

### 13. SOLANUM Linnaeus, Sp. Pl. 1: 184. 1753.

茄属 qie shu

Herbs, shrubs, climbers, or small trees, sometimes prickly; hairs simple, branched, or stellate, sometimes glandular. Leaves solitary or paired, simple or pinnately compound, mostly petiolate; leaf blade entire, dentate, lobed, or parted. Inflorescences axillary, extra-axillary, or leaf opposed, mostly racemose, paniculate, umbellate, fasciculate, or solitary flowers, without bracts; peduncle branched or not, sometimes obsolete. Flowers bisexual or andromonoecious, mostly actinomorphic, often 5-merous. Calyx mostly lobed partway and splitting further at sinuses. Corolla mostly rotate or stellate. Stamens inserted high in corolla tube; anthers often connivent or connate around style, dehiscing by apical pores, often later splitting longitudinally. Ovary 2–5-locular, with enlarged placentae; ovules axile, numerous. Stigma small. Fruiting calyx persistent, sometimes enlarged and enclosing berry. Berries mostly juicy. Seeds discoid or lenticular; embryo strongly curved.

About 1200 species: most in tropical and subtropical regions, especially in the Americas; 41 species in China, about half introduced from elsewhere.

- 1a. Plants with stellate hairs; prickles often present.
  - 2a. Plants unarmed; leaves entire; anthers stout, not tapering; inflorescences many-flowered, flat or rounded panicles held upright above foliage in flower and fruit ..... 2. *S. erianthum*
  - 2b. Plants mostly armed; leaves mostly dentate or lobed; anthers tapering distally; inflorescences unbranched or 1-branched, rarely more, angling from twigs, held below foliage or along stems.
    - 3a. Calyx enlarged, closely enveloping most of berry.
      - 4a. Corolla yellow; anthers more than 1 cm, unequal; berry completely enveloped by calyx at maturity; fruiting calyx with dense prickles 1–2 cm ..... 38. *S. angustifolium*
      - 4b. Corolla white, blue, or purplish; anthers less than 1 cm, equal; berry partly or completely exposed from enlarged calyx at maturity; fruiting calyx copiously or sparingly armed with prickles less than 1 cm.
        - 5a. Leaves usually pinnate-parted, lobes pinnately lobed or dentate; stems pubescent with simple, many-celled glandular hairs and few stellate hairs ..... 37. *S. sisymbriifolium*
        - 5b. Leaves entire or irregularly dentate; stems with only stellate hairs.
          - 6a. Inflorescences less than 5 cm, peduncle less than 5 mm; corolla white ..... 36. *S. griffithii*
          - 6b. Inflorescences more than 5 cm, peduncle more than 5 mm; corolla blue or purple ..... 35. *S. barbisetum*
      - 3b. Calyx hardly or not enlarged, not enveloping berry.
        - 7a. Fruit densely stellate hirsute with persistent tomentum; plants tomentose; calyx lobes nearly leaflike, more than 8 mm ..... 34. *S. lasiocarpum*
        - 7b. Fruit glabrous; plants variously pubescent; calyx lobes not leaflike, mostly less than 7 mm.
          - 8a. Corolla more than 5 cm wide, deep purple, fading white, with contrasting abaxial pleats; sturdy trees to 12 m tall; fruit more than 3 cm ..... 26. *S. wrightii*
          - 8b. Corolla less than 5 cm wide, white or purple, not conspicuously fading, lacking contrasting pleats; shrubs, or if small trees then trunk slender; fruit mostly less than 3 cm.
            - 9a. Inflorescences mostly 1–3-branched; plants mostly more than 1 m.
              - 10a. Leaves 3–5-lobed or parted, with loose and softly lanate pubescence on both surfaces, drying of 1 color; plants overall with rust-colored, short- or long-stalked, bristly-hispid stellate hairs ..... 20. *S. chrysotrichum*
              - 10b. Leaves subentire or variously lobed, minutely scabrous with mostly sessile stellate pubescence adaxially, drying of different colors; leaves and stems lacking bristly, long-stalked hairs.
                - 11a. Corolla white; pedicel with simple glandular hairs mixed with stellate ones; fruit yellow, more than 1 cm in diam. .... 25. *S. torvum*
                - 11b. Corolla blue, violet, or purple; pedicel with stellate hairs only; fruit red, less than 1 cm in diam.
                  - 12a. Leaves subentire or 6- or 7-sinuate lobed, ovate-elliptic; corolla more than 8 mm ..... 22. *S. macaonense*
                  - 12b. Leaves entire, lanceolate or narrowly oblong; corolla less than 8 mm ..... 21. *S. luzoniense*
        - 9b. Inflorescences unbranched; plants mostly less than 1 m.
          - 13a. Fruit more than 1.4 cm across; flowers mostly andromonoecious.
            - 14a. Fruit red, often longitudinally furrowed; corolla white or slightly purplish ..... 29. *S. aethiopicum*
            - 14b. Fruit mostly yellow or black, not red, not furrowed; corolla blue or violet.
              - 15a. Fruit mostly much more than 4 cm across, variously shaped, seldom globose, green, white, black, pink, or brown, only yellow at extreme maturity ..... 40. *S. melongena*
              - 15b. Fruit mostly less than 4 cm across, globose, green or yellow ..... 39. *S. undatum*
          - 13b. Fruit less than 1.4 cm across; flowers mostly bisexual.
            - 16a. Leaves soon glabrescent, deeply pinnately lobed; stems with copious, compressed, bright yellow, nearly straight prickles often more than 7 mm; anthers more than 7 mm; fruit yellow ..... 41. *S. virginianum*
            - 16b. Leaves with persistent indumentum, entire, dentate, or shallowly lobed; stems unarmed or with recurved spines less than 5 mm; anthers mostly less than 7 mm; fruit red or orange.
              - 17a. Leaves entire; plants unarmed or sparingly armed; inflorescences elongated ..... 23. *S. nienkui*

- 17b. At least some leaves lobed or sinuate; plants armed, sometimes copiously so; inflorescences condensed.
- 18a. Leaves mostly less than 4 cm, sinuate; petiole less than 1.5 cm; inflorescences mostly terminal on leafy shoots ..... 24. *S. procumbens*
- 18b. Leaves mostly more than 5 cm, often saliently lobed; petiole mostly more than 1.5 cm; inflorescences mostly extra-axillary or axillary.
- 19a. Flowers usually purple; plants evidently armed; fruiting pedicels usually erect, more than 1 cm ..... 27. *S. violaceum*
- 19b. Flowers usually white; plants sparingly armed, occasionally with prickles less than 1 mm; fruiting pedicels strongly recurved, less than 1 cm ..... 28. *S. deflexicarpum*
- 1b. Plants glabrous or with predominantly simple or rarely dendritic hairs, stellate hairs usually absent, if present on leaves, then mixed with simple hairs; prickles mostly absent.
- 20a. Anthers lanceolate, tapering to a slender subulate apex; plants with coarse, straight simple hairs, armed with needlelike prickles.
- 21a. Fruit orange-red; seeds yellowish, compressed discoid with a conspicuous orbicular wing, 4–6 mm in diam. (including wings) ..... 32. *S. capsicoides*
- 21b. Fruit light yellow; seeds brown, lenticular, unwinged, less than 4 mm in diam.
- 22a. Plants villous with mixed stellate and simple, partly glandular hairs; pericarp more than 1 cm thick.
- 23a. Stems pilose with some hairs 2 mm; leaf lobes sharp pointed; ovary glabrous; corolla purple ..... 33. *S. mammosum*
- 23b. Stems densely tomentose with hairs less than 1 mm long; leaf lobes blunt tipped; ovary and young fruit pubescent; corolla white or green ..... 31. *S. viarum*
- 22b. Plants minutely tomentose with simple, many-celled, mostly glandular hairs, only leaves sparsely stellate abaxially; pericarp less than 1 cm thick ..... 30. *S. aculeatissimum*
- 20b. Anthers oblong or ovoid, not tapering; plants glabrescent or with simple or branched hairs, unarmed.
- 24a. Leaves pinnately compound, at least in part.
- 25a. Leaves interruptedly odd-pinnate compound, usually with interstitial leaflets, viscid pubescent; pedicel articulated well above middle; foliage strongly odorous when crushed; calyx divided nearly halfway; underground tubers present ..... 19. *S. tuberosum*
- 25b. Leaves with 1 or 2 pairs of basal leaflets, mostly not glandular, sometimes glabrous; pedicel base articulate or not at all; foliage hardly odorous; calyx lobes short or absent; underground tubers absent.
- 26a. Plants glabrous; leaves usually 5–9-parted; calyx subtruncate; anthers free ..... 17. *S. seafortianum*
- 26b. Plants pubescent; leaves entire or 3–5-parted; calyx with short distinct lobes; anthers connate ..... 11. *S. dulcamara*
- 24b. Leaves entire or variously parted, but not compound.
- 27a. Shrubs; leaves large, often lobed to near midvein, lobes narrow; corolla lobes notched at apex; fruit nodding, orange-yellow, ellipsoid ..... 1. *S. laciniatum*
- 27b. Herbs or vines, if shrubs then leaves unlobed or lobes broad; corolla lobes entire; fruit various.
- 28a. Inflorescences solitary or paired flowers, or unbranched, often umbellate racemes (branched in *S. merrillianum*); mostly shrubs or herbs.
- 29a. Shrubs; leaves borne on woody stems, all entire, mostly unequal paired; style and filaments glabrous.
- 30a. Peduncle and rachis short or obsolete, 1(–3)-flowered; pubescence of branched hairs; fruit bright orange-red ..... 10. *S. pseudocapsicum*
- 30b. Peduncle evident, rachis elongate, several to many flowered; pubescence of simple hairs; fruit pale, dull orange or yellow.
- 31a. Berry often less than 1 cm in diam.; corolla less than 1 cm; anthers less than 2.5 mm; pedicel less than 1 cm; leaves glabrous, minor ones rounded at apex ..... 3. *S. diphyllum*
- 31b. Berry more than 1.1 cm in diam.; corolla more than 1 cm; anthers more than 2.5 mm; pedicel more than 1 cm; leaves with tufts of hairs in axils of main veins abaxially, minor ones acute at apex ..... 4. *S. spirale*
- 29b. Herbs or woody vines; leaves borne on herbaceous shoots, often dentate or sinuate, all alike; style and filaments pubescent.
- 32a. Woody vines; peduncle often branched; anthers 1.5–1.7 mm ..... 6. *S. merrillianum*
- 32b. Herbs; peduncle unbranched; anthers various in length.
- 33a. Fruit yellow, orange, or reddish, broadly ellipsoid; plants villous ..... 9. *S. villosum*
- 33b. Fruit black or rarely green, globose; plants glabrescent or puberulent.
- 34a. Anthers less than 1.5 mm; fruiting calyx strongly reflexed; fruit less than 8 mm in diam., shiny; corolla less than 5 mm ..... 5. *S. americanum*
- 34b. Anthers more than 2 mm; fruiting calyx reflexed or not; fruit mostly more than 8 mm in diam., somewhat shiny or dull; corolla more than 5 mm.
- 35a. Fruiting calyx applied to berry; berry dull black; plants copiously and evidently pubescent with erect and spreading hairs; leaves dentate or subentire, ovate to lanceolate ..... 7. *S. nigrum*

