

# ACTINIDIACEAE

猕猴桃科 mi hou tao ke

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Trees, shrubs, or woody vines. Leaves alternate, simple, shortly or long petiolate, not stipulate. Flowers bisexual or unisexual or plants polygamous or functionally dioecious, usually fascicled, cymose, or paniculate. Sepals (2 or 3 or)5, imbricate, rarely valvate. Petals (4 or)5, sometimes more, imbricate. Stamens 10 to numerous, distinct or adnate to base of petals, hypogynous; anthers 2-celled, versatile, dehiscing by apical pores or longitudinally. Ovary superior, disk absent, locules and carpels 3–5 or more; placentation axile; ovules anatropous with a single integument, 10 or more per locule; styles as many as carpels, distinct or connate (then only one style), generally persistent. Fruit a berry or leathery capsule. Seeds not arillate, with usually large embryos and abundant endosperm.

Three genera and ca. 357 species: Asia and the Americas; three genera (one endemic) and 66 species (52 endemic) in China.

Economically, kiwifruit (*Actinidia chinensis* var. *deliciosa*) is an important fruit, which originated in central China and is especially common along the Yangtze River (well known as yang-tao). Now, it is widely cultivated throughout the world.

For additional information see the paper by X. W. Li, J. Q. Li, and D. D. Soejarto (*Acta Phytotax. Sin.* 45: 633–660. 2007).

Liang Chou-fen, Chen Yong-chang & Wang Yu-sheng. 1984. Actinidiaceae (excluding *Sladenia*). In: Feng Kuo-mei, ed., *Fl. Reipubl. Popularis Sin.* 49(2): 195–301, 309–334.

- 1a. Trees or shrubs; flowers bisexual or plants functionally dioecious ..... 3. *Saurauia*
- 1b. Woody vines; flowers bisexual, plants monoecious or dioecious.
  - 2a. Ovary 15–30-loculed and -styled, styles distinct; fruit a berry without a ridge; seeds numerous; stamens 15–130 ..... 1. *Actinidia*
  - 2b. Ovary 5-loculed and -styled, styles connate; fruit berrylike or a dry leathery capsule, 5-ridged; seeds usually 5; stamens 10 ..... 2. *Clematoclethra*

## 1. ACTINIDIA Lindley, *Nat. Syst. Bot.*, ed. 2, 439. 1836.

猕猴桃属 mi hou tao shu

*Kalomikta* Regel; *Trochostigma* Siebold & Zuccarini.

Climbing shrubs, glabrous or hairy, indumentum of stellate or simple hairs; pith solid or lamellate. Branches usually with linear, lengthwise lenticels; winter buds small, enclosed in swollen base of petiole or exposed. Leaves often long petiolate; stipules minute, obsolete, or absent; leaf blade membranous, papery, or leathery, venation penniveined, veinlets reticulate, usually in cross-bars, margin serrate or dentate, rarely entire. Inflorescences cymose, axillary, often pseudo-umbellate, few- or many flowered, or flowers solitary; bracts present, minute. Flowers white, pink, red, yellow, or green, bisexual, plants polygamous or functionally dioecious. Sepals (2–)5(or 6), distinct or connate at base, imbricate, rarely valvate, persistent or not. Petals (4 or)5(or more than 5), imbricate. Stamens numerous, in functionally female flowers often with shorter filaments and smaller sterile anthers; filaments slender; anthers yellow, brown, purple, or black, versatile, attached at middle, 2-celled, dehiscing lengthwise, usually divaricate at base. Disk absent. Ovary ovoid, cylindrical, or bottle-shaped, glabrous or hairy, many loculed; ovules numerous per locule; styles as many as carpels (15–30), usually reflexed, persistent, radiating, in functionally female flower elongating after anthesis; rudimentary ovary in functionally male flower very small, with minute styles. Fruit a berry, globose, ovoid, or oblong, spotted with lenticels or not, glabrous or hairy. Seeds numerous, oblong, small, immersed in pulp; testa cartilaginous, reticulate-pitted; albumen copious and abundant; embryo comparatively large, cylindrical, straight, at center of albumen; cotyledons short.

About 55 species: E and S Asia; 52 species (44 endemic) in China.

*Actinidia pentapetala* R. G. Li & J. W. Li (*Ann. Bot. Fenn.* 43: 462. 2006) was regarded as a dubious species by X. W. Li and J. Q. Li (loc. cit.) because no fruits had been seen. The name was originally published by R. G. Li and J. W. Li (*Guihaia* 23: 194. 2003) but not validly so because no type was indicated (*Vienna Code*, Art. 37.6).

- 1a. Fruit not spotted with lenticels.
  - 2a. Pith solid, white; flowers white; sepals 2–5; petals 5–12.
    - 3a. Sepals (4 or)5; petals 5; leaves adaxially sparsely strigillose ..... 5. *A. polygama*
    - 3b. Sepals 2 or 3; petals 5–12; leaves adaxially not strigillose.
      - 4a. Fruit ovoid to obovoid, rostrum on apex ± conspicuous; seeds ca. 3 mm, ca. 2.5 mm in diam.; sepals (2 or)3; petals 5–9; anthers oblong to linear, 2.5–4 mm ..... 6. *A. valvata*
      - 4b. Fruit globose, rostrum on apex inconspicuous; seeds 4–5 mm, ca. 3 mm in diam.; sepals 2 or 3; petals 5–12; anthers ovoid, 1.5–2.5 mm ..... 7. *A. macrosperma*

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- 2b. Pith lamellate, white or brown; flowers greenish, white, or red; sepals 4–6; petals 5.
- 5a. Ovary bottle-shaped; flowers white or greenish; apex of fruit rostrate; pith white to brown; leaves abaxially glaucous or not.
- 6a. Leaf blade abaxially usually not glaucous, ovate to broadly ovate or orbicular, sometimes ovate-oblong, membranous to papery ..... 1. *A. arguta*
- 6b. Leaf blade abaxially usually glaucous, ovate-lanceolate, ovate-oblong, oblong, or ovate, occasionally orbicular, papery to leathery ..... 2. *A. melanandra*
- 5b. Ovary cylindrical; flowers white to pink; apex of fruit not rostrate; pith brown; leaves abaxially not glaucous.
- 7a. Flowers pink or white, 5(or 6)-merous; leaves abaxially with ± conspicuous tufts of white hairs in axils of lateral veins ..... 3. *A. kolomikta*
- 7b. Flowers white, 4-merous, rarely 5-merous; leaves abaxially with very conspicuous white tufts of hairs in axils of lateral veins ..... 4. *A. tetramera*
- 1b. Fruit spotted with lenticels.
- 8a. Leaves normally abaxially glabrous or occasionally hairy, but hairs not stellate or imperfectly stellate.
- 9a. Branches and petioles pubescent, hairs usually rigid and long.
- 10a. Ovary setose; sepals abaxially hispidulous ..... 22. *A. holotricha*
- 10b. Ovary and sepals tomentose (sepals occasionally glabrous).
- 11a. Leaf margin irregularly setose-serrulate (usually with 2 short teeth in between 2 long ones) ..... 23. *A. rubus*
- 11b. Leaf margin regularly serrulate to serrate.
- 12a. Leaf blade orbicular-obovate, apex truncate and emarginate or rounded and cuspidate ..... 24. *A. chengkouensis*
- 12b. Leaf blade oblong-lanceolate, ovate, or oblong-elliptic to oblong-obovate, apex acute to acuminate.
- 13a. Fruit oblong to globose, more than 1.5 cm in diam.
- 14a. Leaf blade oblong-lanceolate to -ovate, abaxially glaucous ..... 28. *A. hemsleyana*
- 14b. Leaf blade oblong-ovate to broadly ovate, abaxially not glaucous ..... 29. *A. vitifolia*
- 13b. Fruit cylindrical, less than 1 cm in diam.
- 15a. Leaves ferruginous hispid, abaxially prominently glaucous ..... 25. *A. melliana*
- 15b. Leaves strigose or puberulent, abaxially not or slightly glaucous.
- 16a. Both surfaces of leaves usually densely strigose, occasionally so on midvein and lateral veins to rarely glabrous, abaxially not glaucous; branchlets strigose, hairs basally not dilated ..... 26. *A. rudis*
- 16b. Both surfaces of leaves often glabrous or slightly puberulent, adaxially occasionally sparsely strigose, abaxially glaucous or not; branchlets hispid-strigose, hairs basally obviously dilated ..... 27. *A. henryi*
- 9b. Branches and petioles usually glabrous, if hairy, then hairs fine and soft, occasionally strigose on branchlets and petioles in *A. fortunatii* and *A. callosa*.
- 17a. Pith solid.
- 18a. Flowers 2–6, in subsessile, axillary clusters ..... 8. *A. fasciculoides*
- 18b. Flowers solitary or in pedunculate clusters; peduncles or pedicels 1–2 cm.
- 19a. Inflorescences umbellate, usually 3–5-flowered ..... 9. *A. umbelloides*
- 19b. Inflorescences cymose, usually 1-flowered ..... 10. *A. rubricaulis*
- 17b. Pith lamellate.
- 20a. Leaves abaxially not glaucous.
- 21a. Branchlets tomentose; inflorescence usually 3–9- or more flowered ..... 11. *A. rufa*
- 21b. Branchlets rarely tomentose; inflorescence usually 1–3-flowered.
- 22a. Leaf margin inconspicuously mucronulate on current year leaves or shallowly crenate-serrate on two-year leaves; pith white to brown ..... 14. *A. cylindrica*
- 22b. Leaf margin ciliate-serrulate to coarsely serrate; pith brown.
- 23a. Lenticels sparse, inconspicuous on branches; leaves with strongly raised parallel cross-bars on veinlets; flowers reddish ..... 12. *A. ulmifolia*
- 23b. Lenticels dense, conspicuous on branches; leaves with slightly raised parallel cross-bars on veinlets; flowers white ..... 13. *A. callosa*
- 20b. Leaves abaxially glaucous.
- 24a. Branchlets with very conspicuous lenticels; leaves leathery to thickly leathery ..... 15. *A. laevisima*
- 24b. Branchlets with inconspicuous to conspicuous lenticels; leaves papery to leathery.
- 25a. Pith white; flowers red; leaves basally distinctly cordatulate to auriculate-cordate ..... 16. *A. fortunatii*
- 25b. Pith brown; flowers white or yellow; leaves basally cuneate to truncate or

- rounded, occasionally cordatulate.
- 26a. Young branchlets, young leaves abaxially on midvein and lateral veins, and inflorescences rusty glandular-tomentose.
- 27a. Flowers yellow; leaf margin crenate-serrate; sepals on fruit persistent, reflexed ..... 17. *A. chrysantha*
- 27b. Flowers white; leaf margin subentire to inconspicuously and remotely crenate-serrulate or serrulate toward apex; sepals not persistent on fruit ..... 18. *A. indochinensis*
- 26b. Young branchlets, young leaves abaxially on midvein and lateral veins, and inflorescences not rusty glandular-tomentose.
- 28a. Leaves on flowering branchlets apically rounded ..... 21. *A. sabiifolia*
- 28b. Leaves on flowering branchlets never apically rounded.
- 29a. Leaf blade often narrowly ovate, base rounded, petiole 1.5–2.5 cm ..... 19. *A. glaucocallosa*
- 29b. Leaf blade often oblong-ovate, base truncate, petiole 2.5–5 cm ..... 20. *A. trichogyna*
- 8b. Leaves abaxially ± tomentose, hairs stellate or imperfectly stellate.
- 30a. Abaxial surface of leaves imperfectly stellate pubescent.
- 31a. Leaves minutely imperfectly stellate- or arachnoid pubescent.
- 32a. Abaxial surface of leaves with minute hairs, and ± conspicuous parallel cross-bars on veinlets ..... 47. *A. stellatopilosa*
- 32b. Abaxial surface of leaves with arachnoid hairs, and very prominent parallel cross-bars on veinlets ..... 48. *A. venosa*
- 31b. Leaves imperfectly long stellate, easily visible.
- 33a. Petals 5, 1–1.1 cm; pith white or brownish ..... 46. *A. pilosula*
- 33b. Petals 5 or 6, 1–1.6 cm; pith brown.
- 34a. Inflorescence 3–7-flowered; flowers pink or rosy; leaf blade ovate-lanceolate ..... 44. *A. zhejiangensis*
- 34b. Inflorescence 1–3-flowered; flowers yellow; leaf blade obovate ..... 45. *A. grandiflora*
- 30b. Abaxial surface of leaves perfectly stellate pubescent.
- 35a. Leaves usually with sparse, easily caducous, stellate hairs, hairs nearly fallen at fruiting.
- 36a. Inflorescences 3- or 4-branched, 10- or more flowered ..... 32. *A. latifolia*
- 36b. Inflorescences 1- or 2-branched, 1–7-flowered.
- 37a. Fruit glabrous when mature.
- 38a. Sepals 3–6, margin tomentose; petals 5 or 6, 7–9 mm ..... 40. *A. hubeiensis*
- 38b. Sepals 4–6, both surfaces tomentose; petals 5–8, 9–20 mm.
- 39a. Petals 7 or 8; sepals 5 or 6; leaves leathery ..... 41. *A. sorbifolia*
- 39b. Petals 5 or 6; sepals 4 or 5; leaves papery.
- 40a. Leaf blade obovate to obtriangular-obovate, apex abruptly acute to truncate ..... 42. *A. obovata*
- 40b. Leaf blade broadly ovate or broadly obovate to obovate, apex acute to abruptly acuminate to cuspidate ..... 43. *A. lijiangensis*
- 37b. Fruit tomentose when mature.
- 41a. Fruit sparsely tomentose when mature; leaves oblong-ovate to broadly ovate when mature.
- 42a. Leaves abaxially glaucous near margins, reticulate veins not prominent ... 49. *A. persicina*
- 42b. Leaves abaxially not glaucous, reticulate veins prominent ..... 50. *A. rongshuiensis*
- 41b. Fruit densely tomentose when mature; leaves broadly ovate to orbicular when mature.
- 43a. Fruit uniformly oblong, 2–4 cm ..... 51. *A. longicarpa*
- 43b. Fruit ovoid to oblong, ca. 1.7 cm ..... 52. *A. linguensis*
- 35b. Leaves usually with ± dense persistent stellate hairs.
- 44a. Both surfaces of leaves usually hairy, adaxially at least setose or strigose on midvein and lateral veins.
- 45a. Peduncles subsessile; flowers in nearly fasciculate clusters; tomentum on leaves thickly cottony or not.
- 46a. Branchlets and petioles thickly lanate-pubescent ..... 30. *A. farinosa*
- 46b. Branchlets and petioles setose-pubescent ..... 31. *A. rufotricha*
- 45b. Peduncles easily visible; flowers in cymose clusters; tomentum on leaves not cottony.
- 47a. Inflorescences 3- or 4-branched, 10- or more flowered ..... 32. *A. latifolia*
- 47b. Inflorescences 1- or 2-branched, 1–7-flowered.

