

LORANTHACEAE

桑寄生科 sang ji sheng ke

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Shrubs, usually aerial hemiparasites on other seed plants, often spreading along host by runners (epicortical roots), more rarely terrestrial root-parasitic shrubs or trees, nodes not articulated, glabrous or hairy, hairs often stellate or verticillate. Leaves opposite or alternate, stipules absent; petiole often indistinct; leaf blade simple, usually pinnately veined, margin entire. Inflorescences terminal or axillary, racemes, spikes, or umbels (sometimes condensed into heads); bracts usually inconspicuous, sometimes forming conspicuous involucre (in *Tolypanthus*). Flowers usually bisexual, rarely unisexual (plants dioecious), 4–6-merous, actinomorphic or zygomorphic, often conspicuous. Calyx adnate to the ovary, limb annular to cupular, entire or shortly toothed, persistent. Petals usually 4–6, free or connate, valvate. Disk usually inconspicuous to ± absent. Stamens as many as petals, opposite and adnate to them; anthers mostly basifixed, sometimes dorsifixed, 2–4-loculed, dehiscence longitudinal, locules sometimes with many transverse divisions so as to be multilocellate. Pollen oblate or suboblate, usually trilobate, or triangular. Ovary inferior, 1- or 3- or 4-loculed, without true ovules, embryo sacs originating from a central column or at the ovary base, integument absent. Style simple; stigma small. Fruit a berry (rarely a drupe or capsule), with a viscin layer (sticky mucilaginous tissue) outside the vascular bundles. Seed 1; testa absent; endosperm copious; embryo large.

Between 60 and 68 genera and 700–950 species: primarily in tropical and subtropical regions; eight genera and 51 species (18 endemic) in China.

Some species, including *Macrosolen cochinchinensis*, *Scurrula parasitica*, and several species of *Taxillus*, are used medicinally. Some species, particularly *Scurrula parasitica* and related species, can be troublesome parasites of fruit trees and other cultivated woody plants.

Kiu Hua-shing. 1988. Loranthoideae. In: Kiu Hua-shing & Ling Yeou-ruenn, eds., Fl. Reipubl. Popularis Sin. 24: 87–139.

- 1a. Each flower subtended by 1 bract and 2 bracteoles; flowers 6-merous, corolla lobes connate more than 1/2 length; ovary incompletely 3-loculed.
 - 2a. Bract not keeled; bracteoles often connate; inflorescences of short racemes or spikes, rarely umbels 1. *Macrosolen*
 - 2b. Bract keeled; bracteoles distinct; inflorescences of spikes, flowers sunken into rachis 2. *Elytranthe*
- 1b. Each flower subtended by 1 bract; flowers 4–6-merous, if 6-merous then corolla lobes free; ovary 1-loculed.
 - 3a. Corolla lobes free; inflorescences of spikes or racemes, sometimes reduced to a pair of flowers.
 - 4a. Flowers sessile, 5- or 6-merous; corolla greenish, yellowish, or white, 1.5–3.5(–5) mm; anthers ovoid or biglobose, sometimes absent 3. *Loranthus*
 - 4b. Flowers sessile or pedicellate, 4–6-merous; corolla red, pink, orange, or yellowish, (3–)5–12 mm; anthers ellipsoid 4. *Helixanthera*
 - 3b. Corolla lobes connate into tube, often split on 1 side; inflorescences of umbels, racemes, or spikes.
 - 5a. Flowers 5-merous, actinomorphic.
 - 6a. Bracts 12–27 mm, broader than flowers, forming an involucre around the inflorescence 8. *Tolypanthus*
 - 6b. Bracts 1–1.5 mm, shorter than calyx, not forming an involucre 5. *Dendrophthoe*
 - 5b. Flowers 4-merous, zygomorphic.
 - 7a. Calyx pyriform or turbinate, base attenuate; fruit base narrow or long attenuate 6. *Scurrula*
 - 7b. Calyx ellipsoid or ovoid, rarely subglobose, base not attenuate; fruit base rounded 7. *Taxillus*

1. MACROSOLEN (Blume) Blume in Roemer & Schultes, Syst. Veg. 7: 1731. Oct–Dec 1830.

鞘花属 qiao hua shu

Loranthus Jacquin sect. *Macrosolen* Blume, Fl. Javæ (Loranth.) 16. 16 Aug 1830.

Shrubs parasitic, base often with epicortical roots, all parts glabrous. Leaves opposite, pinnately veined. Inflorescences axillary, racemes or spikes, rarely umbels; 1 bract and 2 bracteoles subtending each flower; bract small, shorter than the calyx; bracteoles often connate. Flowers bisexual, 6-merous, actinomorphic or sometimes zygomorphic by the presence of a single split. Calyx ovoid to ellipsoid, limb annular or cupular, persistent. Mature flower bud tubular. Corolla sympetalous, tube gradually dilated, usually 6-keeled in middle portion, then constricted abruptly to a neck and expanded to a clavate tip, lobes reflexed. Filaments short; anthers 4-loculed, sometimes multilocellate; pollen grain semilobate in polar view. Ovary at first 3-loculed, then 1-loculed; placentation free, central. Style filiform, base usually articulated. Stigma capitate. Berry ovoid or ellipsoid.

About 40 species: tropical S and SE Asia; five species in China.

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- 1a. Leaf blade 3.5–5.5 × 1.3–2 cm, apex rounded 5. *M. tricolor*
 1b. Leaf blade 4–14 × 1–6 cm, apex acute to acuminate or obtuse.
 2a. Pedicel 4–6 mm; racemes (2–)4–8-flowered; peduncle and rachis to 20 mm; berry subglobose 1. *M. cochinchinensis*
 2b. Pedicel 1–4 mm; racemes 2–4(–8)-flowered; peduncle and rachis 1–5 mm; berry ellipsoid (berry not known for *M. robinsonii*).
 3a. Corolla red with green markings; mature bud 2.5–3.5 cm 4. *M. bibracteolatus*
 3b. Corolla orange or yellow; mature bud 1.1–1.5 cm.
 4a. Umbels 2- or 3-flowered; petiole 2–4 mm; lateral veins of leaf blade conspicuous adaxially 3. *M. robinsonii*
 4b. Racemes 2–4(–8)-flowered; petiole 3–10 mm; lateral veins of leaf blade inconspicuous adaxially 2. *M. geminatus*

1. *Macrosolen cochinchinensis* (Loureiro) Tieghem, Bull. Soc. Bot. France 41: 122. 1894.

鞘花 qiao hua

Loranthus cochinchinensis Loureiro, Fl. Cochinch. 1: 195. 1790; *Elytranthe ampullacea* (Roxburgh) G. Don; *E. ampullacea* var. *tonkinensis* Lecomte; *E. cochinchinensis* (Loureiro) G. Don; *E. cochinchinensis* var. *tonkinensis* (Lecomte) H. L. Li; *E. fordii* (Hance) Merrill; *Loranthus ampullaceus* Roxburgh; *L. fordii* Hance; *Macrosolen fordii* (Hance) Danser.

Shrub 0.5–1.3 m tall. Branches grayish, scattered lenticellate. Petiole 5–10 mm; leaf blade broadly elliptic or ovate to lanceolate, 5–10 × 2.5–6 cm, leathery, lateral veins 4 or 5 pairs, abaxially prominent or obscure on both faces, base cuneate to broadly cuneate, apex acute to acuminate. Inflorescences solitary or 2- or 3-fascicled, axillary, sometimes at older leafless nodes, (2–)4–8-flowered racemes; peduncle 15–20 mm; bracts broadly ovate, 1–2 mm; bracteoles triangular, connate at base, 1–1.5 mm. Pedicel 4–6 mm. Calyx ellipsoid, 2–2.5 mm, limb annular; ca. 0.5 mm. Mature bud 1–1.5 cm. Corolla orange, straight, inflated in middle, 6-angled, lobes lanceolate, ca. 4 mm, reflexed. Filaments ca. 2 mm; anthers ca. 1 mm. Berry orange, subglobose, ca. 7 mm. Fl. Feb–Jun, fr. May–Aug.

Forests, plains, valleys, mountain slopes; ?100–1600 m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, S Hunan, Sichuan, Xizang (Médog), Yunnan [Bhutan, Cambodia, India, Indonesia, Malaysia, Myanmar, Nepal, New Guinea, Sikkim, Thailand, Vietnam].

The plants have medicinal uses. Recorded hosts include *Castanea mollissima*, *Cinnamomum camphora*, *Cunninghamia lanceolata*, *Ficus lacor*, *Liquidambar formosana*, *Schima superba*, and *Vernicia montana*. The inflorescence, usually with four or more flowers and with pedicels 4–6 mm, immediately distinguishes this very common species from others recorded from China, even in the absence of corollas.

2. *Macrosolen geminatus* (Merrill) Danser, Bull. Jard. Bot. Buitenzorg, sér. 3, 10: 344. 1929.

勐腊鞘花 meng la qiao hua

Loranthus geminatus Merrill, Philipp. J. Sci., C, 4: 146. 1909; *Elytranthe suberosa* Lauterbach; *Macrosolen suberosus* (Lauterbach) Danser.

Shrub 0.5–1 m tall. Branches grayish, scattered lenticellate. Petiole 3–10 mm; leaf blade narrowly ovate to lanceolate, (5–)10–11 × (1.5–)4–4.5 cm, leathery, lateral veins 4 or 5 pairs, obscure on both faces, base cuneate, apex acuminate. Inflorescences solitary or 2- or 3-fascicled, axillary on older branches, 2–4(–8)-flowered racemes; peduncle 3–5 mm; bract

ovate, ca. 1 mm; bracteoles subovate, connate nearly to apex, ca. 1 mm. Pedicel ca. 1 mm, rarely sessile. Calyx ellipsoid, ca. 3 mm, limb annular, ca. 0.7 mm, margin repand. Mature bud 1.1–1.5 cm. Corolla light orange, tube inflated, 6-angled, lobes lanceolate, ca. 6 mm, reflexed. Filaments ca. 5 mm; anthers 1–1.2 mm. Berry yellow, ellipsoid, ca. 7 × 5.5 mm, verruculose. Fl. Apr–May, fr. May–Jun.

Forests on mountain slopes; 700–800 m. Yunnan (Mengla) [Indonesia, New Guinea, Philippines].

In the Flora area, the plants are parasitic on *Paramichelia bailonii*; outside the Flora area a wider range of hosts is known.

3. *Macrosolen robinsonii* (Gamble) Danser, Bull. Jard. Bot. Buitenzorg, sér. 3, 10: 345. 1929.

短序鞘花 duan xu qiao hua

Elytranthe robinsonii Gamble, Bull. Misc. Inform. Kew 1913: 45. 1913.

Shrub 0.5–1 m tall. Branches grayish, rather lenticellate. Petiole 2–4 mm; leaf blade elliptic to lanceolate, (4–)7–9 × (1.5–)2–3 cm, leathery, midvein elevated on both sides, lateral veins adaxially conspicuous, base cuneate, apex acuminate or obtuse. Inflorescences usually paired, at node of branchlets or axillary, 2- or 3-flowered umbels; peduncle 1–2.5 mm; bract ovate, ca. 1 mm; bracteoles subovate, almost connate, ca. 1 mm. Pedicel 1–2 mm. Calyx ellipsoid, ca. 2 mm, limb annular, margin repand. Mature bud 1.1–1.5 cm. Corolla orange or yellow, tube inflated, lobes lanceolate, 5–7 mm, reflexed. Filaments ca. 3 mm; anthers 1–1.5 mm. Berry unknown. Fl. Apr–Sep.

Forests, mountain slopes; 1000–1800(–2500) m. SW Yunnan [Malaysia, S Vietnam].

The plants are parasitic on species of *Quercus*.

4. *Macrosolen bibracteolatus* (Hance) Danser, Bull. Jard. Bot. Buitenzorg, sér. 3, 10: 343. 1929.

双花鞘花 shuang hua qiao hua

Loranthus bibracteolatus Hance, J. Bot. 18: 301. 1880; *Elytranthe bibracteolata* (Hance) Lecomte; *E. bibracteolata* var. *acuminatissima* Merrill; *E. bibracteolata* var. *sinensis* Lecomte.

Shrub 0.5–1 m tall. Branches grayish. Petiole 2(–5) mm; leaf blade ovate, ovate-oblong to lanceolate, 8–12 × 2–5 cm, leathery, midvein elevated on both sides, lateral veins usually conspicuous, base cuneate, apex acuminate, rarely subobtuse. Inflorescences solitary or 2–4-fascicled, axillary or in node of

branches, 2-flowered umbels; peduncle ca. 4 mm; bract semi-orbicular, ca. 1 mm; bracteoles suborbicular, connate, ca. 1 mm. Pedicel ca. 4 mm. Calyx cylindrical, ca. 4 mm, limb cupular, ca. 1.5 mm. Mature bud 3.2–3.5 cm. Corolla red with green band at top of tube, slightly curved, tube inflated, throat 6-angled, lobes lanceolate, ca. 14 mm, greenish, reflexed. Filaments 7–8 mm; anthers ca. 3 mm. Berry red, ellipsoid, ca. 9 × 7 mm, smooth, stylar foot beaklike. Fl. Nov–Dec, fr. Dec–Apr.

Forests, mountain slopes, valleys; 300–1800 m. Guangdong, Guangxi, SE Guizhou, Hainan, Yunnan [Malaysia, Myanmar, N Vietnam].

Recorded hosts include *Antidesma bunius*, *Cinnamomum camphora*, *Schima superba*, and species of *Symplocos*. The overall distribution appears to be disjunct.

5. *Macrosolen tricolor* (Lecomte) Danser, Bull. Jard. Bot. Buitenzorg, sér. 3, 10: 346. 1929.

三色鞘花 san se qiao hua

Elytranthe tricolor Lecomte, Notul. Syst. (Paris) 3: 94. 1914.

Shrub ca. 0.5 m tall. Branches grayish, rather lenticellate. Petiole 2–3 mm; leaf blade obovate to narrowly obovate, 3.5–5.5 × 1.3–2 cm, leathery, lateral veins 2 or 3 pairs, base cuneate and slightly decurrent, apex rounded. Inflorescences solitary or paired, axillary, rarely at leafless node, 2-flowered umbels; peduncle ca. 1 mm; bract semi-orbicular, ca. 1 mm; bracteoles semi-orbicular, connate, ca. 1 mm. Pedicel ca. 1 mm. Calyx ellipsoid, 2.5–3 mm, limb annular, ca. 1 mm. Mature bud 2.5–3.5 cm. Corolla red with green band at top of tube, slightly curved, tube inflated, lobes greenish, lanceolate, 6–9 mm, reflexed. Filaments 3–4 mm; anthers 2–3 mm. Berry dark purple, globose, ca. 7 mm, smooth. Fl. and fr. Aug–Mar.

Bushlands; below 100 m. S Guangdong, S Guangxi, Hainan [Laos, Vietnam].

Recorded hosts include *Aporosa chinensis*, *Citrus reticulata*, *Dimocarpus longan*, *Lindera communis*, and *Lumnitzera littorea*. The distinctive shape and size of leaves of *Macrosolen tricolor* immediately distinguish this species from the other members of the genus recorded from China.

2. *ELYTRANTHE* (Blume) Blume in Roemer & Schultes, Syst. Veg. 7: 1730. Oct–Dec 1830.

大苞鞘花属 da bao qiao hua shu

Loranthus Jacquin sect. *Elytranthe* Blume, Fl. Javae (Loranth.) 16. 16 Aug 1830.

Shrubs parasitic, glabrous. Leaves opposite; leaf blade leathery, pinnately veined. Inflorescences axillary, of spikes; flowers few, large, crowded, inserted in hollows on short, stout rachis; 1 bract and 2 bracteoles subtending each flower, bracts and bracteoles subequal, leathery, sheathing the base of the calyx or the corolla, bract keeled, bracteoles distinct. Flowers bisexual, 6-merous. Calyx ovoid or cylindrical, limb annular or cupular, persistent. Mature flower bud tubular. Corolla sympetalous, tube dilated, usually 6-keeled in middle portion; lobes reflexed or slightly twisted. Filaments subulate; anthers 4-loculed, sometimes multilocellate; pollen grain semilobate in polar view. Ovary at first 3-loculed, then 1-loculed; placentation free, central. Style filiform, base articulated; stigma capitate. Berry ellipsoid or ovoid.

About ten species: tropical SE and S Asia; two species in China.

- 1a. Bract and bracteoles oblong or ovate, 6–10(–12) mm, longer than calyx; mature bud (4–)6–7 cm 1. *E. albida*
1b. Bract and bracteoles suborbicular, ca. 2 mm, shorter than calyx; mature bud 4–5 cm 2. *E. parasitica*

1. *Elytranthe albida* (Blume) Blume in Roemer & Schultes, Syst. Veg. 7: 1611. 1830.

大苞鞘花 da bao qiao hua

Loranthus albidus Blume, Verh. Batav. Genootsch. Kunsten 9: 184. 1823; *Elytranthe henryi* Lecomte.