- 35b. Fruiting calyx reflexed from berry; berry slightly shiny, black or purple; plants with inconspicuous appressed hairs; leaves mostly subentire, ovate, rhomboid, or rounded ..... 8. *S. scabrum*
- 28b. Inflorescences paniculate, mostly many flowered, peduncle branched; often climbers.
- 36a. Style pubescent; filaments laterally ciliate; fruit black; leaves sinuate, dentate, or entire, not lobed ..... 6. *S. merrillianum*
- 36b. Style and filaments glabrous; fruit red, orange, or yellow; leaves entire or lobed.
- 37a. Leaves pinnately 5–9-parted.
- 38a. Plants glabrous; calyx truncate with minute lobes; corolla purple or white; fruit 1–2 cm ..... 17. *S. seaforthianum*
- 38b. Plants pubescent; calyx with evident lobes, sinuses deltate; corolla greenish purple; fruit less than 1 cm ..... 18. *S. septemlobum*
- 37b. Leaves all entire or with 1(–3) pairs of basal lobes.
- 39a. Stems and inflorescences villous with erect, many-celled hairs more than 2 mm ..... 15. *S. lyratum*
- 39b. Stems and inflorescences glabrous or pubescent with ± appressed hairs less than 2 mm.
- 40a. Anthers connate; leaf base truncate or cordate.
- 41a. Herbs; leaves mostly with 1 (or 2) pairs of basal lobes; seeds less than 2.5 mm; calyx lobes deltate ..... 11. *S. dulcamara*
- 41b. Subshrubs; leaves entire; seeds more than 2.5 mm; calyx truncate or sinuate, lobes minute, pointed ..... 14. *S. kitagawae*
- 40b. Anthers free; leaf base rounded or cuneate.
- 42a. Leaves undulate-dentate or lobed; emergent growth with long simple hairs ..... 13. *S. japonense*
- 42b. Leaves all entire; emergent growth often glabrous.
- 43a. Leaves puberulent; anthers less than 2 mm; fruit mostly less than 8 mm in diam.; seeds less than 2 mm in diam. .... 12. *S. hidetaroi*
- 43b. Leaves glabrescent; anthers more than 2 mm; fruit mostly more than 8 mm in diam.; seeds more than 2 mm in diam. .... 16. *S. pitosporifolium*

### 1. *Solanum laciniatum* Aiton, Hort. Kew. 1: 247. 1789.

澳洲茄 ao zhou qie

Shrubs to 3 m tall; pubescence of simple hairs, soon glabrescent. Stems glabrous except for minute pubescence on young tips and buds. Leaves unequal paired, lobed and entire often on same plant; petiole of lobed leaf ca. 1–1.5 cm, that of entire leaf 0.5–1 cm; blade of lobed leaf broadly ovate, deeply pinnately 3–5-parted, 12–17×6–13 cm; blade of entire leaf lanceolate, 10–20×1.5–3 cm. Inflorescences terminal, axillary, or extra-axillary, scorpioid-racemose, ca. 8 cm; peduncle short or obsolete. Pedicel 1.5–3 cm. Calyx 5–7 mm; lobes deltate, 2–3 mm, leathery, apex mucronulate. Corolla blue-purple, rotate, 2–2.5 cm; lobes semirounded, notched. Filaments subulate; anthers oblong, 3–4 mm. Style ca. 8 mm. Berry orange-yellow, ovoid or ellipsoid, ca. 3×2.5 cm, pendulous. Seeds subovate, ca. 3×2 mm, compressed. Fl. Apr–Jun, fr. Jul–Sep.

Cultivated. Hebei, Hubei, Jiangsu, Sichuan, Yunnan [native of Oceania].

This species is grown as a major source of the medicinal alkaloids solasodine, solasonine, and solamargin that are contained in the leaves and fruits.

*Solanum laciniatum* is similar to *S. aviculare* Forster under which name it was introduced from Australia and known in FRPS and other works. It differs in having yellow-orange rather than scarlet fruit, notched corolla lobes, and in details of the seeds.

### 2. *Solanum erianthum* D. Don, Prodr. Fl. Nepal. 96. 1825.

假烟叶树 jia yan ye shu

Shrubs or small trees 1.5–10 m tall, unarmed, stellate tomentose overall. Petiole stout, 1.5–5.5 cm; leaf blade ovate-

oblong or elliptic, 10–29×4–12 cm, base cuneate or obtuse, entire or sinuate, apex short acuminate. Inflorescences erect, appearing terminal, flat-topped or rounded panicles; peduncle 3–10 cm. Pedicel 3–5 mm. Calyx campanulate, ca. 1 cm in diam.; lobes ovate, ca. 3 mm. Corolla white; lobes oblong, 6–7×3–4 mm. Filaments ca. 1 mm; anthers ca. 2 mm. Style glabrous, 4–6 mm. Berry yellow-brown, globose, ca. 1.2 cm in diam. Seeds compressed, 1–2 mm in diam. Fl. and fr. nearly throughout the year.

Waste places, thickets; 300–2100 m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Sichuan, Taiwan, Xizang, Yunnan, [native of South America, widespread in tropical Asia and Oceania].

The root bark is sweet, poisonous, and can be used medicinally as an antiphlogistic and for arthritis.

This species was long known as *Solanum verbascifolium* Linnaeus, which has been shown to be a different plant now known as *S. donianum* Walpers.

### 3. *Solanum diphyllum* Linnaeus, Sp. Pl. 1: 184. 1753.

黄果龙葵 huang guo long kui

Shrubs glabrous. Stems erect, 0.5–2 m tall, young stems angled proximal to nodes from decurrent leaf bases, otherwise terete. Leaves unequal paired; petiole of major leaf 1–1.5 cm, winged by leaf bases; blade of major leaf elliptic to oblong, sometimes broad, 4–9×2–3.5 cm, base attenuate and decurrent on petiole and stem, margin entire, apex rounded; minor leaves subsessile, blade rounded, 1.5–3×1.2–2.2 cm, entire. Inflorescences leaf opposed, short scorpioid racemes, often subumbellate; peduncle unbranched, 3–12 mm, later bearing conspicuous pedicel scars. Pedicel 5–12 mm, erect at anthesis. Calyx constricted at base and just proximal to lobes, 2–2.5 mm; lobes deltate, ca. 1 mm, minutely ciliolate. Corolla white, 3.5–4.5 mm, lobed ca. 3/4 way to base. Filaments

short; anthers 1–1.5 mm. Ovary glabrous. Style 3–4 mm. Fruiting pedicel erect, 0.8–1.4 cm. Berry orange, globose, slightly 2-lobed, 7–12 mm in diam. Seeds yellow or tan, reniform-discoid, ca. 3×2 mm, margins thickened. Fl. May–Jul, fr. Jun–Sep.

Cultivated in Taiwan [native of Mexico and Central America].

#### 4. *Solanum spirale* Roxburgh, Fl. Ind. 2: 247. 1824.

旋花茄 xuan hua qie

*Solanum spirale* var. *tetrasepalum* H. Chu.

Shrubs glabrescent. Stems erect, 0.5–3 m tall, drying grooved angled. Leaves unequal paired; petiole 5–10 mm; blade of major leaf narrowly elliptic to elliptic, 9–22×4–11 cm, glabrous adaxially, with tufts of hairs in axils of main veins abaxially, base attenuate, margin entire, apex acuminate; blade of minor leaf resembling that of major leaf, 5–7×1.6–3 cm. Inflorescences leaf opposed or extra-axillary, short, simple scorpioid racemes; peduncle 3–12 mm, later bearing conspicuous pedicel scars. Pedicel 1.5–2.5 cm, deflexed at anthesis. Calyx 2–3 mm, (4- or) 5-lobed; lobes deltate, 0.5–1 mm. Corolla white, 8–10 mm, lobed ca. 3/4 way to base. Filaments ca. 1 mm; anthers 3–3.5 mm. Ovary glabrous. Style ca. 7 mm. Fruiting pedicel deflexed. Berry dull yellow-orange, globose, 1.1–1.6 cm in diam. Seeds yellow or tan, reniform-discoid, 3–3.5×2.5–3 mm. Fl. May–Jul, fr. Jun–Dec.

Thickets, stream-sides, wastelands; 500–1900 m. Guangxi, Guizhou, Hunan, Xizang, Yunnan [India, Myanmar, Thailand, Vietnam, Australia].

The young leaves are locally eaten in Yunnan and India as a vegetable, and the roots are used as an anaesthetic and diuretic.

Variety *tetrasepalum* was established mainly on the basis of having 4-merous flowers. These occasionally occur in many species of *Solanum*, including *S. spirale*.

#### 5. *Solanum americanum* Miller, Gard. Dict. ed. 8, no. 5. 1768.

少花龙葵 shao hua long kui

*Solanum ganchouenense* H. Léveillé; *S. nigrum* Linnaeus var. *pauciflorum* Liou; *S. photeinocarpum* Nakamura & Odashima.

Herbs annual or short-lived perennial, glabrescent or puberulent with simple hairs. Stems green or purple, mostly erect, 25–100 cm tall. Petiole 1–2 cm; leaf blade ovate, 4–8×2–4 cm, membranous, glabrescent or sparsely pubescent, base truncate to cuneate, margin entire or sparingly dentate, apex acute. Inflorescences extra-axillary, subumbellate, 3–6 (–10)-flowered; peduncle 1–2.5 cm. Pedicel 5–10 mm. Calyx cup-shaped, 1.5–2 mm in diam., lobed nearly halfway; lobes ovate, pubescent abaxially, ciliate. Corolla white, rarely bluish or purplish, sometimes with a yellow eye, 3–5 mm, lobed halfway or more; lobes ovate-oblong, 3–4 mm, pubescent abaxially, ciliate. Filaments short, ca. 0.5 mm, puberulent; anthers 1–1.5 mm. Fruiting pedicel erect or nodding; fruiting calyx strongly reflexed. Berry shiny black, occasionally ripening green, globose, 5–8 mm in diam. Seeds discoid, 1.5–2 mm in diam. Fl. Jun–Oct, Fr. Jul–Jan.