- 48a. Leaves abaxially sparsely tomentose; branchlets and petioles brownish velutinous ..... 33. *A. fulvicoma*
- 48b. Leaves abaxially tomentose; branchlets and petioles densely tomentose or hirsute, occasionally velutinous.
- 49a. Branchlets and petioles tomentose ..... 33. *A. fulvicoma*
- 49b. Branchlets and petioles hirsute or hispid-setose.
- 50a. Adaxial surface of leaves densely softly setose, branchlets and petioles hirsute ..... 33. *A. fulvicoma*
- 50b. Adaxial surface of leaves densely scabrid-hispid, branchlets and petioles hispid-setose ..... 34. *A. chinensis*
- 44b. Leaves abaxially hairy, adaxially glabrous or hairy when young, but glabrescent when mature.
- 51a. Inflorescence 1-branched, 1–3-flowered; leaves abaxially long stellate, easily observed.
- 52a. Branchlets, buds, abaxial leaf surface, petioles, inflorescence, sepals, and fruit always with white indumentum ..... 38. *A. eriantha*
- 52b. Branchlets and entire plant with yellowish brown or ferruginous indumentum, at least hairs on sepals and fruit yellowish brown.
- 53a. Leaf blade ovate, base cordate, lateral veins arcuate, often not furcate; fruit cylindrical, to 1 cm in diam. .... 39. *A. lianguangensis*
- 53b. Leaf blade obovate, base truncate or obtuse, lateral veins spreading, often furcate on upper part; fruit cylindrical-globose or obovate ..... 34. *A. chinensis*
- 51b. Inflorescence 2–4-branched or racemiform, 5–10- or more flowered; leaves abaxially shortly stellate, not easily observed.
- 54a. Male inflorescences racemiform, 14–20 cm; female inflorescences 1- or 2-branched, ca. 5 cm; pedicels stout ..... 35. *A. suberifolia*
- 54b. Both male and female inflorescences cymose, 2–4-branched, at most 6–7 cm; pedicels slender.
- 55a. Peduncle 2.5–8.5 cm, inflorescence 10- or more flowered; leaf blade basally obtuse to rounded or cordatulate, more than 5 cm wide, petiole more than 3 cm ..... 32. *A. latifolia*
- 55b. Peduncle to 1.5 cm, inflorescence 5–7-flowered; leaf blade basally cuneate to obtuse, 2–4.5 cm wide, petiole 1–2 cm.
- 56a. Pith white; leaf blade 4.5–5 cm wide, apex shortly acuminate, abaxially whitish tomentose with stellate hairs; branchlets, petioles, and inflorescences brownish velutinous ..... 36. *A. styracifolia*
- 56b. Pith brown; leaf blade 2–3 cm wide, apex shortly acuminate to acuminate, abaxially grayish tomentose with stellate hairs; branchlets, petioles, and inflorescences ferruginous velutinous ..... 37. *A. lanceolata*

**1. *Actinidia arguta*** (Siebold & Zuccarini) Planchon ex Miquel, Ann. Mus. Bot. Lugduno-Batavi 3: 15. 1867.

软枣猕猴桃 ruan zao mi hou tao

Climbing shrubs, large, deciduous. Branchlets glabrous or rarely puberulent, tomentose when young, 7–15 cm; second-year branches grayish brown, glabrous, lenticels absent when young, small and inconspicuous when old; pith white to brown, lamellate. Petiole pinkish brown, 3–6(–10) cm, glabrous, sometimes rusty tomentose or setose; leaf blade abaxially green, adaxially dark green, usually ovate to broadly ovate to suborbicular, sometimes ovate-oblong, 6–12 × 5–10 cm, membranous to papery, abaxially glabrous to rusty tomentose to strigillose especially on midvein and lateral veins, barbate in axils of lateral veins or not, adaxially glabrous, midvein and lateral veins conspicuous abaxially, subconspicuous adaxially, lateral veins 5–7 pairs, straight or arcuate-ascending, anastomosing, veinlets reticulate, subconspicuous abaxially, inconspicuous adaxially, base rounded to cordate, rarely broadly cuneate, symmetrical or oblique, margin sharply serrate, apex abruptly acuminate. Inflorescences cymose, axillary or lateral, 1–7-flow-

ered, brown to pale brown tomentose; peduncles 7–10 mm; pedicels 0.8–1.4 cm; bracts linear, 1–4 mm. Flowers greenish yellow or white, 1.2–2 cm in diam. when fully open. Sepals 4–6, ovate to oblong, 3.5–5 mm, margin ciliate, both surfaces glandular-tomentose, or abaxially slightly puberulent or glabrous. Petals 4–6, cuneate-obovate to orbicular-obovate, 7–9 mm. Filaments silky, 1.5–3 mm; anthers black or dark purple, oblong, 1.5–2 mm, sagittate at base. Ovary bottle-shaped, 6–7 mm, glabrous; styles 3.5–4 mm. Fruit greenish yellow or purple-red when mature, globose to oblong, 2–3 cm, rostrate or inconspicuously so, glabrous, lenticels and persistent sepals absent. Seeds ca. 2.5 mm. Fl. Apr, fr. Aug–Oct.  $2n = 58, 116^*$ , 174, 232.

Mountain forests, thickets, streamsides, moist places, also widely cultivated; 700–3600 m. Anhui, Chongqing, Fujian, Gansu, Guangxi, Guizhou, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jiangxi, Jilin, Liaoning, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan, Yunnan, Zhejiang [Japan, Korea].

- 1a. Leaves abaxially glabrous or very sparsely strigillose on midvein ..... 1a. var. *arguta*

- 1b. Leaves abaxially rusty tomentose on midvein and lateral veins to throughout entire surface ..... 1b. var. *girdalii*

**1a. *Actinidia arguta* var. *arguta***

软枣猕猴桃(原变种) ruan zao mi hou tao (yuan bian zhong)

*Trochostigma argutum* Siebold & Zuccarini, Abh. Math.-Phys. Cl. Königl. Bayer. Akad. Wiss. 3(2): 727. 1843 [“*arguta*”]; *Actinidia arguta* var. *cordifolia* (Miquel) Bean; *A. arguta* var. *curta* Skvortsov; *A. arguta* var. *dunnii* H. Léveillé; *A. arguta* var. *megalocarpa* (Nakai) Kitagawa; *A. arguta* var. *purpurea* (Rehder) C. F. Liang; *A. callosa* Lindley var. *arguta* (Siebold & Zuccarini) Makino; *A. chartacea* Hu; *A. cordifolia* Miquel; *A. megalocarpa* Nakai; *A. melanandra* Franchet var. *latifolia* E. Pritzel; *A. platyphylla* A. Gray ex Miquel; *A. purpurea* Rehder; *A. rufa* (Siebold & Zuccarini) Planchon ex Miquel var. *arguta* (Siebold & Zuccarini) Dunn; *A. rufa* var. *cordifolia* (Miquel) Dunn.

Leaves membranous to papery, abaxially glabrous or very sparsely strigillose on midvein, especially on lower part of midvein.

Mountain forests, thickets, streamsides, moist places, also widely cultivated; 700–3600 m. Anhui, Chongqing, Fujian, Gansu, Guangxi, Guizhou, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jiangxi, Jilin, Liaoning, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan, Yunnan, Zhejiang [Japan, Korea].

**1b. *Actinidia arguta* var. *girdalii*** (Diels) Voroschilov, Byull. Glavn. Bot. Sada 84: 33. 1972.

陕西猕猴桃 shan xi mi hou tao

*Actinidia girdalii* Diels, Bot. Jahrb. Syst. 36(Beibl. 82): 75. 1905; *A. arguta* var. *nervosa* C. F. Liang; *A. kwangsiensis* H. L. Li; *A. melanandra* var. *kwangsiensis* (H. L. Li) C. F. Liang.

Leaves papery, abaxially curly rusty tomentose on midvein and lateral veins or throughout entire surface.  $2n = 58^*$ .

• Mountain forests; 900–2400 m. Chongqing, Gansu, Guangxi, Hebei, Henan, Hubei, Hunan, Jiangxi, Shaanxi, Sichuan, Yunnan, Zhejiang.

**2. *Actinidia melanandra*** Franchet, J. Bot. (Morot) 8: 278. 1894.

黑蕊猕猴桃 hei rui mi hou tao

Climbing shrubs, mid-sized, deciduous. Branchlets reddish, glabrous, lenticels inconspicuous; pith white to pale brown, lamellate. Petiole 1.5–5.5 cm, glabrous; leaf blade abaxially glaucous, adaxially green, ovate-lanceolate, ovate-oblong, oblong, or ovate, sometimes orbicular,  $6.2\text{--}13.5 \times 2.6\text{--}5$  cm, papery to leathery, glabrous, abaxially barbate in axils of lateral veins or not barbate, midvein and lateral veins abaxially subconspicuous to conspicuous, adaxially subconspicuous, lateral veins 6 or 7 pairs, veinlets reticulate, abaxially inconspicuous to subconspicuous, adaxially inconspicuous, base cuneate to rounded or truncate, occasionally cordatulate, sometimes oblique, margin sharply serrate or minutely serrulate, apex shortly acuminate to acuminate. Inflorescences cymose, slightly tomentose, 1- or 2-branched, 1–7-flowered; peduncles

1–1.2 cm; pedicels 0.7–1.5 cm; bracts linear, minute, 1–2 mm. Flowers greenish to yellowish white or paper-white. Sepals (4 or)5, ovate to oblong-ovate, 3–7 mm, glabrous, sometimes ciliate. Petals (4 or)5(or 6), cuneate-ovate to orbicular-ovate, 0.6–1.3 cm. Filaments 2.5–3 mm; anthers black, oblong, 2–3.5 mm, sagittate at base. Ovary bottle-shaped, ca. 7 mm, glabrous; styles 4–5 mm. Fruit globose to oblong, 2–4.5 cm, glabrous, lenticels absent, rostrate at apex; sepals caducous. Seeds 2–3 mm. Fl. May–Jun, fr. Sep.  $2n = 58^*$ ,  $116^*$ .

• Broad-leaved forests, mountain forests, moist places, also widely cultivated; 1000–1600 m. ?Anhui, Chongqing, Fujian, Gansu, Guizhou, Henan, Hubei, Hunan, Jiangxi, Shaanxi, Sichuan, Yunnan, Zhejiang.

- 1a. Leaves abaxially barbate in axils of lateral veins ..... 2a. var. *melanandra*  
1b. Leaves abaxially not barbate in axils of lateral veins ..... 2b. var. *glabrescens*

**2a. *Actinidia melanandra* var. *melanandra***

黑蕊猕猴桃(原变种) hei rui mi hou tao (yuan bian zhong)

*Actinidia changii* P. S. Hsu; *A. globosa* C. F. Liang; *A. henanensis* C. F. Liang; *A. hypoglauca* C. Pei & Y. W. Law; *A. melanandra* var. *cretacea* C. F. Liang; *A. melanandra* var. *subconcolor* C. F. Liang; *A. viridiflava* P. S. Hsu.

Leaf blade elliptic to broadly oblong to ovate,  $6.2\text{--}13.5 \times 2.6\text{--}4.8$  cm, or broadly ovate to orbicular-ovate,  $6.5\text{--}13 \times 5\text{--}7.3$  cm, abaxially barbate in axils of lateral veins, base broadly cuneate to rounded to cordatulate, apex acuminate to abruptly acuminate.

• Broad-leaved forests, moist places, also widely cultivated; 1000–1600 m. Chongqing, Fujian, Gansu, Guizhou, Henan, Hubei, Hunan, Jiangxi, Shaanxi, Sichuan, Yunnan, Zhejiang.

**2b. *Actinidia melanandra* var. *glabrescens*** C. F. Liang in K. M. Feng, Fl. Reipubl. Popularis Sin. 49(2): 310. 1984.

无髯猕猴桃 wu ran mi hou tao

Leaf blade narrowly elliptic,  $7\text{--}10 \times 2.5\text{--}3.2$  cm, abaxially not barbate in axils of lateral veins, base broadly cuneate, apex abruptly acuminate.

• Mountain forests. ?Anhui, Hunan (Hengshan).

**3. *Actinidia kolomikta*** (Maximowicz & Ruprecht) Maximowicz, Mém. Acad. Imp. Sci. St.-Petersbourg Divers Savans 9: 63. 1859.

狗枣猕猴桃 gou zao mi hou tao

*Prunus kolomikta* Maximowicz & Ruprecht, Bull. Cl. Phys.-Math. Acad. Imp. Sci. Saint-Petersbourg 15: 129. 1856; *Actinidia gagnepainii* Nakai; *A. kolomikta* var. *gagnepainii* (Nakai) H. L. Li; *A. leptophylla* C. Y. Wu; *A. maloides* H. L. Li; *A. maloides* f. *cordata* C. F. Liang; *A. tetramera* Maximowicz var. *maloides* (H. L. Li) C. Y. Wu; *Kalomikta mandshurica* Regel, nom. illeg. superfl.; *Trochostigma kolomikta* (Maximowicz & Ruprecht) Ruprecht.

Climbing shrubs, large, deciduous. Branchlets glabrous, lenticels inconspicuous to subconspicuous when young, con-

spicuous when old; pith brown, lamellate. Petiole yellowish white to reddish brown, 2.5–5 cm, sparsely pubescent to glabrous; leaf blade broadly ovate to oblong-ovate or oblong-obovate, 6–15 × 5–10 cm, membranous to thinly papery, abaxially glabrous to subglabrous, sometimes barbate at vein axils, adaxially sparsely strigillose, midvein and lateral veins distinct and raised abaxially, slender, inconspicuous adaxially, lateral veins 6–8 pairs, veinlets reticulate, inconspicuous on both surfaces to subconspicuous abaxially, base cordate, occasionally rounded to truncate, equal or oblique, margin serrate to biserrate, apex acute to abruptly acuminate. Inflorescences cymose, 1–3-flowered; peduncles 0.8–1.2 cm, very slender; pedicels 4–10 mm, glabrous to yellowish brown tomentose; bracts linear, minute. Flowers pink or white. Sepals 5, ovate to oblong-ovate, 4–6 mm, glabrous, margin ciliate, apex acute. Petals 5 or 6, obovate, 6–10 mm. Filaments 3–6 mm; anthers yellow, oblong, 2–2.5 mm, sagittate at base. Ovary globose, ca. 3 mm, glabrous. Fruit pale orange when mature, ovoid, 2–2.5 cm, glabrous, lenticels absent; sepals caducous. Seeds ca. 2 mm. Fl. Apr–Jul, fr. Sep–Oct.  $2n = 58^*$ , 116\*.

Mountain mixed forests in open places, also widely cultivated; 1600–2900 m. Chongqing, Gansu, Hebei, Heilongjiang, Hubei, Jiangsu, Jilin, Liaoning, Shaanxi, Shanxi, Sichuan, Yunnan [Japan, Korea, Russia].

*Actinidia kolomikta* var. *shihmienensis* C. Y. Chang (J. Sichuan Univ., Nat. Sci. Ed. 3: 78. 1976), described from Sichuan, could not be treated here because no material was seen by the authors.

**4. *Actinidia tetramera*** Maximowicz, Trudy Imp. S.-Peterburgsk. Bot. Sada 11: 35. 1890.

四萼猕猴桃 si e mi hou tao

*Actinidia tetramera* var. *badongensis* C. F. Liang; *Clematoclethra giraldii* Diels.

