

**14. LYCIANTHES (Dunal) Hassler, Annuaire Conserv. Jard. Bot. Genève 20: 180. 1917.**

红丝线属 hong si xian shu

*Solanum* subgenus *Lycianthes* Dunal in A. de Candolle, Prodr. 13(1): 161. 1852.

Shrubs, subshrubs, or rarely herbs or creeping herbs, unarmed; pubescence of many-celled, simple or 2- to many-branched hairs. Leaves solitary, paired, or sometimes unequal paired; leaf blade entire. Inflorescences 1–10-flowered fascicles in leaf axils; peduncle obsolete or absent. Flowers actinomorphic, 5- or rarely 4-merous, pedicellate. Calyx cup-shaped, truncate, often with 5–10 subapical teeth; teeth linear-subulate or umbonate, equal or not. Corolla white or purple-blue, rotate or stellate, shallowly or deeply divided. Stamens inserted at apex of corolla tube; filaments short, equal; anthers elliptic dehiscing by oblique apical pores. Ovary 2-locular; ovules numerous. Style glabrous. Fruit a red or red-purple berry, globose. Seeds small, numerous, deltate, deltate-reniform, or lenticular, finely reticulate.

About 180 species: most in Central and South America, ten species in China.

- 1a. Herbs perennial; stems creeping, often rooting at nodes; flowers solitary, rarely 2 ..... 9. *L. lysimachioides*
- 1b. Shrubs or herbs; stems erect, not rooting at nodes; flowers mostly in fascicles, rarely solitary.
  - 2a. Calyx usually lacking teeth, sometimes 1-toothed; plants puberulent or glabrous ..... 7. *L. leavis*
  - 2b. Calyx 5–10-toothed; plants pubescent with many-celled or branched hairs.
    - 3a. Calyx teeth longer than tube; corolla white ..... 4. *L. macrodon*
    - 3b. Calyx teeth mostly shorter than tube; corolla white or pale purple to purple-blue.
      - 4a. Branchlets, petiole, pedicel, and calyx with dense, yellow simple hairs and 2- to many-celled hairs; corolla white to pale purple.
        - 5a. Inflorescences mostly more than 1-flowered; blades of major leaves more than 4 cm ..... 1. *L. biflora*
        - 5b. Flowers solitary; blades of major leaves less than 3.5 cm ..... 10. *L. solitaria*
      - 4b. Branchlets, petiole, pedicel, and calyx with only simple hairs; corolla purple to purple-blue.
        - 6a. Teeth of fruiting calyx 0.5–1 mm.
          - 7a. Teeth of fruiting calyx 10 ..... 8. *L. neesiana*
          - 7b. Teeth of fruiting calyx 5 ..... 6. *L. marlipoensis*
        - 6b. Teeth of fruiting calyx mostly more than 1.5 mm.
          - 8a. Plant soon glabrous; pedicel usually less than 1 cm ..... 5. *L. shunningensis*
          - 8b. Plant sparingly villous with many-celled hairs; pedicel 1–1.5 cm.
            - 9a. Leaf blade glabrescent except on veins; pedicel and calyx sparingly strigose with ascending hairs ..... 3. *L. yunnanensis*
            - 9b. Leaf blade persistently downy-puberulent; pedicel and calyx densely puberulent with mostly short, weak hairs ..... 2. *L. hupehensis*