Waste places, roadsides, fields; 100–2000 m. Fujian, Guangdong, Guangxi, Hainan, Hunan, Jiangxi, Sichuan, Taiwan, Yunnan [widespread in all tropical and temperate regions].

The leaves are used as a vegetable, yielding a heat-clearing effect. Whole plant can be used for treating inflammation, dissipating

blood stasis, and promoting the subsidence of swelling, also clearing away heat and detoxifying.

This species was reported in FRPS as *Solanum nigrum* and *S. photeinocarpum*. However, *S. nigrum* is actually a different species, treated below. A variant of *S. americanum* was reported for China by Wessely (Feddes Repert. 63: 293. 1960) as *S. nigrum* L. var. *violaceum* Chen and in FRPS as *S. photeinocarpum* var. *violaceum* (Chen) C. Y. Wu & S. C. Huang, but we were unable to locate the original description of this variety or material of it.

*Solanum ganchouenense* was based on a specimen from Guizhou, which was not seen for this treatment. The original description separates the species from *S. nigrum* in having narrower leaves, larger umbellate inflorescences with more flowers, and revolute anthers that dry green. The anther description more resembles *Capsicum* than *Solanum*.

Some material of this species was recorded in FRPS as *Solanum suffruticosum* Schousboe. The type of the latter (B-W 4363), with its slender, slightly elongated inflorescences and sparingly dentate leaves, resembles *S. americanum*, but from the microfiche copy available, this determination is not certain.

*Solanum opacum* A. Braun & Bouché, which resembles *S. americanum* except for its yellowish green fruit, may also occur in Yunnan.

#### 6. *Solanum merrillianum* Liou, Contr. Inst. Bot. Nat. Acad. Peiping 3: 455. 1935.

光枝木龙葵 guang zhi mu long kui

*Solanum suffruticosum*, *S. chousboe* var. *merrillianum* (Liou) C. Y. Wu. & S. C. Huang.

Herbs or subshrubs 0.5–1.5 m tall. Stems woody, rooting at nodes, with herbaceous shoots; twigs slender, angled, sparingly puberulent with short, ascending simple hairs. Petiole slender, 0.5–2 cm; leaf blade ovate, 2–8×1.5–4.5 cm, puberulent with scattered, arched simple hairs, glabrescent, base cuneate, decurrent, margin subentire, shallowly sinuate-dentate, apex acute or obtuse. Inflorescences cymose panicles 2–3 cm across, sometimes reduced to simple racemes; peduncle 2–3 cm, mostly several times dichotomously branched, slender. Pedicel 7–9(–12) mm, slender, pubescent, sometimes articulate just above base. Calyx cup-shaped, sparingly pubescent; lobes ovate-rounded, slightly unequal, 0.4–0.6 mm, ciliate. Corolla white, 4–6×5 mm, lobed halfway; lobes 2–3 mm, acute, ciliate, pubescent abaxially. Filaments equal, 0.5 mm, pubescent; anthers oblong, 1.5–1.7 mm. Style ca. 4 mm, tomentose at base. Fruiting pedicel 0.8–1.2 cm; fruiting calyx not enlarged. Berry black or black-blue, globose, 4–5 mm across. Seeds numerous, discoid or ovate, ca. 1.5 mm across. Fl. and fr. throughout the year.

• Slopes, near roadsides; low elevations. Anhui (Maanshan Shi), Guangdong, Hainan, Taiwan.

#### 7. *Solanum nigrum* Linnaeus, Sp. Pl. 1: 186. 1753.

龙葵 long kui

*Solanum nigrum* var. *atriplicifolium* G. Meyer.

Herbs annual, erect, 25–100 cm, pubescent with simple hairs, unarmed. Stems often angular, sparsely pubescent. Petiole 2–5 cm; leaf blade ovate, 4–10×3–7 cm, pubescent or glabrescent, base cuneate, decurrent, entire or coarsely dentate, apex obtuse. Inflorescences extra-axillary umbels; peduncle 2–4 cm. Pedicel 0.8–1.2 cm. Calyx cup-shaped, 2–3×2–3 mm; lobes subdeltate, 0.5–1×1–1.5 mm, pubescent abaxially, ciliate. Corolla white, 8–10 mm; lobes ovate-oblong, 4–5×3–3.5 mm, pubescent abaxially, ciliate,

spreading. Filaments 1–1.5 mm; anthers oblong, 2.5–3.5 mm. Style 5–6 mm. Fruiting pedicel strongly deflexed; fruiting calyx applied to berry. Berry dull black, globose, 8–10 mm in diam. Seeds discoid, ca. 2 mm in diam. Fr. May–Aug, fr. Jul–Nov.

600–3000 m. Fujian, Guangxi, Guizhou, Hunan, Jiangsu, Sichuan, Taiwan, Xizang, Yunnan [India, Japan; SW Asia, Europe].

The name *Solanum nigrum* has been commonly used to include many distinct but similar species, and more than one taxon may be represented in the material treated here under this name.

**8. *Solanum scabrum* Miller, Gard. Dict. ed. 8, no. 6. 1768.**

木龙葵 mu long kui

Herbs annual or short-lived perennial, glabrescent or sparingly pubescent. Stems erect, often angular; branchlets pubescent, glabrescent. Petiole 4–7 mm; leaf blade broadly ovate, rhomboid, or rounded, often broad, 2–10(–12) × 2–6 (–7) cm, glabrescent or pubescent, base cuneate, decurrent, margin entire, sinuate, or sparingly dentate, apex acute. Inflorescences extra-axillary, subumbellate; peduncle unbranched, 1–2.5 cm. Pedicel 5–10 mm, pubescent. Calyx cup-shaped, ca. 2 mm in diam., puberulent abaxially; lobes deltate-ovate, ca. 0.5 mm, ciliate. Corolla white, ca. 1 cm in diam.; lobes ovate, 2.5–5 mm, pubescent abaxially. Filaments short; anthers oblong, 2–4 mm. Style ca. 3 mm, pilose. Fruiting pedicel deflexed; fruiting calyx reflexed. Berry purplish black, somewhat shiny, globose, 5–10 mm in diam. Seeds discoid, 0.8–1 mm in diam. Fl. and fr. throughout the year.

Near roads, humid places in ravines and valleys; 200–2700 m. Fujian, Guangdong, Guangxi, Guizhou, Hunan, Jiangxi, Sichuan, Taiwan, Xizang, Yunnan, cultivated in Zhejiang (Hangzhou Shi) [Africa].

This species was treated in FRPS as *Solanum nigrum*.

**9. *Solanum villosum* Miller, Gard. Dict. ed. 8, no. 2. 1768.**

红果龙葵 hong guo long kui

*Solanum alatum* Moench; *S. humile* Bernhadi ex Willdenow; *S. miniatum* Bernhadi ex Willdenow; *S. nigrum* var. *humile* (Bernhadi ex Willdenow) C. Y. Wu & S. C. Huang.

Herbs erect, 40–60 cm tall, much branched; pubescence of simple, sometimes glandular hairs. Stems pubescent, often angular. Petiole 5–10 mm, winged; leaf blade ovate to elliptic, 3–7 × 2–4 cm, sparsely pubescent, base cuneate, decurrent, margin entire, sinuate, or coarsely dentate, apex acute. Inflorescences extra-axillary, umbellate; peduncle 1 cm, unbranched. Pedicel 4–6 mm. Calyx 2 × 1–1.5 mm, puberulent; lobes obtuse, less than 1 mm, ciliate, sinuses rounded. Corolla white or purplish, sometimes drying yellowish, 5–7 × 8–10 mm; lobes ovate-lanceolate, ca. 3 mm, ciliate, strongly spreading and reflexed. Filaments 1.5–1.8 mm, pubescent; anthers ca. 2 mm. Style 3–4.5 mm, pilose at base. Fruiting pedicel 1–1.5 cm, pubescent. Berry red, orange, or yellow, often bright, globose, 6–8 mm in diam. Seeds discoid, ca. 1 mm. Fr. Jul–Sep, fr. Sep–Nov.

Slopes, valleys, near roads, shady places; 100–1300 m. Gansu, Qinghai, Shanxi, Xinjiang; occasionally cultivated in Hebei [Afghanistan, India, Nepal; SW Asia, Europe].

**10. *Solanum pseudocapsicum* Linnaeus, Sp. Pl. 1: 184. 1753.**

珊瑚樱 shan hu yin

Shrubs erect, branched, unarmed; pubescence of simple and branched hairs. Petiole 2–5 mm; leaf blade narrowly oblong to lanceolate, 1–6 × 0.5–1.5 cm, pubescent or glabrous, base cuneate, decurrent, margin entire or sinuate, apex acute or obtuse. Inflorescences leaf opposed or extra-axillary, solitary or rarely paired flowers or short racemes; peduncle short or obsolete. Pedicel 3–4 mm. Calyx green, ca. 4 mm in diam., prominently lobed; lobes ca. 1.5 mm. Corolla white or mauve, 0.8–1.5 cm in diam., lobed about half way. Filaments less than 1 mm, glabrous; anthers ca. 2 mm. Style ca. 2 mm. Fruiting pedicel ca. 1 cm, expanded at apex. Berry orange-red, fleshy, 1.2–1.5(–2) cm in diam. Seeds discoid, 2–3 mm in diam.

Native of South America, cultivated and naturalized elsewhere.

- 1a. Plants glabrescent; anthers more than 2 mm ..... 10a. var. *pseudocapsicum*
- 1b. Plants conspicuously puberulent with dendritic hairs; anthers ca. 2 mm ..... 10b. var. *diflorum*

**10a. *Solanum pseudocapsicum* var. *pseudocapsicum***

珊瑚樱 shan hu yin

Stems, leaves, and inflorescences glabrescent. Fl. early summer, fr. late autumn.

Cultivated for ornament. Anhui, Guangdong, Guangxi, Hubei, Jiangxi [native to South America; widely cultivated].

**10b. *Solanum pseudocapsicum* var. *diflorum* (Vellozo) Bitter, Bot. Jahrb. Syst. 54: 498. 1917.**

珊瑚豆 shan hu dou

*Solanum diflorum* Vellozo, Fl. Flumin. 2: t. 102. 1827; *S. capsicastrum* Link ex Schauer; *S. dunnianum* H. Léveillé.

Stems, leaves, and inflorescences minutely tomentose with branched hairs, often glabrescent. Fr. Apr–Jul, fr. Aug–Oct.