Shrubs 2–3 m tall. Branches terete; bark pale. Petiole (7–)20–30 mm; leaf blade elliptic to narrowly ovate, (6–)8–16 × (3–)4.5–6 cm, leathery, veins subprominent, base obtuse, rarely cuneate, apex acute. Spikes solitary or fascicled, axillary, sometimes at leafless node, 2–4-flowered; peduncle stout, (1–)5–10(–15) mm; bract ovate, 6–10(–12) × 4–6 mm, keeled, apex acute; bracteoles oblong-ovate, 8–12 mm, keeled, apex subobtuse. Calyx ellipsoid, ca. 2 mm, limb cupular, 1–1.5 mm, entire. Mature bud (4–)6–7 cm. Corolla red, tube slightly curved, inflated, lobes lanceolate, ca. 20 mm, reflexed. Filaments 8–10 mm; anthers 4.5–6 mm. Berry ellipsoid, ca. 5 mm, stylar foot nipple-shaped. Fl. Nov–Apr.

Forests, mountain slopes; 800–2300 m. Yunnan [E India, Indonesia, Laos, Malaysia, Myanmar, Thailand, Vietnam].

Recorded hosts in the Flora area include *Quercus griffithii* and species of *Ficus*; a wider range of hosts occurs outside the Flora area.

2. *Elytranthe parasitica* (Linnaeus) Danser, Bull. Jard. Bot. Buitenzorg, sér. 3, 10: 315. 1929.

墨脱大苞鞘花 mo tuo da bao qiao hua

Lonicera parasitica Linnaeus, Sp. Pl. 1: 175. 1753; *Elytranthe loniceroides* (Linnaeus) G. Don; *Loranthus loniceroides* Linnaeus; *Macrosolen parasiticus* (Linnaeus) Danser.

Shrubs 1–2 m tall. Branches stout; bark pale, verrucose. Petiole 8–12 mm; leaf blade elliptic or oblong-ovate to lanceolate, 8–10 × 3–5 cm, leathery, veins inconspicuous on both surfaces, base broadly cuneate, apex acute to acuminate. Spikes solitary or paired, axillary, sometimes at leafless node, 2–6-flowered; peduncle stout, 5–8 mm; bract and bracteoles sub-

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orbicular, ca. 2 mm, keeled, apex subacute. Calyx cylindrical, ca. 4 mm, limb cupular, ca. 1 mm, subentire. Mature bud 4–5 cm. Corolla red, tube slightly curved, upwardly inflated, lobes lanceolate, 18–20 mm, reflexed, sometimes slightly twisted. Filaments ca. 14 mm; anthers ca. 4.5 mm, multilocellate. Berry

ellipsoid, ca. 10 mm, stylar foot beaklike. Fl. and fr. Feb–Apr.

Forests, mountain slopes, valleys; 1500–1600 m. Xizang (Médog) [India, Sikkim, Sri Lanka].

The plants are parasitic on species of *Quercus*.

3. LORANTHUS Jacquin, Enum. Stirp. Vindob. 55, 230. 1762, nom. cons., not Linnaeus (1753).

桑寄生属 sang ji sheng shu

Hyphear Danser.

Shrubs parasitic, glabrous. Leaves opposite or subopposite, pinnately veined. Inflorescences axillary or terminal, spikes of flowers sessile, inserted in slight hollows on the rachis; 1 bract subtending each flower. Flowers bisexual or unisexual (plants dioecious), 5- or 6-merous, actinomorphic. Calyx usually ovoid, limb annular, persistent. Mature flower bud clavate or obovoid, straight. Corolla greenish, yellowish, or white, petals free, small, under 10 mm in mature bud, patent and spreading. Stamens inserted on the petals; anthers 2–4-loculed, ovoid or biglobose, sometimes absent. Pollen grain semiangular in polar view. Ovary 1-loculed; placentation basal. Style subcylindric; stigma capitate or truncate. Berry ovoid or subglobose, smooth.

About ten species: temperate and subtropical regions of Asia and Europe; six species (three endemic) in China.

- 1a. Spikes terminal; branching often apparently dichotomous.
 - 2a. Leaf blade 5.5–7 × ca. 3 cm; flowers 5-merous; calyx 1.5–2 mm 3. *L. lambertianus*
 - 2b. Leaf blade 2.5–5 × 1–2.5 cm; flowers mostly (5- or)6-merous; calyx 1–1.5 mm.
 - 3a. Petals 1.5–2 mm; berry orange, globose, 7–8 mm 1. *L. tanakae*
 - 3b. Petals 3–4 mm; berry greenish, ovoid, 4–5 mm 2. *L. guizhouensis*
- 1b. Spikes axillary; branching not dichotomous.
 - 4a. Flowers unisexual; corolla of male flower 4–5 mm; corolla of female flower 2–3 mm; leaves with 5 or 6 pairs of lateral veins 6. *L. delavayi*
 - 4b. Flowers bisexual; corolla ca. 2.5 mm; leaves with 2–5 pairs of lateral veins.
 - 5a. Spikes 4–6(–10)-flowered; anthers 4-loculed; berry globose, ca. 4 mm; parasitic on species of Fagaceae 4. *L. pseudo-odoratus*
 - 5b. Spikes 10–20-flowered; anthers 2-loculed; berry ovoid, ca. 5 × 3 mm; epiparasitic on other species of Loranthaceae 5. *L. kaoi*

1. Loranthus tanakae Franchet & Savatier, Enum. Pl. Jap. 2: 482. 1876.

北桑寄生 bei sang ji sheng

Hyphear tanakae (Franchet & Savatier) Hosokawa.

Shrubs deciduous, ca. 1 m tall, all parts glabrous. Branches usually dichotomous, black, mostly glaucous, scattered lenticellate. Petiole 3–8 mm; leaf blade obovate or elliptic, 2.5–4 × 1–2 cm, papery, lateral veins 3 or 4 pairs, faint, base cuneate and slightly decurrent, apex obtuse or retuse. Spikes terminal, 10–20-flowered, 2.5–4 cm; bracts ovate, concave, ca. 1 mm. Flowers bisexual, subopposite, (5- or)6-merous. Calyx ellipsoid 1–1.5 mm. Mature bud ovoid. Corolla greenish, petals lanceolate, 1.5–2 mm. Filaments short; anthers 4-loculed, ca. 0.5 mm. Style ca. 1 mm, usually 6-angled; stigma slightly capitate. Berry orange, globose, 7–8 mm. Fl. May–Jun, fr. Sep–Nov.

Broad-leaved forests, plantations; 900–2000(–2600) m. Gansu, Hebei, SE Nei Mongol, Shaanxi, Shandong, Shanxi, N Sichuan [Japan, Korea].

Recorded hosts include *Prunus armeniaca*, *Pyrus bretschneideri*, and species of *Betula*, *Quercus*, and *Ulmus*.

The Chinese material named as *Loranthus europaeus* Jacquin belongs here.

2. Loranthus guizhouensis H. S. Kiu, Acta Phytotax. Sin. 21: 171. 1983.

南桑寄生 nan sang ji sheng

Shrubs deciduous, 0.5–1 m tall, all parts glabrous. Branches usually dichotomous, branchlets dull black and glaucous. Petiole 2–3 mm; leaf blade ovate or elliptic, 3.5–5 × 2–2.5 cm, papery or thinly leathery, base cuneate and slightly decurrent, apex obtuse or acute; lateral veins 3–5 pairs, faint. Spikes terminal, 8–16-flowered, 2.5–4 cm; bracts ovate, concave, ca. 1 mm. Flowers bisexual, opposite or subopposite, 6-merous. Calyx ovoid, ca. 1 mm. Mature bud obovoid. Corolla greenish, petals spreading, lanceolate, 3–4 mm. Filaments ca. 0.5 mm, free from middle of petals; anthers 4-loculed, ca. 1 mm. Style ca. 2.5 mm, slightly 6-angled; stigma obtuse. Berry greenish, ovoid, 4–5 × 2.5–3 mm. Fl. May–Jun, fr. Jul–Aug.

• Forests, mountain valleys; 100–1400 m. E and N Guangdong, Guangxi, S Guizhou, S Hunan, E Yunnan.

Recorded hosts include *Platycarya strobilacea* and *Quercus myrsinifolia*.

3. Loranthus lambertianus J. H. Schultes in Roemer & Schultes, Syst. Veg. 7: 118. 1829.

吉隆桑寄生 ji long sang ji sheng

Hyphear lambertianum (J. H. Schultes) Danser.

Shrubs deciduous, ca. 0.5 m tall. Branches usually di-

chotomous, brownish, scattered lenticellate. Petiole 4–10 mm; leaf blade oblong or oblong-ovate, 5.5–7 × ca. 3 cm, papery, lateral veins 4 or 5 pairs, faint, base broadly cuneate, apex acute or obtuse. Spikes terminal, 10–14-flowered, 2.5–3.5 cm; bracts ovate, concave, ca. 0.5 mm. Flowers bisexual, subopposite, 5-merous. Calyx ellipsoid, 1.5–2 mm. Mature bud ca. 3 mm. Corolla yellowish, petals lanceolate. Filaments short; anthers 4-loculed. Style ca. 2 mm; stigma subcapitate. Berry ovoid, ca. 6 × 5 mm. Fl. Apr–Jun.

Broad-leaved forests, mountain slopes, valleys; (1600–)2700–2800 m. S Xizang (Dinggyê, Gyirong, Mêdog) [Nepal].

The plants are usually parasitic on species of *Quercus*.

4. *Loranthus pseudo-odoratus* Lingelsheim, Repert. Spec. Nov. Regni Veg. Beih. 12: 357. 1922.

华中桑寄生 hua zhong sang ji sheng

Hyphear pseudo-odoratum (Lingelsheim) Danser.

Shrubs ca. 0.5 m tall, all parts glabrous. Branches not dichotomous, dull black, roughish, scattered lenticellate. Petiole 5–7 mm; leaf blade ovate to elliptic, 4–10 × 2–6 cm, papery, lateral veins 3–5 pairs, faint, base broadly cuneate and slightly decurrent, apex obtuse to rounded. Spikes solitary or 2- or 3-fascicled, axillary, 4–6(–10)-flowered, 1–2 cm; bracts ovate, concave, ca. 0.5 mm. Flowers bisexual, subopposite or opposite, 6-merous. Calyx ovoid, ca. 1 mm. Mature bud obovoid, ca. 2.5 mm. Corolla yellowish, petals lanceolate. Stamens inserted at bases of petals, filaments short; anthers 4-loculed, ca. 0.5 mm. Style ca. 2 mm, 6-angled; stigma obtuse. Berry yellowish, globose, ca. 4 mm. Fl. Feb–Mar, fr. Jul.

• Forests, mountain slopes; 1600–1900 m. Hubei, S Sichuan, SE Zhejiang.

The plants are parasitic on Fagaceae, including species of *Castanopsis* and *Quercus*.

5. *Loranthus kaoi* (J. M. Chao) H. S. Kiu, Acta Phytotax. Sin. 21: 171. 1983.

台中桑寄生 tai zhong sang ji sheng

Hyphear kaoi J. M. Chao, Taiwania 18: 169. 1973.

Shrubs ca. 0.3 m tall, all parts glabrous. Branches not dichotomous, scattered lenticellate. Petiole 6–7 mm; leaf blade ovate or oblong, 3–4 × 1–2 cm, leathery, lateral veins 2 or 3 pairs, obscure, base cuneate to obtuse, apex obtuse to rounded.

Spikes 3–5-fascicled, axillary, 10–20-flowered, 2–3 cm; bracts ovate-triangular, ca. 3 mm. Flowers bisexual, 6-merous. Calyx subglobose, ca. 1 mm; anthers 2-loculed, ca. 0.5 mm, connective broad. Style ca. 2.5 mm; stigma subcapitate. Berry yellowish, ovoid, ca. 5 × 3 mm. Fl. Feb–Jun, fr. Aug–Dec.

• Forests, mountain slopes; 800–2300 m. Taiwan.

The plants are epiparasitic on other members of the Loranthaceae, including *Taxillus liquidambaricola*, *T. nigrans*, and *T. sutchuenensis*.

6. *Loranthus delavayi* Tieghem, Bull. Soc. Bot. France 41: 535. 1894.

周树桑寄生 zhou shu sang ji sheng

Hyphear delavayi (Tieghem) Danser; *H. koumense* (Sasaki) Hosokawa; *Loranthus delavayi* var. *latifolius* Tieghem; *L. koumensis* Sasaki; *L. owatarii* Matsumura & Hayata.

Shrubs 0.5–1 m tall, all parts glabrous. Branches not dichotomous, blackish, scattered lenticellate. Petiole 5–10 mm; leaf blade ovate to elliptic, rarely oblong-lanceolate, (5–)6–10 × 2.5–3.5 cm, papery or leathery, lateral veins 5 or 6 pairs, base broadly cuneate, rarely cuneate and slightly decurrent, apex obtuse. Spikes solitary or 2- or 3-fascicled, axillary, 8–16-flowered, 1–4 cm; bracts ovate, concave, ca. 0.5 mm. Flowers unisexual (plants dioecious), 6-merous. Calyx ovoid, ca. 1 mm. Male flowers: mature bud clavate, 4–5 mm; corolla yellowish green, petals linear-spatulate; stamens inserted on middle of petals, filaments 1–2 mm; anthers 4-loculed, 1–1.5 mm; sterile style filiform or cylindric, 1.5–2 mm, apex acuminate or 2-lobed, rarely acute. Female flowers: mature bud cylindric; petals lanceolate, 2.5–3 mm; staminodes 1–1.5 mm; anthers filiform or absent; style ca. 2.5 mm, 6-angled; stigma capitate. Berry yellowish, ovoid, ca. 5 × 4 mm in diam. Fl. Jan–Mar, fr. Sep–Oct.

Forests, mountain slopes, valleys; (200–)500–3000 m. Fujian, S Gansu, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangxi, S Shaanxi, Sichuan, Taiwan, S Xizang, Yunnan, Zhejiang [Myanmar, Vietnam].

Recorded hosts include *Alnus japonica*, *Pyrus pyrifolia*, species of Fagaceae, and rarely *Keteleeria evelyniana*.

Barlow (Fl. Malesiana, Ser. 1, Spermatoph. 13: 355. 1997) regarded this species as synonymous with *Loranthus odoratus* Wallich, but the illustration and description suggest that the plant he studied was not the same as the Chinese material, differing in particular by the long, solitary inflorescence.

4. *HELIXANTHERA* Loureiro, Fl. Cochinch. 1: 142. 1790.

离瓣寄生属 li ban ji sheng shu

Shrubs parasitic, glabrous or with stellate hairs and glabrescent. Leaves opposite or alternate, rarely subwhorled, pinnately veined. Inflorescences axillary, rarely terminal, racemes or spikes; 1 bract subtending each flower. Flowers bisexual, 4–6-merous, actinomorphic, sessile or pedicellate. Calyx limb 4–6-denticulate, persistent. Mature flower bud straight, basal 1/2 usually slightly inflated and angled, distal portion usually subclavate. Corolla red, pink, orange, or yellowish, petals free, straight, spreading. Stamens usually inserted at middle of the petals. Filaments short; anthers 2–4-loculed, sometimes multilocellate, ellipsoid. Pollen grain semi-angular or semilobate in polar view. Ovary 1-loculed; placentation basal. Style subcylindric, 4–6-angled; stigma capitate or truncate. Berry ovoid or ellipsoid, exocarp leathery, smooth or pubescent.

LORANTHACEAE

Up to 50 species: tropical and subtropical Africa and Asia; seven species (two endemic) in China.

Barlow (Fl. Malesiana, Ser. 1, Spermatoph. 13: 328. 1997) estimated the global number of species to be 35.

- 1a. Flowers 5-merous; young branchlets and leaves glabrous; inflorescences more than 40-flowered.
 - 2a. Leaves opposite; inflorescence a raceme, pedicels 1–2 mm 1. *H. parasitica*
 - 2b. Leaves subwhorled or alternate; inflorescence a spike, pedicels absent 2. *H. pulchra*
- 1b. Flowers 4-merous; young branchlets and leaves pubescent or scaly, sometimes sparsely so; inflorescences 2–30-flowered.
 - 3a. Inflorescences 10–30-flowered.
 - 4a. Inflorescences 20–30-flowered; pedicel 1–1.5 mm; petals 5–6 mm 3. *H. coccinea*
 - 4b. Inflorescences 10–16-flowered; pedicel absent; petals 9–12 mm 7. *H. scoriarum*
 - 3b. Inflorescences 2–5-flowered.
 - 5a. Young leaves and flowers with yellow stellate hairs; peduncle ca. 1 mm; petals 3–3.5 mm 6. *H. guangxiensis*
 - 5b. Young leaves and flowers with reddish brown scales; peduncle 6–15 mm; petals 7–9 mm.
 - 6a. Leaf blade less than 5 cm; racemes usually 2-flowered 4. *H. sampsonii*
 - 6b. Leaf blade 5–8 cm; racemes 2–4-flowered 5. *H. terrestris*

1. *Helixanthera parasitica* Loureiro, Fl. Cochinch. 1: 142. 1790.

离瓣寄生 li ban ji sheng

Helicia parasitica (Loureiro) Persoon; *Leucobotrys adpressa* Tieghem; *Loranthus adpressus* (Tieghem) Lecomte; *L. pentapetalus* Roxburgh.