Climbing shrubs, mid-sized, deciduous. Branchlets grayish to reddish, glabrous, lenticels conspicuous; pith brown, lamellate. Petiole 1.2–3.5 cm, glabrous or sparsely setose; leaf blade oblong-ovate to oblong-elliptic or elliptic-lanceolate, 4–8 × 2–4 cm, thinly papery, abaxially glabrous to slightly strigillose on midvein, always very conspicuously white barbate at axils of lateral veins, adaxially glabrous to sparsely strigillose on midvein and lateral veins, midvein and lateral veins subconspicuous to conspicuous on both surfaces, lateral veins 6 or 7 pairs, veinlets reticulate, inconspicuous, base narrowly cuneate-rounded to rounded or truncate, usually oblique, margin serrulate, apex long acuminate. Inflorescences 1-flowered, rarely 2- or 3-flowered cymes; pedicels 1.5–2.2 cm, glabrous; bracts linear, minute. Flowers somewhat pinkish white. Sepals 4(or 5), oblong-ovate, 4–5 mm, glabrous. Petals 4(or 5), obovate, 7–10 mm. Filaments ca. 4 mm; anthers yellow, oblong, ca. 1.5 mm, both ends rounded. Ovary cylindrical to slightly bottle-shaped, ca. 3.5 mm, glabrous; styles ca. 4 mm. Fruit orange when mature, ovoid, 1.5–2 cm, glabrous, lenticels absent; persistent sepals reflexed. Seeds ca. 2.5 mm. Fl. May–Jun, fr. Sep.  $2n = 58^*$ .

• Mountain forests, thickets, moist places; 1100–2700 m. Chongqing, Gansu, Henan, Hubei, Shaanxi, Sichuan, Yunnan.

**5. *Actinidia polygama*** (Siebold & Zuccarini) Maximowicz,

Mém. Acad. Imp. Sci. St.-Petersbourg Divers Savans 9: 64. 1859.

葛枣猕猴桃 ge zao mi hou tao

*Trochostigma polygamum* Siebold & Zuccarini, Abh. Math.-Phys. Cl. Königl. Bayer. Akad. Wiss. 3(2): 728. 1843 [*“polygama”*]; *Actinidia lecomtei* Nakai; *A. polygama* var. *lecomtei* (Nakai) H. L. Li.

Climbing shrubs, large, deciduous. Branchlets glabrous, lenticels inconspicuous; pith white, large, solid. Petiole purplish red, 1.5–3.5 cm, glabrous; leaf blade abaxially pale green, adaxially green to entirely white, sometimes only upper half white or yellowish, ovate to oblong-ovate, 7–14 × 4.5–8 cm, membranous to thinly papery, abaxially glabrous or sparsely curly-tomentose to strigillose on midvein and lateral veins, adaxially sparsely strigillose, veins conspicuous abaxially, subconspicuous adaxially, lateral veins 6 or 7 pairs, arcuate-ascending, veinlets reticulate, abaxially subconspicuous with parallel cross-bars, inconspicuous adaxially, base broadly cuneate to rounded, margin serrulate, apex acuminate to abruptly acuminate. Inflorescences 1-flowered, or 2- or 3-flowered in a fascicle; pedicels 6–8 mm, slightly puberulent. Flowers white. Sepals (4 or) 5, ovate to oblong-ovate, 5–7 mm, both surfaces glabrous or sparsely puberulent. Petals 5, obovate to oblong-obovate, 0.8–1.3 cm. Filaments 5–6 mm; anthers yellow, ovoid, 1–1.5 mm, sagittate at base. Ovary bottle-shaped, 4–6 mm, glabrous; styles 3–4 mm. Fruit orange when mature, ovoid to cylindrical-ovoid to oblong-ovoid, 2.5–3 cm, glabrous, lenticels absent, rostrate at apex. Seeds 1.5–2 mm. Fl. Jun–Jul, fr. Sep–Oct.  $2n = 58$ , 116.

Mountain forests, also widely cultivated; 500–1900 m. Anhui, Chongqing, Gansu, Guizhou, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jilin, Liaoning, Shaanxi, Shandong, Sichuan, Yunnan [Japan, Korea, Russia].

*Actinidia polygama* var. *puberula* C. Y. Chang (J. Sichuan Univ., Nat. Sci. Ed. 3: 79. 1976), described from Sichuan, could not be treated here because no material was seen by the authors.

**6. *Actinidia valvata*** Dunn, J. Linn. Soc., Bot. 39: 404. 1911.

对萼猕猴桃 dui e mi hou tao

*Actinidia valvata* var. *boehmeriifolia* C. F. Liang; *A. valvata* var. *longipedicellata* L. L. Yu.

Climbing shrubs, mid-sized, deciduous. Branchlets glabrous, lenticels on younger branchlets inconspicuous, subconspicuous on two-year-old branchlets; pith white, solid. Petiole pale red, 1.5–2 cm, glabrous; leaf blade abaxially pale green, adaxially green, broadly ovate to narrowly ovate, 5–13 × 2.5–7.5 cm, membranous to papery, both surfaces glabrous, veins inconspicuous, lateral veins 5 or 6 pairs, base broadly cuneate or truncate, oblique, decurrent or not, margin finely to coarsely serrate, apex acuminate to rounded. Inflorescences cymose, 1–3-flowered; peduncles ca. 1.5 cm; pedicels 1–4 cm, slightly puberulent; bracts linear, minute. Flowers white. Sepals 2 or 3, ovate to oblong-ovate, 6–9 mm, valvate, abaxially glabrous to sparsely puberulent. Petals 5–9, oblong-obovate, 1–2 cm. Filaments ca. 5 mm; anthers yellow, oblong to linear, 2.5–4 mm. Ovary bottle-shaped, ca. 5 mm, glabrous. Fruit orange when

mature, ovoid to obovoid, 2–2.5 cm, not lenticellate, rostrate at apex; persistent sepals reflexed at base. Seeds 1.8–3.5 mm, ca. 2.5 mm in diam. Fl. May, fr. unknown.  $2n = 116^*$ .

• Sparse forests, thickets, low mountain valleys; ca. 1000 m. Anhui, Fujian, Guangdong, Hubei, Hunan, Jiangsu, Jiangxi, Zhejiang.

**7. *Actinidia macrosperma*** C. F. Liang in K. M. Feng, Fl. Reipubl. Popularis Sin. 49(2): 311. 1984.

大籽猕猴桃 da zi mi hou tao

Climbing shrubs, mid-sized, deciduous. Branchlets glabrous; pith white, solid. Petiole 1–2.2 cm, glabrous to setose; leaf blade abaxially pale green, adaxially green, ovate to elliptic, 3–8 × 1.7–5 cm, membranous when young, leathery when mature, abaxially glabrous to strigillose on midvein, barbate in vein axils or not, adaxially glabrous, midvein and lateral veins subconspicuous abaxially, inconspicuous adaxially, lateral veins 4 or 5 pairs, base broadly cuneate to rounded, equal or oblique, margin serrate or crenate, subentire when mature, apex acute to acuminate, occasionally rounded. Inflorescences often 1-flowered; peduncles 6–7 mm; pedicels 0.9–1.5 cm; bracts linear to lanceolate, minute. Flowers white. Sepals 2 or 3, ovate to narrowly ovate, 0.6–1.2 cm, glabrous, rostrate at apex. Petals 5–12, orbicular-obovate, 1–1.5 cm. Filaments 3–7 mm; anthers yellow, ovoid, 1.5–2.5 mm, sagittate at base. Ovary bottle-shaped, 6–8 mm, glabrous; styles ca. 5 mm. Fruit orange when mature, globose to ovoid, 3–3.5 cm, glabrous, mammilliform-rostrate at apex, lenticels absent; sepals persistent or caducous. Seeds 4–5 mm, ca. 3 mm in diam. Fl. Apr–May, fr. Sep–Oct.  $2n = 116^*$ .

• Forest margins on low mountains, thickets, low mountain slopes. Anhui, Guangdong, Hubei, Jiangsu, Jiangxi, Zhejiang.

- 1a. Leaf blade ca. 8 × 5 cm, margin crenate-serrate, subentire when mature, midvein and petiole not setose; sepals usually 2; petals 5 or 6(–9) ..... 7a. var. *macrosperma*  
 1b. Leaf blade 3–6 × 1.7–3.5 cm, margin serrate, midvein and petiole sparsely setose; sepals 2 or 3; petals 7–12 ..... 7b. var. *mumoides*

**7a. *Actinidia macrosperma* var. *macrosperma***

大籽猕猴桃(原变种) da zi mi hou tao (yuan bian zhong)

Leaf blade ca. 8 × 5 cm, margin crenate-serrate, subentire when mature, abaxially barbate at vein axils, midvein and petiole not setose. Sepals usually 2. Petals 5 or 6(–9). Seeds ca. 4 mm.

• Forest margins on low mountains, thickets. Anhui, Guangdong, Hubei, Jiangsu, Jiangxi, Zhejiang.

**7b. *Actinidia macrosperma* var. *mumoides*** C. F. Liang in K. M. Feng, Fl. Reipubl. Popularis Sin. 49(2): 312. 1984.

梅叶猕猴桃 mei ye mi hou tao

Leaf blade 3–6 × 1.7–3.5 cm, margin serrate, abaxially barbate at vein axils, midvein abaxially and petiole sparsely setose. Sepals 2 or 3. Petals 7–12. Seeds 4–4.5 mm.

• Thickets, low mountain slopes. Anhui, Jiangsu, Jiangxi, Zhejiang.

**8. *Actinidia fasciculoides*** C. F. Liang in K. M. Feng, Fl. Reipubl. Popularis Sin. 49(2): 312. 1984.

簇花猕猴桃 cu hua mi hou tao

Climbing shrubs, large, deciduous. Branchlets glabrous, lenticels very conspicuous; pith pale brown, solid. Petiole 3–4.5 cm, glabrous; leaf blade abaxially green, adaxially dark green, oblong-suborbicular to rhombic-elliptic, 7–11 × 4–7.5 cm, thinly leathery, glabrous, veins conspicuous abaxially, lateral veins 6 or 7 pairs, reticulate veins dense and conspicuous with distinct and raised parallel cross-bars, base cuneate to rounded, margin serrate to coarsely serrate toward apex, apex cuspidate to shortly acuminate. Flowers unknown. Young fruit 2–6 in axils of leaves, nearly fasciculate; peduncle inconspicuous to 2 mm; fruiting pedicel 1.2–1.4 cm. Fruit blackish green, ovoid to oblong-cylindric, 1.5–2 cm, glabrous, lenticels brownish, orbicular, conspicuous. Seeds ca. 2.5 mm. Fl. unknown, fr. Sep–Nov.

• Sparse mountain forests, limestone mountains; 400–1500 m. Guangxi, Yunnan.

- 1a. Leaf blade obovate to rhombic-elliptic, base cuneate ..... 8c. var. *cuneata*  
 1b. Leaf blade suborbicular, base rounded.  
 2a. Leaf blade 7–11 × 5.5–7.5 cm, upper part of margin conspicuously serrate, lateral veins 7 pairs, petiole 2.5–3.5 cm; peduncle inconspicuous; fruiting pedicel ca. 1.2 cm ..... 8a. var. *fasciculoides*  
 2b. Leaf blade ca. 7 × 4.5 cm, upper part of margin minutely serrate, lateral veins 5 pairs, petiole 3–8 cm; peduncle ca. 2 mm; fruiting pedicel ca. 1.4 cm ..... 8b. var. *orbiculata*

**8a. *Actinidia fasciculoides* var. *fasciculoides***

簇花猕猴桃(原变种) cu hua mi hou tao (yuan bian zhong)

Petiole 2.5–3.5 cm; leaf blade oblong-suborbicular, 7–11 × 5.5–7.5 cm, lateral veins 7 pairs, furcate at top, base rounded, upper part of margin conspicuously serrate, apex acute. Fruiting pedicel ca. 1.2 cm; fruit oblong-cylindric, ca. 2 cm.

• Sparse mountain forests; 1300–1500 m. Guangxi (Tianlin), Yunnan (Xichou).

**8b. *Actinidia fasciculoides* var. *orbiculata*** C. F. Liang in K. M. Feng, Fl. Reipubl. Popularis Sin. 49(2): 313. 1984.

圆叶猕猴桃 yuan ye mi hou tao

Petiole 3–8 cm; leaf blade ca. 7 × 4.5 cm, lateral veins 5 pairs, upper part of margin minutely serrate, lower part entire. Peduncle ca. 2 mm. Fruiting pedicel ca. 1.4 cm.

• Limestone mountains; ca. 400 m. Guangxi (Longzhou).

**8c. *Actinidia fasciculoides* var. *cuneata*** C. F. Liang in K. M. Feng, Fl. Reipubl. Popularis Sin. 49(2): 313. 1984.

楔叶猕猴桃 xie ye mi hou tao

Leaf blade obovate to rhombic-elliptic, 7–9 × 4–5 cm,

base cuneate, margin serrulate, apex cuspidate. Fruit ovoid, ca. 1.5 cm.

• Sparse forests on limestone mountains; ca. 800 m. Guangxi (Tianlin).

**9. *Actinidia umbelloides*** C. F. Liang in K. M. Feng, Fl. Reipubl. Popularis Sin. 49(2): 313. 1984.

伞花猕猴桃 san hua mi hou tao

Climbing shrubs, large, deciduous. Branchlets glabrous, lenticels numerous, conspicuous; pith brown, solid. Petiole 4–5 cm, glabrous; leaf blade adaxially dark green, ovate or oblong-ovate to rhombic-suborbicular, 6–14 × 4–8 cm, thinly leathery, both surfaces glabrous, veins conspicuous abaxially, lateral veins 6 or 7 pairs, reticulate veins dense and conspicuous with distinct and raised parallel cross-bars, base obtuse to rounded, oblique, margin callose-crenate-serrate, apex acute or obtuse. Female inflorescences 3–5-flowered, umbelliform, all pedicels crowded on peduncles; peduncles 2–2.5 cm; pedicels ca. 1 cm, both surfaces slightly rusty tomentose; bracts subulate, ca. 3 mm. Flowers unknown. Fruit ovoid, 1.5–2.2 cm, glabrous, lenticels brownish, apex rounded; persistent sepals densely velutinous. Seeds 1.5–2 mm. Fl. May, fr. Nov.

• Mixed forests; 1800–2000 m. Yunnan.

- 1a. Leaf blade ovate to elliptic,  
7–14 × 6.5–7.5 cm ..... 9a. var. *umbelloides*  
1b. Leaf blade suborbicular to obovate,  
6–7 × 4–5.5 cm ..... 9b. var. *flabellifolia*

**9a. *Actinidia umbelloides* var. *umbelloides***

伞花猕猴桃(原变种) san hua mi hou tao (yuan bian zhong)

Leaf blade ovate to elliptic, 7–14 × 6.5–7.5 cm.

• Mixed forests; 1800–2000 m. Yunnan (Jingdong, Tengchong).

**9b. *Actinidia umbelloides* var. *flabellifolia*** C. F. Liang in K. M. Feng, Fl. Reipubl. Popularis Sin. 49(2): 314. 1984.

扇叶猕猴桃 shan ye mi hou tao

Leaf blade suborbicular to obovate, 6–7 × 4–5.5 cm.

• Mixed forests; ca. 1800 m. Yunnan (Menghai).