**11. *Solanum dulcamara* Linnaeus, Sp. Pl. 1: 185. 1753.**

欧白英 ou bai ying

Vines perennial, herbaceous, unarmed, glabrous or sparsely pubescent. Leaves unequal paired, sometimes compound with 1 or 2 pairs of leaflets proximal to main leaflet; petiole 1–2 cm; leaf blade elliptic or ovate-hastate, 4–11 × 2–8 cm, sparsely pubescent, base hastate or with 1 or rarely 2 lobes, margin entire, apex acuminate. Inflorescences extra-axillary, lax, open, many-flowered panicles; peduncle 1–3 cm, branched. Pedicel 5–12 mm, sparsely pubescent. Calyx 1.5–2 × 2–3 mm; lobes deltate, sparsely pubescent. Corolla purple, usually with a yellow eye, 5–8 mm; lobes elliptic-lanceolate, ca. 5 mm. Filaments ca. 0.5 mm; anthers connate, 2–3.5 mm. Style slender, ca. 5.5 mm. Berry red, globose or ovoid, 6–8 mm in diam. Seeds discoid, 1.5–2 mm in diam. Fl. summer, fr. autumn.

Slopes at forest edges; 500–3500. Henan, SW Sichuan, Xinjiang, SE Xizang, NW Yunnan [Russia; SW Asia, Europe].

The solanine contained in the berries can be used for treating rheumatism, arthritis, and skin disease, and as a pesticide.

**12. *Solanum hidetaroii* Masamune, Trans. Nat. Hist. Soc. Taiwan 29: 84. 1939.**

台白英 tai bai ying

Herbs climbing, suberect, glabrous, unarmed. Stems hollow, angular, glabrescent or puberulent. Petiole 1–1.5 cm; leaf blade ovate or ovate-lanceolate, 3–5×1.5–2.5 cm, puberulent adaxially, glabrescent abaxially; upper leaves 1.5–1.8×0.6 cm, base rounded, slightly oblique, margin entire or praemorse, apex acuminate. Inflorescences extra-axillary, lax, open, many-flowered panicles; peduncle ca. 2 cm, puberulent. Pedicel 5–12 mm, glabrous. Calyx ca. 2.5 mm in diam.; lobes ovate-rounded, ca. 0.5 mm, mucronate, puberulent abaxially. Corolla dark blue with basal spots adaxially; tube ca. 0.8 mm, limb ca. 4 mm; lobes lanceolate, 3–4×1.3 mm, pubescent at apex, ciliate. Filaments ca. 0.5 mm; anthers free, 1.8–2 mm. Ovary glabrous. Style ca. 4 mm. Fruiting pedicel 12–15 cm. Fruiting calyx spreading. Berry shiny red, globose, 5–8 mm in diam. Seeds discoid, ca. 1.5 mm in diam.

• C and N Taiwan.

No material was seen of this species, and the above description is taken from the original publication and from the Flora of Taiwan. To judge from the description, this taxon may not be distinct from *Solanum dulcamara*.

### 13. *Solanum japonense* Nakai, Fl. Sylv. Kor. 14: 58. 1923.

野海茄 ye hai qie

*Solanum dulcamara* Linnaeus var. *heterophyllum* Makino; *S. nipponense* Makino.

Vines 50–120 cm tall, glabrescent. Stems sparsely pubescent. Petiole 0.5–2.5 cm; blade of basal leaves deltate, broadly lanceolate or ovate-lanceolate, often with 2 basal lobes, 3–10×2–5 cm, glabrous or sparsely pubescent, base rounded or cuneate, margin entire or 3(–5)-lobed, apex acuminate; blade of distal leaves ovate-lanceolate, 2–4 cm. Inflorescences terminal or extra-axillary, open, many-flowered panicles; peduncle 2–3.5 cm, glabrescent. Pedicel 6–10 mm, glabrescent. Calyx 1.5–2×2.5 mm; lobes deltate, 0.5 mm. Corolla purple with a green eye, 5–8×1 cm; lobes lanceolate, ca. 4 mm. Filaments ca. 0.5 mm; anthers oblong, free, 2.5–3.5 mm. Style slender, ca. 5 mm. Berry red, subglobose, ca. 1 cm in diam. Seeds reniform-discoid, ca. 2 mm in diam. Fl. Jun-Sep, fr. Sep-Nov.

Wastelands, slopes in valleys, near roads, by waters, open forests; 300–2900 m. Anhui, Guangdong, Guangxi, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jiangsu, Qinghai, Shaanxi, Sichuan, Xinjiang (Urumqi Shi), Yunnan, Zhejiang [Japan, Korea].

This taxon is doubtfully distinct from *Solanum dulcamara*.

### 14. *Solanum kitagawae* Schönbeck-Temesy, Fl. Iranica 100: 15. 1972.

光白英 guang bai ying

*Solanum borealisinense* C. Y. Wu & S. C. Huang; *S. depilatum* Kitagawa, not Bitter.

Subshrubs climbing, woody at base, slightly branched, 30–70 cm, puberulent with simple hairs, unarmed. Stems striate with scattered lenticels. Petiole 2–3 cm; leaf blade ovate to broadly ovate, ca. 9×6 cm, puberulent along veins and margins adaxially, glabrous abaxially, base broadly cordate to rounded, abruptly decurrent, margin entire, apex acuminate. Inflorescences extra-axillary, many-flowered panicles; peduncle 3–7 cm, branched. Pedicel 5–10 mm, puberulent. Calyx truncate at apex or sinuate, minutely pointed, puberulent adaxially; lobes subdeltate, mucronate, ca.

1 mm. Corolla purple, 1–1.5 cm; lobes elliptic or lanceolate, 6–8 mm. Filaments free, ca. 1 mm; anthers united into a tube, ca. 4.5 mm. Style ca. 6 mm. Berry red, 5–8 mm in diam. Seeds ovate, ca. 3×2.3 mm. Fl. Jun-Aug, fr. Aug-Oct.

Moist places by water; 100–1500 m. Hebei, Heilongjiang, Jilin, Liaoning, Nei Mongol, Qinghai (Xinhai Xian), Xinjiang [Afghanistan, Japan, Mongolia, Russia; SW Asia].

This taxon is doubtfully distinct from *Solanum dulcamara*.

### 15. *Solanum lyratum* Thunberg in Murray, Syst. Veg. ed. 14. 224. 1784.

白英 bai ying

*Solanum cathayanum* C. Y. Wu & S. C. Huang; *S. dulcamara* var. *chinense* Dunal; *S. dulcamara* var. *pubescens* Blume; *S. dulcamara* var. *lyratum* (Thunberg) Bonati.

Vines herbaceous, much branched, 0.5–3 m tall, villous overall with elongate, many-celled hairs more than 2 mm. Petiole 1–3 cm; leaf blade elliptic or lyrate, 3–11×2–6 cm, base cordate or hastate, margin entire or 3–5-parted, apex acuminate. Inflorescences axillary, extra-axillary, or appearing terminal, few- to many-flowered panicles; peduncle 2–4 cm, villous. Pedicel 0.8–1.5 cm, villous. Calyx 1.5–2.5×3–4 mm in diam., sparsely pubescent; lobes rounded. Corolla blue-purple or white, 5–8×10 mm; lobes elliptic-lanceolate, ca. 4×2 mm, usually reflexed, puberulent at apex. Filaments ca. 0.8–1 mm; anthers free, oblong, 2.8–3.2 mm. Style glabrous, 6–8 mm. Fruiting pedicel sparsely pubescent, usually curved. Berry red or red-black, globose, 7–9 mm in diam. Seeds discoid, ca. 1.5 mm in diam., reticulate. Fl. Jun-Oct, fr. Oct-Nov.

Grasslands in valleys, near roads and fields; 100–2900 m. Anhui, Fujian, Gansu, Guangdong, Guangxi, Guizhou, Hainan, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan, Xizang, Yunnan, Zhejiang [Cambodia, Japan including Ryukyu Islands, Korea, Laos, Myanmar, Thailand, Vietnam.].

Stems can be used as a medicine for treating convulsions in infants, and branches and leaves for clearing away heat and cooling the blood.

### 16. *Solanum pittosporifolium* Hemsley, J. Linn. Soc., Bot. 26: 171. 1890.

海桐叶白英 hai tong ye bai ying

*Solanum pittosporifolium* var. *pilosum* C. Y. Wu & S. C. Huang.

Shrubs to 2 m tall, glabrous or sparsely pubescent with simple hairs, unarmed. Stems sometimes angular, mostly glabrous. Petiole 0.7–2 cm; leaf blade lanceolate to ovate-lanceolate, 4–13×2–6.5 cm, usually glabrous, base rounded or cuneate, sometimes oblique, margin entire, apex acuminate. Inflorescences extra-axillary, paniculate; peduncle 1–5.5 cm. Pedicel 0.5–2 cm. Calyx ca. 3 mm in diam.; lobes short deltate, ca. 1×2 mm, ciliate. Corolla usually white, rarely purple, with greenish spots at throat; lobes oblong-lanceolate, 4–5×1.5 mm, ciliate, reflexed. Filaments ca. 1 mm; anthers oblong, free, 2.5–2.8 mm. Style ca. 7 mm. Berry red, globose, 0.8–1.2 cm in diam. Seeds discoid, 2–2.8 mm in diam. Fl. Jun-Aug, fr. Sep-Dec.

Open or dense forests; 500–2500 m. Anhui, Guangdong, Guangxi, Guizhou, Hebei, Hubei, Hunan, Jiangxi, Sichuan, Taiwan, Xizang, Yunnan, Zhejiang [N Vietnam].

Doubtfully distinct from *Solanum dulcamara*.

**17. *Solanum seforthianum*** Andrews, Bot. Repos. 8: tab. 504. 1808.

南青杞 nan qing qi

*Solanum kerrii* Bonati.

Vines slender, woody, 1–5 m, glabrescent; pubescence of simple hairs. Leaves simple or pinnately compound; petiole 2–5 cm; leaf blade 4–10×4–7 cm, puberulent along veins, base acute, obtuse, truncate, or cordate, usually pinnately (5–)7(–9)-parted; lobes ovate to oblong or lanceolate, unequal, 1.5–5×0.5–2.5 cm, acute or acuminate. Inflorescences leaf opposed or appearing terminal, showy, many-flowered open panicles; peduncle to 4 cm, branched. Pedicel 5–10 mm, abscising nearly at base. Calyx cup-shaped, 1–1.5×2–3 mm, truncate or with minute, short deltate lobes, glabrous. Corolla usually purple, rarely white, 0.9–1.3 cm; lobes ovate-oblong, 5–8×2.5–4.5 mm, glabrous. Filaments 2–3 mm; anthers free, 3–4 mm. Style ca. 1 cm. Fruit (not seen in Chinese plants) red, juicy, globose, 1–2 cm. Seeds discoid, 2–3.5 mm in diam.