Shrubs 1–1.5 m tall, all parts apparently glabrous (inflorescences very minutely papillate). Branches elongated. Leaves opposite (or subopposite); petiole 5–15(–20) mm; leaf blade ovate to ovate-lanceolate, 5–12(–18) × (1.5–)3–4.5(–6) cm, papery to thinly leathery, lateral veins conspicuous, base broadly cuneate to rounded, apex acute to acuminate. Racemes solitary or paired, axillary, sometimes at leafless node, 40–60-flowered, 5–10(–30) cm, dull brown or gray papillose; bracts subovate or ovate-triangular (0.7–)1–1.5 mm. Flowers 5-merous; sometimes verticillate. Pedicel 1–2 mm. Calyx ellipsoid, 1.5–2 mm, limb annular, ca. 0.5 mm, entire or 5-denticulate. Mature bud with basal 1/3–1/2 abruptly expanded into 5 prominent semicircular keels, distal portion clavate. Corolla red, pink, or yellowish, petals (4–)6–8 mm, reflexed from above basal keels. Filaments 1–2.5 mm; anthers 4-loculed, 1–1.5(–2.5) mm. Style cylindrical, 5-angled, constricted in middle, 3–6 mm; stigma capitate. Berry red, ellipsoid, ca. 6 × 4 mm, papillose. Fl. Jan–Jul, fr. May–Aug.

Forests in plains or mountain slopes; 100–1500(–1800) m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Xizang (Médog), Yunan [Cambodia, NE India, Indonesia, Laos, Malaysia, Myanmar, Nepal, Philippines, Thailand, Vietnam].

Recorded hosts include *Clausena lansium*, *Melia azedarach*, *Prunus salicina*, *Schima superba*, *Vernicia montana*, and species of *Castanopsis*, *Cinnamomum*, *Ficus*, *Lithocarpus*, and *Litsea*.

2. *Helixanthera pulchra* (Candolle) Danser, Bull. Jard. Bot. Buitenzorg, sér. 3, 10: 318. 1929.

密花离瓣寄生 mi hua li ban ji sheng

Loranthus pulcher Candolle, Prodr. 4: 295. 1830; *Helixanthera pierrei* Danser; *Loranthus longispicatus* var. *grandifolius* Lecomte.

Shrubs ca. 1 m tall, all parts glabrous. Branches stout,

terete or terminally slightly angled, subsmooth, scattered lenticellate. Leaves mostly ± whorled in groups of 3 or alternate; petiole 10–20(–25) mm; leaf blade lanceolate or oblong-lanceolate, 8–15(–23) × 2.5–5(–11) cm, thickly leathery, lateral veins inconspicuous, base obtuse or cuneate and slightly decurrent, margin narrowly revolute, apex subacuminate. Spikes usually in groups of 3, terminal or subterminal, more than 40-flowered; peduncle 10–30 mm; rachis stout, pink, with flowers inserted in slight hollows, (10–)15–20(–25) cm, glabrous; bracts boat-shaped, with a dorsal spurlike sac, 1.2–2 mm, ciliate. Flowers 5-merous. Pedicel absent. Calyx ovoid, 1–2 mm, limb annular, ca. 1 mm, subentire. Mature bud clavate, slightly constricted beyond base. Corolla reddish yellow to bright red, somewhat constricted in middle, grayish scurfy, petals lanceolate, (3.5–)5–6(–8.5) mm, reflexed from middle. Filaments 1–1.5 mm; anthers 2-loculed, 1–1.5 mm, connective broad. Style cylindrical, 5-angled, not articulated, (2–)3–4(–5.5) mm; stigma obtuse. Immature berry pink, ovoid, ca. 4.5 × 3.5 mm, scurfy. Fl. Apr–May.

Forests on mountain slopes; 800–1500 m. Yunnan (Jinghong, Mengla) [Cambodia, Indonesia, Malaysia, Thailand].

The plants are parasitic on species of *Rhododendron* in the Flora area; they are recorded from a wider range of hosts outside the Flora area.

3. *Helixanthera coccinea* (Jack) Danser, Bull. Jard. Bot. Buitenzorg, sér. 3, 10: 317. 1929.

景洪离瓣寄生 jing hong li ban ji sheng

Loranthus coccineus Jack, Malayan Misc. 1: 8. 1820.

Shrubs ca. 1 m tall, branchlets and leaves ferruginous stellate pubescent when young, becoming glabrous. Branches grayish, lenticellate. Leaves alternate; petiole 8–12(–22) mm; leaf blade ovate or oblong-ovate, (4–)5–8(–12) × 2.5–4.5(–7) cm, subleathery, lateral veins 5–7 pairs, base rounded (to slightly cordate), apex obtuse. Racemes solitary or 2- or 3-fascicled, axillary, rarely subterminal, 20–30-flowered, 5–7 cm, stellate pubescent; bracts ovate-triangular, ca. 1.5 mm. Flowers 4-merous. Pedicel 1–1.5 mm. Calyx urceolate ca. 2 mm, limb annular, 4-denticulate. Corolla red, base rather swollen and 5-keeled, apical portion clavate, petals lanceolate, 5–6 mm, spreading, margin membranous in middle. Filaments ca. 2 mm;

anthers 4-loculed, ca. 1.5 mm. Style cylindric, 4-angled, 5–6 mm; stigma subcapitate. Berry red, vase-shaped, 7–8, 3.5–4 mm in diam. at base. Fl. and fr. Jul–Sep.

Evergreen forests, valleys; ca. 500 m. Yunnan (Jinghong) [NE India, Indonesia, Malaysia, Myanmar; SE Asia].

The plants are parasitic on species of *Castanopsis*.

4. *Helixanthera sampsonii* (Hance) Danser, Bull. Jard. Bot. Buitenzorg, sér. 3, 10: 318. 1929.

油茶离瓣寄生 you cha li ban ji sheng

Loranthus sampsonii Hance, J. Bot. 9: 133. 1871.

Shrubs ca. 0.7 m tall, branchlets and leaves densely reddish brown scurfy when young, becoming glabrous. Branches grayish, densely lenticellate. Leaves usually opposite, yellowish green, drying blackish; petioles 2–5 mm; leaf blade ovate or elliptic to oblong-lanceolate, 2–5 × 1–2.4 cm, papery to thinly leathery, lateral veins 3 or 4 pairs, abaxially obscure, base cuneate and slightly decurrent, apex obtusely acute or subacuminate. Racemes solitary or paired, mostly axillary, sometimes 3 terminal on short shoots, 2(–5)-flowered; peduncle 8–15 mm, scurfy; bracts ovate, ca. 1 mm, minutely pilose. Flowers 4-merous. Calyx urceolate, 1.5–2 mm, limb minute, subentire or repand. Mature bud subcylindric. Corolla reddish, base slightly inflated, 4-angled, stellate pubescent, petals lanceolate, 7–9 mm, apical portion reflexed, margin membranous in middle. Filaments ca. 2.5 mm; anthers 2-loculed, ca. 2 mm. Style 4-angled, 6–7 mm; stigma capitate. Berry orange or reddish, ovoid, ca. 6 × 4 mm, smooth. Fl. Apr–Jun, fr. Aug–Oct.

Forests, forest margins on mountain slopes; 100–500(–1100) m. Fujian, Guangdong, Guangxi, Hainan, S Yunnan [N Vietnam].

Recorded hosts include *Camellia oleifera*, *Casearia membranacea*, *Diospyros morrisiana*, *Litsea elongata*, and species of Euphorbiaceae, Lauraceae, and Theaceae.

Danser has indicated by herbarium determinations that this species should be included with the Indian species *Helixanthera ligustrina* (Wallich) Danser. The type collection and other material from Hong Kong and Guangdong has a scurfy indumentum and 2-flowered inflorescences, rather similar to the next species, but material from elsewhere in the Flora area has been described as having a stellate indumentum and up to 5-flowered inflorescences. The status of this material needs further investigation.

5. *Helixanthera terrestris* (J. D. Hooker) Danser, Bull. Jard. Bot. Buitenzorg, sér. 3, 10: 319. 1929.

林地离瓣寄生 lin di li ban ji sheng

Loranthus terrestris J. D. Hooker, Fl. Brit. India 5: 207. 1886.

Shrubs 0.5–2 m tall, branchlets and leaves densely reddish brown scurfy when young, becoming glabrous. Branches grayish, lenticellate. Leaves opposite or alternate; petiole 3–6 mm; leaf blade oblong-ovate or elliptic, 5–8 × 2–3.5 cm, papery, lateral veins 3 or 4 pairs, base cuneate and slightly decurrent, apex acuminate or obtusely subacuminate. Racemes solitary or paired, mostly axillary, sometimes terminal on short shoots, 2–4-flowered; peduncle 6–10 mm, scurfy; bracts suborbicular, 1–1.5 mm. Flowers 4-merous. Pedicel 0.5–1 mm. Calyx urceolate, 1.5–2 mm, gray scurfy, limb annular, ca. 0.5

mm, entire. Mature bud subcylindric. Corolla pink, base slightly inflated, 4-angled, petals lanceolate, 7–8 mm, apical portion reflexed, margin membranous in the middle, ca. 1 mm. Filaments ca. 2 mm; anthers 2-loculed, ca. 2 mm. Style 4-angled, ca. 7 mm; stigma capitate. Berry orange, ovoid, 7–8 × ca. 4 mm, smooth. Fl. May–Nov, fr. Jun–Aug.

Forests or thickets on mountain slopes; 900–1800 m. Xizang (Mêdog) [NE India].

This species is a root parasite, growing from the ground, and is sometimes parasitic on species of *Ficus*.

6. *Helixanthera guangxiensis* H. S. Kiu, Acta Phytotax. Sin. 21: 174. 1983.

广西离瓣寄生 guang xi li ban ji sheng

Shrubs ca. 0.7 m tall, branchlets and leaves densely yellow, stellate pubescent when young, becoming glabrous. Branches grayish, lenticellate. Leaves alternate or subopposite; petiole 2–4 mm; leaf blade ovate or obovate, 2–3 × 1–2 cm, thinly leathery, lateral veins 2 pairs, abaxially obscure, base broadly cuneate, apex obtuse. Racemes solitary or 2- or 3-fascicled, axillary, densely 2–4-flowered; peduncle ca. 1 mm, stellate pubescent; bracts ovate-triangular ca. 1 mm. Flowers 4-merous. Pedicel ca. 3 mm. Calyx ellipsoid, ca. 1.5 mm, limb annular, entire or 4-denticulate. Mature bud subclavate. Corolla yellowish, pubescent, petals linear-spatulate, 3–3.5 mm, reflexed from middle. Filaments ca. 1.5 mm; anthers 2-loculed, ca. 0.5 mm, connective broad. Style slightly 4-angled, ca. 3 mm; stigma subcapitate. Berry yellowish or orange ellipsoid, ca. 7 × 3–4 mm, smooth. Fl. Aug–Nov, fr. Nov–Dec.

• Forests on mountain slopes; 300–1000 m. SE Guangxi, SW Hainan.

The plants are parasitic on *Camellia oleifera*.

7. *Helixanthera scoriarum* (W. W. Smith) Danser, Bull. Jard. Bot. Buitenzorg, sér. 3, 10: 318. 1929.

滇西离瓣寄生 dian xi li ban ji sheng

Loranthus scoriarum W. W. Smith, Notes Roy. Bot. Gard. Edinburgh 10: 184. 1918.

Shrubs 1–2 m tall, branchlets and leaves brown scurfy when young, becoming glabrous. Branches dark brown, scattered lenticellate. Leaves opposite or subopposite; petiole 7–15 mm; leaf blade lanceolate to oblong-ovate, 5–12 × 1.5–6 cm, papery, lateral veins 4 or 5 pairs, slender, base cuneate and slightly decurrent, apex acuminate. Racemes solitary or paired, axillary, 10–16-flowered, 3–4 cm, brown scurfy; bracts ovate concave, ca. 2 mm. Flowers opposite, 4-merous. Pedicel absent. Calyx ovoid, ca. 1.5 mm, limb annular, 4-denticulate. Mature bud cylindric. Corolla orange, base slightly inflated, 4-angled, scurfy, petals lanceolate, 9–12 mm, reflexed from middle. Filaments ca. 3.5 mm; anthers 4-loculed, ca. 2.5 mm. Style 4-angled, 10–12 mm; stigma capitate. Berry yellowish green, ellipsoid, 7–8 × ca. 5 mm, smooth. Fl. and fr. May–Dec.

• Forests or thickets on mountain slopes; 1600–2100 m. Yunnan (Lincang, Tengchong, Yingjiang).

The plants are parasitic on species of *Lithocarpus*, sometimes growing on moist ground in forests, where it is apparently a root parasite.

5. DENDROPHTHOË Martius, Flora 13: 109. 1830.五蕊寄生属 *wu rui ji sheng shu*

Shrubs parasitic, some parts with stellate hairs. Leaves alternate or subopposite, pinnately veined. Inflorescences axillary, sometimes at leafless node, racemes or spikes; 1 bract subtending each flower, shorter than calyx. Flowers bisexual, 5-merous, actinomorphic or zygomorphic by the presence of a single lateral split of varying length. Calyx ovoid or urceolate, limb annular or cupular, persistent. Mature flower bud tubular. Corolla sympetalous, tube inflated, tip clavate, lobes reflexed or twisted with age. Stamens inserted at base of corolla lobes; filaments short, flattened; anthers 4-loculed. Pollen grain trilobate in polar view. Ovary 1-loculed; placentation basal. Style filiform, 5-angled; stigma capitate. Berry ovoid, exocarp leathery.

About 30 species: tropical Africa, Asia, and Australia; one species in China.

1. Dendrophthoë pentandra (Linnaeus) Miquel, Fl. Ned. Ind. 1(1): 818. 1856.

五蕊寄生 *wu rui ji sheng*

Loranthus pentandrus Linnaeus, Syst. Nat., ed. 12, 2: 252. 1767; Mant. Pl. 1: 63. 1767.

Shrubs to 2 m tall, youngest parts puberulous. Branches grayish, scattered lenticellate. Petiole 5–20 mm; leaf blade lanceolate to elliptic or suborbicular, 5–15 × 2.5–10 cm, thickly leathery, lateral veins 2–4 pairs, base cuneate or obtuse, apex acute or rounded, glabrous. Racemes solitary or 2 or 3 together, 3–10-flowered; peduncle 7–20 mm, with grayish or white

stellate hairs; bracts broadly ovate, 1–1.5 mm. Pedicel ca. 2 mm. Calyx 2–2.5 mm, limb 0.5–1.5 mm, 5-denticulate. Mature bud 1.5–2 cm. Corolla orange, basal 1/2 slightly inflated, lobes lanceolate, ca. 12 mm, reflexed. Filaments 3–4 mm; anthers 3–5 mm. Berry red, 8–10 × 5–6 mm, minutely pilose or glabrous. Fl. and fr. Dec–Jun.

Humid forests, less often in open forests and plantations; 100–1600 m. Guangdong, Guangxi, Yunnan [Cambodia, E India, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand, Vietnam].

Recorded hosts include *Aleurites moluccana*, *Canarium album*, *C. pimela*, *Clausena lansium*, *Hevea brasiliensis*, *Mangifera indica*, *Vernicia montana*, and species of *Ficus*.

6. SCURRULA Linnaeus, Sp. Pl. 1: 110. 1753.梨果寄生属 *li guo ji sheng shu*

Shrubs parasitic, base often with epicortical roots, most young parts usually with dense stellate and sometimes also verticillate hairs. Leaves opposite or subopposite, pinnately veined. Inflorescences axillary or at leafless node, racemes or sometimes umbels; 1 bract subtending each flower, usually scale-like. Flowers bisexual, 4-merous, zygomorphic. Calyx pyriform or turbinate, base attenuate, limb annular, persistent. Mature flower bud tubular. Corolla sympetalous, curved, basal portion ± inflated, split along 1 side at anthesis, tip ellipsoid or ovoid, lobes all reflexed toward the side away from the split. Stamens inserted at base of corolla lobes; filaments short; anthers 4-loculed, sometimes multilocellate. Pollen grain trilobate in polar view. Ovary 1-loculed; placentation basal. Style filiform, 4-angled; stigma only slightly enlarged and capitate. Berry turbinate, clavate, or pyriform, base narrow or often attenuate into stipe, exocarp leathery, pubescent or glabrous.

About 50 species: S and SE Asia; ten species (two endemic) in China.

Some authors have considered this genus to be congeneric with *Loranthus* Jacquin (1762), in which case the name *Loranthus* is conserved against *Scurrula*, which would otherwise have priority. However, the name *Scurrula* is not to be rejected when not united with *Loranthus*, and takes precedence over *Taxillus* Tieghem (1895) should, as some authors have suggested, *Scurrula* and *Taxillus* be treated as congeneric. Some authors have misinterpreted the status of *Scurrula* and incorrectly transferred some species to *Taxillus*. We believe that the difference in shape of the calyx and fruit offers a ready means of distinguishing these two genera in all but extremely immature material, and we therefore keep them separate.

