, Mills s. n. (GH); Kyonggi-do, Kwangnung, Yongsok 7483 (S); Pouk-han, Faurie 3 (G, P), 9 (G); Pyul Hai, Mills 263 (K); Seoul, Kalmowsky s. n. (LE), Sontag s. n. (K); Tokchong, McClatchie 34 (US); Tusan, Faurie 138 (P).

C. patens ssp. *patens* has long been cultivated in Japan, and is often assumed to be naturalized there (Spingarn, 1936; Bailey, 1949; Grey-Wilson, 2000; Toomey & Leeds, 2001). It was introduced into Europe from Japan by the Netherlandish botanist P. von Siebold in 1836, and soon, like *C. lanuginosa*, was proved to be of particular importance for the hybridization of new *Clematis* cultivars. For example, the two large-flowered cultivars, *Clematis* 'Miss Crawshay' and C. 'Edouard Desfosse' were produced through the crosses between *C. patens* ssp. *patens* and *C. lanuginosa* in 1873 and in 1880 respectively (Toomey & Leeds, 2001).

8b. ssp. **tientaiensis** M. Y. Fang in Fl. Reip. Pop. Sin. 28: 303, 358. 1980; Z. H. Lin in Fl. Zhejiang 2: 297, fig. 2-397. 1992. ——*C. patens* var. *tientaiensis* (M. Y. Fang) W. T. Wang in Acta Phytotax. Sin. 36: 163. 1998; Grey-Wilson *Clematis* 123. 2000; W. T. Wang & Barth. in Fl. China 6: 372. 2001. Type: China. Zhejiang (浙江): Tiantai Shan (天台山), alt. 1000 m, 1927-06-08, Y. L. Keng (耿以礼) 999 (holotype, PE!); Same locality, fl. white, 1958-06-13, X. Y. He (贺贤育) 1109 (paratypes, PE!).

天台铁线莲

Fig. 5: A-B (p. 14)

Leaves simple or ternate; leaflets narrowly ovate or ovate, 4.5—7×2—4 cm. Flower ca. 10 cm in diam.; pedicel 3.5—4 cm long. Sepals 5—6, white, plus dilated margins elliptic or narrowly elliptic, 5×2—3.5 cm, outside densely appressed-puberulous, on dilated margins glabrous. Fl. Jun.

China (E Zhejiang). In forests or bushes; 1 000 m.

Additional specimens examined. **Zhejiang** (浙江): Beiyandang Shan (北雁荡山), Zhejiang Agr. Coll. Exped. (浙江农学院队) 610 (NAS); Fenghua (奉化), X. Y. He 1485 (NAS); Linhai (临海), Y. Y. Fang & C.