Near roads; 600–1300 m. Yunnan (Mengzi Xian), cultivated in gardens [perhaps native of Caribbean area, widely cultivated and naturalized in many countries].

**18. *Solanum septemlobum*** Bunge, Enum. Pl. China Bor. 48. 1833.

青杞 qing qi

*Solanum septemlobum* var. *ovoideocarpum* C. Y. Wu & S. C. Huang; *S. septemlobum* var. *subintegrifolium* C. Y. Wu & S. C. Huang.

Herbs or shrubs, erect, unarmed; pubescence of curved simple, often glandular hairs. Stems angular, usually white pubescent, sometimes glabrescent. Petiole 1–2.5 cm; leaf blade ovate, 3–9×2–6 cm, base cuneate, usually 3–7-parted, sometimes upper leaves subtentire, apex obtuse; lobes ovate-oblong to lanceolate, sparsely pubescent, entire or dentate. Inflorescences extra-axillary or appearing terminal, open panicles; peduncle 2–5 cm, puberulent or glabrous. Pedicel 5–10 mm, usually basally articulated. Calyx ca. 2 mm in diam., sparsely pubescent abaxially; lobes deltate, 0.5–1 mm. Corolla greenish purple, 8–10×8–10 mm, 5-parted; lobes oblong-ovate, 4–6 mm, pubescent, ciliate, reflexed. Filaments ca. 1 mm; anthers oblong, 2.5–3.5 mm. Style ca. 7 mm. Berry red, subglobose or ovoid, ca. 8 mm in diam. Seeds discoid, 2–3 mm in diam. Fl. Jun–Oct, fr. Oct–Dec.

Sunny slopes; 300–2500 m. Anhui, Gansu, Hebei, Henan, Jiangsu, Liaoning, Nei Mongol, Shaanxi, Shandong, Shanxi, Sichuan, Xinjiang, E Xizang, Zhejiang [Russia].

*Solanum septemlobum* var. *indutum* Handel-Mazzetti (Oesterr. Bot. Z. 83: 234. 1934) was distinguished by being densely covered overall with capitate glandular hairs of varying length, but this condition sometimes occurs in more or less typical material of *S. septemlobum*. Without seeing the type material, which was collected in S Shaanxi, the identity of this variety remains uncertain.

**19. *Solanum tuberosum*** Linnaeus, Sp. Pl. 1: 185. 1753.

阳芋 yang yu

Herbs erect or sprawling, 30–80 cm tall, glabrous or sparsely pubescent with simple and glandular hairs. Stolons bearing underground tubers; tubers white, red, or purplish, globose, obovate, or elliptic, 3–10 cm in diam., fleshy. Leaves interruptedly odd-pinnate, with 6–8 pairs of leaflets and smaller, unequal interstitial leaflets; petiole 2.5–5 cm; leaflet blade ovate or oblong, mostly sparingly pilose. Inflorescences appearing terminal, leaf opposed, or axillary, many-flowered, sparingly branched panicles. Pedicel articulate near middle, 1–2 cm. Calyx sparsely pubescent; lobes lanceolate. Corolla white, pink, or blue-purple, sometimes all on 1 plant, rotate, 2.5–3 cm in diam.; lobes deltate, ca. 5 mm. Filaments ca. 1 mm; anthers 5–6 mm. Ovary glabrous. Style ca. 8 mm. Berry green or yellowish green, often striped, globose, smooth, ca. 1.5 cm in diam. Fl. and fr. summer and autumn.

Native to South America; widely cultivated throughout China for its edible tubers, also in other temperate regions of the world.

**20. *Solanum chrysotrichum*** Schlechtendal, Linnaea 19: 304. 1847.

多裂水茄 duo lie shui jie

*Solanum torvum* Swartz var. *pleiotomum* C. Y. Wu & S. C. Huang.

Shrubs 1–1.5 m tall, sparingly armed, densely pubescent overall with rust-colored, short- or long-stalked stellate hairs. Stems angular, with short prickles 2–3×1–1.5 mm. Petiole stout, 1–3 cm, sometimes armed; leaf blade broadly ovate or elliptic, 8–20×4–14 cm, base obtuse or cordate, often asymmetric, 3–5-lobed to parted; lobes deltate or long deltate, unequal, irregularly sinuate, densely pubescent with rust-colored, stalked stellate hairs, denser abaxially, acute or subobtuse at apex. Inflorescences extra-axillary, many-flowered racemose panicles; peduncle mostly 2- or 3-branched, 5–12 mm, pubescent as on stems. Pedicel stout, 5–10 mm. Calyx cup-shaped, 5–8 mm; lobes deltate-lanceolate, 4–6 mm, acuminate at apex, pubescent as on peduncle. Corolla white, 1.5–1.8 cm; lobes ovate-oblong, 0.8–1.2 cm, acute. Filaments 1–2 mm; anthers oblong, 6–8 mm. Style 8–10 mm. Berry yellow-orange, globose, 8–10 mm in diam. Seeds discoid, 1.5–2 mm in diam. Fl. and fr. throughout the year.

Dry lands. Fujian, Taiwan [Central America; introduced elsewhere].

**21. *Solanum luzoniense*** Merrill, Philipp. J. Sci. 13: 58. 1918.

吕宋茄 lü song jie

Shrubs or subshrubs 50–100 cm tall, densely stellate-tomentose, armed with short, straight prickles 2–3.5 mm. Stems and branches terete, stellate tomentose, sparsely prickly. Petiole 1–3 cm, pubescent as on stems; leaf blade lanceolate to narrowly oblong, 4–15×1.5–5 cm, sparsely stellate tomentose or glabrate adaxially, tomentose abaxially, base cuneate, margin entire or obscurely sinuate, apex acute. Inflorescences extra-axillary or terminal, racemose panicles to 3 cm; peduncle 1–1.8 cm, stellate tomentose. Pedicel ca. 5 mm. Calyx campanulate, ca. 3 mm; lobes oblong-ovate, ca. 1.5 mm, acute or obtuse, stellate tomentose. Corolla violet, 6–8 mm, 5-lobed; lobes oblong-ovate or ovate-lanceolate, 5–6 mm, adaxially pubescent as on calyx. Filaments short; anthers lanceolate, narrowed upward, ca. 4 mm. Fruiting pedicel 1–2.5 cm, stellate tomentose. Fruiting calyx stellate hairy. Berry

red, globose, 6–10 mm in diam., glabrous. Seeds reniform, discoid, ca. 3 mm in diam. Fl. Apr–Aug, fr. Jul–Oct.

Hillsides. Taiwan (Botel Tobago, Taidong) [Philippines].

No material from China was seen, and the description is based on specimens from the Philippines and on the account in Flora of Taiwan (4: 542. 1978).

**22. *Solanum macaonense*** Dunal in A. de Candolle, Prodr. 13(1): 264. 1852.

山茄 shan qie

*Solanum lasiostylum* (Y. C. Liu & C. H. Ou) Tawada; *S. torvum* Swartz var. *lasiostylum* Y. C. Liu & C. H. Ou.

Shrubs 1–1.5 m tall, mostly armed, pubescent overall with stalked stellate hairs. Stems with dark or yellowish, stout, broad-based, recurved or reflexed prickles 2.5–10×□2–10 mm. Leaves solitary or in somewhat unequal pairs; petiole 2–4 cm; leaf blade ovate-elliptic, 10–18×3–12 cm, drying of different colors, abaxially glabrescent or with sparse, sessile, stellate hairs, adaxially softly tomentose with dense, whitish, short-stalked hairs, base obtuse, rounded, or cuneate, margin subentire or 6- or 7-sinuate lobed, apex acute. Inflorescences extra-axillary, many-flowered cymes; peduncle mostly 1–3-branched, 1–2.3 cm, stellate pubescent with stalked hairs. Pedicel 4–8 mm, tomentose. Calyx 3–5 mm, pubescent; lobes ovate or broadly deltate, 2.5–3 mm. Corolla blue or purple, rotate, 0.8–1.2×1.5–1.8 cm; lobes ovate-lanceolate, 6–7×2–3 mm, pubescent abaxially, spreading, sometimes reflexed. Filaments ca. 0.5 mm; anthers 5–5.5 mm. Style 7–8 mm, base puberulent with stellate and simple hairs. Fruiting pedicel erect, 1–1.3 cm, stellate pubescent. Fruiting calyx not enlarged. Berry red, 5–8 mm in diam. Seeds discoid, ca. 1.5 mm in diam. Fl. and fr. throughout the year.

Wastelands, thickets. Fujian, Guangdong, Guangxi, Hainan, Taiwan [Philippines].

The type of *Solanum macaonense* was not seen, and the name is used here with hesitation. Some features of the original description (stellate and simple hairs on the pedicels) suggest that it may be synonymous with *S. torvum*.

**23. *Solanum nienkui*** Merrill & Chun, Sunyatsenia 2: 318. 1935.

疏刺茄 shu ci qie

Shrubs erect, 50–100 cm tall, often armed; pubescence of stellate hairs. Stems usually stellate pubescent, glabrescent, unarmed or with stout-based straight prickles ca. 1 mm. Petiole 1–4.5 cm; leaf blade narrowly ovate or oblong-ovate, 3–10×1.5–5 cm, with branched, short, stellate hairs adaxially and dense, long-stalked, 7–9-rayed stellate hairs abaxially, base cuneate, margin entire or subentire, apex obtuse. Inflorescences extra-axillary, rarely appearing terminal, scorpioid-racemose, 3–6 cm. Pedicel 5–10 mm. Calyx campanulate, 4–6×5–6 mm, tomentose with many-rayed stellate hairs; lobes deltate, unequal, 1–2 mm. Corolla blue-purple, 0.8–1.2×1–1.3 cm, stellate hairy abaxially; lobes ovate-deltate, unequal, 4–6 mm. Filaments 0.5–1 mm; anthers 4–6 mm. Style ca. 7 mm. Berry globose, ca. 1 cm in diam., glabrous. Seeds reniform-discoid, 1.5–2 mm in diam., reticulate. Fl. and fr. throughout the year.

• Forests, thickets; 100–300 m. Hainan.

**24. *Solanum procumbens*** Loureiro, Fl. Cochinch. 1: 132. 1790.

海南茄 hai nan qie

*Solanum hainanense* Hance.