- 1a. Inflorescences 2- or 3-flowered; bracts 3–5 mm, subspatulate 6. *S. notothixoides*
 1b. Inflorescences 3–16-flowered; bracts 0.5–1.5 mm, ovate to triangular.
 2a. Inflorescence peduncle plus rachis 25–35 mm; indumentum ± white 1. *S. pulverulenta*
 2b. Inflorescence peduncle plus rachis to 25 mm; indumentum reddish, brownish or gray.
 3a. Indumentum of stellate hairs only; leaves ± glabrous when fully expanded.
 4a. Racemes densely 3–7-flowered; corolla 1–2.5 cm; berry base abruptly contracted into distinct stalk 7. *S. parasitica*
 4b. Racemes 6–11-flowered; corolla 2.8–3.2 cm; berry base gradually tapered, not forming distinct stalk.
 5a. Branchlet and leaf hairs brown; bract ovate, ca. 1.5 mm; corolla tube inflated, ca. 3 mm in diam.; berry turbinate 2. *S. elata*
 5b. Branchlet and leaf hairs gray; bract triangular, ca. 0.5 mm; corolla tube slender, ca. 2 mm in diam.; berry pyriform 3. *S. gongshanensis*
 3b. Indumentum with at least some dendritic or verticillate hairs; leaves usually more persistently hairy, at least abaxially.

- 6a. Corolla [1.1–]2.2–2.5 cm 4. *S. atropurpurea*
 6b. Corolla 0.8–2 cm.
 7a. Leaf blade 4–5 cm, abaxial surface distinctly tomentose; berry base gradually attenuate, not forming a distinct stalk 5. *S. phoebe-formosanae*
 7b. Leaf blade 5–11 cm, abaxial surface sparsely hairy to subglabrous; berry base abruptly contracted into distinct stalk.
 8a. Racemes 6–14-flowered, flowers alternate or subopposite 9. *S. chingii*
 8b. Racemes 3–5(–7)-flowered, flowers densely alternate.
 9a. Corolla 1.5–2 cm; indumentum grayish yellow, rarely brown; petiole 4–12 mm 8. *S. buddleioides*
 9b. Corolla 0.8–1.5 cm; indumentum reddish brown; petiole 2–6 mm 10. *S. ferruginea*

1. *Scurrula pulverulenta* (Wallich) G. Don, Gen. Hist. 3: 421. 1834.

白花梨果寄生 bai hua li guo ji sheng

Loranthus pulverulentus Wallich in Roxburgh, Fl. Ind. 2: 221. 1824; *Cichlanthus pulverulentus* (Wallich) Tieghem.

Shrubs 1–1.5 m tall, young branchlets tomentose with white stellate and verticillate hairs, soon mealy and then glabrous. Branches gray, glabrous, lenticellate. Leaves opposite; petiole 15–20 mm; leaf blade broadly ovate or ovate-oblong, 7–16 × 6–9 cm, thinly leathery, both surfaces whitish tomentose when young, glabrous when mature, lateral veins 4–6 pairs, base rounded to broadly cuneate, apex bluntly acute or slightly acuminate. Racemes solitary or 2- or 3-fascicled, axillary, 8–16-flowered; peduncle and rachis 25–35 mm, white stellate tomentose; bracts ovate, ca. 1 mm. Pedicel 5–6 mm. Calyx pyriform, ca. 3 mm, limb annular. Mature bud tubular, 3–4 cm, tip ellipsoid. Corolla cream or yellowish, slightly curved, densely tomentose with white verticillate hairs, these longer than those on stems and leaves, apical portion slightly inflated, lobes lanceolate, ca. 10 mm, reflexed. Filaments 2–3 mm; anthers ca. 5 mm. Style red; stigma capitate. Berry pyriform or clavate, 6–10 × ca. 5 mm, pubescent. Fl. and fr. Aug–Mar.

Thickets, mountain slopes, valleys; 300–1800 m. Yunnan [Bhutan, India, Myanmar, Nepal, Pakistan, Thailand].

Recorded hosts include *Litsea glutinosa*, *Mallotus philippinensis*, *Vitex quinata*, and *Ziziphus jujuba* var. *inermis*. This species has been recorded as forming dense, damaging infestations of *Citrus* orchards in India and Nepal.

2. *Scurrula elata* (Edgeworth) Danser, Bull. Jard. Bot. Buitenzorg, sér. 3, 10: 350. 1929.

高山寄生 gao shan ji sheng

Loranthus elatus Edgeworth, Trans. Linn. Soc. London 20: 58. 1846.

Shrubs 0.5–1.5 m tall, young branchlets and young leaves with brown stellate hairs, becoming glabrous. Branches grayish brown to blackish brown, subsmooth, scattered lenticellate. Leaves opposite or alternate; petiole 10–20 mm; leaf blade ovate or oblong-ovate, 6–10 × 3–5 cm, leathery, lateral veins 5 or 6 pairs, base rounded to subcordate, apex shortly acuminate. Racemes solitary or paired, axillary, sometimes at leafless nodes, 6–10-flowered; rachis 5–15 mm, pilose; bracts ovate, ca. 1.5 mm. Pedicel 3–5 mm. Calyx turbinate, ca. 2.5 mm, limb annular. Mature bud tubular, 2.8–3 cm, tip ellipsoid. Corolla red or orange, slightly curved, apical portion inflated, ca. 3 mm in

diam., lobes lanceolate. Berry yellowish, turbinate, 6–8 × 4–5 mm, base gradually tapered. Fl. May–Jul, fr. Jul–Aug.

Forests or mixed forests; (2000–)2400–2800 m. Xizang [Bhutan, India, Nepal, Sikkim].

Recorded hosts include *Quercus semecarpifolia* and species of *Cotoneaster*, *Ilex*, *Rhododendron*, and *Viburnum*.

3. *Scurrula gongshanensis* H. S. Kiu, Acta Phytotax. Sin. 21: 176. 1983.

贡山梨果寄生 gong shan li guo ji sheng

Shrubs ca. 1 m tall, branchlets and young leaves with dense gray stellate hairs, becoming glabrous. Branches grayish brown, lenticellate. Leaves usually alternate; petiole 5–10 mm; leaf blade elliptic or oblong-ovate, 8–12 × 4–7 cm, leathery, lateral veins 3 or 4 pairs, inconspicuous, base broadly cuneate, apex obtuse. Racemes solitary or 2- or 3-fascicled, axillary, 5–11-flowered; rachis 10–15 mm, stellate hairy; bracts triangular, ca. 0.5 mm. Pedicel 2–3 mm. Calyx pyriform, ca. 2 mm, limb annular, undulate or 4-denticulate. Mature bud tubular, 3–3.2 cm, tip ellipsoid. Corolla red, slightly curved, apical portion ca. 2 mm in diam., lobes lanceolate, 6–8 mm, reflexed. Filaments 1–1.5 mm; anthers ca. 4 mm. Stigma subglobose. Berry pyriform, ca. 5 × 3.5 mm, pilose. Fl. Aug–Sep, fr. Oct.

• Forests, mountain slopes; 1900–2000 m. Yunnan (Bijiang, Gongshan).

The plants are parasitic on species of *Quercus*.

4. *Scurrula atropurpurea* (Blume) Danser, Bull. Jard. Bot. Buitenzorg, sér. 3, 10: 349. 1929.

梨果寄生 li guo ji sheng

Loranthus atropurpureus Blume, Verh. Batav. Genootsch. Kunsten 9: 186. 1823; *Cichlanthus philippensis* (Chamisso & Schlechtendal) Tieghem; *Loranthus philippensis* Chamisso & Schlechtendal; *L. philippensis* var. *macroantherus* Lecomte; *Scurrula philippensis* (Chamisso & Schlechtendal) G. Don.

Shrubs 0.7–1 m tall, young branchlets, leaves, inflorescences, and flowers with dense pale grayish, yellowish, or yellowish brown, uniformly long, verticillate hairs, at least some dendritic hairs. Branches grayish, glabrous, scattered lenticellate. Leaves opposite; petiole 7–10 mm, pilose; leaf blade ovate or oblong, 5–10 × (2.3–)3–6 cm, thinly leathery or papery, abaxial surface minutely tomentose, adaxial surface glabrous, lateral veins 4 or 5 pairs, base broadly cuneate to obtuse, apex acute or obtuse. Racemes solitary or 2- or 3-fascicled, axillary,

sometimes at leafless nodes, 5–9-flowered; peduncle 5–8 mm; bracts ovate-triangular, ca. 1 mm. Flowers densely alternate. Pedicel 1.5–2.5 mm. Calyx pyriform, ca. 2.5 mm, limb annular, entire or 4-denticulate. Mature bud tubular, [1.1–]2.2–2.5 cm, tip ellipsoid. Corolla red, curved, apical portion slightly inflated, lobes lanceolate, 6–8 mm, reflexed. Filaments ca. 1 mm; anthers 2.5–3 mm. Stigma subglobose. Berry greenish, pyriform, ca. 8 × 3.5 mm, pilose. Fl. Jun–Oct, fr. Sep–Dec.

Forests on mountain slopes; 1000–2900 m. NW Guangxi, Guizhou, Yunnan [Indonesia, Malaysia, Philippines, Thailand, Vietnam].

The indumentum of this species is distinctive; it is very pale brown or cream, with a mixture of long and short dendritic hairs, the long ones obviously overtopping the shorter hairs. Barlow (Blumea 36: 70. 1991) included *Scurrula philippensis* within *S. atropurpurea*, described from Java. Specimens from Indonesia and the Philippines have rather shorter flowers, (11–)13–20(–24) mm, than those from the Flora area (22–25 mm), and it is possible that the Chinese material is separable at infraspecific rank.

5. *Scurrula phoebe-formosanae* (Hayata) Danser, Bull. Jard. Bot. Buitenzorg, sér. 3, 10: 352. 1929.

楠树梨果寄生 nan shu li guo ji sheng

Loranthus phoebe-formosanae Hayata, Icon. Pl. Formosan. 5: 183. 1915.

Shrubs ca. 0.5 m tall, young branchlets, leaves, inflorescences, and flowers with dense ferruginous or brown verticillate and stellate hairs. Branches glabrous, lenticellate. Petiole 4–6 mm, pilose; leaf blade ovate, 4–5 × 2–3.5 cm, leathery, abaxial surface tomentose, adaxial surface glabrous, lateral veins 4 or 5 pairs, base rounded, apex obtuse. Racemes solitary or paired, axillary, sometimes at leafless nodes, 3–5-flowered; peduncle ca. 3 mm; bracts ovate-triangular, 1–1.5 mm. Flowers densely alternate. Pedicel ca. 2 mm. Calyx pyriform, 2.5–3 mm, limb annular. Mature bud tubular, 1–1.3 cm, tip ovoid. Corolla slightly curved, lobes subspatulate, 2.5–3 mm. Filaments 1.5–2 mm; anthers ca. 1 mm. Stigma globose. Berry pyriform, ca. 9 mm, tomentose. Fl. Apr–May.

- Forests, mountain slopes; 800–1200 m. Taiwan.

The plants are parasitic on *Phoebe formosana* and *Quercus variabilis*.

6. *Scurrula notothixoides* (Hance) Danser, Bull. Jard. Bot. Buitenzorg, sér. 3, 10: 352. 1929.

小叶梨果寄生 xiao ye li guo ji sheng

Loranthus notothixoides Hance, J. Bot. 21: 356. 1883; *Taxillus notothixoides* (Hance) Danser.

Shrubs ca. 0.5 m tall, young stems, leaves, inflorescences, and corollas with dense brownish verticillate and stellate hairs. Branches glabrous, lenticellate. Petiole 2–7 mm, pilose; leaf blade obovate or subrotund, 1.5–3 × 1–2.5 cm, papery, abaxial surface minutely tomentose, adaxial surface sparsely stellately hairy, veins usually 1 pair, base cuneate, apex obtuse to rounded. Umbels solitary or 2- or 3-fascicled, axillary, sometimes at leafless nodes, 2- or 3-flowered; peduncle 1–5 mm; bracts subspatulate, 3–5 mm. Pedicel 1–2 mm. Calyx pyriform, 2–3.5 mm, limb annular. Mature bud tubular, 2.4–3 cm, tip ovoid. Corolla pale green, brownish, or reddish brown, slightly

curved, distal portion slightly inflated, lobes spatulate, ca. 4 mm, reflexed. Filaments 1–1.5 mm; anthers ca. 1.5 mm. Stigma subcapitate. Berry yellowish or orange, clavate, 10 × 3.5 mm. Fl. and fr. Sep–Mar.

Forest margins; 100–300 m. S Guangdong, Hainan [Vietnam].

Recorded hosts for this species include *Citrus aurantium*, *Cordia dichotoma*, *Euodia leptota*, *Hibiscus tiliaceus*, *Melastoma* sp., *Streblus asper*, *Vitex pierreana*, *Wrightia laevis*, and *W. pubescens*.

7. *Scurrula parasitica* Linnaeus, Sp. Pl. 1: 110. 1753.

红花寄生 hong hua ji sheng

Shrubs 0.5–1 m tall, branchlets and leaves with dense stellate hairs when young, becoming glabrous. Branches brownish gray, lenticellate. Leaves opposite or subopposite; petiole 5–6 mm; leaf blade ovate to ovate-oblong, 5–8 × 2–4 cm, papery, lateral veins 5 or 6 pairs, both surfaces brownish or ferruginous pubescent when young, glabrous when mature, base broadly cuneate, apex obtuse. Racemes solitary or 2- or 3-fascicled, axillary, sometimes at leafless nodes, 3–7-flowered; peduncle 2–3 mm, brown pubescent; bracts ovate to triangular, 0.5–1.5 mm. Calyx turbinate, 2–2.5 mm, limb annular. Mature bud tubular, tip ellipsoid, apex acute. Corolla red or greenish yellow, slightly curved, 1–2.5 cm, apical portion inflated, lobes lanceolate, 3–8 mm, reflexed. Filaments 2–3 mm; anthers 1.5–2 mm. Stigma subcapitate. Berry reddish yellow, broadly pyriform, 8–10 × ca. 3 mm, base tapering into stalk. Fl. and fr. Oct–Jan.

Plains, hills, mountain slopes; 100–2100(–2800) m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Jiangxi, Sichuan, Taiwan, SE Xizang, Yunnan [Bangladesh, Bhutan, NE India, Indonesia, Malaysia, Myanmar, Nepal, Philippines, Sikkim, Thailand, Vietnam].

The plants have medicinal uses and are parasitic on a wide range of hosts, including species of Apocynaceae, Euphorbiaceae, Fabaceae, Fagaceae, Lythraceae, Moraceae, Punicaceae, Rosaceae, Rutaceae, Sapindaceae, Theaceae, and Ulmaceae; rarely, they are parasitic on species of Cupressaceae and Pinaceae.

- 1a. Corolla red, lobes 5–8 mm; mature bud 2–2.5 cm 7a. var. *parasitica*
- 1b. Corolla greenish yellow, lobes ca. 3 mm; mature bud 1–1.2 cm 7b. var. *graciliflora*

7a. *Scurrula parasitica* var. *parasitica*

红花寄生(原变种) hong hua ji sheng (yuan bian zhong)

Cichlanthus scurrula (Linnaeus) Tieghem; *Loranthus chinensis* Candolle var. *formosanus* Lecomte; *L. parasiticus* (Linnaeus) Merrill; *L. scurrula* Linnaeus; *Taxillus parasiticus* (Linnaeus) S. T. Chiu.

Leaf blade ovate to ovate-oblong, ferruginous pubescent when young. Inflorescences 3–5(–6)-flowered. Calyx 2–2.5 mm. Mature bud 2–2.5 cm. Corolla red, lobes 5–8 mm. Berry pyriform, ca. 10 mm, smooth. Fl. and fr. Oct–Apr.

Plains, mountain slopes; 100–1000(–2800) m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Jiangxi, Sichuan, Taiwan, Yunnan [Indonesia, Malaysia, Philippines, Thailand, Vietnam].

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Recorded hosts include *Citrus grandis*, *C. limon*, *C. reticulata*, *Clausena lansium*, *Lagerstroemia indica*, *Morus alba*, *Prunus persica*, *Pyrus pyrifolia*, *Sapindus mukorossi*, *Zanthoxylum armatum*, species of Apocynaceae, Euphorbiaceae, Theaceae, and Ulmaceae, and rarely *Cupressus duclouxiana* and *Keteleeria evelyniana*.

7b. *Scurrula parasitica* var. *graciliflora* (Roxburgh ex J. H. Schultes) H. S. Kiu in C. Y. Wu & H. W. Li, Fl. Yunnan. 3: 363. 1983.

小红花寄生 xiao hong hua ji sheng

Loranthus graciliflorus Roxburgh ex J. H. Schultes in Roemer & Schultes, Syst. Veg. 7: 99. 1829 [*“gracilifolius,”* typogr. error, see index, p. 1785]; *L. scurrula* Linnaeus var. *graciliflorus* (Roxburgh ex J. H. Schultes) Kurz; *Scurrula graciliflora* (Roxburgh ex J. H. Schultes) Danser [*“gracilifolia”*].

Leaf blade ovate-oblong or oblong, brownish pubescent when young. Inflorescences 3–7-flowered. Calyx ca. 2 mm. Mature bud 1–1.2 cm. Corolla greenish yellow, lobes ca. 3 mm. Berry pyriform, ca. 8 mm, pilose. Fl. and fr. Feb–Dec.

Plains, hills, mountain slopes; 100–2100 m. Guangdong, Guangxi, SW Guizhou, Hainan, SW Sichuan, SE Xizang (Médog), Yunnan [Bangladesh, ?Bhutan, NE India, Myanmar, Nepal, Sikkim, Thailand].