**1. *Lycianthes biflora* (Loureiro) Bitter, Abh. Naturwiss. Vereine Bremen 24: 461. 1920.**

红丝线 hong si xian

Shrubs or subshrubs 0.5–1.5 m tall; pubescence yellowish, of simple, often moniliform hairs mixed with many-celled ones. Petiole 0.5–4 cm; leaf blade dimorphic; blade of major leaf elliptic-ovate, 9–15×3.5–7 cm, sparsely pubescent adaxially, denser abaxially, base cuneate, apex acute or acuminate; blade of minor leaf broadly ovate, 2.5–4×2–3 cm, base broadly rounded and decurrent, apex acute. Inflorescences several-flowered fascicles in leaf axils. Pedicel 0.5–2 cm. Calyx cup-shaped, 3–6×3–3.5 mm, 10-dentate; teeth linear-subulate, 2–3 mm. Corolla pale purple or white, often drying dark, stellate, 8–12×8–10 mm; lobes lanceolate, 6×1.8 mm. Filaments ca. 1 mm; anthers ca. 3 mm, sometimes pubescent adaxially. Style 8–9 mm. Fruiting pedicel 1–2 cm. Fruiting calyx densely pubescent with simple and branched hairs; teeth elongate, 3–3.5 mm. Berry red, globose, 6–9 mm in diam. Seeds numerous, pale yellow, ovate to subdeltate, ca. 2×1.5 mm, reticulate.

China, India, Indonesia, Japan, Malaysia, New Guinea, Philippines, Thailand.

- 1a. Leaves variously pubescent, not brownish pubescent abaxially, blade often more than 9×3.5 cm; calyx 5–6 mm ..... 1a. var. *biflora*

- 1b. Leaves densely brownish pubescent abaxially, blade mostly less than 7.5×3.7 cm; calyx 3–4 mm ..... 1b. var. *subtusochracea*

**1a. *Lycianthes biflora* var. *biflora***

红丝线 hong si xian

*Solanum biflorum* Loureiro, Fl. Cochinch. 1: 129. 1790; *S. biflorum* var. *kotoensis* Y. C. Liu & C. H. Ou; *S. calleryanum* Dunal; *S. decemdentatum* Roxburgh; *S. decemfidum* Nees; *S. osbeckii* Dunal; *S. osbeckii* var. *stauntonii* Dunal.

Leaves variously pubescent, mostly greenish; blade often more than 9×3.5 cm. Pedicel 0.5–2 cm. Calyx 5–6 mm. Corolla pale purple or white. Anthers sometimes pubescent. Fl. May–Aug, fr. Jul–Nov.

Wet places of wastelands, forests, roadsides, by waters, valleys; 100–2300 m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Jiangxi, S. Sichuan, Taiwan, Yunnan [India (Sikkim), Indonesia, Japan, Malaysia, New Guinea, Philippines].

Because no material of the Taiwanese endemic var. *kotoensis* has been examined, the taxon is placed in the synonymy above with some hesitation.

**1b. *Lycianthes biflora* var. *subtusochracea* Bitter, Abh. Naturwiss. Vereine Bremen 24: 466. 1920.**

密毛红丝线 mi mao hong si xian

Plants green, with dense branched tomentum. Leaves less than 7.5×3.7 cm. Pedicel 8–10 mm. Calyx 3–4 mm at anthesis. Corolla white. Anthers usually glabrescent. Fl. Jun-Sep, fr. Sep-Nov.

Roadsides, forests; 500–2000 m. Guizhou, Yunnan [Thailand].

**2. *Lycianthes hupehensis*** (Bitter) C. Y. Wu & S. C. Huang, Acta Phytotax. Sin. 16(2): 77. 1978.

鄂红丝线 e hong si xian

*Lycianthes biflora* subsp. *hupehensis* Bitter, Abh. Naturwiss. Vereine Bremen 24: 466. 1920.

Shrubs or subshrubs 1–2 m tall, pubescent throughout with short simple hairs. Leaves unequal paired; petiole 5–10 mm; blade of major leaf elliptic-lanceolate, 7–10×3–5 cm, sparsely pubescent adaxially, more densely so abaxially, surfaces of different colors, base cuneate, apex acute; blade of minor leaf ovate, 3–4×1.5–2.5 cm, base rounded, decurrent, apex obtuse. Inflorescences 2–4-flowered fascicles in leaf axils. Pedicel 1–1.5 cm. Calyx cup-shaped, 4–5.5×□4–6 mm; teeth 10, linear-subulate, 1.5–2 mm, pubescent. Corolla purple-blue, 8–9 mm; lobes lanceolate, ca. 6×2.5 mm. Filaments ca. 0.5 mm; anthers oblong-ovate, ca. 3 mm, sometimes puberulent. Ovary glabrous. Style 8–10 mm, puberulent. Fruiting pedicel 1.2–1.6 cm. Berry red, 6–8 mm in diam., mucronate. Seeds pale yellow, subdeltate, 2–1.5×□0.5–1 mm. Fl. May-Aug, fr. Sep-Nov.