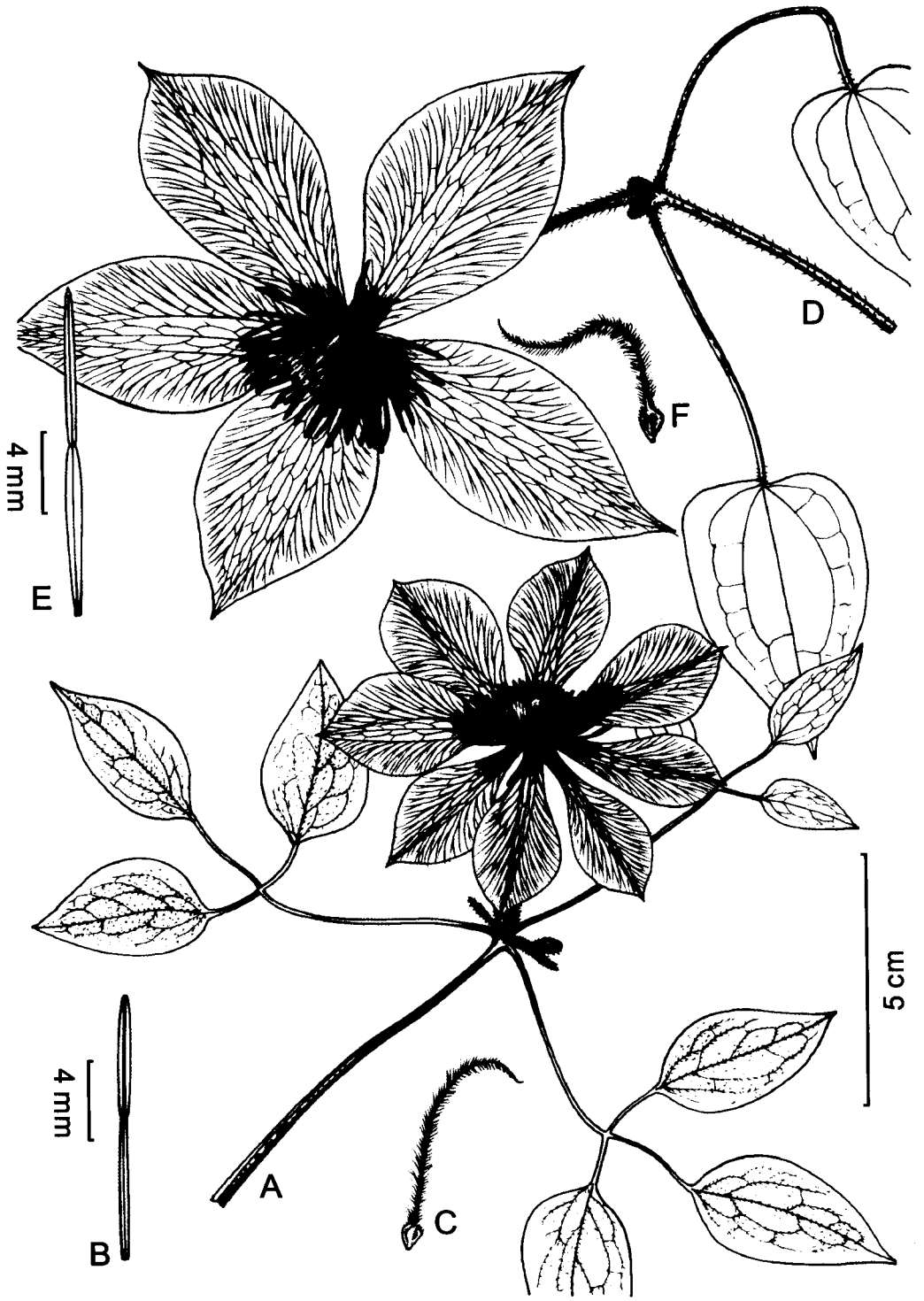

Fig. 7 **A-C, Clematis patens** Morr. & Decne. ssp. **patens A**, flowering branch; **B**, stamen (from W. Z. Gong 10); **C**, achene (from Yabe s. n.). **D-F, C. lanuginosa** Lindl. **D**, flowering branch; **E**, stamen (from Migo s. n.); **F**, achene (from X. Y. He 27286). (Drawn by Sun Ying-Bao)

Z. Zheng (方云仪,郑朝宗) 6397 (HZU); Tiantai (天台), S. Chen (陈诗) 441 (NAS), Econ. Pl. Exped. (经济植物队) 58-28031 (NAS), C. F. Zhang (张朝芳) 3537 (HZU).

9. Clematis lanuginosa Lindl. in Paxt., Flow. Gard. 3: 107, pl. 94. 1853; Planch. Fl. Serres 8: 165, pl. 811. 1853, et

ser. 2(1):207, pl. 1176. 1855-56; Lamaire, Ill. Hort. 1: pl. 14. 1854; Koch, Dendr. 1:436. 1869; Maxim. in Mél. Biol. 9:600. 1876; et in Bull. Soc. Nat. Mosc. 54:2. 1879; Lavall., Clemat. t. l. 1884; Forb. & Hemsl. in J. Linn. Soc. Bot. 23:5. 1886; Schneid., Ill. Handb. Laubh. 1:286, fig. 188a-c. 1906; Hand.-Mazz. in Acta Hort. Gotob. 13:202. 1939; L. H. Bailey, Man. Cult. Pl., rev. ed., 393. 1949; Rehd., Man. Cult. Trees & Shrubs, ed. 2, 219. 1951; M. Y. Fang in Fl. Reip. Pop. Sin. 28:200, pl. 62. 1980; Z. H. Lin in Fl. Zhejiang 2:291. 1992; M. Johnson, Klematis 681. 1997; Grey-Wilson, *Clematis* 124. 2000; W. T. Wang & Barth. in Fl. China 6:371. 2001. ——*C. florida* ssp. *lanuginosa* (Lindl.) Kuntze in Verh. Bot. Ver. Brand. 26:149. 1885. Type: China. Zhejiang (浙江): Ningbo (宁波), Tein-tung, on hillside, 1850-07, Fortune 62 (isotypes, G!, LE!, P!).

毛叶铁线莲

Fig. 7: D-F (p. 20)

Woody vine. Branches indistinctly 6-angulate, appressed-puberulous. Leaves usually simple, rarely ternate; leaf blades papery, narrowly ovate or cordate, 6—12 ×3—7.5 cm, apex acuminate, base cordate or rounded, margin entire, adaxial surface sparsely pubescent, abaxial surface densely greyish-pubescent, basal veins abaxially prominent; petioles 4—8 cm long. Flowers solitary, terminal, 7—15 cm in diam.; pedicels 5—10 cm long, densely pubescent. Sepals 5—6, purplish, plus dilated margins rhombic-elliptic or obovate-elliptic, 4—7×2—3.5 (—4.5) cm, inside glabrous, outside along the central basal vein densely appressed-pubescent, on dilated margins usually glabrous, apex acuminate. Stamens 10—32 mm long, glabrous; anthers linear, 6—10 mm long, apex minutely apiculate. Ovaries pubescent; styles 7—10 mm long, densely villous below, glabrous above. Achenes compressed, obdeltoid or broadly rhombic, 4—5(—8)×4(—6) mm, appressed-pubescent; persistent styles 4—6 cm long, yellow-plumose. Fl. Jun.-Jul.

China (E & W Zhejiang). In bushes or by streams; 100—400 m.

Additional specimens examined. **Zhejiang** (浙江): Jiande (建德), L. Hong (洪林) s. n. (HHBG); Ningbo (宁波), Hancock 20 (LE), S. Y. Zhang (章绍尧) 993, Migo s. n. (NAS, PE); Siming Shan (四明山), Econ. Pl. Exped. (经济植物队) 58-737 (PE); Zhenhai (镇海), K. K. Tsoong (钟观光) s. n. (PE), X. Y. He (贺贤育) 27286 (NAS, PE).

