1. **PARTHENOCCIUS** Planchon in A. Candolle & C. Candolle, Monogr. Phan. 5: 447. 1887, nom. cons.

地锦属 *di jin shu*

Chen Zhiduan (陈之端); Jun Wen (文军)

*Psederia* Necker ex E. L. Greene; *Quinaria* Rafinesque (1830), not Loureiro (1790).

Lianas, woody, hermaphroditic. Tendrils racemously 4–12-branched, young apex expanded or curving, later turning into adhesive disks or suckers. Leaves simple, 3-foliolate, or palmately 5–(7)-foliolate. Inflorescence a panicule or a loose corymbose polychasium, pseudoterminal. Flowers 5-merous. Calyx cupular, glabrous, 5-dentate. Petals free. Stamens 5. Disk inconspicuous, rarely with 5 nectaries. Style conspicuous. Berry 1–4-seeded. Seeds obovoid, chalazal knot rounded at middle; ventral raphe raised; 2 lateral ventral holes furrowed upward from base to apex; endosperm cross-section M-shaped. 2n = 40.

About 13 species: Asia, North America; nine species (six endemic, one introduced) in China.

1a. Leaves simple, rarely 3-foliolate on lower 2–4 short shoots.
   2a. Old branches without woody wings; branchlets glabrous or with sparse, soft hairs; petioles and leaves glabrous or only veins abaxially sparsely pubescent .................................................................  4. *P. tricuspidata*
   2b. Old branches mostly with woody wings; branchlets, petioles, and abaxial leaf surface densely ferruginous pilose, adaxially pubescent ..................................................................................................................  5. *P. suberosa*

1b. Leaves palmately compound, 3-foliolate or simple on long branches.
   3a. Leaves palmately 5-foliolate; inflorescence a paniculate-polychasium, typically with a well-developed main axis.
      4a. Young tendrils with slender, slightly curving apex, but not conspicuously expanded at tip ...............  9. *P. quinquefolia*
      4b. Young tendrils with apex expanded as tubercles.  
         5a. Stem oblate, or with conspicuous 6 or 7 ridges; leaflet adaxial surface conspicuously bullate ........ 7. *P. laetevirens*
         5b. Stem with 4 ridges; leaflet surfaces not bullate .................................................................  8. *P. henryana*

3b. Leaves 3-foliolate, or simple on long branches; inflorescence a panicule or corymbose polychasium.
   6a. Inflorescence a racemose polychasium, relatively compact, main axis well developed, nearly as thick as branch subtending it; young apex of tendril slightly expanded as fist-shaped adhesive disks ........................................  1. *P. feddei*
   6b. Inflorescence a corymbose polychasium, loose, main axis slender; young apex of tendril slender and curving or expanded as ball-shaped adhesive disks.
      7a. Leaves of 2 types, 3-foliolate and simple; young apex of tendril expanded to ball-like structures .......... 6. *P. dalzielii*
      7b. Leaves mostly 3-foliolate, rarely mixed with 3-lobed, simple leaves; young apex of tendril slender, curving.  
         8a. Branchlets, petioles, and leaflet veins abaxially sparsely pilose; central leaflet 5–13 × 3–6.5 cm, margin with 6–11 teeth on each side .................................................................  2. *P. semicordata*
         8b. Branchlets, petioles, and leaflets abaxially glabrous or only veins abaxially sparsely pubescent; central leaflet 2.5–5 × 1.5–3 cm, margin with 3–5 teeth on each side ........................................  3. *P. chinensis*


长柄地锦 *chang bing di jin*


Branchlets terete; tendrils with 6–11 branches, young apex of tendril slightly expanded as fist-shaped adhesive disks. Leaves small, 3-foliolate, rarely simple, 3-divided; petiole 7.5–15 cm, petiolules 0.5–2.5 cm; central leaflet obovate-elliptic, 6–17 × 3–7 cm, lateral veins 6 or 7 pairs, veins raised, base rounded, margin obtusely 6–9-toothed on each side; lateral leaflets ovate-elliptic, base extremely asymmetric, margin with 11–15 obtuse teeth outside and 5–7 teeth inside, apex acuminate or cuspidate. Polychasium terminal or pseudoterminal, with a conspicuous, well-developed axis; peduncle 2–3 cm, glabrous to ferruginous. Pedicel 2–3 mm. Buds ovoid, 2.5–3 mm, apex rounded. Calyx undulately 5-divided. Petals elliptic, 2.3–2.8 mm high, inside apex with ligulate appendages, apex 2- or 3-divided, ca. 1.2 mm, glabrous. Filaments 0.5–1.1 mm; anthers narrowly elliptic, 0.5–0.9 mm. Disk inconspicuous. Ovary ovoid; style conspicuous, slightly thick at base; stigma not expanded. Berry globose, 8–10 mm in diam. Seeds 1 or 2, obvoid-elliptic, base rostrate, apex rounded. Fl. Apr–Jul, fr. Aug–Oct.