• Roadsides, forests; 400–1400 m. Fujian, Guangdong, Guangxi, Guizhou, Hubei, Hunan (Yongshun Xian), Sichuan, Yunnan.

**3. *Lycianthes yunnanensis*** (Bitter) C. Y. Wu & S. C. Huang, Acta Phytotax. Sin. 16(2): 77. 1978.

滇红丝线 dian hong si xian

*Lycianthes biflora* subsp. *yunnanensis* Bitter, Repert. Spec. Nov. Regni Veg. 18: 319. 1922.

Shrubs ca. 1 m tall, whole plant with dense, pale yellow, many-celled villous hairs. Leaves unequal paired; petiole 1–1.5 cm; blade of major leaf long elliptic, 8–20×3–7 cm, pubescent with many-celled hairs, sometimes glabrescent adaxially, base cuneate, decurrent on petiole, apex acute or acuminate; blade of minor leaf ovate, 3–7×1.5–3 cm. Inflorescences 4–6-flowered fascicles in leaf axils. Pedicel 1–1.5 cm. Calyx cup-shaped, ca. 5×4 mm; teeth 10, linear-subulate, 2–3 mm. Corolla purple, stellate, ca. 1 cm, 5-parted; lobes broadly lanceolate, 6–7 mm. Filaments ca. 0.5 mm; anthers oblong, ca. 3 mm, glabrous. Style ca. 6–8 mm, glabrous. Fruiting pedicel 1.8–2 cm, sparsely long villous. Berry purple-red, 0.8–1.2 cm in diam. Seeds deltate-reniform, ca. 2×1.5 mm. Fl. Oct-Nov, fr. Nov-Dec.

• Open slopes, forests, forest edges; 1000–1700 m. Yunnan.

**4. *Lycianthes macrodon*** (Wallich ex Nees) Bitter, Abh. Naturwiss. Vereine Bremen 24: 468. 1920.

大齿红丝线 da chi hong si xian

*Solanum macrodon* Wallich ex Nees, Trans. Linn. Soc. London 17: 43. 1837.

Shrubs to subshrubs ca. 1 m tall; young branchlets with erect, simple hairs, mostly glabrescent, sometimes with persistent, scattered branched hairs. Leaves unequal paired; petiole 0.5–2 cm; blade of major leaf lanceolate to elliptic-

lanceolate, 5–9×3–4 cm, with sparse many-celled hairs adaxially, base decurrent, apex acute or acuminate; blade of minor leaf ovate, 2–4×1–1.5 cm. Inflorescences 1–3-flowered fascicles in leaf axils. Pedicel 1–1.5 cm. Calyx cup-shaped to campanulate, 6–7 mm; teeth 10, subulate, slightly unequal, 4–4.5 mm. Corolla white, stellate, ca. 1 cm; lobes lanceolate, 8–11×2–3 mm, with green basal spots, ciliate. Filaments ca. 0.3 mm; anthers oblong, 3–3.5 mm. Style 8–10 mm. Fruiting pedicel 5–12 mm, pubescent with many-celled hairs. Fruiting calyx teeth 5–5.5 mm. Berry red, subglobose, 0.8–1 cm in diam. Seeds deltate-reniform, ca. 1.2 mm. Fl. Jun-Sep, fr. Sep-Dec.

Near ditches, wet places at edges of forests; 1500–2300 m. Taiwan, Yunnan [Bangladesh, Bhutan, India, Nepal, Thailand].

This species was recorded in FRPS on the basis of two collections that were assigned with hesitation. The record here is based on a collection from Yunnan, *Henry 12273*, which agrees with the type collection, *Wallich 2621*, as seen on microfiche. Three varieties described by Bitter from India were recorded in FRPS, but it was said that the Chinese material was not a good match for any of them, and we have not seen authenticated material.