C. lanuginosa was first found by the English collector R. Fortune near the city of Ningbo, Zhejiang Province in 1850, and soon introduced into cultivation in Britain by him. Afterwards, in the crosses of *Clematis* species, *C. lanuginosa* was quickly proved to play a particularly important role, and along with the previously introduced *C. patens*, *C. florida*, and *C. viticella* opened a new era for the development of the garden plants of *Clematis*. As a result of the crosses, numerous beautiful large-flowered cultivars were produced. Of them, the most famous and popular one is *Clematis* 'Jackmanii', which was produced by the English horticulturist G. Jackman through the cross among *C.* 'Hendersonii', *C. lanuginosa*, and *C.* 'Atrorubens' in 1858 (Toomey & Leeds, 2001).

Subsect. 3. **Viticellae** Tamura in Sci. Rep. Osaka Univ. 16(2):34. 1967; M. Johnson, Klematis 670. 1997; Grey-Wilson, *Clematis* 114. 2000; W. T. Wang in Acta. Phytotax. Sin. 43:475. 2005.-Subgen. *Viticella* sect. *Viticella* Snoeijer in Clematis 1992:18. 1992, p. p. excl. *C. cadmia*. Type: *C. viticella* L.

Sect. *Viticella* subsect. *Euviticellae* Pramtl in Bot. Jahrb. 9:259. 1888; Schneid., Ill. Handb. Laubh. 1:285. 1906.

Leaves 1—2-pinnate. Flowers in axillary, sometimes also terminal 1—7-flowered cymes. Sepals 4, usually ascending, narrowly lanceolate or lanceolate, 3-veined, more or less strongly dilated after anthesis; lateral veins with parallel veinlets. Stamen filaments glabrous or near apex sparsely ciliate. Pollen tricolpate. Achenes flattened, tumidly rimmed, with slightly elongate, hard, subulate persistent styles.

Four species, one endemic in C & E China, and the other three occurring in SW Asia and S Europe.

Ser. I. **Huchouenses** W. T. Wang in Acta Phytotax. Sin. 43: 476. 2005. Type: *C. huchouensis* Tamura.

Sepals white, after anthesis slightly dilated; dilated margins 1.5—2 mm broad per side. Stamens glabrous.

One species, endemic to C & E China.

10. Clematis huchouensis Tamura in Acta Phytotax. Geobot. 23:36, cum phototypo. 1968; M. Y. Fang in Fl. Reip.

Pop. Sin. 28:207, pl. 66. 1980; Anonymous in Fl. Jiangsu. 2:170. 1982; W. T. Wang in Bull. Bot. Res. Harbin 9 (2):8. 1989; Z. H. Lin in Fl. Zhejiang 2:295, fig. 2-393. 1992; M. C. Chang *et al.*, List Pl. E Chia 164. 1993; M. Johnson, Klematis 671. 1997; K. M. Liu in Fl. Hunan 2: 680. 2000; Grey-Wilson, *Clematis* 116. 2000; W. T. Wang in Acta Phytotax. Sin. 38:327. 2000; W. T. Wang & Barth. in Fl. China 6:373. 2001; W. T. Wang in Fl. Jiangxi 2:170. 2004. Type: China. Zhejiang (浙江): Huzhou (湖州), without field notes and collector unknown (holotype, MAD, not seen).

C. cadmia auct. non Buch.-Ham. ex Hook. f. & Thoms.: Hand.-Mazz. in Acta Hort. Gotob. 13: 198. 1939, p. p. quoad Morse 30, Hickin s. n. et Faber s. n.

湖州铁线莲

Fig. 8: A-D (p. 23)

Perennial herbaceous vine. Stem shallowly 5—6-sulcate, appressed- puberulous or subglabrous, branched. Leaves pinnate, sometimes ternate; leaflets thinly papery or herbaceous, ovate, ovate-elliptic, or elliptic-lanceolate, 1—5×0.2—3 cm, apex obtuse, slightly acute, or rounded, base broadly cuneate, rounded, or subcordate, margin entire, undivided or 2 — 3-lobed, adaxially on veins sparsely puberulous, abaxial surface densely appressed-puberulous, basal veins abaxially nearly flat; petioles 1.7—3 cm long. Cymes axillary, 1—3-flowered; peduncles 2—6.5 cm long; bracts ovate or broadly ovate, 2—3 cm long, undivided or 2—3-lobed. Flower 2—3 cm in diam.; pedicel 1.2—3 cm long, puberulors. Sepals 4. white, ascending, plus dilated margins oblong or oblong-lanceolate, 1.4—2.2×0.3—0.6 cm, inside glabrous, outside densely appressed-puberulous, dilated margins 1.5—2 mm broad per side. Stamens 4.5—5.5 mm long, glabrous; anthers linear or narrowly oblong, 2.5—3.2 mm long, apex apiculate, with apicula (0.1—) 0.3—0.5 mm long. Ovaries puberulous; styles 6—7 mm long, densely appressed-puberulous. Achenes flattened, obovate-orbicular or deltoid, 5—6×4—6 mm, appressed-puberulous, tumidly rimmed; persistent styles subulate, 8—13 mm long, appressed-puberulous. Fl. Jun.-Aug.

China (Anhui, N Hunan, SE Jiangsu, N Jiangxi, N Zhejiang). In grassy places, by river, or on lake banks.