The plants are parasitic on *Bauhinia yunnanensis*, *Camellia sinensis* var. *assamica*, *Castanea henryi*, *Citrus grandis*, *Prunus armeniaca*, *P. persica*, *Punica granatum*, *Pyrus pyrifolia*, and *Sophora japonica*; rarely, they are parasitic on species of *Pinus*.

8. *Scurrula buddleioides* (Desrousseau) G. Don, Gen. Hist. 3: 421. 1834.

滇藏梨果寄生 dian zang li guo ji sheng

Shrubs 0.5–2 m tall, young branchlets, leaves, and inflorescences with dense short grayish yellow, rarely brown, verticillate and stellate hairs. Branches brownish, glabrous, scattered lenticellate. Leaves opposite; petiole 4–12 mm, pilose; leaf blade ovate, ovate-oblong to oblong, 6–10 × 3.5–8 cm, papery or thinly leathery, abaxial surface minutely tomentose, adaxial surface glabrous, lateral veins 4 or 5 pairs, base obtuse to rounded, apex acute. Racemes 2–5-fascicled, axillary, sometimes at leafless nodes, 3–5(–7)-flowered; peduncle and rachis 1.5–5 mm, brownish or grayish yellow tomentose. Flowers densely alternate; bracts ovate, ca. 1 mm. Pedicel 1–1.5 mm. Calyx pyriform, 2–3 mm, limb annular, ciliate. Mature bud tubular, 1.5–2 cm, tip ellipsoid. Corolla red, slightly curved and inflated, tomentose, lobes lanceolate, ca. 5 mm, reflexed. Style red; stigma subcapitate. Berry pyriform, 8–10 × 3.5–4 mm, pilose, base tapering into stalk. Fl. and fr. Jan–Dec.

Forests, thickets, mountain slopes, valleys; 1100–2200 m. Sichuan, Xizang, Yunnan [India].

Recorded hosts include species of Caprifoliaceae, Coriariaceae, Fagaceae, Moraceae, Rosaceae, Rutaceae, and Tiliaceae.

1a. Petiole 6–12 mm; inflorescence peduncle and axis 2–5 mm, 4- or 5(–7)-flowered, grayish yellow tomentose; calyx 2.5–3 mm; mature bud 1.5–1.6(–1.8) cm; filaments

1.5–3 mm; anthers 1.5–2 mm 8a. var. *buddleioides*
 1b. Petiole 4–5 mm; inflorescence peduncle and axis 1.5–2.5 mm, 3- or 4-flowered, brownish tomentose; calyx ca. 2 mm; mature bud ca. 2 mm; filaments ca. 1 mm; anthers ca. 2 mm 8b. var. *heynei*

8a. *Scurrula buddleioides* var. *buddleioides*

滇藏梨果寄生(原变种) dian zang li guo ji sheng (yuan bian zhong)

Loranthus buddleioides Desrousseau, Encycl. 3: 600. 1792; *L. scurrula* var. *buddleioides* (Desrousseau) Kurz.

Petiole 6–12 mm; leaf blade abaxial surface minutely grayish yellow tomentose. Inflorescences 4- or 5(–7)-flowered; peduncle and rachis 2–5 mm, grayish yellow tomentose. Calyx 2.5–3 mm. Mature bud 1.5–1.6(–1.8) cm. Filaments 1.5–3 mm; anthers 1.5–2 mm. Fl. and fr. Jan–Dec.

Forests, mountain slopes, valleys; 1100–2200 m. Sichuan (Miyi), Xizang (Bomi, Médog, Zayü), Yunnan [NE India].

Recorded hosts include *Colona floribunda*, *Coriaria sinica*, *Prunus persica*, *Pyrus pyrifolia*, and species of *Ficus*, *Lithocarpus*, and *Viburnum*.

8b. *Scurrula buddleioides* var. *heynei* (Candolle) H. S. Kiu, Guihaia 17: 308. 1997.

藏南梨果寄生 zang nan li guo ji sheng

Loranthus heynei Candolle, Prodr. 4: 300. 1830.

Petiole 4–5 mm; leaf blade abaxial surface minutely brown tomentose. Inflorescences 3- or 4-flowered; peduncle and rachis 1.5–2.5 mm, brownish tomentose. Calyx ca. 2 mm. Mature bud ca. 2 cm. Filaments ca. 1 mm; anthers ca. 2 mm. Fl. and fr. Oct–Apr.

Forests, thickets, mountain slopes; 1300–1800 m. SE Xizang (Médog) [India].

Recorded hosts include *Citrus reticulata* and *Prunus persica*.

9. *Scurrula chingii* (W. C. Cheng) H. S. Kiu, Acta Phytotax. Sin. 21: 175. 1983.

卵叶梨果寄生 luan ye li guo ji sheng

Shrubs ca. 1 m tall, young branchlets, abaxial leaf surfaces, and inflorescences tomentose with dense rusty red to tawny verticillate and stellate hairs. Branches gray, glabrous, lenticellate. Leaves opposite or subopposite; petiole 2–12 mm, glabrous or pilose; leaf blade ovate-oblong, ovate to broadly ovate, 6–11 × 4–7 cm, leathery, abaxial surface stellately hairy or glabrous, adaxial surface glabrous, lateral veins 4 or 5 pairs, base rounded to shallowly cordate, apex obtuse, sometimes obtusely acute. Racemes 2–4-fascicled or solitary, axillary, sometimes node leafless, 6–14-flowered; peduncle and rachis 6–25 mm. Flowers alternate to subopposite; bracts ovate, ca. 1 mm. Pedicel 1–2 mm. Calyx turbinate, ca. 3 mm. Mature bud tubular, tip ovoid. Corolla reddish brown or brownish, ± straight, tomentose, apical portion slightly inflated, lobes subspatulate, reflexed. Stigma subcapitate. Berry yellowish, pyriform, pilose, base tapering into stalk. Fl. Sep–Apr.

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Forests, hills, mountain slopes; 100–1300 m. Guangxi, Yunnan [N Vietnam].

Recorded hosts include species of Apocynaceae, Ebenaceae, Euphorbiaceae, Fabaceae, Lauraceae, Moraceae, Myrtaceae, Punicaceae, and Theaceae.

- 1a. Petiole 6–12 mm; peduncle and floral axis 10–25 mm; racemes 7–14-flowered; corolla 1–1.3 cm, lobes subspatulate 9a. var. *chingii*
- 1b. Petiole 2–4 mm; peduncle and floral axis less than 10 mm; racemes 6–9-flowered; corolla 1.5–1.7 cm, lobes lanceolate 9b. var. *yunnanensis*

9a. *Scurrula chingii* var. *chingii*

卵叶梨果寄生(原变种) luan ye li guo ji sheng (yuan bian zhong)

Loranthus chingii W. C. Cheng, Sinensia 4: 327. 1934.

Petiole 6–12 mm, pilose; leaf blade abaxial surface rusty red tomentose or glabrous. Racemes 7–14-flowered; peduncle and rachis 10–25 mm. Mature bud 1–1.3 cm. Corolla brown tomentose, lobes subspatulate, 3–5 mm. Filaments ca. 1.5 mm; anthers ca. 1 mm. Berry pyriform, 9–10 × ca. 3 mm, with stellate hairs. Fl. Sep–Apr.

Forests, hills, mountain slopes; 100–1100 m. Guangxi, S Yunnan [N Vietnam].

Recorded hosts include *Albizia kalkora*, *Artocarpus heterophyllus*, *Camellia oleifera*, *C. sinensis* var. *assamica*, *Securinega virosa*, and *Vernicia montana*.

9b. *Scurrula chingii* var. *yunnanensis* H. S. Kiu in C. Y. Wu & H. W. Li, Fl. Yunnan. 3: 364. 1983.

短柄梨果寄生 duan bing li guo ji sheng

Petiole 2–4 mm, glabrous; leaf blade both surfaces glabrous. Racemes 6–9-flowered; peduncle and rachis 6–9 mm. Mature bud 1.5–1.7 cm. Corolla brownish tomentose, lobes lanceolate, 6–7 mm. Filaments ca. 2 mm; anthers ca. 2 mm.

Berry pyriform, ca. 8 × ca. 3 mm, pilose. Fl. Oct–Feb, fr. Mar–May.

- Forests, mountain slopes; 500–1300 m. Yunnan.

Recorded hosts include *Aporosa yunnanensis*, *Caesalpinia sappan*, *Nerium indicum*, *Phyllanthus emblica*, *Punica granatum*, and species of *Diospyros*, *Litsea*, and *Syzygium*.

10. *Scurrula ferruginea* (Jack) Danser, Bull. Jard. Bot. Buitenzorg, sér. 3, 10: 350. 1929.

锈毛梨果寄生 xiu mao li guo ji sheng

Loranthus ferrugineus Jack, Malayan Misc. 1: 279. 1820; *Cichlanthus ferrugineus* (Jack) Tieghem.

Shrubs ca. 1 m tall, young branchlets and leaves with dense darkly reddish brown, longer and shorter verticillate hairs, soon mealy. Branches gray, glabrous, lenticellate. Leaves opposite; petiole 2–6 mm; leaf blade broadly elliptic or ovate, 5–10 × 2–6 cm, thinly leathery, abaxial surface with sparse, short verticillate hairs or subglabrous, adaxial surface glabrous, lateral veins 5–8 pairs, base rounded to shallowly cordate, apex obtuse to subrounded. Racemes solitary or 2 together, axillary, 4–6-flowered; peduncle and rachis 3–10 mm, with dense, long, darkly ferruginous, verticillate hairs. Flowers densely alternate; bracts ovate-triangular, ca. 0.5 mm. Pedicel 1–1.5 cm. Calyx ovoid, ca. 4 mm, limb annular. Mature bud tubular, 0.8–1.5 cm, tip ellipsoid, apex obtuse. Corolla brown, slightly curved, tomentose, apical portion inflated, lobes lanceolate, ca. 4.5 mm, reflexed. Filaments ca. 1 mm; anthers ca. 1 mm. Stigma subcapitate. Fruiting pedicel ca. 3 mm, recurved. Berry pyriform, 8–10 × 3–4 mm, with verticillate hairs, base contracted into stalk. Fl. Oct–Feb.

Forests, mountain slopes, orchards; 900–1800 m. Yunnan [Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand, Vietnam].

Recorded hosts include *Citrus grandis*, *Ficus hispida*, *Phyllanthus emblica*, and *Prunus salicina*.

7. TAXILLUS Tieghem, Bull. Soc. Bot. France 42: 256. 1895.

钝果寄生属 dun guo ji sheng shu

Shrubs parasitic, most young parts usually with dense stellate and/or verticillate hairs, rarely glabrous (in *T. delavayi*). Leaves opposite or alternate, pinnately veined. Inflorescences axillary, umbels or rarely short, irregular racemes, 2–5-flowered; 1 bract subtending each flower, usually scale-like. Flowers bisexual, 4[or 5]-merous, zygomorphic. Calyx ellipsoid or ovoid, rarely subglobose, base not attenuate, limb annular, entire or denticulate, persistent. Mature flower bud tubular, tip ellipsoid or ovoid. Corolla sympetalous, slightly curved, basal portion ± inflated, split along 1 side at anthesis, lobes all reflexed toward the side away from the split. Stamens inserted at base of corolla lobes; filaments short to almost absent; anthers 4-loculed, sometimes multilocellate. Pollen grain trilobate or semilobate in polar view. Ovary 1-loculed; placentation basal. Style filiform, 4- or 5-angled; stigma usually capitate. Berry ellipsoid or ovoid, rarely globose, exocarp leathery, verrucose or granular, rarely smooth, pubescent or glabrous, base rounded.

About 25 species: S and SE Asia; 18 species (nine endemic) in China.

- 1a. Corolla glabrous; leaves alternate or a few fascicled on short shoots.
 - 2a. Young branchlet glabrous, usually distinctly angular; leaf blade ovate or elliptic to lanceolate, 1.5–2 cm wide; berry ellipsoid; usually parasitic on broad-leaved trees and shrubs, rarely on *Keteleeria evelyniana* 1. *T. delavayi*
 - 2b. Young branchlet densely stellately hairy, becoming glabrous, terete; leaf blade linear to subspatulate or oblong, 0.3–1.5 cm wide; berry ovoid or subglobose; always parasitic on species of Pinaceae.
 - 3a. Leaf blade 3–5 × 0.7–1.5 cm; inflorescences 4–6-flowered; berry smooth 4. *T. renii*

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- 3b. Leaf blade 1.5–3.5 × 0.3–1.2 cm; inflorescences 2- or 3-flowered; berry granulose.
 4a. Calyx glabrous; berry reddish brown 2. *T. kaempferi*
 4b. Calyx tomentose; berry purple 3. *T. caloreas*
- 1b. Corolla hairy, hairs sometimes closely adpressed to surface; leaves opposite or subopposite, rarely alternate, not fascicled.
 5a. Corolla 3.5–4.2 cm.
 6a. Leaf blade ± glabrous when fully expanded, 2.5–6 × 1.5–3.5 cm 15. *T. balansae*
 6b. Leaf blade persistently tomentose abaxially, 10–12 × 5–6 cm 9. *T. umbellifer*
- 5b. Corolla 1.2–3.5 cm.
 7a. Leaf blade abaxially persistently tomentose.
 8a. Corolla exterior pubescent with adpressed stellate hairs; inflorescences subumbellate racemes, axis short but usually distinct 12. *T. sutchuenensis*
 8b. Corolla exterior pilose with dense verticillate hairs; inflorescences umbels or subumbels.
 9a. Corolla lobes lanceolate; tip of bud ellipsoid 13. *T. thibetensis*
 9b. Corolla lobes spatulate; tip of bud ovoid.
 10a. Corolla (1.8–)2–2.2 cm; inflorescences (1 or)2(or 3)-flowered; berry ovoid, ca. 6 × 4 mm 18. *T. levinei*
 10b. Corolla 1.2–1.8(–2.3) cm; inflorescences 2–5-flowered; berry ellipsoid, 7–8 mm.
 11a. Inflorescences subumbellate with short rachis, 2–5-flowered; berry scabrid 16. *T. nigrans*
 11b. Inflorescences umbellate, 2- or 3-flowered; berry granulose 17. *T. vestitus*
- 7b. Leaf blade ± glabrous when fully expanded; corolla exterior [mostly] with adpressed stellate hairs.
 12a. Corolla 1.5–2 cm.
 13a. Young branchlets brownish gray tomentose; berry 7–8 mm, verrucose or verruculose 5. *T. theifer*
 13b. Young branchlet and leaf densely yellowish or reddish brown stellate hairy; berry ca. 4 mm, granulose, not verrucose 10. *T. pseudochinensis*
- 12b. Corolla 2–3.5 cm.
 14a. Tip of mature bud not enlarged 11. *T. tsaii*
 14b. Tip of mature bud distinctly enlarged, ovoid or ellipsoid to subglobose.
 15a. Pedicel 6–7 mm; indumentum predominantly reddish brown 14. *T. chinensis*
 15b. Pedicel 3–5 mm; indumentum predominantly deep brown or yellowish brown.
 16a. Berry granulose, not verrucose 8. *T. sericus*
 16b. Berry verrucose or verruculose.
 17a. Young branchlet yellowish brown or deep brown tomentose; corolla 2.7–3.5 cm 6. *T. limprichtii*
 17b. Young branchlet, leaf, and corolla with dense, deep brown stellate and verticillate hairs; corolla 2.2–2.8 cm 7. *T. liquidambaricola*

1. *Taxillus delavayi* (Tieghem) Danser, Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk., 29(6): 123. 1933.

柳树寄生 liu shu ji sheng

Shrubs 0.5–1 m tall. Branches blackish, conspicuously angular when dried, often very minutely transversely wrinkled, young branchlets glabrous. Leaves alternate, sometimes subopposite or a few fascicled on short shoots; petiole 2–4 mm; leaf blade ovate, or elliptic to lanceolate, 3–5 × 1.5–2 cm, leathery, both surfaces glabrous, lateral veins 3 or 4 pairs, base cuneate, slightly decurrent, apex obtuse. Umbels solitary or 2 together, sometimes at leafless node, 2–4-flowered; peduncle 0–2 mm; bracts ovate, ca. 2 mm, glabrous, rarely long bearded at tip. Pedicel 1–6 mm. Calyx ellipsoid, ca. 2.5 mm, limb annular, entire or minutely 4-toothed. Mature bud 2–3 cm, tip ellipsoid. Corolla red, slightly curved, glabrous, lobes lanceolate, 3–9 mm, reflexed. Filaments ca. 2 mm; anthers 1.5–4 mm. Stigma capitate. Berry yellow or orange, ellipsoid, 8–10 × ca. 4 mm. Fl. Feb–Jul, fr. May–Sep.

Forests, mountain slopes; 1500–3500 m. NW Guangxi, W Guizhou, Sichuan, E Xizang, Yunnan [Myanmar, N Vietnam].