**5. *Lycianthes shunningensis*** C. Y. Wu & S. C. Huang, Acta Phytotax. Sin. 16(2): 77. 1978.

顺宁红丝线 shun ning hong si xian

Shrubs 1.5–2.5 m tall. Branchlets sparsely pubescent, glabrescent. Leaves unequal paired; petiole of major leaf 0.5–2 cm, that of minor leaf 0.2–1 cm; blade of major leaf oblong, 6–17×2.8–7.4 cm, ciliate, with sparse many-celled hairs adaxially, sparsely pubescent abaxially along veins; blade of minor leaf ovate, 2–7.5×1.5–5.5 cm. Inflorescences 4–6-flowered fascicles in leaf axils. Pedicel 5–10 mm, sparsely pubescent, glabrescent. Calyx cup-shaped; teeth 10, slightly unequal, 2–3 mm, often spreading, glabrescent. Corolla purple-blue, ca. 1.5 cm in diam., 5-parted; lobes lanceolate, 7×1.5–2 mm. Filaments ca. 0.4 mm; anthers oblong, 3–3.5 mm, sparsely white pubescent. Fruit not seen. Fl. Jul.

• Thickets; 2200 m. Yunnan (Shunning Xian).

**6. *Lycianthes marlipoensis*** C. Y. Wu & S. C. Huang, Acta Phytotax. Sin. 16(2): 78. 1978.

麻栗坡红丝线 ma su po hong si xian

Subshrubs 1–2 m tall, glabrous throughout. Leaves unequal paired; petiole of major leaf 1–1.5 cm, that of minor leaf 0.5–1.2 cm; blade of major leaf long elliptic, 10–14×□4–6.5 cm, base cuneate, apex caudate-acuminate; blade of minor leaf ovate-lanceolate, 3.8–8.5×1.7–3.5 cm. Flowers not seen. Inflorescences usually 2–4(–8)-fruited fascicles in leaf axils. Fruiting pedicel usually 2–3 cm. Fruiting calyx cup-shaped, 3–3.5×5–7 mm; teeth 5, slightly unequal, 0.5–1 mm. Berry globose, 6–7 mm in diam. Seeds brown-yellow, subdeltate, discoid, 1.5–2×1–1.2 mm. Fr. winter.

• Forests, calcareous slopes; 1100–1400 m. SE Yunnan.

**7. *Lycianthes laevis*** (Dunal) Bitter, Abh. Naturwiss. Vereine Bremen 24: 484. 1920.

缺齿红丝线 que chi hong si xian

*Solanum laeve* Dunal in Poiret, Encycl. suppl. 3: 751. 1813.

Shrubs 1–2 m tall, glabrescent or pubescent with simple hairs. Stem puberulent. Leaves unequal paired; petiole of major leaf 5–10 mm, that of minor leaf 3–5 mm; blade

of major leaf elliptic, 10–20×4–8 cm, membranous, sparsely pubescent or glabrescent adaxially, glabrous abaxially, puberulent along veins, base cuneate, margin entire, apex acuminate; blade of minor leaf resembling that of major leaf, 3–8×1.5–3.5 cm. Inflorescences 2–7-flowered axillary fascicles. Pedicel 5–10 mm, puberulent. Calyx cup-shaped, 2–3×2–3 mm, apex entire, sometimes with 1 tooth ca. 0.5 mm. Corolla purple or white with purple apex, stellate, ca. 8 mm; lobes lanceolate-elliptic, ca. 5 ×1.2 mm, glabrescent. Filaments ca. 0.5 mm; anthers oblong, ca. 2.5 mm. Style slender, 7–8 mm. Berry globose, 5–6 mm in diam., glabrous. Seeds ovate, discoid, ca. 1.5×1 mm. Fl. Aug-Oct, fr. Oct-Dec.

Forests, streamsides, wet places; 700–1000 m. Guangxi, Hainan, Yunnan [Indonesia].

The application of this specific epithet is tentative, and the record is based on material at the Natural History Museum, London.