**10. *Actinidia rubricaulis*** Dunn, Bull. Misc. Inform. Kew 1906: 2. 1906.

红茎猕猴桃 hong jing mi hou tao

Climbing shrubs, mid-sized to large, semi-evergreen, glabrous except for white pubescent ovary. Branchlets reddish, lenticels conspicuous; pith whitish, solid. Petiole 1–3 cm; leaf blade oblong-lanceolate to elliptic to oblanceolate, 8–16 × 1.2–5 cm, papery to thickly leathery, midvein and lateral veins raised or slightly raised abaxially, inconspicuous or sulcate adaxially, lateral veins 6 or 7 pairs, veinlets reticulate, inconspicuous on both surfaces or subconspicuous abaxially, base cuneate to rounded, margin laxly serrulate to sharply serrate, teeth sometimes glandular, apex acuminate to acute. Inflorescences often 1-flowered, sometimes 2–5-flowered cymes along short, distally leafy, proximally leafless branches; pedicels

to 2.5 cm. Flowers white to reddish. Sepals 5, ovate to oblong, 4–5 mm, glabrous or sometimes puberulent adaxially, margin ciliate. Petals 5, oblong-ovate to suborbicular, 7–10 mm. Filaments 1–3.5 cm; anthers yellow, ovoid, slightly sagittate at base, rounded at apex. Ovary oblong-ovoid or conical, to 2.5 mm, white pubescent, glabrescent; styles to 3 mm. Fruit dark green, ovoid to globose, 1.5–2 cm, glabrous when mature, lenticels brown; persistent sepals reflexed. Fl. Apr–May, fr. Sep–Nov.  $2n = 58^*$ .

Broad-leaved forests; 300–2900 m. Chongqing, NW Guangxi, Guizhou, Hubei, W Hunan, Sichuan, Yunnan [Thailand].

- 1a. Flowers white; ovary soon glabrescent;  
leaves papery ..... 10a. var. *rubricaulis*  
1b. Flowers reddish; ovary white pubescent  
until formation of young fruit; leaves  
thickly leathery ..... 10b. var. *coriacea*

**10a. *Actinidia rubricaulis* var. *rubricaulis***

红茎猕猴桃(原变种) hong jing mi hou tao (yuan bian zhong)

Leaves papery. Flowers white. Ovary soon glabrescent.

• Broad-leaved forests; 300–1800 m. Chongqing, NW Guangxi, Guizhou, W Hunan, Sichuan, Yunnan.

**10b. *Actinidia rubricaulis* var. *coriacea*** (Finet & Gagnepain) C. F. Liang in K. M. Feng, Fl. Reipubl. Popularis Sin. 49(2): 224. 1984.

革叶猕猴桃 ge ye mi hou tao

*Actinidia callosa* Lindley var. *coriacea* Finet & Gagnepain, Bull. Soc. Bot. France 52(Mém. 4): 19. 1906; *A. coriacea* (Finet & Gagnepain) Dunn.

Leaves thickly leathery. Flowers reddish. Ovary white pubescent until formation of young fruit.

• Broad-leaved forests; above 1000 m. Chongqing, NW Guangxi, Guizhou, W Hubei, W Hunan, Sichuan, Yunnan.

**11. *Actinidia rufa*** (Siebold & Zuccarini) Planchon ex Miquel, Ann. Mus. Bot. Lugduno-Batavi 3: 15. 1867.

山梨猕猴桃 shan li mi hou tao

*Trochostigma rufum* Siebold & Zuccarini, Abh. Math.-Phys. Cl. Königl. Bayer. Akad. Wiss. 3(2): 727. 1843 [*“rufa”*]; *Actinidia arguta* (Siebold & Zuccarini) Planchon ex Miquel var. *rufa* (Siebold & Zuccarini) Maximowicz; *A. callosa* Lindley var. *rufa* (Siebold & Zuccarini) Makino.

Climbing shrubs, large, deciduous. Floral branchlets reddish, brownish puberulent; branches glabrous, lenticels small, conspicuous; pith brown, small, lamellate. Petiole 2–4 cm, slightly pubescent, glabrous when mature; leaf blade ovate to broadly ovate or orbicular, 4–16 × 3.5–9.5 cm, papery, both surfaces glabrous except vein axils abaxially barbate, midvein and lateral veins conspicuous abaxially, sulcate adaxially, lateral veins 6 or 7 pairs, reticulate veinlets conspicuous with subconspicuous parallel cross-bars, base rounded to truncate or cordatulate, oblique or not, margin shallowly mucronate-serrate, teeth produced by tips of veinlets, reddish, glandular, apex



obtuse to mucronate or long acuminate. Inflorescences cymose, axillary, brownish velutinous. Male inflorescences many flowered. Female inflorescences few flowered. Flowers white. Sepals 5, ovate, ca. 5 mm, both surfaces brownish velutinous, apex acute. Petals obovate, ca. 1 cm. Ovary globose, ca. 6 mm, densely brownish tomentose. Fruit oblong to ovoid, 1.5–2.5 cm, glabrous, lenticels obscure. Fl. and fr. unknown.

Mountain forests; 1000–2000 m. Taiwan [Japan, Korea].

*Actinidia rufa* var. *parvifolia* Dunn (J. Linn. Soc., Bot. 39: 403. 1911), described from Hubei, could not be treated here because no material was seen by the authors.

**12. *Actinidia ulmifolia*** C. F. Liang in K. M. Feng, Fl. Reipubl. Popularis Sin. 49(2): 314. 1984.

榆叶猕猴桃 yu ye mi hou tao

Climbing shrubs, mid-sized, deciduous. Floral branchlets sparsely tomentose, lenticels inconspicuous; two-year-old branches black when dry, striate, with sparse relict strigose hairs, lenticels inconspicuous; pith brown, lamellate. Petiole 2–2.5 cm, glabrous; leaf blade obovate, 6–8.5 × 3.5–5.5 cm, glabrous, midvein and lateral veins conspicuous abaxially, slightly sulcate adaxially, lateral veins 7 or 8 pairs, straight, reticulate veins subconspicuous abaxially with distinct raised parallel cross-bars, base obtuse, margin ciliate-serrulate, apex acute to rounded. Male inflorescences cymose, 1–3-flowered, densely brownish velutinous; peduncles 3–4 mm; pedicels ca. 1 cm; bracts subulate, ca. 2 mm. Flowers reddish. Sepals 5, ovate to oblong-ovate, 6–7 mm, both surfaces densely brownish tomentose. Petals 6, spatulate-obovate, 1.2–1.4 cm, basally gradually narrowed, apex rounded. Filaments 6–8 mm; anthers ovoid, ca. 2.5 mm, sagittate at base; sterile ovary brownish tomentose. Female flowers and fruit unknown. Fl. May, fr. unknown.

• Mountain forests; ca. 900 m. Sichuan (Pingshan).

**13. *Actinidia callosa*** Lindley, Nat. Syst. Bot., ed. 2, 439. 1836.

硬齿猕猴桃 ying chi mi hou tao

Climbing shrubs, large, deciduous. Floral branchlets glabrous, rarely strigose, lenticels very conspicuous; pith brown, lamellate, or sometimes solid; buds densely rusty strigose; two-year-old branches grayish, with rugose striae when dry, lenticels dehiscent or not, pith brown, lamellate. Petiole reddish, 2–8 cm, glabrous, rarely strigose; leaf blade abaxially pale green, adaxially dark green, ovate to broadly ovate to obovate or elliptic, 5–12 × 3.5–8.5 cm, abaxially glabrous except for barbate lateral vein axils, adaxially glabrous or occasionally strigillose, midvein and lateral veins conspicuous abaxially, slightly sulcate adaxially, lateral veins 6–8 pairs, reticulate veins subconspicuous to conspicuous, with slightly raised parallel cross-bars, base broadly cuneate to rounded to truncate or cordate, margin setose-serrate to serrate to undulate-serrate or subentire, tips of serrations usually callose, apex acute to acuminate to obtuse or rounded. Inflorescences cymose, 1–3-flowered, glabrous or slightly puberulent; peduncles 0.7–1.5 cm; pedicels 1.1–1.7 cm. Flowers white. Sepals 5, ovate, 4–5 mm, glabrous, or abaxially glabrous and adaxially tomentose. Petals 5, obovate, 8–10 mm. Filaments 3–5 mm; anthers yellow, ovoid, 1.5–2 mm, sagittate

at base. Ovary subglobose, densely white pubescent; styles slightly longer than ovary. Fruit grayish green, subglobose to ovoid or mammilliform, 1.5–5 cm, glabrous, lenticels brownish, orbicular, conspicuous. Seeds 2–2.5 mm. Fl. Apr–Jun, fr. Sep–Oct.  $2n = 58, 116$ .

Forests, forest margins, thickets, slopes, valleys, streamsides, moist places, also widely cultivated; 400–2600 m. Anhui, Chongqing, Fujian, Gansu, Guangdong, Guangxi, Guizhou, Henan, Hubei, Hunan, Jiangxi, Shaanxi, Sichuan, Taiwan, Xizang, Yunnan, Zhejiang [Bhutan, India, Nepal].

The taxonomy of this species remains a complex issue open to further investigation.

- 1a. Inflorescences slightly hairy or not; sepals hairy.
  - 2a. Inflorescences sparsely tomentose or not; sepals appressed tomentose ..... 13a. var. *callosa*
  - 2b. Inflorescences and sepals long tomentose ..... 13b. var. *acuminata*
- 1b. Inflorescences and sepals glabrous.
  - 3a. Leaves adaxially sparsely strigillose ..... 13c. var. *strigillose*
  - 3b. Leaves adaxially glabrous.
    - 4a. Leaf blade often ovate to elliptic-ovate to obovate, margin often sharply to minutely serrate, abaxially often barbate on lateral vein axils; fruit mammilliform to cylindric, to 5 cm ..... 13d. var. *henryi*
    - 4b. Leaf blade elliptic or oblong-elliptic to obovate, margin often coarsely or crenately serrate, abaxially usually not barbate on lateral vein axils; fruit subglobose or ovoid, 1.5–2 cm ..... 13e. var. *discolor*

**13a. *Actinidia callosa* var. *callosa***

硬齿猕猴桃(原变种) ying chi mi hou tao (yuan bian zhong)

*Actinidia arisanensis* Hayata; *A. callosa* var. *formosana* Finet & Gagnepain; *A. callosa* var. *pubiramula* C. Y. Wu; *A. formosana* (Finet & Gagnepain) Hayata; *A. rankanensis* Hayata; *A. remoganensis* Hayata.

Branchlets sparsely tomentose or not. Leaf blade obovate-lanceolate to ovate to oblong-ovate or oblong-lanceolate, 5–10 × 2.5–6 cm, papery, abaxially with barbate lateral vein axils. Inflorescences sparsely tomentose or not. Sepals appressed tomentose.

Forests, thickets; 800–2300 m. Taiwan, Yunnan [Bhutan, India, Nepal].

**13b. *Actinidia callosa* var. *acuminata*** C. F. Liang in K. M. Feng, Fl. Reipubl. Popularis Sin. 49(2): 314. 1984.

尖叶猕猴桃 jian ye mi hou tao

Branchlets glabrous. Leaf blade ovate, 10–15 × 6–8 cm, base rounded, apex long acuminate. Inflorescences and sepals long tomentose.

• Hunan (Rucheng).

**13c. *Actinidia callosa* var. *strigillosa*** C. F. Liang in K. M. Feng, Fl. Reipubl. Popularis Sin. 49(2): 315. 1984.

毛叶硬齿猕猴桃 mao ye ying chi mi hou tao

Leaf blade broadly ovate to narrowly oblong-ovate, 10–12.5 × 6.5–8.5 cm, thinly papery, abaxially with barbate lateral vein axils, adaxially sparsely strigillose, base rounded, margin setose-serrulate, apex acute. Inflorescences and sepals glabrous.

- Mountain forests, valleys; 700–1400 m. Guizhou.

**13d. *Actinidia callosa* var. *henryi*** Maximowicz, Trudy Imp. S.-Peterburgsk. Bot. Sada 11: 36. 1890.

京梨猕猴桃 jing li mi hou tao

*Actinidia callosa* var. *ephippioidea* C. F. Liang; *A. curvidens* Dunn.

Leaf blade often ovate to elliptic-ovate to obovate, 8–10 × 4–5.5 cm, papery, abaxially often with barbate lateral vein axils, margin sharply to slightly serrate, occasionally slightly saddle-shaped biserrate. Fruit mammilliform to cylindrical, to 5 cm.  $2n = 116^*$ .

- Forests, thickets, valleys; 500–2600 m. Chongqing, Fujian, Gansu, Guangxi, Guizhou, Henan, Hubei, Hunan, Jiangxi, Shaanxi, Sichuan, Xizang, Yunnan, Zhejiang.

**13e. *Actinidia callosa* var. *discolor*** C. F. Liang in K. M. Feng, Fl. Reipubl. Popularis Sin. 49(2): 315. 1984.

异色猕猴桃 yi se mi hou tao

*Actinidia fanjingshanensis* S. D. Shi & Q. B. Wang.

Leaf blade abaxially usually grayish yellow when dry, adaxially dark, elliptic to oblong-elliptic to obovate, 6–12 × 3.5–6 cm, firmly papery, both surfaces often glabrous, midvein and lateral veins strongly raised abaxially, base broadly cuneate to obtuse, margin coarsely serrate to undulate-serrate, serration on upper margin larger, apex acute. Inflorescences and sepals glabrous. Fruit subglobose to ovoid, 1.5–2 cm.  $2n = 58^*$ ,  $116^*$ .

- Mountain forests, forest margins, thickets, valleys; 400–2000 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hunan, Jiangxi, Sichuan, Taiwan, Yunnan, Zhejiang.

**14. *Actinidia cylindrica*** C. F. Liang in K. M. Feng, Fl. Reipubl. Popularis Sin. 49(2): 315. 1984.

柱果猕猴桃 zhu guo mi hou tao

Climbing shrubs, small to mid-sized, semi-evergreen. Branches glabrous, lenticels inconspicuous when young, subconspicuous when old; pith white or brown, lamellate; buds conical, glabrous. Petiole 1.3–2.3 cm, glabrous; leaf blade abaxially pale green, adaxially green, elliptic to oblong to obovate or obovate-lanceolate, 5–13 × 2.5–5.5 cm, firmly membranous, but leathery on two-year-old leaves, glabrous, midvein and lateral veins slightly or strongly raised abaxially, subconspicuous adaxially, lateral veins 7 or 8 pairs, base obtuse to rounded or auriculate, margin mucronate-serrulate, teeth [tips of veinlets] crenate on two-year-old leaves, apex acuminate or rounded. Inflorescences cymose, usually 1- or 2-flowered, slightly tomentose.

Flowers unknown. Fruit yellowish green when mature, cylindrical, 1.3–1.8 cm, 3–4 mm in diam., sparsely and finely tomentose when young, glabrous when mature, lenticels brownish, raised; persistent sepals reflexed or not, glabrous. Seeds ca. 1.5 mm. Fl. May, fr. Oct.  $2n = 58^*$ .

- Low mountain forests, thickets; 400–800 m. Guangxi.

- 1a. Leaf blade basally obtuse to rounded, abaxially with midvein and lateral veins subconspicuous and reticulate veinlets inconspicuous ..... 14a. var. *cylindrica*
- 1b. Leaf blade basally auriculate-cordate, abaxially with midvein, lateral veins, and reticulate veinlets conspicuous ..... 14b. var. *reticulata*

**14a. *Actinidia cylindrica* var. *cylindrica***

柱果猕猴桃(原变种) zhu guo mi hou tao (yuan bian zhong)

*Actinidia cylindrica* f. *obtusifolia* C. F. Liang.