- 1a. Pedicel 1–2 mm; corolla lobes ca. 3 mm; anthers ca. 1.5 mm 1c. var. *yanjingensis*
 1b. Pedicel 4–6 mm; corolla lobes 6–9 mm; anthers 3–4 mm.
 2a. Bracts with long-bearded tips 1b. var. *barbatus*
 2b. Bracts glabrous 1a. var. *delavayi*

1a. *Taxillus delavayi* var. *delavayi*

柳树寄生(原变种) liu shu ji sheng (yuan bian zhong)

Phyllodesmis delavayi Tieghem, Bull. Soc. Bot. France 42: 255. 1895; *Loranthus balfourianus* Diels; *P. coriacea* Tieghem; *P. paucifolia* Tieghem; *Taxillus balfourianus* (Diels) Danser.

Bracts glabrous. Pedicel 4–6 mm. Corolla lobes 6–9 mm. Anthers 3–4 mm.

Forests, mountain slopes; 1500–3500 m. NW Guangxi, W Guizhou, Sichuan, E Xizang, Yunnan [Myanmar, N Vietnam].

The plants have medicinal uses and have been recorded as parasitic on *Coriaria sinica*, *Juglans cathayensis*, *Prunus persica*, *P. pilosiuscula*, *Pyrus pyrifolia*, *Sorbus wilsoniana*, and species of *Acer*, *Betula*,

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Populus, Quercus, Rhododendron, and Salix. Rarely, *Keteleeria evelyniana* serves as a host plant.

1b. *Taxillus delavayi* var. *barbatus* W. L. Cheng, Acta Bot. Yunnan. 20: 394. 1998.

髯毛钝果寄生 ran mao dun guo ji sheng

Bracts glabrous, with long-bearded tip. Pedicel 4–6 mm. Corolla lobes 6–9 mm. Anthers 3–4 mm.

- Forests, mountain slopes; 2000–2700 m. SE Xizang (Nyingchi).

This taxon is parasitic on species of *Salix*.

1c. *Taxillus delavayi* var. *yanjingensis* W. L. Cheng, Acta Bot. Yunnan. 20: 394. 1998.

盐井钝果寄生 yan jing dun guo ji sheng

Bracts glabrous. Pedicel 1–2 mm. Corolla lobes ca. 3 mm. Anthers ca. 1.5 mm.

- Forests, mountain slopes; ca. 2500 m. SE Xizang (Markam).

This taxon is parasitic on species of *Populus*.

2. *Taxillus kaempferi* (Candolle) Danser, Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk. 29(6): 124. 1933.

小叶钝果寄生 xiao ye dun guo ji sheng

Shrubs 0.5–1 m tall, branchlets terete, with dense ferruginous stellate hairs, becoming glabrous. Branches grayish brown, verrucose, scattered lenticellate. Leaves alternate or 2–4-fascicled on short shoots; petiole short; leaf blade linear or subspatulate, 1.5–3 × 0.3–0.7 cm, leathery, both surfaces rapidly glabrescent, midvein conspicuous, base cuneate, apex obtuse. Umbels solitary or 2 or 3 together, 2- or 3-flowered; peduncle 1–3 mm; bracts ovate, ca. 1 mm, apex often 3-lobed. Calyx subglobose, 1.5–2 mm, glabrous, limb annular, 4-lobed. Mature bud 1.5–3 cm, tip ellipsoid. Corolla red, slightly curved, glabrous, lobes lanceolate, ca. 5 mm, reflexed. Filaments ca. 1 mm; anthers 2–4 mm. Stigma capitate. Berry reddish brown, ovoid, 4–5 mm in diam., granulose. Fl. Jul–Aug.

Forests, mountain slopes; 900–2800 m. Anhui, Fujian, W Hubei, S Jiangxi, Sichuan, S Zhejiang [Bhutan, Japan].

The plants are parasitic on species of Pinaceae.

- 1a. Petiole 1–2 mm; leaf blade 1.5–3 × 0.3–0.7 cm; peduncle 2–3 mm; pedicel 2–3 mm; calyx subglobose ca. 1.5 mm; mature bud 1.5–1.6 cm 2a. var. *kaempferi*
- 1b. Petiole 0–1 mm; leaf blade 3–3.5 × 0.4–0.6 cm; peduncle 1.5–2 mm; pedicel 1.5–2 mm; calyx ellipsoid ca. 2 mm; mature bud ca. 3 cm 2b. var. *grandiflorus*

2a. *Taxillus kaempferi* var. *kaempferi*

小叶钝果寄生(原变种) xiao ye dun guo ji sheng (yuan bian zhong)

Viscum kaempferi Candolle, Prodr. 4: 285. 1830; *Loranthus kaempferi* (Candolle) Maximowicz; *Phylloidesmis kaempferi* (Candolle) Tieghem.

Petiole 1–2 mm; leaf blade linear or subspatulate, 1.5–3 × 0.3–0.7 cm. Umbels solitary or 2 together; peduncle 2–3 mm. Pedicel 2–3 mm. Calyx subglobose, ca. 1.5 mm, glabrous. Mature bud 1.5–1.6 cm. Anthers ca. 2 mm. Fl. Jul–Aug, fr. Apr–May.

Forests, mountain slopes; 900–1600 m. Anhui, Fujian, S Jiangxi, S Zhejiang [Bhutan, Japan].

The plants are parasitic on *Pinus massoniana*, *P. taiwanensis*, and *Tsuga chinensis* var. *tchekiangensis*.

2b. *Taxillus kaempferi* var. *grandiflorus* H. S. Kiu, Acta Phytotax. Sin. 21: 177. 1983.

黄杉钝果寄生 huang shan dun guo ji sheng

Petiole 0–1 mm; leaf blade linear, 3–3.5 × 0.4–0.6 cm. Umbels 2 or 3 together; peduncle 1.5–2 mm. Pedicel 1.5–2 mm. Calyx ellipsoid, ca. 2 mm. Mature bud ca. 3 cm. Anthers ca. 4 mm. Fl. Jul–Aug, fr. May–Jun.

- Coniferous forests, mountain slopes; 1000–2800 m. W Hubei, Sichuan.

The name “*Loranthus caloreas* Diels var. *oblongifolius* Lecomte,” cited in the protologue of *Taxillus kaempferi* var. *grandiflorus*, is a *nomen nudum*.

The plants are parasitic on *Pseudotsuga sinensis*.

3. *Taxillus caloreas* (Diels) Danser, Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk. 29(6): 123. 1933.

松柏钝果寄生 song bai dun guo ji sheng

Shrubs 0.3–1 m tall, branchlets terete, with dense brown stellate hairs, becoming glabrous. Branches blackish brown, verrucose. Leaves alternate or a few fascicled on short shoots; petiole 1–2.5 mm; leaf blade brownish when dried, subspatulate to linear, 2–3.5 × 0.3–1.2 cm, leathery, both surfaces rapidly glabrescent, base cuneate, apex obtuse. Umbels solitary or 2 together, 2- or 3-flowered; peduncle 0–3 mm; bracts broadly triangular or ovate, concave, ca. 1 mm, apex acute, rarely 3-lobed. Pedicel 1–2 mm. Calyx ovoid, ca. 1.5 mm, brown tomentose. Mature bud tip ellipsoid. Corolla red, slightly curved, glabrous, basal part slightly inflated, lobes lanceolate, 7–8 mm, reflexed. Filaments ca. 2 mm; anthers ca. 4 mm. Stigma capitate. Berry purple, subglobose, 4–5 × 3–5 mm, granulose. Fl. Jul–Aug.

Forests, mountain slopes; 900–2800(–3100) m. Chongqing, Fujian, N Guangdong, Guangxi, Guizhou, Hubei, Sichuan, Taiwan, Xizang, Yunnan [Bhutan].

The plants are parasitic on species of Pinaceae.

- 1a. Leaf blade 20–30 × 3–7 mm, lateral veins inconspicuous; pedicel 1–2 mm; mature bud 2–2.7 cm 3a. var. *caloreas*
- 1b. Leaf blade 30–35 × 6–12 mm, lateral veins conspicuous; pedicel 2–3 mm; mature bud 1.5–2 cm 3b. var. *fargesii*

3a. *Taxillus caloreas* var. *caloreas*

松柏钝果寄生(原变种) song bai dun guo ji sheng (yuan bian zhong)

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Loranthus caloreas Diels, Notes Roy. Bot. Gard. Edinburgh 5: 251. 1912; *L. matsudae* Hayata; *Phyllodesmis caloreas* (Diels) Danser; *Taxillus matsudae* (Hayata) Danser.

Leaf blade linear or subspatulate, 2–3 × 0.3–0.7 cm, lateral veins inconspicuous. Umbels 2- or 3-flowered. Pedicel 1–2 mm. Calyx ovoid, brown tomentose. Mature bud 2–2.7 cm. Corolla lobes lanceolate, 7–8 mm. Fl. Jul–Aug, fr. Apr–May next year.

Coniferous or mixed forests, mountain slopes; 900–2800(–3100) m. Fujian, N Guangdong, Guangxi, Guizhou, Hubei, Sichuan, Taiwan, Xizang, Yunnan [Bhutan].

The plants have medicinal uses. The plants are parasitic on *Keteleeria davidiana*, *Picea morrisonicola*, *Pinus massoniana*, *P. taiwanensis*, *Tsuga dumosa*, and species of *Cedrus*.

3b. *Taxillus caloreas* var. *fargesii* (Lecomte) H. S. Kiu in C. Y. Wu & H. W. Li, Fl. Yunnan. 3: 368. 1983.

显脉钝果寄生 xian mai dun guo ji sheng

Loranthus caloreas var. *fargesii* Lecomte, Notul. Syst. (Paris) 3: 49. 1914.

Leaf blade oblong or subspatulate, 3–3.5 × 0.6–1.2 cm, lateral veins conspicuous. Umbels 2–4-flowered. Pedicel 2–3 mm. Calyx ovoid, brownish hairy. Mature bud 1.5–2 cm. Corolla lobes lanceolate, ca. 6 mm. Fl. Jul–Aug, fr. Oct–May next year.

• Forests, mountain slopes; 1000–1200 m. Chongqing (Chengkou, Shizhu).

The plants are parasitic on species of *Pinus* and *Tsuga*.

4. *Taxillus renii* H. S. Kiu, Guihaia 17: 306. 1997.

油杉钝果寄生 you shan dun guo ji sheng

Shrubs 0.3–1.5 m tall, branchlets terete, tomentose, glabrescent, hairs brown stellate. Branches blackish, verrucose. Leaves alternate or 3–5-fascicled on short shoots; petiole 1–4 mm; leaf blade subspatulate or oblong, 3–5 × 0.7–1.5 cm, leathery, both surfaces rapidly glabrescent, lateral veins 1–3 pairs, base tapered, apex obtuse. Umbels 4–6-flowered; bracts ovate, concave, minute, apex acute. Pedicel 3–5 mm. Calyx ovoid, glabrous, limb annular, ciliolate, becoming glabrous. Mature bud 3–3.2 cm, tip ellipsoid. Corolla slightly curved, glabrous, basal part inflated, lobes lanceolate, 7–8 mm, reflexed. Filaments ca. 2 mm; anthers 3–4 mm. Stigma capitate. Berry purple to blackish purple, subglobose, 6–8 × 6–7.5 mm, smooth. Fl. Jun–Oct, fr. Oct–May.

• Coniferous or mixed forests, mountain slopes; 1000–3000 m. SW Sichuan, Yunnan.

The plants, which have medicinal uses, are parasitic on *Keteleeria evelyniana*, *Pinus yunnanensis*, and species of *Picea*.

5. *Taxillus theifer* (Hayata) H. S. Kiu, Acta Phytotax. Sin. 21: 179. 1983.

台湾钝果寄生 tai wan dun guo ji sheng

Loranthus theifer Hayata, Icon. Pl. Formosan. 5: 186. 1915; *Scurrula theifer* (Hayata) Danser.

Shrubs ca. 1 m tall, young stems and branchlets with dense brownish gray stellate hairs, becoming glabrous. Branches grayish, lenticellate. Leaves subopposite; petiole 3–5 mm; leaf blade elliptic or obovate-oblong, 2–5 × 1–2 cm, slightly leathery, both surfaces rapidly glabrescent, lateral veins 3 or 4 pairs, base cuneate, apex obtuse to rounded. Umbels 2- or 3-fascicled, sometimes at leafless node, 3–5-flowered; peduncle 3–4 mm, stellate hairy or -pilose; bracts triangular, ca. 1 mm. Pedicel 2.5–3 mm. Calyx ellipsoid, ca. 2 mm, limb annular, minutely 4-toothed. Mature bud 1.7–2 cm, tip ellipsoid. Corolla red, slightly curved, with adpressed stellate hairs, basal part slightly inflated, lobes lanceolate, ca. 7 mm, reflexed. Filaments 1.5–2 mm; anthers 2–3 mm. Stigma capitate. Berry ellipsoid, 7–8 × 3.5–5 mm, verrucose or verruculose. Fl. and fr. Aug–Feb.

• Forests; 500–800 m. Taiwan.

Recorded hosts include *Pistacia chinensis*, *Sapindus mukorossi*, *Vitex negundo*, and *V. quinata*.

6. *Taxillus limprichtii* (Grüning) H. S. Kiu, Acta Phytotax. Sin. 21: 178. 1983.

木兰寄生 mu lan ji sheng

Shrubs 0.5–1.5 m tall, young stems and branchlets tomentose, becoming glabrous, hairs deep brown or yellowish brown, stellate, sometimes also some scattered verticillate hairs. Branches grayish brown, scattered lenticellate. Leaves opposite or subopposite; petiole 5–12 mm; leaf blade oblong, ovate-oblong, or obovate, 5–12 × 2.5–6 cm, leathery, both surfaces rapidly glabrescent, lateral veins 4–7 pairs, adaxially prominent or not when dried, base cuneate, frequently decurrent into petiole, margin entire and recurved, apex short acuminate or obtuse. Umbels 1–3, sometimes at leafless node, 2–6-flowered; peduncle 2–6 mm, dark brown or yellowish brown stellate tomentose; bracts ovate, ca. 1 mm. Pedicel 3–4 mm. Calyx narrowly ovoid, 1.5–2.5 mm, limb annular, entire or minutely 4-toothed. Mature bud 2.7–3.5 cm, tip enlarged, ellipsoid. Corolla red or orange, slightly curved, sparsely hairy at anthesis, hairs closely adpressed with few rays, basal part inflated, lobes lanceolate, 8–10 mm, reflexed. Filaments 1.5–2 mm; anthers 4–7 mm. Stigma capitate. Berry yellowish to reddish, ellipsoid, 7–9 × 3–5 mm, verrucose, pilose, becoming glabrous and somewhat muriculate.

Forests, mountain slopes, valleys; 200–2200 m. Fujian, Guangdong, Guangxi, Guizhou, Hunan, Jiangxi, E Sichuan, Taiwan, Yunnan [Thailand, Vietnam].

Recorded hosts include species of Euphorbiaceae, Fagaceae, Hamamelidaceae, Lauraceae, Magnoliaceae, Oleaceae, Sterculiaceae, and Theaceae.

- 1a. Young branchlets and exterior of corolla yellowish brown stellate tomentose; mature bud 2.7–3 cm; only midvein conspicuous 6a. var. *limprichtii*
- 1b. Young branchlets and exterior of corolla deep brown stellate tomentose; mature bud 3.2–3.5 cm; midvein and lateral veins conspicuous 6b. var. *longiflorus*

6a. *Taxillus limprichtii* var. *limprichtii*

木兰寄生(原变种) mu lan ji sheng (yuan bian zhong)

Loranthus limprichtii Grüning, Repert. Spec. Nov. Regni Veg. 12: 500. 1913; *L. cavaleriei* H. Léveillé; *L. daibuzanensis* Yamamoto; *L. kwangtungensis* Merrill; *L. nitakayamensis* Yamamoto; *L. ritozanensis* Hayata; *Scurrula ritozanensis* (Hayata) Danser; *Taxillus cavaleriei* (H. Léveillé) Danser; *T. kwangtungensis* (Merrill) Danser; *T. ritozanensis* (Hayata) S. T. Chiu.

Shrubs 0.5–1.3 m tall, young branchlets, inflorescences, and exterior of corolla densely yellowish brown stellate tomentose. Leaf blade ovate-oblong or obovate and commonly oblique, 4–12 × 2.5–6 cm, lateral veins 4 or 5 pairs, adaxially inconspicuous or slightly impressed when dried, midvein conspicuous, apex obtuse. Peduncle 3–6 mm. Pedicel ca. 3 mm. Mature bud 2.7–3 cm. Corolla red or orange, lobes 8–9 mm. Filaments ca. 2 mm; anthers 4–5 mm. Berry yellowish or reddish yellow, 7–8 × 3.5–4 mm. Fl. Oct–Mar, fr. Jun–Jul.

• Forests, mountain slopes, valleys; 200–1300 m. Fujian, Guangdong, Guangxi, Guizhou, Hunan, Jiangxi, E Sichuan, Taiwan, SE Yunnan.

Recorded hosts include *Camellia oleifera*, *Castanea mollissima*, *Castanopsis chinensis*, *Cinnamomum camphora*, *Firmiana simplex*, *Lindera communis*, *Liquidambar formosana*, *Loropetalum chinense*, *Magnolia lotungensis*, *M. officinalis* subsp. *biloba*, *Michelia foveolata*, *Osmanthus fragrans*, and *Vernicia montana*.