**8. *Lycianthes neesiana*** (Wallich ex Nees) D'Arcy & Z. Y. Zhang, *Novon* 2: 126. 1992.

截齿红丝线 jie chi hong si xian

*Solanum neesianum* Wallich ex Nees, *Trans. Linn. Soc. London* 17: 42. 1837; *Lycianthes subtruncata* (Wallich ex Dunal) Bitter; *L. subtruncata* var. *paucicarpa* C. Y. Wu & S. C. Huang; *L. subtruncata* var. *remotidens* Bitter; *S. subtruncatum* Wallich ex Dunal.

Shrubs 1–2 m tall, pubescent with simple ascending hairs, glabrescent. Branchlets simple or dichotomously branched. Leaves unequal paired; petiole of major leaf 2–15 mm, that of minor leaf 1–5 mm; blade of major leaf lanceolate or elliptic, 4–18×3–5 cm, sparsely puberulent adaxially, glabrous or puberulent abaxially, base cuneate, apex acute; blade of minor leaf 1–8.5×2–5 cm. Inflorescences solitary or 2–9-flowered fascicles in leaf axils. Pedicel 8–10 mm, densely pubescent or glabrescent. Calyx cup-shaped, ca. 2.5×3 mm; teeth 1–10, 0.5–1 mm. Corolla blue, white, or purplish, campanulate-stellate; lobes broadly lanceolate, 4–5×1.5–2 mm. Filaments ca. 1 mm, glabrous; anthers ca. 3×1 mm. Style ca. 8 mm. Fruiting pedicel 0.8–2.5 cm. Fruiting calyx cup-shaped, 3–3.5 mm in diam.; teeth 10, subulate, unequal, 0.5–1 mm. Berry red or orange, globose, 5–6(–8) mm in diam. Seeds pale yellow, deltate-reniform or discoid, ca. 1.2 mm in diam., finely reticulate. Fr. winter.

Near roads or rivers, dense forests in valleys; 200–1600 m. Fujian, Guangdong, Guangxi, Hunan, Yunnan [India, Indonesia, Thailand].

**9. *Lycianthes lysimachioides*** (Wallich) bitter, *Abh. Naturwiss. Vereine Bremen* 24: 491. 1920.

单花红丝线 dan hua hong si xian

Herbs perennial, to 1.5 m, trailing, prostrate, or perhaps climbing, rooting at nodes; pubescence of many-celled straight hairs. Leaves unequal paired; petiole of major leaf 0.8–3 cm, that of minor leaf 2–3 mm, sometimes pubescent; blade of major leaf ovate, elliptic to ovate-lanceolate, 3–7×2.5–7.5 cm, pubescent on both surfaces or glabrescent abaxially, ciliate, base cuneate, rounded, or cordate, apex acuminate or acute; blade of minor leaf 2–4.5×1.2–2.8 cm. Inflorescences 1- (or 2)-flowered fascicles; peduncle absent.

Pedicel 8–10 mm. Calyx cup-shaped to campanulate, ca. 5×7 mm, 10-veined. Corolla white, pink, or pale purple, stellate, 1.8 cm in diam.; lobes lanceolate, 10×3–4 mm, often reflexed at apex, puberulent abaxially. Filaments 1 mm, glabrous; anthers 3–3.5×1.2 mm. Ovary glabrous. Style slender, ca. 8 mm. Fruiting pedicel 0.5–1.5 cm. Berry red, globose, ca. 8 mm in diam. Seed ovate-deltate, 1.5–2 mm in diam., finely reticulate.

China [India, Indonesia, Nepal].

*Lycianthes lysimachioides* is a highly variable species, and the varieties recognized here are weak taxonomically and might well be placed in synonymy under the type variety. A series of infraspecific taxa recognized in FRPS (*L. lysimachioides* var. *purpuriflora* C. Y. Wu & S. C. Huang, *L. lysimachioides* var. *formosana* Bitter, *L. lysimachioides* var. *rotundifolia* C. Y. Wu, *L. lysimachioides* var. *cordifolia* C. Y. Wu), none of which compete in priority with the names used here, may have taxonomic validity, but this cannot be perceived at this time.