Specimens examined. **China. Anhui** (安徽): Liuan (六安), Anhui Exped. (安徽队) 59-2371 (PE); without precise locality, P. C. Tsoong (钟补求) 4424 (NAS). **Hunan** (湖南): Huarong (华容), Vegetation Group (植被组) 202 (HNNU); Yo-chow, Morse 30 (K). **Jiangsu** (江苏): Suzhou (苏州), C. T. Ting (丁志遵) 939 (NAS); Wuxi (无锡), W. X. Wu (邬文祥) 4204, 6087 (NAS), 4351 (WUK). **Jiangxi** (江西): Xingzi (星子), M. X. Nie (聂敏祥) 7520, S. J. Shen (沈绍金) 565 (PE). **Zhejiang** (浙江): Anji (安吉), Z. X. Zhang (张宗绪) 82 (PE); Haining (海宁), K. K. Tsoong (钟观光) s. n. (PE); Hangzhou (杭州), S. Y. Zhang (章绍尧) 1094, W. J. Jin (金维坚) 605 (PE), Heude 513 (NAS), Hickin s. n. (K); Ningbo (宁波), 1855-08, Faber s. n. (K); Zhuji (诸暨), M. Chen (陈谋) 868 (NAS).

Ser. 2. **Viticellae** W. T. Wang in Acta Phytotax. Sin. 43:476. 2005. Type: *C. viticella* L.

Sepals blue, purple, or red, rarely white, after anthesis slightly or strongly dilated; dilated margins 1.5—10 mm broad per side. Stamen filaments often near apex sparsely ciliate.

Three species, widespread in SW Asia and S Europe.

11. Clematis campaniflora Brot., Fl. Lusit. 2:359. 1804; Pers., Synop. 99. 1807; Brot. in Phytogr. Lusit. Select. 1: 198, t. 81. 1816; DC., Syst. 1:161. 1818; et Prodr. 1:9. 1824; Lodd. in Bot. Cabin. 10: t. 987. 1824; Koch, Dendr. 1:432. 1869; Mora, Fl. Funer. Penin. Iber. 6:678. 1878; Lavall., Clemat. t. 8. 1884; Schneid., Ill. Handb. Laubh. 1:225. 1906; Tutin, Fl. Europ. 1:221. 1964; Valdes et al., Fl. Vas. Andal. Occ. 1:119. 1987; M. Johnson, Klematis 670. 1997; Grey-Wilson, *Clematis* 116, fig. 81. 2000. ——*Viticella campaniflora* (Brot.) Bercht. & Presl, Rostl. i. Ranunc. 11. 1823. ——*Viticella campaniflora* (Brot.) Spach, Hist. Nat. Veg. Phan. 7:266. 1839. ——*Clematis viticella* L. var. *campaniflora* (Brot.) Willk. in Willk. & Lange, Prodr. Fl. Hispan. 3:954. 1880; Cout., Fl. Portug. 227. 1913. ——*C. viticella* ssp. *campaniflora* (Brot.) Kuntze in Verh. Bot. Ver. Brand. 26: 137. 1885——*C. viticella* ssp. *campaniflora* (Brot.) Font Quer ex Bolos & Vigo, Fl. Pais. Catal. 1:222. 1984; Brandenb. et al. in Bot. J. Linn. Soc. 135: 23. 2001. Type: Poutugal. Coimbra, type specimen not seen.