Leaf blade abaxially with midvein and lateral veins subconspicuous and reticulate veinlets inconspicuous, lateral veins occasionally conspicuous, base obtuse to rounded.

- Low mountain forests, thickets; 400–800 m. Guangxi (Rongshui).

"*Actinidia albicalyx*" (R. G. Li & M. Y. Liang, Guihaia 23: 193. 2003) and "*A. cylindrica* var. *albiflora*" (R. G. Li & J. W. Li, Guihaia 22: 385. 2002) belong here but were not validly published because no type was indicated (*Vienna Code*, Art. 37.1, 37.6).

**14b. *Actinidia cylindrica* var. *reticulata*** C. F. Liang, Guihaia 2: 3. 1982.

网脉猕猴桃 wang mai mi hou tao

Leaf blade abaxially with midvein, lateral veins, and reticulate veinlets conspicuous, base auriculate-cordate.

- Low mountain forests, thickets; 600–700 m. Guangxi (Rongshui).

**15. *Actinidia laevissima*** C. F. Liang in K. M. Feng, Fl. Reipubl. Popularis Sin. 49(2): 317. 1984.

滑叶猕猴桃 hua ye mi hou tao

*Actinidia jiangkouensis* S. D. Shi & Z. S. Zhang; *A. laevissima* var. *floscula* S. D. Shi.

Climbing shrubs, mid-sized, deciduous. Branchlets glabrous, lenticels conspicuously raised; buds densely rusty strigose; pith white or brown, lamellate. Petiole 2.5–5 cm, glabrous; leaf blade abaxially glaucous, adaxially green, orbicular or ovate to narrowly ovate or oblong-ovate, 6–11.5 × 4–7 cm, thickly leathery, abaxially glabrous, adaxially glabrous or sparsely strigillose, midvein and lateral veins subconspicuous abaxially, lateral veins 7 or 8 pairs, base obtuse to cordulate or rounded, margin usually setose-serrulate, occasionally coarsely dentate, apex cuspidate to abruptly acute to acuminate. Inflorescences 1-flowered; pedicels 1–1.5 cm, glabrous. Flowers pink or white. Sepals 4, oblong, 4–5 mm, pubescent abaxially near margin and adaxially throughout. Petals 4 or 5, obovate, 8–9 mm. Filaments 2.5–3.5 mm; anthers yellow, ovoid, ca. 1 mm.

Ovary subglobose, ca. 3 mm, thinly grayish pubescent; styles slightly longer than ovary. Fruit dark green, cylindrical, ca. 1.5 cm, ca. 8 mm in diam., glabrous, lenticels yellowish brown. Seeds 1–1.5 mm. Fl. May–Jun, fr. unknown.

• Sparse mountain forests, thickets; 800–2000 m. Guizhou (Jiangkou, Yingjiang), Hubei (Xuan'en).

**16. *Actinidia fortunatii*** Finet & Gagnepain, Bull. Soc. Bot. France 53: 574. 1906 [*“fortunatii”*].

条叶猕猴桃 tiao ye mi hou tao

*Actinidia asymmetrica* F. Chun; *A. dielsii* H. Léveillé; *A. glaucophylla* F. Chun; *A. glaucophylla* var. *asymmetrica* (F. Chun) C. F. Liang; *A. glaucophylla* var. *robusta* C. F. Liang; *A. glaucophylla* var. *rotunda* C. F. Liang; *A. gracilis* C. F. Liang; *A. longicauda* F. Chun.

Shrubs, small to high-climbing, deciduous. Branches blackish brown or yellowish gray, sometimes young branchlets long- and rusty tomentose, glabrous when mature; pith white, lamellate. Petiole 1–2.5 cm, glabrous or occasionally slightly reddish brown tomentose; leaf blade abaxially glaucous, adaxially green, lanceolate to oblong-elliptic to obovate-lanceolate, or ovate to broadly ovate to suborbicular, 7–17 × 1.8–5 cm, abaxially glabrous, or sometimes puberulent on midvein and lateral veins, adaxially glabrous, occasionally sparsely strigillose when young, midvein and lateral veins raised and distinct abaxially, subconspicuous adaxially, lateral veins 6 or 7 pairs, reticulate veinlets subconspicuous abaxially, inconspicuous adaxially, base obtuse to auriculate-cordate, usually distinctly oblique, margin finely serrulate, apex abruptly acuminate to long acuminate. Inflorescences cymose, 1–3-flowered, glabrous or slightly reddish brown tomentose; peduncle 2–10 mm; pedicels 3–5 mm; bracts subulate, 2–4 mm. Flowers reddish. Sepals 5, ovate, 3–5 mm. Petals 5, obovate, 4–6 mm. Filaments 1.5–4 mm; anthers yellow, 1.5–2 mm, slightly sagittate at base, rounded at apex. Ovary cylindrical, 2.5–3 mm, pellucid-pilose. Fruit grayish green, cylindrical or ovoid-cylindrical, 1.5–1.8 cm; persistent sepals reflexed or not. Seeds small, ca. 1 mm. Fl. Apr–Jun, fr. Nov.  $2n = 58^*$ .

• Low mountain forests, thickets, slopes, valleys; ca. 1000 m. Guangdong, Guangxi, Guizhou, Hunan.

**17. *Actinidia chrysantha*** C. F. Liang in K. M. Feng, Fl. Reipubl. Popularis Sin. 49(2): 318. 1984.

金花猕猴桃 jin hua mi hou tao

Climbing shrubs, large, deciduous. Floral branchlets rusty- and glandular-tomentose in part, glabrous when fruiting, with conspicuous lenticels; pith brown, lamellate. Petiole 2.5–5 cm, glabrous; leaf blade abaxially glaucous, adaxially green, lanceolate-ovate to broadly ovate, 7–14 × 4.5–6.5 cm, papery, abaxially glabrous or slightly rusty- and glandular-tomentose on midvein and lateral veins when young, adaxially glabrous, base cordatulate or truncate, slightly decurrent, or broadly cuneate, margin conspicuously crenate, apex acuminate to shortly acuminate. Inflorescences cymose, 1–3-flowered, rusty- and glandular-tomentose; peduncles 6–9 mm; pedicels ca. 7 mm; bracts ovate, ca. 1 mm. Flowers yellow. Sepals 5, ovate or oblong, 4–5

mm, both surfaces rusty- and glandular-tomentose. Petals 5, spatulate-obovate, 7–8 mm. Filaments 3–4 mm; anthers yellow, ca. 1.5 mm. Ovary cylindrical-globose, densely rusty tomentose. Fruit maroon-brown to greenish brown, ovoid to globose, 3–4 × 2.5–3 cm, glabrous, lenticels yellowish; persistent sepals reflexed. Seeds ca. 2 mm. Fl. May, fr. Nov.  $2n = 116^*$ .

• Sparse forests, thickets, open sunny places in forests; 900–1300 m. Guangdong, Guangxi, Hunan, Jiangxi.

**18. *Actinidia indochninensis*** Merrill, J. Arnold Arbor. 19: 53. 1938.

中越猕猴桃 zhong yue mi hou tao

Climbing shrubs, large, deciduous. Floral branchlets glabrous or slightly rusty- and glandular-tomentose, glabrous when fruiting; branchlets with conspicuous lenticels; pith brown, lamellate. Petiole 2–3 cm, glabrous or rusty- and glandular-tomentose; leaf blade abaxially glaucous, adaxially green, ovate to elliptic to oblong-ovate or oblong-elliptic, 4–10 × 3.5–5 cm, membranous when young, leathery when old, abaxially rusty- and glandular-tomentose on midvein and lateral veins, adaxially glabrous or sparsely puberulent, midvein and lateral veins conspicuous abaxially, lateral veins 5–7 pairs, veinlets reticulate with subconspicuous cross-bars on both surfaces, base broadly cuneate to rounded, margin subentire to inconspicuously and remotely crenate toward apex, apex obtuse to acute to acuminate. Inflorescences cymose, 1–3-flowered, rusty- and glandular-tomentose; peduncles 4–9 mm; pedicels 4–11 mm; bracts linear, 1.5–2 mm. Flowers white, rarely yellowish. Sepals 5, ovate, both surfaces rusty- and glandular-tomentose, apex obtuse. Petals 5, obovate to oblong-obovate, ca. 8 mm. Filaments ca. 2 mm; anthers yellow, ovoid, ca. 1 mm. Ovary globose, densely rusty tomentose. Fruit subglobose, to 4.5 × 4 cm, lenticels yellowish brown; sepals caducous. Fl. Mar–Apr, fr. Sep–Oct.  $2n = 58^*$ .

Dense mountain forests; 600–1300 m. Fujian, Guangdong, Guangxi, Yunnan [N Vietnam].

- 1a. Leaf blade oblong-elliptic to ovate, adaxially glabrous ..... 18a. var. *indochninensis*  
 1b. Leaf blade broadly ovate to orbicular, adaxially sparsely puberulent ..... 18b. var. *ovatifolia*

**18a. *Actinidia indochninensis* var. *indochninensis***

中越猕猴桃(原变种) zhong yue mi hou tao (yuan bian zhong)

*Actinidia callosa* Lindley var. *indochninensis* (Merrill) H. L. Li; *A. flavofloris* H. Z. Jiang; *A. glabra* H. L. Li.

Leaf blade oblong-elliptic to ovate, papery to thinly leathery, adaxially glabrous, base broadly cuneate to rounded, apex acute to acuminate or obtuse to abruptly acuminate.

Dense mountain forests; 600–1300 m. Fujian, Guangdong, Guangxi, Yunnan [N Vietnam].

**18b. *Actinidia indochninensis* var. *ovatifolia*** R. G. Li, X. G. Wang & L. Mo, var. nov.

卵圆叶猕猴桃 luan yuan ye mi hou tao

Type: China. Guangxi: Guilin, research orchard of Guang-

xi Institute of Botany, 4 Apr 1993, *M. Y. Liang & R. G. Li 9302* (male fl.) (holotype, IBK).

Validating Latin diagnosis: that of "*Actinidia indochinensis* var. *ovatifolia*" (R. G. Li, X. G. Wang & L. Mo, Guihaia 22: 386. 2002).

Leaf blade broadly ovate to orbicular, papery, adaxially sparsely puberulent, base rounded, apex abruptly acuminate.

- Guangxi (Shangsi).

This variety is cultivated at the Guangxi Institute of Botany. The name was not validly published by Li et al. in 2002 because no type was indicated (*Vienna Code*, Art. 37.1).

**19. *Actinidia glaucocallosa*** C. Y. Wu, Fl. Yunnan. 1: 68. 1977 [*"glaucocallosa"*].

粉叶猕猴桃 fen ye mi hou tao

Climbing shrubs, large, deciduous. Branches reddish purple, with pale elliptic lenticels, inconspicuous when young, conspicuous when old, glabrous or very young branchlets brownish puberulent; pith brown, lamellate or solid. Petiole 1.5–2.5 cm, glabrous; leaf blade abaxially glaucous, adaxially green, ovate to narrowly ovate to oblong-lanceolate, 3.5–12 × 2.5–5 cm, papery, both surfaces glabrous, midvein and lateral veins distinct and raised abaxially, sulcate adaxially, lateral veins 5–8 pairs, base broadly cuneate to rounded, margin callose-serrulate, apex acuminate to long acuminate. Inflorescences cymose, axillary, 2- or 3-flowered, glabrous to sparsely rusty tomentose; peduncles ca. 1 cm; pedicels 0.7–1.5 cm; bracts linear, 1.5–2.5 mm. Flowers greenish yellow. Sepals 5 or 6, ovate, ca. 5 mm, abaxially glabrous, adaxially rusty tomentose, apex obtuse. Petals 5–7, ovate to obovate, ca. 1 cm, narrowed at base, apex rounded. Filaments ca. 4 mm; anthers yellow, ovoid. Ovary oblong, ca. 2 mm, ca. 1.5 mm in diam., densely brown tomentose. Fruit globose, ca. 3 cm in diam., densely tomentose when young, glabrous when mature, lenticels brown. Seeds ca. 1.5 mm. Fl. May–Jun, fr. Jul–Oct.

- Broad-leaved evergreen forests, valleys; 2300–2800 m. Yunnan (Jingdong, Longling, Tengchong).

**20. *Actinidia trichogyna*** Franchet, J. Bot. (Morot) 8: 278. 1894.

毛蕊猕猴桃 mao rui mi hou tao

*Actinidia callosa* Lindley var. *trichogyna* (Franchet) Finet & Gagnepain.

Climbing shrubs, mid-sized, deciduous. Branchlets glabrous, buds densely rusty strigose, lenticels inconspicuous on younger branches, subconspicuous on mature ones; pith brown, lamellate. Petiole 2.5–5 cm, glabrous; leaf blade abaxially glaucous, adaxially green, ovate to narrowly ovate, 5–10 × 3–6 cm, papery when young, softly leathery when old, both surfaces glabrous, midvein and lateral veins subconspicuous abaxially, lateral veins 6 or 7 pairs, base usually truncate, margin finely serrulate, apex acute to acuminate. Inflorescences cymose, 1–3-flowered, glabrous; peduncles 2–3 mm; pedicels 7–8 mm; bracts narrowly triangular, ca. 1.5 mm. Flowers white. Sepals 5, oblong, 5–6 mm, grayish yellow tomentose abaxially at mar-

gins and adaxially throughout. Petals 5, obovate, 9–10 mm. Filaments 4–6 mm; anthers yellow, oblong, 2.5–3 mm. Ovary cylindrical-globose, ca. 3 mm, sparsely grayish yellow tomentose. Fruit dark green when mature, subglobose or ovoid to cylindrical-oblong, 1.5–3 cm, glabrous, lenticels brown. Seeds ca. 2 mm. Fl. May–Jul, fr. Oct.

- Mountain forests; 1000–1800 m. Chongqing (Chengkou, Wushan, Wuxi), Guizhou (Yanhe), Hubei (Hefeng, Lichuan), Hunan, Jiangxi (Jingdezhen, Lichuan), Sichuan (Wanyuan).

**21. *Actinidia sabiifolia*** Dunn, J. Linn. Soc., Bot. 38: 357. 1908.

清风藤猕猴桃 qing feng teng mi hou tao

*Actinidia callosa* Lindley var. *sabiifolia* (Dunn) Dunn.

Climbing shrubs, small, deciduous. Branchlets glabrous, lenticels conspicuous; pith brown, lamellate. Petiole purplish, ca. 2 cm, glabrous; leaf blade abaxially green and glaucous, adaxially dark green, ovate to narrowly ovate, elliptic, or orbicular, 4–8 × 3–4 cm, papery, both surfaces glabrous, midvein and lateral veins purplish and distinct but not raised abaxially, inconspicuous adaxially, lateral veins 5 or 6 pairs, reticulate veins dense, purplish and conspicuous abaxially, base obtuse or rounded, equal or oblique, margin subconspicuously crenate, apex rounded to obtuse and emarginate, or acute to acuminate. Inflorescences cymose, 1–3-flowered, glabrous; peduncles ca. 5 mm; pedicels ca. 1 cm; bracts linear, ca. 1 mm. Flowers white. Sepals 5, ovate to oblong, 2–3 mm, glabrous, ciliate along margins. Petals 5, obovate, 5–6 mm. Filaments ca. 2 mm; anthers yellow, ovoid, ca. 1 mm. Ovary globose, rusty tomentose. Fruit dark green when mature, ovoid, 1.5–1.8 cm, glabrous, with small lenticels. Fl. May, fr. unknown.  $2n = 58^*$ .