- Rocky areas in valleys; 600–1100 m. Guangdong, Guizhou, Hunan.

“*Parthenocissus feddei var. pubescens*” (C. L. Li, Chin. J. Appl. Environ. Biol. 2(1): 45. 1996) was not validly published because no type was indicated.


三叶地锦 *san ye di jin*

*Vitis semicordata* Wallich in Roxburgh, Fl. Ind. 2: 481.
Branchlets terete, sparsely pilose when young, becoming nearly glabrescent; tendrils 4–6 branches, young apex of tendril curving and slender. Leaves 3-foliolate; petiole 3.5–15 cm, sparsely pubescent; leaflets usually nearly sessile, abaxially pubescent on veins, lateral veins 4–7 pairs, veinlets inconspicuous or slightly raised; central leaflet obovate-elliptic or obovate, 5–13 × 3–6.5 cm, base cuneate, margin 6–11-toothed, apex cuspidate; lateral leaflets ovate-elliptic or oblong, 5–10 × 3–5 cm, base asymmetric, nearly rounded, margin toward outside 7–15-toothed, margin toward inside 4–6-toothed, apex mucronate. Polychasium with inconspicuous main axis; peduncles 1.5–3.5 cm, glabrous or slightly pilose. Pedicel 2–3 mm, glabrous. Buds elliptic, 2–3 mm, apex rounded. Calyx entire. Petals ovate-elliptic, 1.8–2 × ca. 8 mm, glabrous. Filaments 0.6–0.9 mm; anthers ovoid-elliptic, 0.4–0.6 mm. Disk inconspicuous. Ovary nearly spherical; style short; stigma inconspicuously raised. Berry 6–8 mm in diam., 1- or 2-seeded. Seeds obovoid, base rostrate, apex rounded. Fl. May–Jul, fr. Aug–Oct.

Forests or shrublands on hillsides; 500–3800 m. Gansu, Guangdong, Guizhou, Hubei, Hunan, Shaanxi, Sichuan, Xizang, Yunnan [Bhutan, India, Indonesia, Malaysia, Myanmar, Nepal, Thailand, Vietnam].


小叶地锦 xiao ye di jin

Roots well developed. Branchlets terete, glabrous; tendrils usually 5-branched, young apex expanded and slender. Leaves 3-foliolate; petiole 1–4 cm; leaflets with short petiolules or subsessile, glabrous or midvein with sparse hairs, lateral veins 3–5 pairs, veinlets inconspicuous abaxially but not raised, inconspicuous adaxially; central leaflet obovate-elliptic, 2.5–5 × 1.5–3 cm, base cuneate or broadly so, margin with 3–5 obtuse teeth on each side, apex acuminate; lateral leaflets ovate-elliptic, 1.5–4 × 1.2–2.5 cm, base asymmetric and nearly rounded, margin toward outside 3–7 obtuse teeth, margin toward inside with 1–3 teeth, apex acute or acuminate. Inflorescence pseudoterminal on short branches, 1–2 cm; peduncle absent or 2–7 mm, glabrous. Pedicel 0.1–0.15 mm, glabrous. Buds ovoid-elliptic, 1.2–2 mm, glabrous, apex rounded. Calyx entire. Petals ovate-elliptic, ca. 0.9 mm. Disk inconspicuous. Ovary ovoid, cone-shaped and attenuate to apex of style; style inconspicuous; stigma not expanded. Berry ca. 6 mm in diam., 1-seeded. Seed obovoid, base obtuse, apex rounded. Fl. May, fr. Aug.

- Dry or semi-dry scrub and rocky hillsides in valleys; 1300–2300 m. SW and W Sichuan, NW Yunnan.


Branchlets terete, brown pubescent; old branches usually with woody wings; tendrils 5–9-branched, young apex enlarged as ball-shaped adhesive disks. Leaves simple, 3-lobed or rarely undivided; petiole 2–9 cm, densely ferruginous pubescent; blade obovoid, 6–20 × 5–16 cm, abaxially densely ferruginous pubescent, adaxially pubescent, basal veins 5–7 pairs, lateral veins 3–5 pairs, veinlets inconspicuous or slightly raised, lobes triangular, base cordate, margin with large teeth, apex acute. Inflorescence 1.5–5 cm; peduncle 0.7–2.5 cm, ferruginous pilose. Pedicel 0.5–1.5 mm, nearly glabrous. Buds ovoid-elliptic, 3–4 mm, apex rounded. Calyx undulate at margin. Petals elliptic, 2.7–3.7 mm, glabrous. Filaments 0.8–1.5 mm; anthers 1–1.8 mm. Disk inconspicuous. Ovary elliptic; style conspicuous, base slightly enlarged; stigma inconspicuously raised. Berry