- 1a. Plants densely pubescent with many-celled hairs ..... 9b. var. *caulorrhiza*
- 1b. Plants sparingly pubescent or glabrescent.
  - 2a. Leaf blade sparingly pubescent abaxially, mostly less than 7 cm ..... 9a. var. *lysimachioides*
  - 2b. Leaf blade glabrous abaxially except sometimes on veins, mostly more than 7 cm ..... 9c. var. *sinensis*

**9a. *Lycianthes lysimachioides* var. *lysimachioides***

单花红丝线 dan hua hong si xian

*Solanum lysimachioides* Wallich in Roxburgh, *Fl. Ind.* 2: 257. 1824; *Lycianthes biflora* (Loureiro) Bitter subsp. *lysimachioides* (Wallich) Deb; *S. macrodon* Wallich ex Nees var. *lysimachioides* (Wallich) C. B. Clarke.

Herbs sparingly pubescent or glabrescent. Petiole of major leaf 0.8–3 cm, that of minor leaf 0.5–2 cm; blade of major leaf ovate, elliptic, to ovate-lanceolate, 4.5–7×2.5–3.5 cm, sparsely pubescent on veins, ciliate, base cuneate, rounded, or cordate, apex acuminate; blade of minor leaf 2–4.5×1.2–2.8 cm. Inflorescences 1- (or 2)-flowered fascicles. Corolla white or pale purple.

Roadsides, forests, 1500–2000 m. Fujian, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangxi, Sichuan, Taiwan, Yunnan [India, Indonesia, Nepal].

**9b. *Lycianthes lysimachioides* var. *caulorrhiza*** (Dunal) Bitter, *Abh. Naturwiss. Vereine Bremen* 24: 493. 1920.

茎根红丝线 jing gen hong si xian

*Solanum caulorrhizum* Dunal in A. de Candolle, *Prodr.* 13(1): 181. 1852; *S. debilissimum* Merrill.

Plants densely covered with many-celled hairs. Petiole of major leaf 5–7 mm, that of minor leaf 2–3 cm, hairy; blade of major leaf ovate, 3–5×2–3.5 cm, hairy, base rounded or cuneate, apex acuminate or acute; blade of minor leaf 1.2–2×1–1.5 cm. Corolla white to pink.

Forests, near streams; 1700–2100 m. Guangdong, Guangxi, Guizhou, Hainan, Yunnan [Indonesia].

**9c. *Lycianthes lysimachioides* var. *sinensis*** Bitter, Abh. Naturwiss. Vereine Bremen 24: 493. 1920.

中华红丝线 *zhong hua hong si xian*

*Lycianthes lysimachioides* var. *formosana* Bitter.

Stems, leaves, petiole, and calyx with scattered hairs. Petiole 1–4.5 cm; leaf blade 6–13×4–7.5 cm; glabrescent abaxially. Flowers white.

• Forests, streamsides; 600–2500 m. Guangdong, Hubei, Hunan, Jiangxi, Sichuan, Yunnan.

**10. *Lycianthes solitaria*** C. Y. Wu & A. M. Lu, Acta Phytotax. Sin. 16(2): 76. 1978.

单果红丝线 *dan guo hong si xian*

Herbs or subshrubs; pubescence of villous simple hairs mixed with 2-branched hairs. Branchlets, petiole, and fruiting pedicel villous. Leaves unequal paired; petiole 2.5–5 mm; blade of major leaf ovate, 1.5–3.5×1–2.5 cm, sparsely pubescent adaxially, densely pubescent abaxially, base rounded or cuneate, apex acute; blade of minor leaf 0.8–2×0.8–1.5 cm. Flowers not seen. Berry solitary in leaf axils, red, 7–8(–10) mm in diam. Fruiting calyx teeth 10, linear-subulate, 1–1.5 mm. Seeds pale yellow, deltate-reniform, 2□×1.2 mm. Fl. Jul, fr. Sep–Nov.

• Near ditches in evergreen forests; 1700 m. Xizang (Zayü Xian).

This species is known only from the type.