- Sparse forests on mountain slopes and summits; above 1000 m. Anhui, Fujian, Hunan, Jiangxi.

**22. *Actinidia holotricha*** Finet & Gagnepain, Bull. Soc. Bot. France 52(Mém. 4): 18. 1906.

全毛猕猴桃 quan mao mi hou tao

Climbing shrubs, large, deciduous. Branchlets striate, densely reddish brown hispid, glabrescent when old. Petiole 2–2.5 cm, terete, densely reddish hispid; leaf blade abaxially brown, adaxially green, suborbicular, ca. 5.2 × 5 cm, papery, both surfaces sparsely strigose, midvein and lateral veins raised abaxially, lateral veins 7–9 pairs, base cordate, margin setose-serrate, apex shortly cuspidate. Inflorescences cymose, 2- or 3-flowered, reddish brown strigose; pedicels ca. 1.5 cm; bracts 2, subulate, long strigose, ciliate, apex acute. Flowers polygamous, ca. 1.5 cm in diam. Sepals 5, elliptic, abaxially hispidulous, apex obtuse to acute. Petals 5, obovate, ca. 1.5 × as long as sepals. Filaments slender; anthers ovoid, ca. 1/3 as long as stamens, sagittate at base. Ovary ovoid, setose; styles numerous, slender. Fruit unknown. Fl. May–Jun, fr. unknown.

- Yunnan (Zhaotong).

**23. *Actinidia rubus*** H. Léveillé, Repert. Spec. Nov. Regni Veg. 12: 282. 1913.

昭通猕猴桃 zhao tong mi hou tao

Climbing shrubs, mid-sized, deciduous. Branchlets densely reddish brown strigose, lenticels pale yellow-brown, prominent; pith white, lamellate. Petiole 5–6 cm, densely reddish brown strigose; leaf blade abaxially pale green, adaxially dark green, broadly oblong-ovate to broadly oblong-obovate, 7.5–9 × 6–7 cm, papery, abaxially strigillose on midvein and lateral veins, adaxially sparsely strigillose, midvein and lateral veins and transverse veins abaxially raised, lateral veins 7–9 pairs, base truncate to cordatulate, margin irregularly setose-serrulate, 2 small teeth in between 2 large ones, apex shortly acuminate to acute or obtuse. Inflorescences cymose, 1-flowered or few flowers fascicled; pedicels 1–1.3 cm, strigose. Flowers yellow. Sepals 5, ovate, unequal, ca. 6 mm, abaxially glabrous, apex acute. Petals 5, obovate, slightly unequal, 1–1.1 cm, apex rounded. Filaments ca. 4 mm; anthers yellow, ca. 1.2 cm, sagittate. Ovary ovoid, ca. 2.5 mm, densely pubescent; styles ca. 3 mm. Fruit unknown. Fl. Jun, fr. unknown.

• Mountain forests, valleys; 2000–2100 m. Sichuan, Yunnan (Zhaotong).

**24. *Actinidia chengkouensis*** C. Y. Chang, Acta Sci. Nat. Univ. Szechuan. 1976: 74. 1976.

城口猕猴桃 cheng kou mi hou tao

Climbing shrubs, mid-sized, deciduous. Branchlets densely brownish or reddish hispid; pith brown, lamellate. Petiole 2.5–6 cm, densely hispid; leaf blade broadly obovate to orbicular, 6–12 × 7–12 cm, papery, abaxially hispid on midvein and lateral veins, adaxially strigillose, hairs on midvein and lateral veins longer, midvein and lateral veins distinct and raised abaxially, sulcate adaxially, lateral veins 7 or 8 pairs, furcate at tips, reticulate veins conspicuous abaxially with cross-bars, inconspicuous adaxially, base truncate-cordatulate, margin setose-serrulate, apex truncate and emarginate or cuspidate. Inflorescences cymose, 1–3-flowered, yellowish brown tomentose; peduncles 1–1.5 cm; pedicels 7–10 mm; bractlets subulate, ca. 4 mm. Flowers white. Sepals 4, oblong-ovate, ca. 6 mm, both surfaces yellowish brown tomentose. Petals 6, obovate, ca. 1.2 cm. Filaments ca. 5 mm; anthers yellow, ovoid, ca. 1.5 mm, sagittate at base; sterile ovary globose, densely yellowish tomentose. Young fruit globose or ovoid, densely yellowish hispid. Mature fruit unknown. Fl. Jun, fr. unknown.

• Forests; 1000–2000 m. Chongqing (Chengkou, Wushan, Wuxi), Hubei (Badong).

**25. *Actinidia melliana*** Handel-Mazzetti, Anz. Akad. Wiss. Wien, Math.-Naturwiss. Kl. 59: 57. 1922.

美丽猕猴桃 mei li mi hou tao

Climbing shrubs, mid-sized, deciduous. One- and two-year-old branches densely long rusty hispid, lenticels conspicuous; pith white, lamellate. Petiole 1–1.8 cm, densely long rusty hispid; leaf blade abaxially glaucous, oblong-elliptic to oblong-lanceolate or oblong-obovate, 6–15 × 2.5–9 cm, membranous to papery, both surfaces densely rusty hispid-hirsute throughout or only on midvein and lateral veins, midvein and lateral veins conspicuous abaxially, subconspicuous adaxially, lateral veins 7 or 8 pairs, reticulate veinlets subconspicuous on both surfaces, base cordatulate, margin entire with numerous sharp rigid

pointed hairs, apex shortly acuminate to long acuminate. Inflorescences cymose, axillary, 2-branched, up to 10-flowered, densely long rusty hispid; peduncles 3–10 mm; pedicels 5–12 mm; bracts subulate, 4–5 mm. Flowers white. Sepals 5, oblong-ovate, 4–5 mm, abaxially sparsely tomentose. Petals 5, obovate, 8–9 mm, apex rounded. Filaments ca. 2.5 mm; anthers yellow, ca. 1 mm. Ovary globose, densely rusty tomentose; styles ca. 3 mm. Fruit cylindrical, 1.6–2.2 cm, glabrous, with conspicuous lenticels and reflexed sepals. Fl. May–Jun, fr. unknown.  $2n = 58^*$ .

• Mountain forests, thickets; 200–1300 m. Guangdong, Guangxi, Hainan, Hunan, Jiangxi.

**26. *Actinidia rudis*** Dunn, J. Linn. Soc., Bot. 39: 408. 1911.

糙叶猕猴桃 cao ye mi hou tao

Climbing shrubs, large, deciduous. Branchlets and petioles densely yellowish or brownish rigidly strigose; pith white, lamellate. Petiole 1.5–7 cm; leaf blade pale abaxially, dark adaxially when dry, ovate to narrowly ovate, 12–15 × 5.5–7 cm, papery, both surfaces sparsely to densely strigose, rarely only strigose or tomentose on midvein or glabrous on one or both surfaces, midvein and lateral veins conspicuous and raised abaxially, inconspicuous adaxially, secondary veins 7–10(–11), base cordatulate to cordate, or rounded to truncate, margin minutely serrulate, apex acute to acuminate. Inflorescences densely fasciculate, 3–5-flowered, densely ferruginous tomentose; pedicels ca. 5 mm. Flowers white. Sepals 5, ovate, ca. 3 mm, glabrous, apex acute. Petals 5, oblong-ovate, 5–6 mm, apex rounded. Anthers yellow, linear, ca. 1 mm. Ovary oblong, densely villous. Fruit cylindrical, ca. 1.7 cm, tomentose when young, glabrous when mature, lenticellate. Fl. May–Jun, fr. Jul–Sep.

• Sparse forests, thickets, streamsides, moist places, roadsides; 1200–2300 m. Yunnan.

- 1a. Leaves ± strigose to glabrous on one or both surfaces, basally cordatulate to cordate ..... 26a. var. *rudis*
- 1b. Leaves abaxially tomentose on midvein and lateral veins, basally rounded to truncate ..... 26b. var. *glabricaulis*

**26a. *Actinidia rudis* var. *rudis***

糙叶猕猴桃(原变种) cao ye mi hou tao (yuan bian zhong)

*Actinidia petelottii* Diels.

Two-year-old branches sparsely and rigidly strigose. Leaves ± strigose to glabrous on one or both surfaces, basally cordatulate to cordate.

• Sparse forests, streamsides, moist places; 1200–1400 m. Yunnan (Mengzi, Pingbian).

**26b. *Actinidia rudis* var. *glabricaulis*** C. Y. Wu, Fl. Yunnan. 1: 57. 1977.

光茎猕猴桃 guang jing mi hou tao

*Actinidia henryi* Dunn var. *glabricaulis* (C. Y. Wu) C. F. Liang.

Two-year-old branches glabrous. Leaves abaxially tomentose on midvein and lateral veins, basally rounded to truncate.

- Thickets, roadsides; 1300–2300 m. Yunnan (Maguan, Malipo, Xichou).

**27. *Actinidia henryi*** Dunn, Bull. Misc. Inform. Kew 1906: 1. 1906.

蒙自猕猴桃 meng zi mi hou tao

*Actinidia carnosifolia* C. Y. Wu; *A. carnosifolia* var. *glaucescens* C. F. Liang; *A. henryi* var. *polyodonta* Handel-Mazetti.

Climbing shrubs, mid-sized to large, semi-evergreen. Young branchlets reddish brown tomentose, branchlets sparsely to densely hispid, bases of hairs dilated; pith whitish, small, lamellate. Petiole 1.5–4 cm, ferruginous strigose; leaf blade glaucous or not and carnosous or paler abaxially, ovate to oblong-ovate to oblong-lanceolate, 7–14 × 3–6.5 cm, papery to leathery, abaxially glabrous to puberulent or hispid on midvein and lateral veins, adaxially sparsely strigose throughout or puberulent on veins to glabrous, midvein and veinlets subconspicuous abaxially, lateral veins 8–10 pairs, arcuate-ascending, anastomosing near margins, reticulate veins subconspicuous to conspicuous abaxially, inconspicuous adaxially, base rounded to cordate, margin mucronate-serrulate, apex acuminate. Inflorescences cymose, 1–5-flowered, densely reddish or rusty villous; peduncles absent to 4 mm; pedicels to 1 cm. Flowers white to pink. Sepals 5, ovate, ca. 3 mm, abaxially puberulent, apex acute. Petals 5, obovate, ca. 6 mm, narrowed at base, apex rounded. Filaments ca. 2 mm; anthers yellow, ovoid, ca. 1.5 mm, base sagittate. Ovary globose, ca. 2 mm, densely pubescent. Fruit cylindrical to oblong-ovoid, 1.5–3 cm, glabrous, lenticellate. Fl. May–Jun, fr. Oct.

- Mountain forests, thickets; 1400–2500 m. Guangdong, Guangxi, Guizhou, Hunan, Yunnan.

**28. *Actinidia hemsleyana*** Dunn, J. Linn. Soc., Bot. 38: 355. 1908.

长叶猕猴桃 chang ye mi hou tao

*Actinidia hemsleyana* var. *kengiana* (F. P. Metcalf) C. F. Liang; *A. kengiana* F. P. Metcalf; *A. subglaucifolia* F. P. Metcalf.

Climbing shrubs, large, deciduous. Floral branchlets sparsely rusty strigose, lenticels inconspicuous, two-year-old branches glabrous or with some relict strigose hairs; pith brown, lamellate. Petiole 1.5–5 cm, sparsely strigose to glabrous; leaf blade abaxially glaucous, adaxially green, oblong-lanceolate to oblong-ovate, or obovate-lanceolate, 8–22 × 3–8.5 cm, highly variable in shape and size, papery, abaxially glabrous to brownish pubescent on midvein and lateral veins, adaxially glabrous, lateral veins 8 or 9 pairs, base cuneate to rounded, usually oblique, margin subentire to serrulate or coarsely dentate, apex acute to obtuse. Inflorescences cymose, axillary, 1–3-flowered, densely brownish tomentose; peduncles 5–10 mm, pedicels 1.2–1.9 cm; bracts subulate, ca. 3 mm, velutinous. Flowers reddish. Sepals 5, ovate, ca. 5 mm, densely brownish tomentose. Petals 5, obovate, ca. 1 cm. Ovary appressed-globose, ca. 6 mm in diam., densely brownish tomentose. Fruit cylindrical-ovoid,

ca. 3 cm, glabrous when mature, lenticellate; persistent sepals reflexed. Seeds ca. 2 mm. Fl. May–Jun, fr. Oct.  $2n = 58^*$ .

- Low mountain forests; 500–900 m. N Fujian, E Jiangxi, S Zhejiang.

**29. *Actinidia vitifolia*** C. Y. Wu, Fl. Yunnan. 1: 59. 1977.

葡萄叶猕猴桃 pu tao ye mi hou tao

Climbing shrubs, large, deciduous. Branchlets reddish or grayish brown, brown strigose to tomentose, lenticellate; pith white to brown, lamellate. Petiole 3.5–6 cm, brown strigose to tomentose; leaf blade narrowly ovate to broadly ovate, 5–14 × 4.5–9.5 cm, membranous to papery, abaxially glabrous, adaxially glabrous or sparsely strigillose on veins, midvein and lateral veins distinct and raised abaxially, sulcate adaxially, lateral veins 6–10 pairs, base rounded to cordate, margin finely serrulate, apex acuminate. Inflorescences cymose, 1–5-flowered, strigose to tomentose; peduncles ca. 8 mm; pedicels ca. 1 cm. Flowers white to pink. Sepals 4–6, ovate, 4–8 mm, both surfaces tomentose. Petals 4–6, obovate to suborbicular, 0.7–1.6 cm, apex rounded. Filaments to 2.5 mm; anthers ovoid, ca. 2 mm, base sagittate. Ovary globose to globose-cylindric, densely tomentose. Fruit globose to globose-cylindric, 2–3.5 cm, glabrous, with brownish lenticels. Fl. May–Jun, fr. Sep–Oct.

- Broad-leaved forests, forest margins, limestone mountains; 1600–1900 m. Sichuan (Ebian, Leibo, Mabian), Yunnan.

**30. *Actinidia farinosa*** C. F. Liang in K. M. Feng, Fl. Reipubl. Popularis Sin. 49(2): 319. 1984.

粉毛猕猴桃 fen mao mi hou tao

Climbing shrubs, mid-sized, deciduous. Branchlets densely lanate; pith dirty white, lamellate. Petiole 3.5–4 cm, densely brownish lanate; leaf blade abaxially pale green, adaxially green, broadly ovate to orbicular-ovate, 9–11 × 7–8.5 cm, papery, abaxially thickly brownish cottony-tomentose, hairs easily caducous, adaxially ± strigillose on midvein and lateral veins, midvein and lateral veins conspicuous abaxially, lateral veins 7 or 8 pairs, base cordatulate, margin inconspicuously callose-apiculate-serrulate, apex cuspidate. Inflorescences cymose, 1–3-flowered, densely tomentose; peduncles very short; pedicels 5–6 mm; bracts subulate, ca. 4.5 mm. Flowers pink, ca. 5 mm in diam. Sepals ovate, 3.5–4 mm, abaxially densely tomentose. Petals 5, obovate to oblong-obovate, ca. 3.5 mm. Filaments shorter than anthers; anthers ca. 1.5 mm. Ovary cylindrical, ca. 2 mm, densely brownish tomentose; styles ca. 0.5 mm. Fruit ovoid-cylindric, glabrescent, lenticellate. Fl. Jun, fr. unknown.