Shrubs erect or prostrate, 1–2 m tall, much branched, armed, pubescent overall with stellate hairs. Stems and branches terete, with copious recurved prickles 2–4×1.5–4 mm. Petiole 0.5–1.5 cm; leaf blade ovate-oblong, 1.5–6.5×1–3.5 cm, adaxially with sparse stellate tomentum, densely tomentose abaxially, prickly on both surfaces, base cuneate or rounded, margin usually 5-sinuate lobed, rarely entire, apex obtuse. Inflorescences terminal, rarely appearing extra-axillary, several-flowered scorpioid racemes; peduncle ca. cm. Flowers 4-merous; pedicel 4–12 mm. Calyx cup-shaped, 3–4 mm; lobes deltate, unequal, 1–2 mm, stellate tomentose abaxially. Corolla white, pale reddish, or pale purple, ca. 1 cm; lobes lanceolate, 4–7 mm, with stellate hairs abaxially. Filaments ca. 1 mm; anthers ca. 6 mm. Style ca. 7 mm. Fruiting pedicel 1–2 cm. Berry shiny red, globose, 7–9 mm in diam. Seeds pale yellow, reniform-discoid, ca. 3□×□2 mm. Fl. Apr–Sep, fr. Sep–Dec.

Forests, thickets; 300–1200 m. Guangdong, Guangxi (Hepu Xian), Hainan [Laos, Vietnam].

**25. *Solanum torvum*** Swartz, Prodr. 47. 1788.

水茄 shui qie

Shrubs 1–2(–3) m tall, sparingly armed, densely pubescent overall with many-rayed, grayish stellate hairs. Stems with stout, recurved, reddish or pale-yellow prickles 2.5–10×2–10 mm and sometimes bearing basal stellate hairs. Leaves solitary or paired; petiole 2–4 cm; leaf blade ovate to elliptic, 6–16(–19)×4–11(–13) cm, with yellow, many-branched stellate hairs, armed or unarmed, base cordate or cuneate, margin sinuate or usually 5–7-lobed, apex acute. Inflorescences extra-axillary, many-flowered racemose panicles; peduncle mostly 1- or 2-branched, 1–1.8 cm, stellate pubescent. Flowers andromonoecious. Pedicel dark, slender, 5–12 mm, bearing simple glandular hairs and stalked stellate hairs. Calyx cup-shaped, 4–5 mm, pubescence as on pedicel; lobes ovate-lanceolate, 2–3 mm. Corolla white, rotate, 1–1.3×1–1.5 cm; lobes ovate-lanceolate, 8–10 mm, stellate pubescent abaxially. Filaments ca. 1 mm; anthers 4–7 mm. Style 6–8 mm. Fruiting pedicel 1–2 cm, thickened upwards, with sparse stellate and simple glandular hairs. Fruiting calyx ca. 1.5 cm. Berry yellow, smooth, glabrous, 1–1.5 cm in diam. Seeds discoid, 1.5–2 mm in diam. Fl. and fr. throughout the year.

Roadsides, wastelands, ravines, valleys, thickets, wet places near villages; 200–2000 m. Fujian (Xiamen Shi), Guangdong, Guangxi, Guizhou, Hainan, Taiwan, S Xizang, Yunnan [native of the Caribbean, widely naturalized in tropical regions].

The young fruits are edible after cooking and are used medicinally for improving eyesight; the leaves are used for treating skin diseases.

**26. *Solanum wrightii*** Bentham, Fl. Hongk. 243. 1861.

大花茄 da hua qie

Trees to 12 m tall, sometimes armed with straight prickles, pubescent with stalked stellate hairs. Petiole 5–10 cm; leaf blade broadly ovate, 30×15–20 cm, scabrid with dispersed simple or stellate hairs adaxially, with sparse

to dense, stalked stellate hairs and prickles abaxially, often with straight yellow or green prickles, base oblique, margin entire or sinuate-lobed, apex obtuse or acute. Inflorescences axillary or extra-axillary many-flowered racemes; peduncle mostly unbranched. Flowers showy, andromonoecious. Pedicel 0.6–1.5 cm, often leaving a conspicuous scar, with dense, bristlelike, long-stalked hairs. Calyx 1–1.5 cm, deeply lobed; lobes lanceolate, hispid with mostly simple hairs. Corolla opening deep purple, fading through blue to white over several days, 6–9 cm in diam., lobed ca. 1/3 way down, stellate hairy abaxially. Filaments 2–3 mm, glabrous; anthers oblong, apex narrowed, beaklike, 1.2–1.5 cm. Style dimorphic. Berry red, sometimes remaining green, globose, 3–4 cm in diam. Seeds lenticular, 2–3 mm in diam.

Hong Kong [widely cultivated for ornament and coffee shade in tropical and subtropical regions; native of Bolivia and Brazil].

As no material from China was seen, the description was based on American plants. The species was originally described from a plant cultivated in Hong Kong.

## 27. *Solanum violaceum* Ortega, Nov. Pl. Desc. Dec. 56. 1798.

刺天茄 ci tian jie

*Solanum chinense* Dunal; *S. indicum* Linnaeus var. *recurvatum* C. Y. Wu & S. C. Huang; *S. nivalomontanum* C. Y. Wu & S. C. Huang.

Shrubs 0.5–1.5(–2) m tall, much branched, pubescent overall with dense, stalked, 5–11-rayed stellate hairs. Stems and branches with pale yellow, recurved prickles 4–10 × □ 1.5–7 mm, gray stellate tomentose. Leaves unequal paired; petiole 1.5–4 cm; leaf blade ovate, 5–8(–11) × 2–7(–8.5) cm, tomentose with short-stalked, 5–9(–11)-rayed stellate hairs adaxially, with long-stalked hairs abaxially, with straight needlelike prickles, base cordate or truncate, margin 5–7-sinuate lobed, apex obtuse or acute. Inflorescences extra-axillary, scorpioid racemes, 2–6 cm, sparingly branched; peduncle ca. 1.5 cm, prickly or not. Pedicel 4–15 mm. Calyx 4–7 mm; lobes lanceolate, 3–5 mm, unequal, pubescent and prickly as on pedicel. Corolla blue-purple, sometimes white, rotate, 1–1.21–2 cm; lobes ovate or ovate-lanceolate, 5–8 × 2–5 mm, obtuse. Filaments ca. 1 mm; anthers oblong, 5–6 mm. Style 8–10 mm, stellate pubescent. Fruiting pedicel 1–2 cm, stellate pubescent, prickly, erect or sometimes recurved. Fruiting calyx reflexed, stellate pubescent, prickly. Berry shiny orange, globose, 0.8–1.3 cm in diam. Seeds subdiscoid, ca. 2 mm in diam. Fl. and fr. throughout the year.

Forests, dry thickets, wastelands, roadsides; 100–2700 m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Sichuan, Taiwan, Yunnan [widespread in tropical Asia].

Fruits are used medicinally for relieving cough, alleviating toothache, and externally for skin disease.

## 28. *Solanum deflexicarpum* C. Y. Wu & S. C. Huang, Acta Phytotax. Sin. 16(2): 73. 1978.

苦刺 ku ci

Shrubs ca. 1 m tall, erect, pubescent overall with dense, stalked or sessile, (3–)5–9-rayed stellate hairs. Stems and branches occasionally armed with 1 or 2 prickles less than 1 mm. Leaves unequal paired; petiole 1.5–2.5 cm; leaf blade ovate, 5.5–10.5 × 4–8.5 cm, green and sparsely tomentose with 5–9-rayed stellate hairs adaxially, yellow-green with denser hairs abaxially, unarmed, base truncate to broadly cuneate,

margin 5–7-sinuate, apex acute. Inflorescences extra-axillary, 10- or 11-flowered scorpioid cymes to 2 cm; peduncle 1.5–1.8 cm. Pedicel 4–5 mm, strongly recurved, ca. 1 cm in fruit, stellate tomentose. Calyx ca. 4 mm; lobes ovate, 1.5 mm, acute, stellate tomentose. Corolla white, campanulate, ca. 1 cm; lobes ovate-lanceolate, ca. 5 mm. Filaments less than 1 mm; anthers oblong, ca. 4 mm. Style ca. 7 mm, stellate-pubescent. Berry globose, ca. 1 cm in diam. Seeds discoid, ca. 2 mm in diam. Fl. and fr. autumn.

• Roadsides; 1400–1500 m. Yunnan.

## 29. *Solanum aethiopicum* Linnaeus, Cent. Pl. 2: 10. 1756.

红茄 hong jie

*Solanum integrifolium* Poiret.

Herbs annual, ca. 70 cm tall, pubescent with stalked or sessile, 5–9-rayed stellate hairs. Stem and branches prickly; prickles 2–5 mm, 1–2 mm broad at base, straight or slightly curved. Upper leaves often unequal paired; petiole 2–7 cm; leaf blade ovate to oblong-ovate, 10–20 × 6–14 cm, with mixed simple and many-rayed hairs abaxially, stellate tomentose along veins and often with subulate prickles 3–7 mm, irregularly sinuate-parted, apex acuminate or obtuse. Inflorescences extra-axillary, few flowered, racemose; peduncle 1–1.5 cm. Flowers 5-merous, (6–9-merous in cultivation). Pedicel 5–12 mm, with prickles 0.2–2 mm. Calyx campanulate; lobes slightly unequal, ovate to ovate-lanceolate, 5–7 × 3–4 mm. Corolla white or slightly purplish, stellate or stellate-rotate, 1.5–2.5 cm in diam.; limb ca. 6.5 mm. Filaments 0.5–1 mm, glabrous; anthers lanceolate-elliptic, 4–5 × 0.7–1 mm, emarginate at apex and base. Ovary 4–8-locular. Style 5.7–7.5 mm. Berry orange or red, 1.5–3(–5) cm in diam., often longitudinally 4–6-grooved. Seeds reniform, 2–3.5 mm in diam.

400–1800 m. Cultivated in Henan (Song Xian) and Yunnan (Kunming Shi and Xishuangbanna) [Africa].

The fruits are used medicinally and for food in some countries.

## 30. *Solanum aculeatissimum* Jacquin, Collectanea 1: 100. 1787.

喀西茄 ka xi jie

*Solanum cavaleriei* H. Léveillé & Vaniot; *S. khasianum* C. B. Clarke.