Amelopsis himalayana Royle; Parthenocissus cuspidi- fera (Miquel) Planchon var. pubifolia C. L. Li; P. himalayana (Royle) Planchon; P. himalayana var. rubrifolia (H. Léveillé & Vaniot) Gagnepain; P. himalayana var. vestitta Handel-Mazzetti; P. semicordata var. rubrifolia (H. Léveillé & Vaniot) C. L. Li ["rubrifolia"; Psedera himalayana (Royle) C. K. Schneider; V. himalayana (Royle) Brandis; V. himalayana var. semi- cordata (Wallich) M. A. Lawson; V. rubrifolia H. Léveillé & Vaniot; V. semicordata var. himalayana (Royle) Kurz ex Hance.

Branchlets terete, nearly glabrous or sparsely pilose; tendrils 5–9-branched, young apex expanded and ball-shaped. Leaves simple, usually 3-lobed on short branches, or small and unlobed on long branches; petiole 4–12 cm, glabrous or sparsely pubescent; blade obovoid, 4.5–17 × 4–16 cm, abaxially glabrous or midvein abaxially sparsely pubescent, basal veins 5, lateral veins 3–5 pairs on each side, veinlets slightly raised abaxially, inconspicuous adaxially, base cordate, margin with rough teeth on each side, apex acute. Polychasium 2.5–12.5 cm; rachis inconspicuous; peduncles 1–3.5 cm, nearly glabrous. Pedicel 2–3 mm, glabrous. Buds obovoid-elliptic, 2–3 mm, apex rounded. Calyx entire or undulate. Petals elliptic, 1.8–2.7 mm, glabrous. Filaments 1.5–2.4 mm; anthers ovoid-elliptic, 0.7–1.4 mm. Disk inconspicuous. Ovary oval; style conspicuous, base thick; stigma not enlarged. Berry 1–1.5 cm in diam., 1–3-seeded. Seeds obovoid, base with a sharp, short rostrum, apex rounded. Fl. May–Aug, fr. Sep–Oct. 2n = 40.

Shrublands, cliffs, rocky hillsides; 100–1200 m. Anhui, Fujian, Hebei, Henan, Jiangsu, Jilin, Liaoning, Shandong, Taiwan, Zhejiang [Japan, Korea].

This species is widely cultivated as an attractive ornamental climber in China and in many other countries. Its roots have been used to cure lumps and ecchymosis.

5. Parthenocissus suberosa Handel-Mazzetti, Symb. Sin. 7: 681. 1933 ["suberosa"].

栓翅地锦 shuan chi di jin

Parthenocissus tricuspidata (Siebold & Zuccarini) Planchon var. ferruginea W. T. Wang.

Branchlets terete, brown pubescent; old branches usually with woody wings; tendrils 5–9-branched, young apex enlarged as ball-shaped adhesive disks. Leaves simple, 3-lobed or rarely undivided; petiole 2–9 cm, densely ferruginous pubescent; blade obovoid, 6–20 × 5–16 cm, abaxially densely ferruginous pubescent, adaxially pubescent, basal veins 5–7 pairs, lateral veins 3–5 pairs, veinlets inconspicuous or slightly raised, lobes triangular, base cordate, margin with large teeth, apex acute. Inflorescence 1.5–5 cm; peduncle 0.7–2.5 cm, ferruginous pilose. Pedicel 0.5–1.5 mm, nearly glabrous. Buds ovoid-elliptic, 3–4 mm, apex rounded. Calyx undulate at margin. Petals elliptic, 2.7–3.7 mm, glabrous. Filaments 0.8–1.5 mm; anthers 1–1.8 mm. Disk inconspicuous. Ovary elliptic; style conspicuous, base slightly enlarged; stigma inconspicuously raised. Berry...
conspicuously bullate, lateral veins 4–9 pairs, veinlets slightly ceolate, 2–12 × 1–5 cm, abaxially pubescent on veins, adaxially short petiole or nearly sessile, obovate-elliptic or obovate-lan-
mately 5-foliolate; petiole 2.5–8 cm, pubescent; leaflets with branched, with young apex expanded as tubercles. Leaves pal-
pubescent when young, later glabrescent; tendrils 5–10-

Nov.


● Cliffs, rocks; 500–1000 m. Guangxi, Guizhou, Hunan, Jiangxi.