- Sunny places, roadsides; 1000–1200 m. NW Guangxi (Tianlin).

**31. *Actinidia rufotricha*** C. Y. Wu, Fl. Yunnan. 1: 73. 1977.

红毛猕猴桃 hong mao mi hou tao

Climbing shrubs, mid-sized, semi-evergreen. Branchlets densely rufous setose; pith yellowish, small, lamellate. Petiole 2.5–5 cm, densely rufous setose; leaf blade oblong-lanceolate, 13–17.5 × 4–6 cm, papery, abaxially densely setose and stellate hairy with long, cottony hairs on midvein and lateral veins, but indumentum of same type becoming sparse elsewhere, adaxially strigose on midvein and lateral veins, midvein and lateral

veins raised abaxially, lateral veins 5 or 6 pairs, anastomosing, base rounded to cordate, margin setose-serrulate, apex long caudate. Inflorescences cymose, axillary, densely ferruginous tomentose; peduncles very short; pedicels ca. 1 cm; bracts minute, ferruginous hairy. Flowers white. Sepals 4, ovate, ca. 4 mm, abaxially ferruginous tomentose. Petals 5, obovate, ca. 5 mm, apex rounded. Filaments slender; anthers yellow, ovoid, ca. 2 mm. Ovary subglobose, ca. 1.5 mm in diam., densely pubescent. Fruit green, oblong, ca. 2 × 1 cm, pale lenticellate. Seeds small, ca. 1.2 mm. Fl. May, fr. Nov.

• Broad-leaved evergreen forests, valleys, roadsides; 900–1500 m. NW and SW Guangxi, Guizhou, Yunnan.

- 1a. Leaves sparsely stellate tomentose, hairs easily observed, not readily caducous ..... 31a. var. *rufotricha*  
 1b. Leaves thickly cottony-tomentose, hairs not easily observed, readily caducous ..... 31b. var. *glomerata*

### 31a. *Actinidia rufotricha* var. *rufotricha*

红毛猕猴桃(原变种) hong mao mi hou tao (yuan bian zhong)

Leaves sparsely stellate tomentose, hairs long, easily observed, not readily caducous.

• Broad-leaved evergreen forests; 1000–1500 m. Yunnan (Malipo).

31b. *Actinidia rufotricha* var. *glomerata* C. F. Liang in K. M. Feng, Fl. Reipubl. Popularis Sin. 49(2): 319. 1984.

密花猕猴桃 mi hua mi hou tao

Leaves thickly cottony-tomentose, stellate hairs short, not easily observed, readily caducous.

• Valleys, roadsides; 900–1500 m. NW and SW Guangxi, Guizhou (Anlong).

32. *Actinidia latifolia* (Gardner & Champion) Merrill, J. Straits Branch Roy. Asiat. Soc. 86: 330. 1922.

阔叶猕猴桃 kuo ye mi hou tao

Climbing shrubs, large, deciduous. Branchlets glabrous, with whitish lenticels, slightly puberulent or densely tomentose when young; pith white, lamellate, solid, or hollow. Petiole 3–7 cm, glabrous to sparsely velutinous; leaf blade abaxially pale green, adaxially green, usually broadly ovate to broadly obovate, sometimes orbicular to narrowly ovate, 8–13(–15) × 5–8.5(–12) cm, abaxially glabrescent to densely appressed stellate tomentose, adaxially glabrescent to densely puberulent, midvein and lateral veins distinct and raised abaxially, inconspicuous to subconspicuous adaxially, lateral veins 6 or 7 pairs, transverse veins distinct, base broadly cuneate to rounded, truncate or reniform, margin minutely and remotely callose-serrulate, apex acute to acuminate. Inflorescences 3- or 4-branched, 10- or more flowered, densely brownish tomentose; peduncles 2.5–8.5 cm, forked at top; pedicels 0.5–1.5 cm, elongating and enlarging at fruiting stage; bracts linear, 1–2 mm. Flowers fragrant. Sepals 5, ovate, 4–5 mm, reflexed after anthesis, both surfaces yellowish tomentose. Petals 5–8, white

on upper part and margins, orange on middle of lower parts, oblong to obovate-oblong, 6–8 mm, reflexed after anthesis. Filaments 2–4 mm, slender; anthers ovoid, ca. 1 mm, sagittate at base. Ovary globose, ca. 2 mm, densely pilose; styles 2–3 mm. Fruit brown, subglobose to ovoid, 3–3.5 × 2–2.5 cm, lenticellate, glabrous when mature or only pubescent at base and apex. Seeds 2–2.5 mm. Fl. May–Jun, fr. Oct–Nov.  $2n = 58^*$ .

Forests, thickets, mountain slopes, valleys; 400–1700 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Jiangxi, Sichuan, Taiwan, Yunnan, Zhejiang [Cambodia, Laos, Malaysia, Thailand, Vietnam].

- 1a. Leaves adaxially very sparsely puberulent to glabrescent, abaxially densely stellate tomentose ..... 32a. var. *latifolia*  
 1b. Leaves adaxially densely puberulent, abaxially more thickly stellate tomentose ..... 32b. var. *mollis*

### 32a. *Actinidia latifolia* var. *latifolia*

阔叶猕猴桃(原变种) kuo ye mi hou tao (yuan bian zhong)

*Heptaca latifolia* Gardner & Champion, Hooker's J. Bot. Kew Gard. Misc. 1: 243. 1849; *Actinidia championii* Benth; *A. gnaphalocarpa* Hayata; *A. guilinensis* C. F. Liang; *A. latifolia* var. *tonkinensis* (H. L. Li) H. L. Li [“*indochinensis*”]; *A. tonkinensis* H. L. Li.

Leaves abaxially densely appressed stellate tomentose, adaxially very sparsely puberulent to glabrescent.  $2n = 58^*$ .

Forests, thickets, mountain slopes, valleys; 400–800 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hunan, Jiangxi, Sichuan, Taiwan, Yunnan, Zhejiang [Cambodia, Laos, Malaysia, Thailand, Vietnam].

32b. *Actinidia latifolia* var. *mollis* (Dunn) Handel-Mazzetti, Symb. Sin. 7: 391. 1931.

长绒猕猴桃 chang rong mi hou tao

*Actinidia championii* var. *mollis* Dunn, J. Linn. Soc., Bot. 39: 407. 1911.

Leaves abaxially very densely and thickly stellate tomentose, hairs puffy and long, densely puberulent adaxially.

• Forests, valleys; 800–1700 m. Yunnan (Pingbian, Simao).

33. *Actinidia fulvicoma* Hance, J. Bot. 23: 321. 1885.

黄毛猕猴桃 huang mao mi hou tao

Climbing shrubs, small to mid-sized, semi-evergreen. Floral branchlets densely brownish tomentose to ferruginous hirsute or brownish velutinous, older branches glabrous or with ± relict hairs, lenticels inconspicuous; pith white, lamellate. Petiole 1–5 cm, densely yellowish tomentose or densely brownish long hirsute or velutinous; leaf blade adaxially green, narrowly ovate to ovate-lanceolate to oblong, 6–18 × 2.5–10 cm, papery to leathery, abaxially densely yellowish to sparsely grayish stellate tomentose, adaxially scabrous to densely softly strigose to

strigose or pilose, sometimes only strigose or pilose on midvein and lateral veins, rarely glabrous, midvein and lateral veins conspicuous abaxially, inconspicuous to subconspicuous adaxially, lateral veins 7–10 pairs, base rounded to cordate, margin setose-serrulate, apex acuminate to long acuminate. Inflorescences cymose, 1–7-flowered, densely brownish villous-pubescent; peduncles 4–10 mm; pedicels 0.7–2 cm; bracts subulate, 2–6 mm. Flowers white. Sepals 5, ovate to oblong-ovate, 4–9 mm, abaxially densely brownish tomentose. Petals 5, obovate to narrowly obovate, 0.6–1.7 cm. Filaments 3–7 mm; anthers yellow, ovoid, ca. 1 mm, sagittate at base. Ovary globose, ca. 3.5 mm in diam., densely yellowish villous; styles ca. 4 mm. Fruit ovoid to oblong-ovoid, 1.5–2 cm, glabrous when mature, lenticellate; persistent sepals reflexed. Seeds ca. 1 mm. Fl. May–Jun, fr. Oct.

• Mountain forests, sparse forests, thickets, mountain slopes; 100–1800 m. Fujian, Guangdong, Guangxi, Guizhou, Hunan, S Jiangxi, Yunnan.

- 1a. Abaxial surface of leaves partly thinly tomentose; branchlets and petioles brownish velutinous ..... 33d. var. *cinerascens*  
 1b. Abaxial surface of leaves usually densely tomentose, occasionally thinly tomentose; branchlets and petioles densely tomentose or hirsute, occasionally velutinous.  
 2a. Branchlets and petioles densely hirsute ..... 33c. var. *hirsuta*  
 2b. Branchlets and petioles tomentose.  
 3a. Leaves adaxially strigose to softly strigose or pilose, papery ..... 33a. var. *fulvicoma*  
 3b. Leaves adaxially very scabrous, leathery ..... 33b. var. *pachyphylla*

### 33a. *Actinidia fulvicoma* var. *fulvicoma*

黄毛猕猴桃(原变种) huang mao mi hou tao (yuan bian zhong)

*Actinidia fulvicoma* f. *arachnoidea* C. F. Liang.

Young branchlets brownish tomentose, occasionally velutinous. Petiole densely tomentose, occasionally velutinous; leaf blade oblong-ovate to suborbicular, papery, abaxially densely stellate tomentose, occasionally sparsely stellate tomentose, adaxially densely softly strigose or sparsely strigose or pilose, sometimes only strigose or pilose on midvein and lateral veins, rarely glabrous.  $2n = 58^*$ .

• Sparse forests, thickets, mountain slopes; 100–400 m. Fujian, C and N Guangdong, Guangxi, Guizhou, Hunan, S Jiangxi, Yunnan.

"*Actinidia diversicolora*" (R. G. Li, Guihaia 23: 195. 2003) belongs here but was not validly published because no type was indicated (*Vienna Code*, Art. 37.1).

33b. *Actinidia fulvicoma* var. *pachyphylla* (Dunn) H. L. Li, J. Arnold Arbor. 33: 57. 1952.

厚叶猕猴桃 hou ye mi hou tao

*Actinidia pachyphylla* Dunn, J. Linn. Soc., Bot. 39: 409. 1911.

Young branchlets densely brownish tomentose. Petiole densely tomentose; leaf blade oblong-ovate to lanceolate-ovate, leathery, abaxially densely brownish stellate tomentose, adaxially very scabrous.

• Fujian (Nanjing), E Guangdong (Heping, Lechang, Longmen), Guangxi, Hunan, S Jiangxi (Jinggangshan).

33c. *Actinidia fulvicoma* var. *hirsuta* Finet & Gagnepain, Bull. Soc. Bot. France 52(Mém. 4): 18. 1906.

糙毛猕猴桃 cao mao mi hou tao

*Actinidia fulvicoma* f. *hirsuta* (Finet & Gagnepain) C. F. Liang; *A. fulvicoma* f. *lanata* Hemsley.

Young branches densely hirsute with long, brownish to ferruginous hairs. Petiole with similar pubescence; leaf blade ovate to oblong-ovate, membranous to papery, abaxially densely stellate tomentose, adaxially densely softly strigose.

• Mountain forests; 1000–1800 m. Guangdong, Guangxi, Guizhou, Yunnan.

33d. *Actinidia fulvicoma* var. *cinerascens* (C. F. Liang) J. Q. Li & Soejarto, Novon 16: 362. 2006.

灰毛猕猴桃 hui mao mi hou tao

*Actinidia cinerascens* C. F. Liang in K. M. Feng, Fl. Reipubl. Popularis Sin. 49(2): 320. 1984; *A. cinerascens* var. *longipetiolata* C. F. Liang; *A. cinerascens* var. *tenuifolia* C. F. Liang.

Young branchlets ferruginous velutinous. Petiole ferruginous velutinous; leaf blade membranous to papery, abaxially partly thinly grayish tomentose, adaxially ± softly strigose.

• Low mountain forests; 500–1000 m. Guangdong, Hunan.

34. *Actinidia chinensis* Planchon, London J. Bot. 6: 303. 1847.

中华猕猴桃 zhong hua mi hou tao

Climbing shrubs, large, deciduous. Branchlets reddish, with paler oblong lenticels, young branchlets white pubescent to brownish long strigose or densely ferruginous hispid-setose; pith whitish to brown, large, lamellate. Petiole 3–6(–10) cm, white pubescent or brownish long strigose to densely ferruginous hispid-setose; leaf blade abaxially pale green, adaxially dark green, broadly ovate to broadly obovate or suborbicular, 6–17 × 7–15 cm, papery, abaxially whitish or brownish stellate tomentose, adaxially usually glabrous, occasionally ± puberulent, especially more densely so on midvein and lateral veins, or densely scabrid-hispid throughout, midvein and lateral veins conspicuous abaxially, subconspicuous adaxially, lateral veins 5–8 pairs, furcate above middle, veinlets in parallel cross-bars, conspicuous abaxially, base rounded to truncate to cordulate, margin setose-serrulate with teeth terminating tips of veinlets, apex truncate to emarginate to abruptly cuspidate or shortly acuminate. Inflorescences cymose, 1–3-flowered, white silky-tomentose or yellowish brown velutinous; peduncles 0.7–1.5 cm; pedicels 0.9–1.5 cm; bracts linear, ca. 1 mm. Flowers orange-yellow. Sepals (3–)5(–7), broadly ovate to oblong-ovate, 6–10 mm, both surfaces densely yellowish tomentose. Petals (3–)5(–8), rarely with a second whorl of 2 smaller petals,



broadly obovate, 1–2 cm, shortly clawed at base, rounded at apex. Filaments 5–10 mm; anthers yellow, oblong, 1.5–2 mm, sagittate at base or not, apex acute to rounded. Ovary globose, ca. 5 mm in diam., densely golden villous. Fruit subglobose to cylindrical to obovoid or ellipsoidal, 4–6 cm, densely tomentose when young, glabrous when mature to densely hispid, with many brownish lenticels; persistent sepals reflexed. Fl. Apr–May, fr. Sep.  $2n = 58^*$ ,  $116^*$ ,  $174^*$ .

• Mountain forests, sparse secondary forests, tall grassy thickets on low mountains, thickets; 200–2600 m. Anhui, Chongqing, Fujian, Gansu, Guangdong, Guangxi, Guizhou, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Shaanxi, Sichuan, Taiwan, Yunnan, Zhejiang.

The producer of kiwifruit, this taxon is widely cultivated in China and elsewhere.

*Actinidia chinensis* var. *lageniformis* S. Y. Wang & C. F. Chen (J. Henan Agric. Coll. 4: 82. 1981) and *A. chinensis* var. *nephrocarpa* S. Y. Wang & C. F. Chen (loc. cit.), both described from Henan, could not be treated here because no material was seen by the authors.