Herbs to subshrubs, erect, 1–2(–3) m tall, copiously armed, minutely tomentose with simple, many-celled, mostly glandular hairs, often with a pinkish cast. Stems and branches terete, erect, loosely pilose with many-celled, simple and stellate hairs to 2 mm, armed with recurved flat prickles 1–5 × □ 2–10 mm and sometimes straight spines. Leaves sometimes unequal paired; petiole, stout, 3–7 cm, copiously prickly; leaf blade broadly ovate, 6–15 × 4–15 cm, with coarse, many-celled simple hairs and straight prickles on both surfaces, mixed with sparse, stellate hairs abaxially, base truncate to subhastate, margin 5–7-lobed or -parted, with angular or dentate sharp lobes, apex acute or obtuse. Inflorescences extra-axillary, short, 1–4-flowered scorpioid racemes; peduncle obsolete or to 1 cm. Pedicel 5–10 mm, pilose. Calyx campanulate, ca. 5.5 cm; lobes oblong-lanceolate, 5 × 1.5 mm, hairy and sometimes prickly abaxially. Corolla white; lobes lanceolate, ca. 4 × 14 mm, pubescent as on calyx. Filaments 1–2 mm; anthers lanceolate, acuminate, 6–7 mm. Ovary glabrous or minutely stipitate glandular. Style 6–7 mm. Berry pale yellow, globose, 2–3 cm in diam. Seeds

light brown, lenticular, 2–2.8 mm in diam. Fl. Mar-Aug, fr. Nov-Dec.

Along ditches and roads, wastelands, grasslands, thickets, open forests; 600–2300 m. Fujian (Xiamen Shi), Guangxi, Guizhou, Hunan, Jiangxi, Sichuan, Xizang, Yunnan, Zhejiang (Pingyang Xian) [probably native to Brazil; widespread in tropical Asia and Africa].

**31. *Solanum viarum*** Dunal in A. de Candolle, Prodr. 13(1): 240. 1852.

毛果茄 *mao guo qie*

*Solanum khasianum* C. B. Clarke var. *chatterjeeanum* Sen Gupta.

Herbs or subshrubs, erect, 0.5–1(–2) m tall, armed, minutely tomentose with many-celled, simple, mostly glandular hairs. Stems and branches terete, densely and evenly pubescent with many-celled, simple hairs to 1 mm, armed with recurved prickles 2–5×1–5(–8) mm and sometimes with needlelike prickles 1–4 mm. Leaves unequal paired; petiole stout 3–7 cm, armed with erect, flat straight prickles 0.3–1.8 cm; leaf blade broadly ovate, 6–13×6–12 cm, with prickles and coarse, many-celled, glandular simple hairs on both surfaces, these mixed with sparse, sessile, stellate hairs abaxially, base truncate to short hastate, margin 3–5-lobed or -parted; lobes blunt at apex. Inflorescences extra-axillary, subfasciculate, 1–5-flowered racemes; peduncle obsolete or short. Flowers andromonoecious, only basal ones fertile. Pedicel 4–6 mm. Calyx campanulate, ca. 10×7 mm, lobes oblong-lanceolate, 0.6–1.2 mm, hairy and sometimes prickly abaxially. Corolla white or green; lobes lanceolate, ca. 2.5×10 mm, pubescent as on calyx. Filaments 1–1.5 mm; anthers lanceolate, acuminate, 6–7 mm. Ovary puberulent. Style ca. 8 mm, glabrous. Berry pale yellow, globose, 2–3 cm in diam. Seeds brown, lenticular, 2–2.8 mm in diam. Fl. Jun-Aug, fr. Jun-Oct.

Wastelands, grasslands, thickets, open forests, along ditches, roadsides; 1400–2200 m. E Xizang (Zaya Xian), Yunnan [widespread in tropical Asia and Africa].

**32. *Solanum capsicoides*** Allioni, Mélanges Philos. Math. Soc. Roy. Turin 5: 64. 1773.

牛茄子 *niu qie zi*

*Solanum bodinieri* H. Léveillé & Vaniot; *S. ciliatum* Lamarck.

Herbs or subshrubs, erect or sprawling, 30–60(–100) cm tall, copiously armed with pale yellow, needlelike prickles, pubescent with coarse, many-celled simple hairs. Stems conspicuously white lenticellate, glabrescent to pilose; prickles straight to slightly recurved, 0.5–1.8 cm. Leaves paired; petiole stout, 2–7 cm; leaf blade broadly ovate, 5–13×4–12 cm, with many-celled simple hairs adaxially, glabrous or hairy only along veins abaxially, prickly along veins on both surfaces, base cordate, margin 5–7-lobed to halfway, apex acute or acuminate. Inflorescences extra-axillary, racemose, 1–4-flowered; peduncle unbranched. Pedicel 5–12 mm. Calyx cup-shaped, ca. 5×8 mm; lobes ovate, pubescent as on stems. Corolla white, greenish at base; lobes lanceolate, ca. 12×4 mm. Filaments 2.5 mm; anthers lanceolate, ca. 6 mm. Ovary minutely stipitate glandular. Style 7–8 mm. Fruiting pedicel 2–2.5 cm. Fruiting calyx copiously armed, somewhat enlarged, not covering fruit. Berry orange-red, subglobose, 3.5–6 cm in diam., mesocarp white, spongy. Seeds yellowish, discoid, with a conspicuous,

thin orbicular wing, 4–6 mm in diam. Fl. Jun-Aug, fr. Aug-Oct.

Wastelands, near roadsides, open forests, thickets; 200–1500 m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Jiangsu, Jiangxi, Sichuan, Taiwan, Yunnan, Zhejiang, also cultivated in Henan and Liaoning [native to Brazil; now a widespread weed of warm regions].

Sometimes cultivated for its bright, ornamental fruits that are poisonous.

**33. *Solanum mammosum*** Linnaeus, Sp. Pl. 1: 187. 1753.

乳茄 *ru qie*

Herbs or shrubs, erect, ca. 1 m tall, copiously armed, villous throughout with mixed stellate and simple, partly glandular hairs. Stems pilose with glandular simple hairs, armed with needlelike, sometimes slightly curved yellowish prickles 4–12×3–5 mm. Leaves mostly paired; petiole 2.5–8 cm; leaf blade broadly ovate or suborbicular, 5–12×5–10 cm, (3–)5(–7)-lobed, villous, armed on major veins with needlelike prickles 0.8–2 cm, base cordate, apex acute or obtuse. Inflorescences extra-axillary, scorpioid-racemose, 3- or 4-flowered; peduncle obsolete. Pedicel 5–10 mm. Calyx pubescent as on stems, sometimes armed; lobes ovate-lanceolate, 5–6 mm. Corolla purple, 2.5–3.2 cm in diam.; lobes oblong-lanceolate, 2–2.2×0.4 cm, villous abaxially. Stamens subequal; filaments ca. 1 mm; anthers narrow, lanceolate, 1–1.2 cm. Style ca. 3 mm. Berry yellow, darkening with age, pyriform, 4.5–7×3–4 cm, with 1–5 papillate protuberances at base; mesocarp white, spongy. Seeds dark brown, somewhat compressed, 3–4 mm in diam. Fl. summer, fr. autumn.

200–1300 m. Guangdong, Guangxi, Yunnan [native to South America].

**34. *Solanum lasiocarpum*** Dunal, Hist. Nat. Solanum. 222. 1813.

毛茄 *mao qie*

*Solanum immane* Hance ex Walpers; *S. lasiocarpum* var. *velutinum* Dunal.

Herbs or subshrubs, erect or spreading, 1–1.5 m tall, armed, densely pubescent throughout with pale yellow, many-celled stellate hairs. Stems and branches stout, with flat, erect or slightly recurved prickles 1–8 mm. Petiole 3–8 cm, often with stalked, stellate hairs and erect prickles; leaf blade ovate, 10–20×8–18 cm, pubescent as on stems, denser abaxially, prickly along veins on both surfaces, base truncate or subhastate, margin 5–11-sinuate lobed, apex acute. Inflorescences extra-axillary, several flowered, scorpioid-racemose, 1.2–2 cm; peduncle ca. 3 mm. Flowers andromonoecious. Pedicel ca. 1 cm. Calyx lobes ovate, 8–10 mm. Corolla white, subrotate, 1–1.2×2 cm. Filaments very short; anthers lanceolate, acuminate, 7–8 mm. Style ca. 9 mm, glabrous. Fruiting pedicel erect, 1–1.5 cm. Fruiting calyx somewhat enlarged, reflexed. Berry orange, globose, ca. 2 cm in diam., densely stellate hirsute, tomentum persistent. Seeds brown, ca. 2 mm in diam. Fl. Jun-Oct, fr. Nov-Dec.

Wet places in ravines and valleys, thickets, open forests, near roads, humid places, dense forests; 200–1000 m. Guangdong, Guangxi, Taiwan, S and SE Yunnan [Cambodia, India, Indonesia, Laos, Philippines, Sri Lanka, Thailand, Vietnam].

**35. *Solanum barbisetum*** Nees, Trans. Linn. Soc. London 17: 51. 1837.

刺苞茄 ci bao qie

Herbs or subshrubs, erect, ca. 1 m tall, armed with straight prickles, pubescent with stellate hairs. Stems and branches shaggy-tomentose with stalked, 5–9-rayed stellate hairs and erect, broad-based prickles 2–5×1–1.5 mm. Leaves paired; petiole 4.5–6 cm; leaf blade ovate-elliptic to elliptic, 16–24×12–19 cm, tomentose with 4–9-rayed hairs, sparsely prickly, base cuneate, margin 10–14-dentate, apex acute. Inflorescences extra-axillary, elongated, many-flowered scorpioid racemes, 5–10 cm; peduncle ca. 2 cm. Pedicel 5–10 mm. Calyx campanulate, 1–1.2 cm; lobes oblong-lanceolate, 8–9×3 mm, densely pubescent with pale yellow, stellate hairs. Corolla blue or purple, 1–1.2×1.5 cm; lobes lanceolate, ca. 7×3 mm, pubescent as on calyx. Filaments less than 1 mm; anthers lanceolate, ca. 7 mm. Ovary glabrous. Style ca. 9 mm. Fruiting calyx with stellate hairs and dense erect prickles, enveloping most of berry. Berry (immature?) globose, glabrous, ca. 1.2 cm in diam. Seeds brownish, discoid, ca. 2.5 mm in diam. Fl. summer.

Waste places, by waters, wet places, valleys, thickets; 500–1300 m. S Yunnan [Bangladesh, India, Laos, Thailand].

We have not seen the type or reliable material of this species, and the record, which follows FRPS, remains uncertain. It is different from any other species known from China, and it resembles *S. dasyanthum* Thonning of West Africa in many features.

**36. *Solanum griffithii*** (Prain) C. Y. Wu & S. C. Huang, Acta Phytotax. Sin. 16(2): 75. 1978.

膜萼茄 mo e qie

*Solanum barbisetum* Nees var. *griffithii* Prain, J. Asiatic Soc. Bengal 62: 541. 1896.