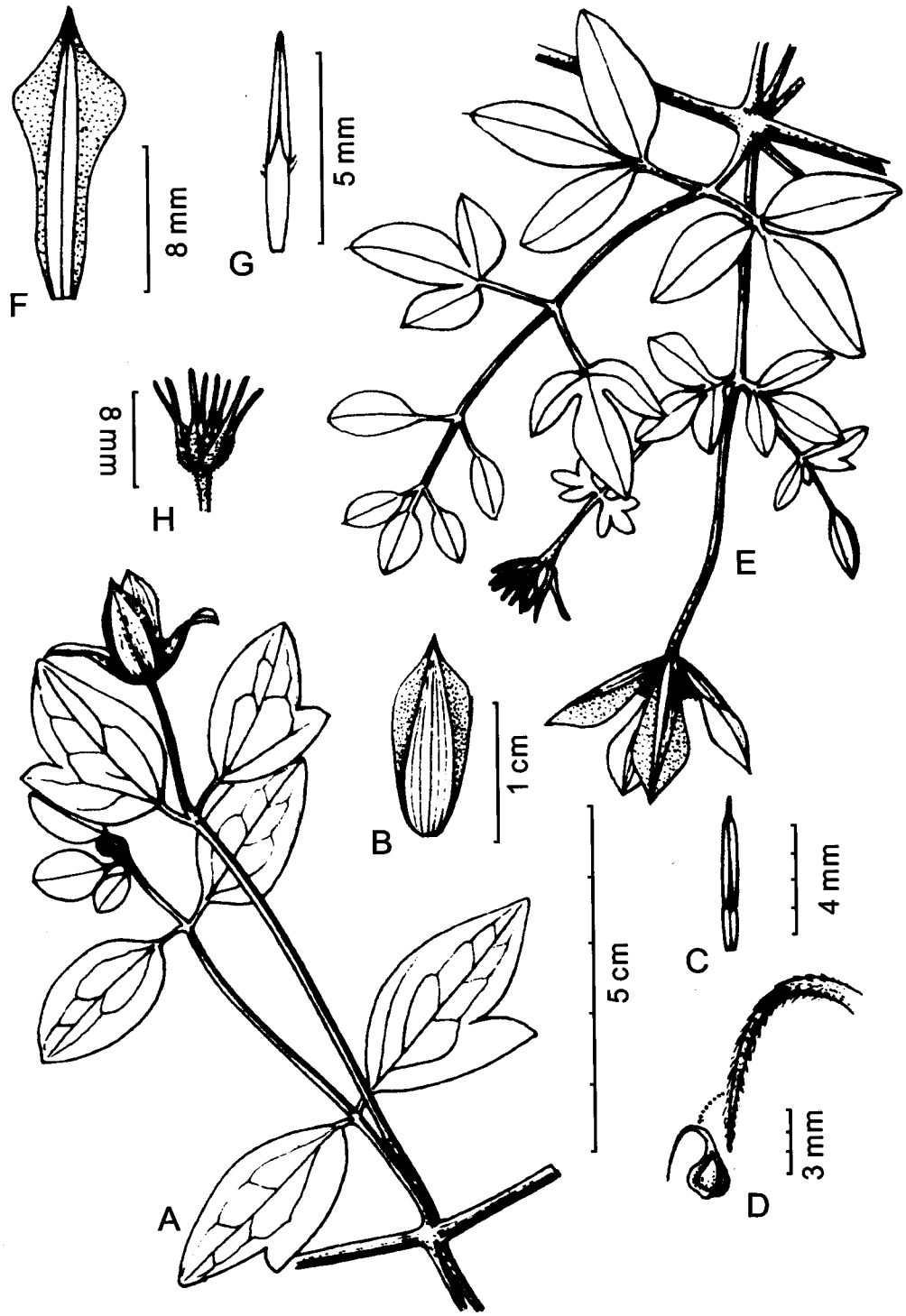

Fig. 8 **A-D, Clematis huchouensis** Tamura. **A**, flowering branch; **B**, sepal outside; **C**, stamen (from S. J. Shen 565); **D**, achene (from W. J. King s. n.). **E-H, C. rigoi** W. T. Wang; **E**, flowering branch; **F**, sepal outside; **G**, stamen; **H**, gynoecium (from Rigo 397). (Drawn by Sun Ying-Bao)