6b. *Taxillus limprichtii* var. *longiflorus* (Lecomte) H. S. Kiu, Acta Phytotax. Sin. 21: 178. 1983.

亮叶木兰寄生 liang ye mu lan ji sheng

Loranthus estipitatus var. *longiflorus* Lecomte in Sargent, Pl. Wilson. 3: 316. 1916.

Shrubs 1–1.5 m tall, young branchlets, inflorescences, and exterior of corolla deep brown tomentose, hairs both stellate and scattered verticillate. Leaf blade oblong or oblong-ovate, 7–12 × 4–6 cm, lateral veins 5–7 pairs, adaxially conspicuous when dried, midvein conspicuous, apex short acuminate or obtuse. Peduncle 2–3 mm. Pedicel 3–4 mm. Mature bud 3.2–3.5 cm. Corolla red, lobes 9–10 mm. Filaments 1.5–2 mm; anthers 5–7 mm. Berry reddish, 8–9 × ca. 5 mm. Fl. May–Aug, fr. Aug–Dec.

Forests; 1700–2200 m. Yunnan [Thailand, Vietnam].

The plants are parasitic on *Camellia sinensis* var. *assamica* and species of Fagaceae and Lauraceae.

7. *Taxillus liquidambaricola* (Hayata) Hosokawa, J. Jap. Bot. 12: 421. 1936.

阔叶果寄生 lang kan guo ji sheng

Shrubs 0.5–1 m tall, young stems and branchlets tomentose, glabrescent, hairs a mixture of deep brown verticillate hairs and paler adpressed stellate hairs. Branches grayish, scattered lenticellate. Leaves opposite; petiole 5–12 mm; leaf blade oblong to ovate-oblong, 4–10 × 1.5–5.5 cm; leathery, both surfaces rapidly glabrescent, lateral veins 4–7 pairs, adaxially prominent, base cuneate to broadly cuneate, slightly decurrent into petiole, margin entire and recurved, apex obtuse. Umbels

solitary or 2 together, axillary, sometimes at leafless nodes, 2–4-flowered; peduncle 4–6 mm, dark brown tomentose; bracts triangular, 0.5–1 mm. Pedicel 4–5 mm. Calyx ovoid or sub-ovoid, ca. 3 mm, limb annular. Mature bud tubular, 2.2–2.8 cm, tip enlarged, ellipsoid. Corolla red or scarlet, with gray-green tip, slightly curved, with dense, deep brown stellate and verticillate hairs, basal part inflated, lobes lanceolate, 6–9 mm, reflexed. Filaments ca. 1 mm; anthers 4–5 mm. Stigma capitate. Berry reddish, ellipsoid, 6–9 × 3–5 mm, verrucose, pilose. Fl. Jul–Oct, fr. Oct–Dec.

• Forests, tea plantations, mountain slopes, valleys; 300–700 m. Fujian, Guangdong, Guangxi, Hainan, Taiwan, SE Yunnan.

Recorded hosts include species of Apocynaceae, Daphniphyllaceae, Ebenaceae, Euphorbiaceae, Hamamelidaceae, Myrsinaceae, Oleaceae, and Theaceae.

- 1a. Leaf blade ovate-oblong to oblong, 5–10 × 2.5–5.5 cm, lateral veins slightly prominent; corolla 2.4–2.8 cm, red 7a. var. *liquidambaricola*
 1b. Leaf blade sublanceolate to narrowly oblong, 4–7.5 × 1.5–2.8 cm, lateral veins prominent; corolla 2.2–2.5 cm, scarlet 7b. var. *neriifolius*

7a. *Taxillus liquidambaricola* var. *liquidambaricola*

阔叶果寄生(原变种) lang kan guo ji sheng (yuan bian zhong)

Loranthus liquidambaricola Hayata, Icon. Pl. Formosan. 6: 38. 1916; *Scurrula liquidambaricola* (Hayata) Danser; *Taxillus limprichtii* (Grüning) H. S. Kiu var. *liquidambaricola* (Hayata) H. S. Kiu.

Leaf blade ovate-oblong to oblong, 5–10 × 2.5–5.5 cm, lateral veins slightly prominent. Umbels 2–4-flowered. Corolla red, 2.4–2.8 cm. Berry 6–9 × 3–5 mm. Fl. Jul–Nov, fr. Aug–Dec.

• Forests, tea plantations; 300–700 m. Taiwan.

Recorded hosts include *Camellia oleifera*, *Diospyros kaki*, and *Liquidambar formosana*.

7b. *Taxillus liquidambaricola* var. *neriifolius* H. S. Kiu, Guihaia 17: 308. 1977.

狭叶果寄生 xia ye guo ji sheng

Leaf blade sublanceolate to narrowly oblong, 4–7.5 × 1.5–2.8 cm, lateral veins prominent. Umbels 2- or 3-flowered. Corolla scarlet, 2.2–2.5 cm. Berry 7–8 × ca. 5 mm. Fl. Aug–Oct, fr. Oct–Nov.

• Forests, mountain slopes, valleys; 500–700 m. Fujian, Guangdong, Guangxi, Hainan, SE Yunnan.

Recorded hosts include *Daphniphyllum oldhamii*, *Myrsine seguinii*, *Nerium indicum*, and *Osmanthus fragrans*.

8. *Taxillus sericus* Danser, Blumea 2: 50. 1936.

龙陵钝果寄生 long ling dun guo ji sheng

Shrubs 0.5–1 m tall, young stems tomentose, glabrescent, hairs brown, stellate. Branches grayish brown, lenticellate. Leaves alternate or subopposite; petiole 10–15 mm; leaf blade

oblong-ovate or broadly oblong, 6–10 × 2.5–4.5 cm, slightly leathery to leathery, both surfaces rapidly glabrescent, lateral veins 5 or 6 pairs, veins and reticulate veins prominent on both surfaces, base cuneate, slightly decurrent, apex shortly acuminate or acute. Umbels 1–3, sometimes at leafless nodes, 2–4-flowered; peduncle 2.5–4 mm; bracts ovate, ca. 1 mm. Pedicel 3–4 mm, pilose. Calyx ellipsoid, 2.5–3 mm, brown stellate tomentose, limb annular. Mature bud 2–3 cm, tip enlarged, ellipsoid. Corolla reddish yellow, slightly curved, with adpressed stellate hairs, basal part inflated, lobes lanceolate, 7–8 mm, reflexed. Filaments ± absent to ca. 1 mm; anthers 3–4 mm. Stigma capitate. Berry yellowish, ellipsoid, ca. 8 × 5 mm, granulose, glabrous. Fl. and fr. Aug–Feb.

Forests, mountain slopes; 1500–2700 m. ?SE Xizang, W Yunnan [Sikkim].

Recorded hosts include *Alnus nepalensis* and species of *Betula* and *Fagaceae*.

9. *Taxillus umbellifer* (J. H. Schultes) Danser, Bull. Jard. Bot. Buitenzorg, sér. 3, 11: 445. 1931.

伞花钝果寄生 san hua dun guo ji sheng

Loranthus umbellifer J. H. Schultes in Roemer & Schultes, Syst. Veg. 7: 97. 1829, based on *L. umbellatus* Wallich in Roxburgh, Fl. Ind. 2: 222. 1824, not Roth (1821); *Scurrula umbellifer* (J. H. Schultes) G. Don.

Shrubs 1.5–2 m tall, young stems tomentose, becoming glabrous, hairs dark brown, stellate. Branches grayish, lenticellate. Leaves opposite or subopposite; petiole 8–12 mm; leaf blade oblong-ovate or elliptic, 10–12 × 5–6 cm, leathery, abaxial surface persistently tomentose, adaxial surface rapidly glabrescent, lateral veins 5–7 pairs, prominent on both surfaces, base cuneate, slightly decurrent, apex shortly acuminate or obtuse. Umbels 2- or 3-fascicled, sometimes at leafless node, 2- or 3-flowered; peduncle 3–4 mm, stellate hairy; bracts ovate, ca. 1.5 mm. Pedicel ca. 5 mm. Calyx ellipsoid, ca. 4–5 mm, limb annular, minutely 4-toothed. Mature bud 3.7–4.2 cm, tip ellipsoid. Corolla red, slightly curved, hairy, middle portion inflated, lobes lanceolate, ca. 8 mm, reflexed. Filaments ca. 1.5 mm; anthers 3–4 mm. Stigma capitate. Young berry ellipsoid, pilose. Fl. Aug.

Forests, mountain slopes; 1500–1800 m. Xizang (Médog) [Bhutan, India, Myanmar, Nepal, Sikkim].

Recorded hosts include *Pyralia edulis* and species of *Symplocos*.

10. *Taxillus pseudochinensis* (Yamamoto) Danser, Verh. Kon. Ned. Akad. Wetensch., Afd. Natuurk. 29(6): 125. 1933.

高雄钝果寄生 gao xiong dun guo ji sheng

Loranthus pseudochinensis Yamamoto, Suppl. Icon. Pl. Formosan. 3: 19. 1927; *Scurrula chinensis* (Candolle) G. Don var. *formosana* Hosokawa; *S. pseudochinensis* (Yamamoto) Y. C. Liu & K. L. Chen.

Shrubs 0.5–0.7 m tall, young stems with dense yellowish or reddish brown stellate hairs, becoming glabrous. Branches dull brown, scattered lenticellate. Leaves opposite or subopposite; petiole 8–12 mm; leaf blade ovate or ovate-oblong, 3–5

× 2–3 cm, papery to slightly leathery, both surfaces rapidly glabrescent, lateral veins 4 or 5 pairs, abaxially prominent, base cuneate to obtuse, apex obtuse. Umbel sometimes at leafless nodes, 2–4-flowered; peduncle ca. 2 mm, stellate hairy; bracts ovate, ca. 1 mm. Pedicel 2–3 mm. Calyx subovoid, ca. 1.5 mm, limb annular, minutely 4-toothed. Mature bud 1.5–1.9 cm, tip ellipsoid. Corolla reddish, hairy, basal part inflated, lobes lanceolate, ca. 7 mm, reflexed. Filaments ca. 1 mm; anthers ca. 2.5 mm. Stigma capitate. Berry ellipsoid, ca. 4 × 3 mm, granulose, with stellate hairs. Fl. and fr. Apr–May.

• Forests, mountain slopes; 300–800 m. S Taiwan.

Recorded hosts include *Rhododendron formosanum* and species of *Daphniphyllum* and *Symplocos*.

11. *Taxillus tsaii* S. T. Chiu, Taiwania 41: 164. 1996.

莲华池寄生 lian hua chi ji sheng

Scurrula tsaii (S. T. Chiu) Yuen P. Yang & S. Y. Lu.

Young stems tomentose, becoming almost glabrous, hairs light orange, stellate. Leaves subopposite; petiole 7–10 mm; leaf blade ovate to ovate-oblong, yellowish green, 5–6 × 3–4 cm, leathery, both surfaces sparsely stellately hairy, glabrescent, lateral veins 4 or 5 pairs, base cuneate, apex obtuse. Umbels 1 or 2 together, sometimes at leafless nodes, 2–5-flowered; bracts triangular, minute. Calyx obconic, tomentose, limb annular. Mature bud 2–2.8 cm, tip not enlarged. Corolla red with green tip, slightly curved, nearly glabrous, tube inflated, lobes linear-spatulate, 4–6 mm, reflexed; anthers 2.5–3.5 mm, multilocellate. Style to 2.6 cm. Stigma capitate. Berry cylindrical, glabrous, apex truncate.

• Low elevations. S Taiwan.

Recorded hosts include *Camellia oleifera*, *Machilus zuihoensis*, *Prunus mume*, and *Symplocos cochinchinensis*.

12. *Taxillus sutchuenensis* (Lecomte) Danser, Bull. Jard. Bot. Buitenzorg, sér. 3, 10: 355. 1929.

桑寄生 sang ji sheng

Shrubs 0.5–1 m tall, young stems tomentose, becoming glabrous, hairs brown or reddish brown or gray, stellate, sometimes also some scattered verticillate hairs. Branches black, lenticellate. Leaves subopposite or alternate; petiole 6–12 mm, glabrous; leaf blade ovate, ovate-oblong, or elliptic, 5–8 × 3–4.5 cm, abaxial surface persistently tomentose, adaxial surface rapidly glabrescent, lateral veins 4 or 5 pairs, base rounded, apex obtuse. Subumbellate racemes solitary or 2- or 3-fascicled, axis short but distinct, sometimes at leafless nodes, 2–5-flowered; peduncle 1–3 mm, tomentose; bracts ovate, ca. 1 mm, apex acute. Pedicel 2–3 mm. Calyx ellipsoid, 2–3 mm, limb annular, minutely 4-toothed. Mature bud 2.2–2.8 cm, tip ellipsoid. Corolla red, slightly curved, pubescent with adpressed stellate hairs, basal part inflated, lobes lanceolate, 6–9 mm, reflexed. Filaments ca. 2 mm; anthers 3–4 mm, multilocellate. Style red; stigma cone-shaped. Berry greenish yellow, ellipsoid, 6–7 × 3–4 mm, granulose, pilose. Fl. Jun–Sep.

• Forests, mountain slopes, valleys; 500–1900 m. Fujian, Gansu,

Guangdong, Guangxi, Guizhou, Henan, Hubei, Hunan, Jiangxi, Shaanxi, Shanxi, Sichuan, Taiwan, Yunnan, Zhejiang.

A traditional Chinese medicine “sang ji sheng” is made from the plants. Recorded hosts include species of Aceraceae, Anacardiaceae, Euphorbiaceae, Fabaceae, Fagaceae, Juglandaceae, Moraceae, Rosaceae, Rutaceae, Salicaceae, Symplocaceae, Theaceae, and rarely Taxodiaceae.

- 1a. Leaf blade abaxially brown or reddish brown tomentose, lateral veins 4 or 5 pairs; raceme (2 or 3)- or 4(or 5)-flowered, with reddish brown, stellate hairs 12a. var. *sutchuenensis*
 1b. Leaf blade abaxially grayish tomentose, lateral veins 6 or 7 pairs; raceme 3–5-flowered, with grayish, stellate hairs 12b. var. *duclouxii*

12a. *Taxillus sutchuenensis* var. *sutchuenensis*

桑寄生(原变种) sang ji sheng (yuan bian zhong)

Loranthus sutchuenensis Lecomte, Notul. Syst. (Paris) 3: 167. 1915.

Young stem and leaf hairs brown or reddish brown. Leaf blade ovate, ovate-oblong, or elliptic, abaxial surface brown or reddish brown tomentose, lateral veins 4 or 5 pairs. Racemes (2 or 3)- or 4(or 5)-flowered, densely reddish brown stellate hairy. Fl. Jun–Sep, fr. Aug–Oct.

• Forests, mountain slopes, valleys; 500–1900 m. Fujian, Gansu, Guangdong, Guangxi, Guizhou, Henan, Jiangxi, Shaanxi, Shanxi, Sichuan, Taiwan, Zhejiang.

The plants have medicinal uses. Recorded hosts of the plants include *Camellia oleifera*, *Castanea mollissima*, *Citrus ichangensis*, *Gymnocladus chinensis*, *Juglans regia*, *Morus alba*, *Prunus mume*, *P. salicina*, *Pyrus pyrifolia*, *Temstroemia gymnanthera*, *Toxicodendron vernicifluum*, species of *Castanopsis*, *Fagus*, *Lithocarpus*, and *Symplocos*, and rarely *Cunninghamia lanceolata*.

12b. *Taxillus sutchuenensis* var. *duclouxii* (Lecomte) H. S. Kiu in C. Y. Wu & H. W. Li, Fl. Yunnan. 3: 369. 1983.

灰毛桑寄生 hui mao sang ji sheng

Loranthus duclouxii Lecomte, Notul. Syst. (Paris) 3: 166. 1915; *L. yadoriki* Siebold & Zuccarini ex Maximowicz; *L. yadoriki* var. *hupehanus* Lecomte; *Taxillus duclouxii* (Lecomte) Danser.

Young stem and leaf hairs grayish. Leaf blade ovate to elliptic, abaxial surface grayish tomentose, lateral veins 6 or 7 pairs. Racemes 3–5-flowered, densely grayish stellate hairy. Fl. Apr–Jul, fr. May–Oct.

• Forests, mountain slopes, valleys; 600–1600 m. Guizhou, Hubei, Hunan, Sichuan, Yunnan.

Recorded hosts include *Acer laevigatum*, *Camellia oleifera*, *Castanea mollissima*, *Pyrus pyrifolia*, *Vernicia fordii*, and species of *Fagus*, *Quercus*, and *Salix*.

13. *Taxillus thibetensis* (Lecomte) Danser, Bull. Jard. Bot. Buitenzorg, sér. 3, 10: 355. 1929.

滇藏钝果寄生 dian zang dun guo ji sheng

Loranthus thibetensis Lecomte, Notul. Syst. (Paris) 3: 168. 1915; *Taxillus thibetensis* var. *albus* Jiarong Wu.