异叶地锦 yi ye di jin

Cissus landuk Hasskarl, nom. illeg. superfl.; Landukia lan-
duk Planchon, nom. illeg. superfl.; Parthenocissus landuk Gag-
nepain, nom. illeg. superfl.; Vitis landuk Miquel, nom. illeg. superfl.

Branchlets terete, glabrous; tendrils 5–8-branched, young apex enlarged as somewhat globose adhesive disks. Leaves of two types, simple and small on long branches, usually 3-folio-
late on short branches; simple leaves: petiole 5–20 cm, gla-
brous; blade oval, 3–7 × 2–5 cm, basal veins 3–5, lateral veins 2 or 3 pairs, base cordate or slightly so, margin 4–5-toothed on each side, apex acute or acuminate; 3-foliolate leaves: central petioliule short, 3–10 mm, glabrous; lateral leaflets sessile, ovate-elliptic, 5.5–19 × 3–7.5 cm, base conspicuously asym-
metric and subrounded, outer margin 5–8-toothed, apex acumi-
icate; central leaflet oblong, 6–21 × 3–8 cm, with 5 or 6 pairs of lateral veins, veinlets slightly raised, base cuneate, margin 3–8-
toothed on each side, apex acuminate. Polychasium pseudotermi-
nal, with inconspicuous rachis, 3–12 cm; peduncles absent to
3 cm, glabrous; bracteoles ovate, 1.5–2 × 1–2 mm, apex acute,
glabrous. Pedicel 1–2 mm, glabrous. Buds 2–3 mm, apex rounded. Calyx undulate or subentire. Petals 5, obovate-elliptic,
1.5–2.7 mm, glabrous. Filaments 0.4–0.9 mm; anthers yellow,

● Forests or shrublands on hillsides or in valleys, cliffs; 200–3800 m. Fujian, Guangdong, Guangxi, Hunan, Hubei, Hunan, Jiangxi, Sichuan, Taiwan, Zhejiang.


绿叶地锦 lu ye di jin

Branchlets terete or with conspicuous longitudinal ridges, pubescent when young, later glabrescent; tendrils 5–10-branched, with young apex expanded as tubercles. Leaves pal-
mately 5-foliolate; petiole 2–6 cm, pubescent; leaflets with short petiole or nearly sessile, obovate-elliptic or obovate-lan-
ceolate, 2–12 × 1–5 cm, abaxially pubescent on veins, adaxially conspicuously bullate, lateral veins 4–9 pairs, veinlets slightly raised abaxially, inconspicuous adaxially, base cuneate, margin 5–12-toothed, apex acute or acuminate. Polychasium pseudoterminal, 6–15 cm, usually with obvious rachis and degenerative leaflets; peduncle 0.5–4 cm, pubescent. Pedicel 2–

3 mm, glabrous. Buds elliptic or slightly obovoid-elliptic, 2–3

mm, apex rounded. Calyx entire. Petals elliptic, 1.6–2.6 mm,

五叶地锦  wu ye di jin

*Hedera quinquefolia* Linnaeus, Sp. Pl. 1: 202. 1753; *Am- pencilis quinquefolia* (Linnaeus) Michaux; *Parthenocissus engelmannii* Koehne & Graebner; *P. quinquefolia f. engelmannii* (Koehne & Graebner) Rehder; *Psedera quinquefolia* (Linnaeus) Greene; *Quinaria hederacea* Rafinesque, nom. illeg. superfl.; *Vitis quinquefolia* (Linnaeus) Lamarck.

Branchlets terete, glabrous; tendrils 5–9-branched, young apex curving, later developing into suckers. Leaves palmately 5-foliolate; petiole 5–14.5 cm, petiolule short or nearly absent, glabrous; leaflets obovoid, obovate-elliptic, or elliptic, 5.5–15 × 3–9 cm, glabrous or veins abaxially sparsely pilose, lateral veins 5–7 pairs, veinlets inconspicuously raised, base cuneate or broadly cuneate, margin with rough teeth, apex cuspidate. Paniculate polychasmus pseudoterminal, with conspicuous rachis, 8–20 cm; peduncles 3–5 mm. Pedicel 1.5–2.5 mm, glabrous. Buds elliptic, 2–3 mm, apex rounded. Calyx entire. Petals elliptic, 1.7–2.7 mm, glabrous. Filaments 0.6–0.8 mm; anthers elliptic, 1.2–1.8 mm. Disk inconspicuous. Ovary coniform; stigma not expanded. Berry 1–1.2 cm in diam., 1–4-seeded. Seeds obovoid, base with short, acute rostrum, apex rounded. Fl. Jun–Jul, fr. Aug–Oct. 2n = 40.

Cultivated throughout China, sometimes escaped and naturalized [native to E North America].

This species is commonly seen as an ornamental in many cities in China and has also been planted along roads and highways in N China for soil conservation.