Herbs or subshrubs 50–100 cm tall, puberulent with stalked stellate hairs. Stems sparingly lanate with weak, long-stalked, 7–9-rayed hairs, glabrescent, sparingly armed with erect, stout prickles 2–3(–5)×1–1.5(–2.5) mm. Leaves equal paired; petiole 2–5 cm; leaf blade ovate to obovate-elliptic, 6–16(–19)×4–10(–16) cm, pubescent as on stems, sparsely prickly along main veins, base obtuse or cuneate, margin 6–18-dentate, apex acute. Inflorescences extra-axillary scorpioid racemes ca. 3.5 cm; peduncle 4–5 mm. Pedicel ca. 1 cm, with short prickles. Calyx subcampanulate, ca. 7 mm; lobes lanceolate, ca. 4×1 mm, pubescent, prickly. Corolla white, broadly campanulate, 1.2–1.5×1.5 cm; lobes lanceolate, ca. 6×1.5 mm, stellate hairy. Filaments ca. 1.5 mm; anthers ovate-lanceolate, ca. 6 mm. Ovary glabrous. Style ca. 9 mm, glabrous. Fruiting pedicel 0.9–1.1 cm. Fruiting calyx with dense stellate hairs, closely enveloping most of berry, with numerous short yellowish prickles. Berry globose, ca. 1.2 cm in diam., glabrous. Seeds orbicular, ca. 2.5 mm in diam. Fl. Apr–Aug, fr. Aug–Oct.

Near roads, limestone mountains, thickets, forests; 300–900 m. Guangxi (Pinguo Xian), Guizhou, Yunnan [India, Myanmar].

**37. *Solanum sisymbriifolium*** Lamarck, Tabl. Encycl. 2: 25. 1794.

蒜芥茄 suan jie qie

Herbs annual, copiously armed, pubescent with glandular, many-celled, simple and stellate hairs. Stems erect, with yellow or orange-yellow, subulate prickles 2–10×1.5 mm. Leaves simple or sometimes pinnate; petiole 1.5–4 cm;

leaf blade oblong or ovate, 4.5–10(–14)×2.5–5(–8) cm, stellate pubescent, sometimes shaggy, often armed along main veins on both surfaces, pinnately lobed or parted; lobes pinnately lobed or dentate, apex acute. Inflorescences axillary or extra-axillary scorpioid racemes; peduncle branched or not. Pedicel 5–10 mm. Calyx cup-shaped, ca. 1 cm; lobes ovate-lanceolate, ca. 5×2 mm, pubescent and prickly as on stems. Corolla purplish or white, stellate, 1.6–3.5 cm; lobes ovate, 10×4–8 mm, sparsely hairy. Filaments ca. 1 mm, glabrous; anthers lanceolate, ca. 9 mm. Ovary puberulent. Style 1–1.2 cm. Fruiting pedicel 1–1.5 cm, stout. Fruiting calyx enlarged, longer than fruit, densely prickly and enveloping most berry, ultimately flaring wide and exposing it. Berry bright red, subglobose, 1–2 cm in diam. Seeds reniform, ca. 2.5×2 mm. Fl. and fr. warm months of the year.

Cultivated in Guangdong and Yunnan (Kunming), naturalized in Kunming [native to South America; naturalized in Africa, Australia].

**38. *Solanum angustifolium*** Miller, Gard. Dict. ed. 8, no. 15. 1768.

狭叶茄 xia ye qie

*Solanum cornutum* Lamarck; *S. heudesii* H. Léveillé.

Herbs annual, 30–150 cm tall, copiously prickly, stellate pubescent. Stems of young plants glaucescent, pubescent with short, simple, often glandular hairs to 0.2 mm; older stems with scattered stellate hairs; prickles yellow, straight, 1–1.8 cm. Petiole 3–8 cm, armed; leaf blade broadly ovate, 10–20×3–8 cm, stellate pubescent, prickly along veins, 2- or 3-pinnatifid, pinnatisect near base; lobes irregularly ovate, dentate or sinuate, apex acute or obtuse. Inflorescences extra-axillary, 7–11-flowered scorpioid racemes, 4–12 cm; peduncle 5–10 mm. Pedicel ca. 5 mm. Calyx campanulate, divided nearly to base; lobes lanceolate, 5–10 mm, pubescent and prickly as on stems. Corolla yellow, often with an abaxial reddish band on lobes drying purplish, stellate, 1.5–2×2.5–3.5 cm; lobes lanceolate, stellate hairy. Filaments ca. 1 mm; anthers narrowly lanceolate, attenuate, 1.2–1.7 cm. Style 1.5–1.7 cm. Fruiting pedicel 1–1.5 cm. Fruiting calyx enlarged, enveloping most of berry, sparsely stellate-hairy, densely prickly, 1–2 cm. Berry globose, 1–1.2 cm in diam. Seeds dark brown, discoid, 2.2–2.8 mm in diam., minutely pitted, reticulately ridged. Fr. Jul–Sep, fr. Aug–Oct.

Adventive in Jiangsu [tropical Mexico south into Honduras].

Inclusion of this species is based on the original description of *Solanum heudesii*, the type of which we have not seen. Because no material from China was seen of this species, the above description is taken from a range of Mexican material.

**39. *Solanum undatum*** Lamarck, Tab. Encycl. 2: 22. 1793.

野茄 ye qie

*Solanum cumingii* Dunal.

Herbs or subshrubs, erect, 0.5(–2) m tall, pubescent with stellate hairs, usually armed. Stems and branches shaggy tomentose with stalked many-rayed hairs, glabrescent, sparingly armed with mostly straight needlelike prickles. Leaves unequal paired; petiole 1–4 cm; leaf blade ovate or elliptic, 5–12(–14.5)×4–7 cm, tomentose with stalked and sessile, many-rayed hairs, with short stout prickles on veins, base obtuse or truncate, oblique, margin 5(–7)-sinuate lobed, apex acute or obtuse. Inflorescences extra-axillary, few-flowered scorpioid racemes, ca. 2.5 cm;

peduncle very short. Flowers andromonoecious. Pedicel 0.5–2 cm. Calyx campanulate, 6–9×1–1.5 cm; lobes deltate-lanceolate, ca. 5□×□2 mm, densely stellate hairy. Corolla purple-blue or white, stellate-rotate, 1.5–2×1.5–3 cm; lobes broadly deltate or ovate, ca. 10×5 mm, with stellate hairs abaxially. Filaments 1.5–1.8 mm, glabrous; anthers elliptic, 5–8 mm. Style 5–6 mm, glabrous. Fruiting pedicel 2.5–5 cm, deflexed, sparsely stellate hairy, prickly; fruiting calyx persistent, slightly enlarged, hairy, prickly. Berry yellow, globose, 2–3 cm in diam., glabrous. Seeds lenticular, 2–3 mm in diam. Fl. Mar-Jul, fr. May-Dec.

Thickets, slopes; 200–1100 m. Guangdong, Guangxi, Guizhou, Hainan, Taiwan, Yunnan [Afghanistan, NW India, Indonesia, Malaysia, Pakistan, Thailand, Vietnam; Africa, SW Asia].

Material of this species was identified in FRPS as *Solanum coagulans* Forsskål, a species from eastern Africa and Arabia which has unequal anthers. The name *S. incanum* Linnaeus has commonly been used for this species, but recent neotypification of that name calls for applying it to a species from northeast Africa and the Arabian Peninsula that has more pubescent leaves with narrower apices and smaller fruits. The application of *S. undatum* or *S. cumingii* to this species is uncertain.

#### 40. *Solanum melongena* Linnaeus, Sp. Pl. 1: 186. 1753.

茄 qie

*Solanum esculentum* Dunal; *S. melongena* var. *esculentum* (Dunal) Nees; *S. melongena* var. *serpentinum* Linnaeus; *S. melongena* var. *depressum* Linnaeus.

Herbs or subshrubs to 60 cm tall, sparingly armed, pubescent with stellate hairs. Stems and branches minutely tomentose, sometimes with stout recurved prickles. Petiole 2–4.5 cm; leaf blade ovate to oblong-ovate, 6–18×5–11 cm, stellate-tomentose or sometimes with a few fine prickles on both surfaces, denser abaxially, base oblique, margin sinuate-lobed, apex obtuse. Inflorescences mostly solitary flowers, rarely reduced racemes; peduncle obsolete. Flowers andromonoecious. Pedicel 1–1.8 cm. Calyx stellate tomentose, often with ca. 3 mm prickles abaxially; lobes lanceolate. Corolla purplish or violet, rotate, 3(–5) cm; lobes deltate, ca. 1 cm. Filaments ca. 2.5 mm; anthers ca. 7.5 mm. Style 4–7 mm. Berry black, purple, pink, brown, or yellow, yellowish when completely mature, greatly variable in form and size, mostly more than 6 cm in diam., with a thick, spongy, whitish mesocarp and septal region. Seeds lenticular, yellowish, 2.8–3.9×2.5–3.5 mm.

Widely cultivated in China and other countries for its edible fruits.

#### 41. *Solanum virginianum* Linnaeus, Sp. Pl. 1: 187. 1753.

毛果茄 mao guo qie

*Solanum mairei* H. Léveillé; *S. surattense* N. L. Burman; *S. xanthocarpum* Schrader & Wendland.

Herbs erect or creeping, sometimes woody at base, 50–70 cm tall, copiously armed with sturdy, needlelike, broad-based prickles 0.5–2 cm×0.5–1.5 mm, pubescent with 7–9-rayed stellate hairs, overall glabrescent. Leaves unequal paired; petiole 2–3.5 cm, prickly, with sessile stellate hairs; leaf blade ovate-oblong, 4–9×2–4.5 cm, pubescent and prickly along veins, glabrescent, base subcordate or unequal, margin usually 5–9-lobed or pinnately parted, lobes unequal, sinuate, apex acute. Inflorescences elongate racemes 4–7 cm; peduncle unbranched, copiously armed. Pedicel ca. 1 cm. Calyx campanulate, ca. 1 cm in diam.; lobes oblong,

pubescent, prickly. Corolla blue-purple, rotate, 1.4–1.6×2.5 cm; lobes ovate-deltate, 6–8 mm, densely pubescent with stellate hairs. Filaments ca. 1 mm; anthers ca. 8 mm. Style ca. 1 cm. Fruiting pedicel 2–3.6 cm, with prickles and sparse stellate hairs. Fruiting calyx prickly, sparsely pubescent. Berry pale yellow, 1.3–2.2 cm in diam. Seeds subreniform, ca. 1.5 mm in diam. Fl. Nov-May, fr. Jun-Sep.

Sandy river beaches; 100–1300 m. Hainan, Hubei, Sichuan, Taiwan, Yunnan [Afghanistan, India, S Japan, Malaysia, Nepal, Sri Lanka, Thailand, Vietnam; Africa, SW Asia, Pacific Islands].

Solasodine can be extracted from the fruits, a source of raw material for hormone synthesis.