Shrubs 0.5–1 tall, young stems tomentose, becoming glabrous, hairs yellowish brown, more rarely white, both verticillate and stellate. Branches black, subsmooth, scattered lenticellate. Leaves opposite; petiole 8–12 mm, pilose; leaf blade ovate or ovate-oblong, 5–10 × 3–5.5 cm, leathery, abaxial surface persistently tomentose, adaxial surface rapidly glabrescent, lateral veins 5–8 pairs, base subrounded, margin entire or repand, apex obtuse or acute. Umbels 2- or 3-fascicled, sometimes at leafless nodes, 3–5-flowered; peduncle 1–2 mm, yellow-brown or brown, rarely white, tomentose; bracts ovate, ca. 1 mm, apex acute. Pedicel 2–3 mm. Calyx ellipsoid, ca. 2 mm, limb annular, entire or minutely 4-toothed. Mature bud 2.2–3.2 cm, tip ellipsoid. Corolla red, slightly curved, pilose with dense verticillate hairs, basal part inflated, lobes lanceolate, 7–8 mm, reflexed. Filaments 1.5–2 mm; anthers 3.5–4 mm, multilocellate. Stigma capitate. Berry yellowish, ovoid or ellipsoid, 5–10 × 4–6 mm, granulose, pilose. Fl. May–Sep, fr. Aug–Oct.

• Forests, mountain slopes, valleys, orchards, gardens; 1700–3000 m. Guizhou, SW Sichuan, SE Xizang, Yunnan.

Recorded hosts include *Castanea mollissima*, *Diospyros kaki*, *Quercus schottkyana*, *Q. semecarpifolia*, *Prunus salicina*, *Pyrus pyrifolia*, and species of *Salix*. Forms with a white indumentum have been described as var. *albus*.

14. *Taxillus chinensis* (Candolle) Danser, Bull. Jard. Bot. Buitenzorg, sér. 3, 16: 40. 1938.

广寄生 guang ji sheng

Loranthus chinensis Candolle, Coll. Mem. 6: 28. 1830; *L. estipitatus* (Stapf) Danser; *Scurrula chinensis* (Candolle) G. Don; *Taxillus estipitatus* (Stapf) Danser.

Shrubs 0.5–1 m tall, young stems and leaves tomentose, becoming glabrous, hairs mostly closely adpressed, reddish brown, stellate, sometimes also with some short verticillate. Branches grayish brown, lenticellate. Leaves opposite or subopposite; petiole 8–10 mm; leaf blade ovate to ovate-oblong, 2.5–6 × 1.5–4 cm, papery, both surfaces glabrescent, lateral veins 3 or 4 pairs, base cuneate to broadly cuneate, apex obtuse. Umbels solitary or 2 together, sometimes at leafless nodes, (1–)2(–4)-flowered; peduncle 2–4 mm, stellate hairy; bracts triangular, ca. 0.5 mm. Pedicel 6–7 mm. Calyx ellipsoid or ovoid, ca. 2 mm, limb annular. Mature bud 2.5–2.7 cm, tip enlarged, ovoid. Corolla brownish, slightly curved, with adpressed stellate hairs, basal part inflated, lobes spatulate, ca. 6 mm, reflexed. Filaments ca. 1 mm; anthers ca. 3 mm, multilocellate. Style red; stigma capitate. Berry yellowish, ellipsoid or subglobose, 8–10 × 5–6 mm, verrucose, becoming smooth when mature. Fl. and fr. Feb–Dec.

Forests, plains, mountain slopes, orchards, gardens, rubber plantations; 100–400 m. S Fujian, Guangdong, Guangxi, Hainan [Cambodia, Indonesia, Laos, Malaysia, Philippines, Thailand, Vietnam].

A traditional Chinese medicine “guang ji sheng” is made from the plants. Recorded hosts include *Averrhoa carambola*, *Bombax malabaricum*, *Camellia oleifera*, *Dimocarpus longan*, *Ficus microcarpa*, *Glyptostrobos pensilis*, *Hevea brasiliensis*, *Litchi chinensis*, *Melia azedarach*, *Morus alba*, *Nerium indicum*, *Pinus massoniana*, *Prunus persica*, *P. salicina*, and *Vernicia montana*.

15. *Taxillus balansae* (Lecomte) Danser, Bull. Jard. Bot. Buitenzorg, sér. 3, 11: 445. 1931.

栗毛钝果寄生 li mao dun guo ji sheng

Loranthus balansae Lecomte, Notul. Syst. (Paris) 3: 73. 1914; *L. tienyensis* H. L. Li.

Shrubs 1–2 m tall, young stems and leaves tomentose, soon becoming glabrous, hairs dark chestnut brown, densely verticillate. Branches gray, scattered lenticellate. Leaves opposite or subopposite; petiole 5–7 mm; leaf blade ovate-oblong or ovate, 2.5–6 × 1.5–3.5 cm, leathery, both surfaces glabrescent, lateral veins 3 or 4 pairs, base broadly cuneate to rounded, apex obtuse. Umbels mostly solitary, sometimes at leafless nodes, 2–4-flowered; peduncle 2.5–5 mm, dark chestnut brown tomentose. Pedicel 6–8 mm. Calyx ellipsoid or ovoid, 2.5–3 mm, limb annular. Mature bud 3.5–4 cm, tip ovoid, rounded. Corolla slightly curved, hairy, basal part inflated, lobes spatulate, ca. 8 mm, reflexed. Filaments ca. 1 mm; anthers ca. 2 mm. Stigma capitate. Berry ellipsoid, 9–10 × 4–5 mm, granulose, pilose. Fl. and fr. Jan–Dec.

Forests, mountain slopes, valleys; 400–1200 m. Guangxi, SE Yunnan [Vietnam].

Recorded hosts include *Aleurites moluccana*, *Engelhartia roxburghiana*, *Liquidambar formosana*, *Rhoiptelea chiliantha*, *Schima superba*, and species of Fagaceae and Magnoliaceae.

16. *Taxillus nigrans* (Hance) Danser, Bull. Jard. Bot. Buitenzorg, sér. 3, 11: 445. 1931.

毛叶钝果寄生 mao ye dun guo ji sheng

Loranthus nigrans Hance, J. Bot. 19: 209. 1881; *L. lonicerifolius* Hayata; *L. rhododendricola* Hayata; *L. seraggodostemon* Hayata; *Scurrula lonicerifolia* (Hayata) Danser; *S. rhododendricola* (Hayata) Danser; *S. seraggodostemon* (Hayata) Danser; *Taxillus lonicerifolius* (Hayata) S. T. Chiu; *T. lonicerifolius* var. *longifolius* S. T. Chiu; *T. rhododendricola* (Hayata) S. T. Chiu.

Shrubs 0.5–1 m tall, young stems, leaves, inflorescences, and corollas tomentose, hairs mixed, grayish yellow, yellowish brown or brown, both verticillate and stellate. Branches grayish brown or blackish, glabrous, scattered lenticellate. Leaves opposite or alternate; petiole 5–8 mm, tomentose; leaf blade blackish or yellowish brown when dried, narrowly elliptic, oblong, or ovate, 6–11 × 3–5 cm, leathery, abaxial surface persistently tomentose, adaxial surface rapidly glabrescent, lateral veins 4 or 5 pairs, adaxially slightly elevated, base cuneate to rounded, apex acute or obtuse. Subumbels solitary or 2–3(–5)-fascicled, with short rachis, sometimes at leafless nodes, 2–5-flowered; peduncle 2–4 mm; bracts triangular, ca. 1 mm. Pedicel 1–1.5 mm. Calyx ovoid, ca. 2 mm, limb annular, entire. Mature bud 1.2–1.8(–2.3) cm, tip ovoid, sometimes acute. Corolla reddish yellow, slightly curved to ± straight, tube inflated, lobes spatulate, 4–6 mm, slightly patent or reflexed. Filaments 1.5–3 mm; anthers ca. 1.5 mm. Stigma capitate. Fruiting pedicel 2–3 mm. Berry yellowish, ellipsoid, ca. 7 × 4 mm, scabrid, pilose. Fl. Aug–Nov, fr. Apr–May.

• Forests, mountain slopes, valleys; 300–1300 m. Fujian, Guangxi, Guizhou, Hubei, Hunan, Jiangxi, Shaanxi, Sichuan, Taiwan, Yunnan.

A traditional Chinese medicine “sang ji sheng” is made from this taxon. Recorded hosts include *Camellia oleifera*, *Cinnamomum camphora*, *Morus alba*, and species of *Quercus* and *Salix*. Collections from Taiwan with rather longer flowers (1.7–2.3 cm) and tips of buds more or less acute have been treated as *Taxillus lonicerifolius* var. *longifolius*.

17. *Taxillus vestitus* (Wallich) Danser, Bull. Jard. Bot. Buitenzorg, sér. 3, 10: 355. 1929.

短梗钝果寄生 duan geng dun guo ji sheng

Loranthus vestitus Wallich in Roxburgh, Fl. Ind. 2: 218. 1824.

Shrubs 0.5–1 m tall, young stems, leaves, petiole, inflorescences, and corollas tomentose, hairs a mixture of reddish brown or yellowish brown verticillate hairs and paler stellate hairs. Branches blackish, glabrous, scattered lenticellate. Leaves opposite or subopposite; petiole 5–10 mm; leaf blade elliptic or ovate-oblong, 4.5–8 × 2–3.5 cm, leathery, abaxial surface persistently tomentose, adaxial surface rapidly glabrescent, lateral veins 4 or 5 pairs, adaxially prominent, base broadly cuneate to rounded, margin entire and recurved, apex obtuse. Umbels solitary or 2 together, sometimes at leafless nodes, 2- or 3-flowered; peduncle 1–2 mm; bracts triangular, ca. 1 mm. Pedicel ca. 1 mm. Calyx ovoid, 2–2.5 mm, limb annular. Mature bud 1.2–1.8 cm, tip ovoid. Corolla reddish brown, slightly curved, densely pilose with dense verticillate hairs, basal part inflated, lobes spatulate, 5–7 mm, reflexed. Filaments ca. 3.5 mm; anthers ca. 1.5 mm. Stigma capitate. Berry orange, ellipsoid, ca. 8 × 5 mm, granulose, pilose or becoming glabrous. Fl. and fr. Jul–Nov.

Forests, mountain slopes; 1800–3000 m. S Xizang (Gyirong), Yunnan [India, Nepal, Pakistan].

The plants are parasitic on species of *Quercus*, including *Q. griffithii*.

18. *Taxillus levinei* (Merrill) H. S. Kiu, Acta Phytotax. Sin. 21: 181. 1983.

锈毛钝果寄生 xiu mao dun guo ji sheng

Loranthus levinei Merrill, Philipp. J. Sci. 15: 233. 1920 [“1919”]; *Scurrula levinei* (Merrill) Danser; *Taxillus rutilus* Danser.

Shrubs 0.5–2 m tall, young stems, abaxial leaf surface, petiole, inflorescences, peduncles, and corollas tomentose, hairs rusty red, rarely brown, densely verticillate. Branches grayish brown or dark brown, glabrous, scattered lenticellate. Leaves alternate or subopposite; petiole 6–12(–15) mm; leaf blade greenish yellow or brownish when dried, ovate, rarely elliptic or oblong, 4–10 × 1.5–4.5 cm, leathery, abaxial surface persistently tomentose, hairs mostly stellate, paler than on stems and inflorescences, adaxial surface rapidly glabrescent, lateral veins 4–6 pairs, adaxially prominent, base subrounded, apex obtuse, rarely acute. Umbels solitary or 2 together, sometimes at leafless nodes, (1 or)2(or 3)-flowered; peduncle 2.5–5 mm; bracts triangular, 0.5–1 mm. Pedicel 1–2 mm. Calyx ovoid, ca. 2 mm, limb annular. Mature bud (1.8–)2–2.2 cm, tip ovoid. Corolla red, slightly curved, tube inflated, lobes spatulate, 5–7 mm, reflexed. Filaments 2.5–3 mm; anthers 1.5–2 mm. Stigma capitate. Berry yellow, ovoid, ca. 6 × 4 mm, granulose, stellate hairy. Fl. Sep–Dec, fr. Apr–May.

• Forests, mountain slopes, valleys, orchards; 200–700(–1200) m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangxi, SE Yunnan, Zhejiang.

The plants have medicinal uses. Recorded hosts include *Camellia oleifera*, *Castanea mollissima*, *Castanopsis kawakamii*, *Cinnamomum camphora*, and *Quercus championii*, and rarely *Cunninghamia lanceolata*.

8. TOLYPANTHUS (Blume) Blume in Roemer & Schultes, Syst. Veg. 7: 1731. Oct–Dec 1830.

大苞寄生属 da bao ji sheng shu

Loranthus Jacquin sect. *Tolypanthus* Blume, Fl. Javæ (Loranth.) 18. 16 Aug 1830.

Shrubs parasitic, young parts with stellate hairs. Leaves alternate or subopposite, pinnately veined. Inflorescences axillary or at leafless nodes, fasciculate, 3–6-flowered; 1 bract subtending each flower, much broader than flower, free or connate into bell-shaped involucre. Flowers bisexual, 5-merous, actinomorphic. Calyx ovoid, limb cupular, persistent. Mature flower bud tubular, straight. Corolla sympetalous, distal portion inflated, tip ovoid; lobes reflexed. Stamens inserted at base of corolla lobes; filaments short; anthers 4-loculed. Pollen grain trilobate or semilobate in polar view. Ovary 1-loculed; placentation basal. Style filiform, 5-angled; stigma capitate. Berry ellipsoid, exocarp leathery, pubescent.

About five species: tropical and subtropical E and S Asia; two species (endemic) in China.

- 1a. Peduncle 7–11 mm; pedicel ca. 1 mm; bract oblong-ovate, 12–22 × 7–11 mm, base obtuse to slightly cordate 1. *T. maclurei*
1b. Peduncle 4–6 mm; pedicel 1.5–2 mm; bract lanceolate, 18–27 × 3–6 mm, base cuneate 2. *T. esquirolii*

1. *Tolypanthus maclurei* (Merrill) Danser, Bull. Jard. Bot. Buitenzorg, sér. 3, 10: 355. 1928.

大苞寄生 da bao ji sheng

Loranthus maclurei Merrill, Philipp. J. Sci. 21: 494. 1922.

Shrubs 0.5–1 m tall, young stems with brownish or ferruginous stellate hairs, becoming glabrous. Branches patent, blackish, smooth. Leaves alternate to subopposite, or 3 or 4 leaves fascicled on short shoots; petiole 2–7 mm; leaf blade oblong or oblong-ovate, 2.5–7 × 1–3 cm, subleathery, base cuneate or obtuse, apex acute to obtuse. Fascicles solitary or 2 or 3 together, axillary, sometimes at leafless nodes, 3–5-flowered; peduncle 7–11 mm; bracts pink, oblong-ovate, 12–22 × 7–11 mm, papery when dried, 3–7-veined, base obtuse to slightly cordate, apex acuminate. Pedicel ca. 1 mm. Calyx ovoid, ca. 2 mm, brownish or ferruginous tomentose, limb cupular, 5-denticulate. Mature bud 2–2.8 cm. Corolla reddish or orange, pilose, apical portion inflated, 5-angled, lobes narrowly oblong, 7–9 mm, reflexed. Filaments 2–2.5 mm; anthers 1.5–2 mm. Berry yellow, ellipsoid, 8–10 × ca. 6 mm, with stellate hairs. Fl. Apr–Jul, fr. Aug–Oct.

• Forests, mountain slopes, valleys, sometimes along rivers; 100–900(–1200) m. Fujian, Guangdong, Guangxi, Guizhou, Hunan, Jiangxi.

Recorded hosts include *Camellia oleifera*, *Diospyros kaki*, *Elaeocarpus decipiens*, *Lagerstroemia indica*, *Loropetalum chinense*, *Platycarya longipes*, *Rhododendron championiae*, and species of *Ilex*.

2. *Tolypanthus esquirolii* (H. Léveillé) Lauener, Notes Roy. Bot. Gard. Edinburgh 40: 357. 1982.

黔桂大苞寄生 qian gui da bao ji sheng

Loranthus esquirolii H. Léveillé, China Rev. Ann. 22. 1916.

Shrubs 0.8–2 m, young stems with brownish or yellowish stellate hairs, becoming glabrous. Branches patent, blackish, smooth. Leaves alternate to subopposite, or 2 or 3 leaves fascicled on short shoots; petiole 5–10 mm; leaf blade oblong-

ovate or suboblong, 4–6(–8) × 1.5–3.5 cm, papery, base cuneate, apex subacuminate or acute. Fascicles axillary, 3- or 4-flowered; peduncle 4–6 mm; bracts pink, lanceolate, 18–27 × 3–6 mm, papery when dried, 1–3-veined, base cuneate, apex acuminate. Pedicel 1.5–2 mm. Calyx ellipsoid, ca. 2 mm, brownish or yellowish tomentose, limb cupular, 5-denticulate. Mature bud ca. 2.5 cm. Corolla reddish, pilose, apical portion inflated, 5-angled, lobes narrowly oblong, 7–9 mm, reflexed. Filaments ca. 2 mm; anthers 1.5–2 mm. Berry yellow, ellipsoid, 5–6 × 4–4.5 mm, with stellate hairs. Fl. Apr–Jun, fr. May–Aug.

• Forests, mountain slopes, valleys; 1100–1200 m. Guangxi, Guizhou.

Recorded hosts include *Eriobotrya japonica*, *Vernicia fordii*, and species of *Camellia*.

LORANTHACEAE