C. parviflora DC., Prodr. 1: 9. 1824. No type specimen designated.

C. revoluta Desf. in Hort. Paris 7: 266. 1839. —— *C. viticella* ssp. *revoluta* (Desf.) Kuntze in l. c. Type

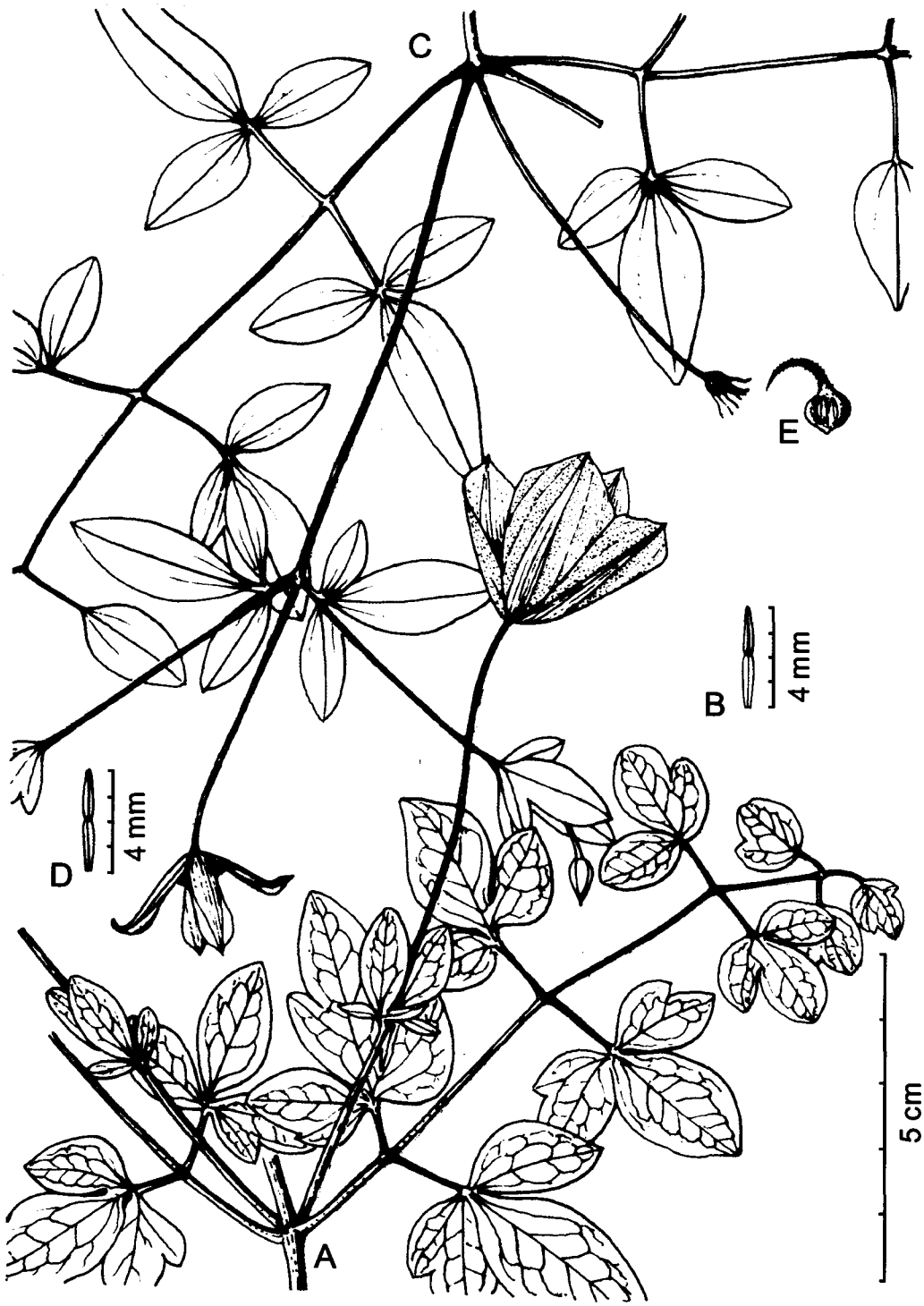

Fig. 9 **A-B, Clematis viticella** L. **A**, flowering branch; **B**, stamen (from Sintenis 4236). **C-E, C. campaniflora** Brot. **C**, flowering branch; **D**, stamen (from Moller 1501); **E**, achene (from Rothmaler 13874). (Drawn by Sun Ying-Bao)

unknown.

Fig. 9: C-E

Perennial herbaceous vine. Branches slender, shallowly 4 — 12-sulcate, sparsely appressed-puberulous. Leaves 1 — 2-pinnate; leaflets thinly papery or herbaceous, narrowly ovate or ovate, 1—7×0.6—4 cm, apex acute or obtuse, often mucronate, base rounded or broadly cuneate, margin entire, undivided or unequally 2-lobed, both surfaces subglabrous or on veins very sparsely puberulous, basal veins abaxially slightly promi-

nent or nearly flat; petioles 1—6 cm long. Cymes axillary and terminal, 1—7-flowered; peduncles 1.7—9 cm long, sparsely puberulous; bracts pinnate or simple, 3-sect, 0.8—4.5 cm long. Flower 1.3—2.4 cm in diam.; pedicel 1.2—4.5 cm long, more or less densely puberulous. Sepals 4, ascending, purplish, plus dilated margins oblong or narrowly oblong, 1—1.5×0.4—0.6 cm, inside glabrous, outside on dilated margins velutinous, elsewhere sparsely appressed-puberulous, apex flabellate-rounded, dilated margins 1.5—2.5 mm broad per sicle. Stamens 4—5.5 mm long; filaments near apex sparsely ciliate or glabrous; anthers narrowly oblong. 2—2.8 mm long, glabrous, apex minutely apiculate. Ovaries densely puberulous; styles ca. 5 mm long, not grooved, below densely pubescent, above or near apex glabrous. Achenes flattened, suborbicular or broadly ovate, 6—7×5.5—7 mm, appressed-puberulous, tumidly rimmed; persistent styles subulate, 7—8 mm long, densely puberulous on lower 2/3—1/2 part. Fl. Jun.-Jul.

Portugal and SW Spain. In bushes or by streams; 25—375 m.

Specimens examined. **Portugal.** Alta Duora, Erik Wall s. n. (S); Beira, Davean 1135 (LE), Lihra & Rainha 5856 (G, S), Rothmaler 13874 (G, S, US); Costello Branco, Cunha 862(US); Ciudad Real, Velasco & Molina s. n. (G); Conimbrica, Moller 1507 (G, S, US), Welw s. n. (G); Estremadura, Oliveira 9679 (G); Ribatejo: Entroncamcuto, Lihra 5755 (G, S); Tras-os-Montes, Silva & Teles 8344 (G), Teles & Ramha 89 (US). **Spain.** Huelva: Sierra de Aracena, Rivora 2549 (G); Salamanca, Sanchez 115 (G).

12. Clematis rigoi W. T. Wang in Acta Phytotax. Sin. 38: 327, fig. 3: 5-8. 2000. Type: Italy. Calabria: Sibari, 1898-06-19, Rigo 397 (holotype, S!; isotype, G!); same locality, 1907-06-28, Rigo s. n. (paratype, S!).

C. scandens Huter, Porta & Rigo in Nuov. Giorn. Bot. Ital. 11: 272. 1879, nom. nud., non *Clematis scandens* Borkh., 1803; Prantl in Bot. Jahrb. 9: 259. 1888; M. Johnson, Klematis 672. 1997. Type: Italy: Calabria, 1877-06-16, Huter, Porta, Rigo 398 (G).

C. viticella L. ssp. *revoluta* (Desf.) Kuntze var. *scandens* Kuntze in Verh. Bot. Ver. Brand. 26: 137. 1885.——*C. viticella* var. *scandens* (Kuntze) Fiori, Fl. Analit. Ital. 1: 491. 1896; et Nuov. Fl. Analit. Ital. 648. 1924.——*C. viticella* var. *revoluta* f. *scandens* (Kuntze) Pamp., Fl. Rep. San Marino 115. 1930.——*C. viticella* f. *scandens* (Kuntze) Zangheri, Fl. Ital. 1: 154. 1976. Type: Italy. Calabria, type specimen deposited in B, not seen.

C. calabrica Grey-Wilson, *Clematis* 116. 2000, sine diagn. Latina. No type specimen designated.

C. campaniflora auct. non Brot: Cavara in Nuov. Giorn. Bot. Ital. 14: 523. 1907.

C. viticella var. *campaniflora* auct. non (Brot.) Willk.: Fiori, Iconogr. Fl. Ital. 188, fig. 1625. 1921.

C. viticella auct. non L.: Brandenb. et al. in Bot. J. Linn. Soc. 135: 19. 2001, p. p. quoad syn. *Clematis viticella* ssp. revoluta var. *scandens* Kuntze.

Fig. 8: E-H (p. 23)

Subwoody vine. Branches 4—6-angulate, shallowly 4—6-sulcate, densely appressed-puberulous. Leaves 2-pinnate; leaflets herbaceous or thinly papery, ovate, narrowly ovate, or narrowly rhombic, 0.8—4.2×0.4—2.6 cm, apex obtuse or slightly acute, sometimes attenuate, base rounded, broadly cuneate, or cuneate, margin entire, seldom 2-denticulate, undivided or 2—3-lobed, adaxial surface on veins sparsely puberulous, abaxial surface densely appressed-puberulous, basal veins abaxially nearly flat; petioles 0.4—4.8 cm long. Cymes axillary and terminal, 2—7-flowered; peduncles 2.5—4.8 cm long, puberulous; bracts shortly petiolate, 1.2—2.5 cm long, 3-sect or 3-parted. Flower 2.5—3.6 cm in diam.; pedicel 1.6—3.8 cm long, puberulous or subglabrous. Sepals 4, ascending, red (Grey-Wilson, 2000), plus dilated margins obovate-oblong, 1.5—2.4×0.6—0.9 cm, inside glabrous, outside sparsely puberulous, on dilated margins densely appressed-puberulous, apex flabellate-rounded, mucronate, dilated margins 3—4.5 mm broad per side. Stamens 5—6 mm long; filaments cuneate-linear, 1.8—2.8 mm long, near apex sparsely ciliate; anthers linear, 3.2—3.5 mm long, glabrous, apex with connective apicula 0.3—0.6 mm long. Ovaries pubescent; styles ca. 5 mm long, grooved, glabrous or at base pubescent. Achenes flattened, broadly ovate or broadly rhombic, 6—7×0.5—0.52 cm, appressed-puberulous, tumidly rimmed; persistent styles subulate, ca. 4 mm long, gla-

brous. Fl. Jun.

S Italy. In bushes or in rocky places (Grey-Wilson, 2000); 300 m.

Additional specimens examined. **Italy.** Calabria: Sibari, Rigo 4401 (G, LE); Lucania: Tolve, Fiori & Beguinot 2873 (G, US).

13. Clematis viticella L., Sp. Pl. 1: 543. 1753; Scop., Fl. Carn. 388, n. 670. 1760; Sims in Curtis, Bot. Mag. 16: t. 565. 1803; Pers., Synop. 99. 1807; Desf., Hist. Arb. 1: 363. 1809; DC., Syst. 1: 160. 1818; et Prodr. 1: 9. 1824; Sibth. & Smith, Fl. Graeca 6, t. 516. 1827; G. Don, Gen. Hist. Dichlam. Pl. 1: 9. 1831; Reichb., Ic. Fl. Germ. et Helv. 3: 30, no. 4668, t. 61. 1839; Spach, Hist. Nat. Veg. Phan. 7: 65. 1839; Baill., Hist. Pl. 1: 54. 1867-69; Boiss., Fl. Orient. 1: 2. 1867; Koch, Dendr. 1: 430. 1869; Willk. in Willk. & Lange, Prodr. Fl. Hispan. 3: 954. 1880; Lavall., Clemat. t. 7. 1884; Kuntze in Verh. Bot. Ver. Brand. 26: 136. 1885; Busch, Fl. Caucas. Crit. 3: 108. 1903; Schneid., Ill. Handb. Laubh. 1: 285, fig. 187: a-f. 1906; Hegi, Ill. Fl. Mitt.-Europ. 3: 516, fig. 668: a-c. 1909; Hayek, Prodr. Fl. Penn. Balcan. 1: 322. 1927; L. H. Bailey, Man. Cult. Pl., rev. ed., 393. 1949; Tutin, Fl. Europ. 1: 221. 1964, p. p.; M. Johnson, Klematis 673. 1997; Grey-Wilson, *Clematis* 117, fig. 82-83. 2000; Brandenb. et al. in Bot. J. Linn. Soc. 135: 19. 2001, p. p. excl, syn. *Clematis viticella* ssp. *revoluta* var. *scandens* Kuntze. ——*Viticella deltoidea* Moench, Meth. 296. 1794. ——*Viticella viticella* (L.) Small, Fl. Southeast. U. S. 437. 1903. Type: Herb. Clifford: 225, Clematis 5 (sheet labeled '7') (lectotype, BM——Brandenburg *et al.*, 2001).

C. lugubris Salisb., Prodr. Stirp. Hort. Chap. Allert. 371. 1796. Type unknown.

C. baccata Pers., Synop. 99. 1807. Type unknown.

C. viticella ssp. *normalis* Kuntze var. *leiostylis* Kuntze f. *gigantiflora* Kuntze in Verh. Bot Ver. Brand. 26: 136. 1885. Type: Turkey. Troy: Mt. Ida, Sintenis s. n. (holotype, ? B).

C. viticella ssp. *sibthorpii* Kuntze in l. c. 137. Type: t. 517 in Sibth. & Smith, Fl. Graeca 6. 1827.

Fig. 9: A-B (p. 24)

Subwoody vine. Branches shallowly 6—10-sulcate, appressed-puberulous. Leaves 2-pinnate; leaflets papery, ovate or elliptic, 1.5—6 × 0.8—3.5 cm, apex acute or obtuse, base truncate or broadly cuneate, margin entire, undivided or 2—3-lobed, both surfaces on veins sparsely puberulous or abaxial surface densely puberulous, basal veins abaxially nearly flat or prominent; petioles 1.4—5 cm long. Cymes axillary and terminal, 1—5-flowered; peduncles 2—10 cm long; bracts ovate, 2—4 cm long, undivided or 3-parted or 3-sect. Flower 3—5(—7)cm in diam.; pedicel 3.5—11 cm long, sparsely puberulous or glabrous. Sepals 4, blue or purple, plus dilated margins broadly rhombic-obovate, 1.7—3.6 × (1—)1.5—2.4 cm, inside glabrous, outside glabrous or sparsely puberulous, on dilated margins densely appressed-puberulous, apex acute, mucronate, dilated margins 4—10 mm broad per side. Stamens 3.5—8 mm long; filaments oblanceolate-linear, glabrous or near apex sparsely ciliate; anthers narrowly oblong or linear, 1.5—2.8 mm long, apex obtuse or with small apicula less than 0.1 mm long. Ovaries densely puberulous; styles 4—6 mm long, grooved, glabrous. Achenes flattened, suborbicular, 5—7 mm in diam., appressed-puberulous, tumidly rimmed; persistent styles subulate, ca. 4.5 mm long, glabrous. Fl. May-Jul.

SW Asia (Armania, Azerbaijan, Georgia, NW Iran, Syria, W & N Turkey) and S Europe (Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Framce, Germany, Greece, Italy, Serbia and Montenegro, Slovenia, W Spain, Switzerland). In bushes or on river banks; up to 700 m.

Specimens examined. **Iran**: without precice locality, Szovits 114(LE, P). **Syria**: Djebel Semen, Haradjian 2101 (G). **Turkey**. Anatolia, Wiedemann 174 (LE); Ankar: Nalliham, Davis 37028 (K); Bilecik, Davis 36446 (K); Bithynia, Bornmüller 4001, 13669 (G, S); Buissons, Aznavour 2 (G); Bursa: Keles, Nyolegger 15164 (G); Kutahya: Eskisehir, Dudley 36106 (K); Phrygia, Balansa 1130(UPS); Troy, Sintenis 423 (K, P); Zonguldak: Yenie, Davis 37915 (K). **Austria**: Tergestem, Engelhardt 2401 (G, LE), Justin s. n. (G). **Bosnia** and **Herzegovina**. Bosnia, Kosanin s. n. (S); Mestar, Lager s. n. (G). **Bulgaria**. Mt. Phodope, Stojanov s. n. (NAS); Sliven, Cerneva 912(G, S). **Croatia**. Dalmatia: Cattaro, Poscharsky s. n. (S); Knin, Lager s. n. (G); Spalato, Lager s. n. (G). **France**: Argeles Gazost, Mouillara 4044 (P). **Germany**: Braunschweig, Krummel s. n. (S). **Greece**. Dramas, Strid 30197 (G); Florinis, Strid 24766(G); Mt. Corthiati, Or-

phanides 673 (S); Thessalia, Heldrich s. n. (G-Boiss). **Italy.** Castrocaro, Sommier 3558 (S); Friuli, prope San Daniele, Moggi 52 (G); Triest, Engelhardt s. n. (S), Kouierer s. n. (UPS), Schlyters s. n. (S), Steurez s. n. (S), Tommasini 1982 (G, UPS). **Serbia** and **Montenegro.** Montenegro: Virpazar, Lundqvist 14941 (S); Serbia: Resava, Cernjavnie s. n. (S). **Slovenia**: Piran, Ulvinen s. n. (UPS). **Switzerland**: Geneva, Ayasse s. n. (G), Bernet s. n. (G- Boiss).

C. viticella is the first species coming into cultivation in the genus *Clematis*. In 1659, it was introduced from southeastern Europe to Britain. In its long cultivation history, more than twenty-five cultivars have been raised through the crosses between it and other species or cultivars (Grey-Wilson, 2000; Toomey & Leeds, 2001).

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铁线莲属铁线莲组修订

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摘 要：(1) 对毛茛科铁线莲属 *Clematis* 的铁线莲组 sect. *Viticella* 进行了分类学修订，确定此组包含 13 种，1 亚种和 2 变种（包括 2 新种和 1 新变种等级），写出此组的分类学简史和地理分布；将此组划分为 3 亚组，4 系，写出区分组下各级分类群的检索表，以及各种植物的形态描述，地理分布，生长环境等，并附有多幅插图。(2) 特产我国东部的单型毛萼铁线莲亚组 subsect. *Hancockianae*（花具 4 枚平展，不展宽的萼片，雄蕊无毛）被认为此组的原始群。铁线莲亚组 subsect. *Floridae*（花具 5—8 枚平展，强烈展宽的萼片，雄蕊无毛，花粉具散孔）和湖州铁线莲亚组 subsect. *Viticellae*（花具 4 枚渐升，多少展宽的萼片，雄蕊花丝常被缘毛，花粉具 3 沟）可能均由毛萼铁线莲亚组衍生而出。(3) 在我国东部集中分布此组的 3 亚组，3 系的 8 种，1 亚种和 1 变种，这里是此组的分布中心，也可能是此组的起源中心。

关键词：铁线莲属；铁线莲组；分类学修订