- 1a. Young branchlets and petioles white pubescent to roughly tomentose, glabrous when mature or not; fruit densely tomentose, soon glabrous ..... 34a. var. *chinensis*
- 1b. Young branchlets and petioles brownish strigose or ferruginous hispid-setose, hairs not easily lost; fruit densely hispid, ± hispid when mature.
- 2a. Young branchlets and petioles brownish strigose; leaves adaxially usually glabrous ..... 34b. var. *deliciosa*
- 2b. Young branchlets and petioles ferruginous hispid-setose; leaves adaxially usually scabrid-hispid ..... 34c. var. *setosa*

### 34a. *Actinidia chinensis* var. *chinensis*

中华猕猴桃(原变种) zhong hua mi hou tao (yuan bian zhong)

*Actinidia chinensis* f. *jinggangshanensis* C. F. Liang; *A. chinensis* var. *jinggangshanensis* (C. F. Liang) C. F. Liang & A. R. Ferguson; *A. chinensis* f. *rufopulpa* C. F. Liang & R. H. Huang; *A. chinensis* var. *rufopulpa* (C. F. Liang & R. H. Huang) C. F. Liang & A. R. Ferguson; *A. multipetaloides* H. Z. Jiang.

Young branchlets and petioles white pubescent to roughly tomentose, glabrous when mature or not. Leaves adaxially usually glabrous, occasionally ± puberulent, especially more densely so on midvein and lateral veins. Fruit subglobose, 4–4.5 cm, densely tomentose, soon glabrous.

• Sparse secondary forests, tall grassy thickets on low mountains, thickets, also widely cultivated; 200–600 m. Anhui, Fujian, Guangdong, Guangxi, Henan, Hubei, Hunan, Jiangsu, Jiangxi, S Shaanxi, Yunnan, Zhejiang.

**34b. *Actinidia chinensis* var. *deliciosa*** (A. Chevalier) A. Chevalier, Rev. Bot. Appl. Agric. Trop. 21: 241. 1941.

美味猕猴桃 mei wei mi hou tao

*Actinidia latifolia* (Gardner & Champion) Merrill var. *deliciosa* A. Chevalier, Rev. Bot. Appl. Agric. Trop. 20: 12. 1940; *A. chinensis* f. *chlorocarpa* C. F. Liang; *A. chinensis* var. *his-*

*pida* C. F. Liang; *A. chinensis* f. *longipila* C. F. Liang & R. Z. Wang; *A. deliciosa* (A. Chevalier) C. F. Liang & A. R. Ferguson; *A. deliciosa* var. *chlorocarpa* (C. F. Liang) C. F. Liang & A. R. Ferguson; *A. deliciosa* var. *coloris* T. H. Lin & X. Y. Xiong; *A. deliciosa* var. *longipila* (C. F. Liang & R. Z. Wang) C. F. Liang & A. R. Ferguson.

Young branchlets and petioles brownish strigose, hairs not easily lost. Leaves usually glabrous adaxially, occasionally ± puberulent, especially more densely so on midvein and lateral veins. Fruit subglobose to cylindrical or ovoid, 5–6 cm, densely hispid, ± so when mature.  $2n = 116^*$ ,  $174^*$ ,  $358^*$ .

• Mountain forests; 800–1400 m. Chongqing, Gansu, Guangxi, Guizhou, Henan, Hubei, Hunan, Jiangxi, Shaanxi, Sichuan, Yunnan [widely cultivated elsewhere].

*Actinidia chinensis* var. *deliciosa* is the widely cultivated kiwifruit. This taxon was recognized as a species under the name *A. deliciosa* (Liang & Ferguson, Guihaia 4: 181. 1984) by elevating the status of *A. latifolia* var. *deliciosa*. Kiwifruit cultivars grown in commercial orchards outside of China were derived from seeds introduced to New Zealand in 1904 (Ferguson & Bollard in Warrington & Weston, Kiwifruit Sci. Managem. 165–246. 1990).

**34c. *Actinidia chinensis* var. *setosa*** H. L. Li, J. Arnold Arbor. 33: 56. 1952.

刺毛猕猴桃 ci mao mi hou tao

*Actinidia setosa* (H. L. Li) C. F. Liang & A. R. Ferguson.

Young branchlets and petioles ferruginous hispid-setose. Leaves usually scabrid-hispid adaxially. Fruit subglobose or ellipsoidal, densely hispid.

• Mountain forests, thickets; (500–)1300–2600 m. Taiwan.

There are transitional forms in between var. *deliciosa* and var. *setosa* with leaves densely setose adaxially and occasionally hispid-setose on stems and petioles.

**35. *Actinidia suberifolia*** C. Y. Wu, Fl. Yunnan. 1: 73. 1977.

栓叶猕猴桃 shuan ye mi hou tao

Climbing shrubs, large, deciduous. Branchlets densely ferruginous tomentose; pith brownish, solid. Petiole ca. 2.5 cm, densely ferruginous tomentose; leaf blade narrowly elliptic, 9–13.5 × 4–6.5 cm, thickly papery, abaxially very densely tomentose with cinnamon-colored hairs on midvein and lateral veins, elsewhere stellate tomentose, adaxially glabrous and slightly rugose, midvein and lateral veins raised abaxially, sulcate adaxially, lateral veins 6 or 7 pairs, anastomosing, reticulate veins subconspicuous with distinct parallel cross-bars, base cuneate to rounded, never cordate, margin shallowly and remotely serrulate, apex acute to shortly acuminate. Male inflorescences racemiform, 14–20 cm, densely ferruginous tomentose, ca. 12-flowered; female inflorescences 1- or 2-branched, ca. 5 cm, densely ferruginous tomentose, 3–5-flowered; bracts subulate, ca. 2 mm. Flowers orange. Sepals 5, ovate, ca. 5 mm, both surfaces densely ferruginous tomentose. Petals 5, obovate, ca. 7 mm. Sterile ovary globose, densely ferruginous villous. Fruit subglobose, ca. 1.5 cm, densely ferruginous tomentose, lenticellate. Fl. Apr, fr. unknown.

• Dry thickets; 900–1000 m. Yunnan (Mengzi, Pingbian).

**36. *Actinidia styracifolia*** C. F. Liang in K. M. Feng, Fl. Reipubl. Popularis Sin. 49(2): 321. 1984.

安息香猕猴桃 an xi xiang mi hou tao

Climbing shrubs, mid-sized, deciduous. Floral branchlets densely brownish velutinous, lenticels small and inconspicuous; two-year-old branches glabrous or sparsely scurfy-tomentose, lenticels small and inconspicuous; pith white, lamellate. Petiole 1.2–2 cm, densely brownish velutinous; leaf blade abaxially pale green, adaxially green, elliptic-ovate to obovate, 6–9 × 4.5–5 cm, papery, abaxially whitish stellate tomentose, adaxially sparsely strigillose when young, glabrous when mature, midvein and lateral veins conspicuous abaxially, subconspicuous adaxially, lateral veins mostly 7 pairs, veinlets and transverse veins conspicuous abaxially, base broadly cuneate, margin mucronate-callose-serrulate, apex shortly acuminate to acute. Inflorescences cymose, 2-branched, 5–7-flowered, densely brownish velutinous; peduncles 4–8 mm; pedicels 5–7 mm; bracts subulate, 2.5–3.5 mm. Flowers reddish, ca. 1.3 cm in diam. Sepals 2 or 3, ovate or suborbicular, ca. 5 mm, both surfaces densely brownish velutinous. Petals 5 or 6, oblong to oblong-obovate, 6–8 mm. Filaments 4–5 mm; anthers oblong, ca. 1.5 mm. Ovary globose, ca. 4 mm in diam., densely brownish velutinous; styles ca. 6 mm. Fruit cylindrical, ca. 1.6 cm, densely tomentose; persistent sepals not reflexed. Fl. May, fr. unknown.

• 600–900 m. Fujian, Guizhou, Hunan, Jiangxi.

**37. *Actinidia lanceolata*** Dunn, J. Linn. Soc., Bot. 38: 356. 1908.

小叶猕猴桃 xiao ye mi hou tao

Climbing shrubs, small, deciduous. Floral branchlets densely ferruginous velutinous, lenticels subconspicuous, two-year-old branches glabrous, lenticels inconspicuous; pith brown, lamellate. Petiole 0.8–2 cm, densely ferruginous velutinous; leaf blade abaxially glaucous, adaxially green, elliptic-ovate to elliptic-lanceolate, 4–7 × 2–3 cm, papery, abaxially densely appressed stellate with very short, grayish hairs, adaxially glabrous to very sparsely glandular-puberulent, midvein and lateral veins conspicuous abaxially, inconspicuous adaxially, lateral veins 5 or 6 pairs, reticulate veinlets and transverse veins inconspicuous abaxially, base cuneate to obtuse, margin serrulate on upper parts, apex acuminate to shortly acuminate. Inflorescences cymose, 2-branched, to 7-flowered, densely ferruginous velutinous; peduncles 3–6 mm; pedicels 2–4 mm; bracts linear, 1–1.5 mm. Flowers greenish. Sepals 3–5, ovate to oblong, 3–4 mm, abaxially ferruginous puberulent, adaxially sparsely puberulent. Petals 5, oblong to spatulate-obovate, 4–5.5 mm. Filaments 1–4 mm; anthers yellow, oblong, 1–1.5 mm. Ovary subglobose to ovoid, ca. 1.5 mm in diam., densely ferruginous tomentose; styles ca. 1.5 mm. Fruit ovoid, small, 8–10 mm, glabrous, lenticels pale brown; persistent sepals reflexed. Seeds 1.5–1.8 mm. Fl. May–Jun, fr. Nov.  $2n = 58^*$ .

• Sparse forests, forest margins, tall grassy thickets; 200–800 m. Anhui, Fujian, Guangdong, Hunan, Jiangsu, Jiangxi, Zhejiang.

**38. *Actinidia eriantha*** Bentham, J. Proc. Linn. Soc., Bot. 5: 55. 1861.

毛花猕猴桃 mao hua mi hou tao

*Actinidia davidii* Franchet; *A. eriantha* f. *alba* C. F. Gan; *A. eriantha* var. *brunnea* C. F. Liang; *A. eriantha* var. *calvescens* C. F. Liang; *A. fulvicoma* Hance var. *lanata* (Hemsley) C. F. Liang; *A. lanata* Hemsley.

Climbing shrubs, large, deciduous. Young branchlets, petioles, inflorescences, and sepals densely tomentose with milky-white to dirty yellow hairs to appressed-lanate, two-year-old branches ± with relict hairs; pith white, lamellate. Petiole short, 1.5–3 cm, thick; leaf blade abaxially pale green, adaxially green, ovate to broadly ovate, 8–16 × 6–11 cm, papery, abaxially densely white stellate tomentose, adaxially hispid-puberulent when young, glabrous to sparsely pilose only on midvein and lateral veins, midvein and lateral veins conspicuous abaxially, inconspicuous to subconspicuous adaxially, lateral veins 7 or 8 pairs, anastomosing, reticulation with many conspicuous cross-bars, base rounded or truncate to cordulate, margin callose-serrulate, apex acute to shortly acuminate. Inflorescences cymose, 1–3-flowered; peduncles 5–10 mm; pedicels 3–5 mm; bracts subulate, 3–4 mm. Flowers rose-pink, rarely white, 2–3 cm in diam. Sepals 2–3, broadly ovate, 7–9 mm, abaxially densely lacteous-tomentose. Petals 5, ovate or obovate, to 1.5 cm, apex and margin orange, middle and base pink. Filaments 5–7 mm, slender; anthers yellow, oblong, ca. 1 mm. Ovary globose, densely milky-white tomentose; styles 3–4 mm. Fruit cylindrical-ovoid, 3.5–4.5 cm, always densely and persistently milky-white tomentose; persistent sepals reflexed. Seeds ca. 2 mm. Fl. May–Jun, fr. Nov.  $2n = 58^*$ .

• Forests, tall grassy thickets on low mountains; 200–1000 m. Fujian, Guangdong, Guangxi, Guizhou, Hunan, Jiangxi, Zhejiang.

**39. *Actinidia lianguangensis*** C. F. Liang in K. M. Feng, Fl. Reipubl. Popularis Sin. 49(2): 322. 1984.

两广猕猴桃 liang guang mi hou tao

Climbing shrubs, large, evergreen. Floral branchlets long or short, short ones densely brownish tomentose, long ones sparsely velutinous, lenticels inconspicuous, two-year-old branches glabrous; pith white, lamellate. Petiole 2–7 cm, thinly brown velutinous; leaf blade pale green abaxially, green adaxially, ovate to oblong, 7–13 × 4–9 cm, softly leathery, abaxially densely brownish appressed stellate tomentose, adaxially glabrous, lateral veins 8 or 9 pairs, veinlets reticulate, inconspicuous with subconspicuous transverse veins abaxially, base rounded or cordulate, margin callose-serrulate, apex acute to cuspidate. Inflorescences cymose, 1–3-flowered, brownish, long tomentose; peduncles 2–7 mm; pedicels 5–6 mm; bracts linear, minute. Flowers white, ca. 1.5 cm in diam. Sepals 5, oblong, 4–5 mm, abaxially densely tomentose. Petals 5, obovate, 9–10 mm, gradually narrowed at base, apex rounded. Filaments 4–6 mm; anthers yellow, ovoid, ca. 1.5 mm, sagittate at base. Ovary globose, densely yellowish tomentose; styles ca. 4 mm. Fruit ovoid to cylindrical-oblong, 2–3.5 cm, to 1 cm in diam., densely brownish tomentose when young, sparsely so when mature, lenticellate; persistent sepals present. Seeds small, 1–1.5 mm. Fl. Apr–May, fr. Nov.  $2n = 58^*$ .

• Forests in sunny places, thickets, mountain valleys; 200–1000 m. Guangdong, Guangxi, Hunan (Jianghua).

"*Actinidia lianguangensis* var. *rubriflora*" (R. G. Li & M. Y. Liang, *Guihaia* 22: 386. 2002) may belong here but was not validly published because no type was indicated (*Vienna Code*, Art. 37.1).

**40. *Actinidia hubeiensis*** H. M. Sun & R. H. Huang, *J. Wuhan Bot. Res.* 12: 321. 1994.

湖北猕猴桃 hu bei mi hou tao

Climbing shrubs, large, deciduous. Branches reddish, glabrous, lenticels linear or punctiform, conspicuous; buds densely ferruginous tomentose; pith brownish, lamellate. Petiole purplish, 1.5–3 cm, densely velutinous when young and glabrous when mature; leaf blade abaxially pale green, adaxially dark green, narrowly ovate to broadly ovate to broadly orbicular-ovovate, 6–14 × 5–13 cm, papery, abaxially very sparsely stellate tomentose with hairs easily rubbing off, adaxially glabrous, midvein and lateral veins conspicuous abaxially, sulcate adaxially, lateral veins 6–9 pairs, reticulate veinlets subconspicuous with distinct and prominent parallel cross-bars abaxially, base mostly cordate, margin ciliate-serrulate, apex abruptly acute to rounded, rarely emarginate. Female flowers solitary, puberulent; pedicels 0.7–1.5 cm. Sepals 3–6, ovate, 3–5 mm, margin densely brown tomentose. Petals 5 or 6, white to purplish, and then yellowish at base, obovate, 7–9 mm. Ovary conical, ca. 4.5 mm in diam., densely grayish tomentose; styles 4–5 mm. Sterile stamens numerous; filaments 4–5 mm; anthers yellow, reniform, 1–1.5 mm. Male flowers unknown. Fruit dark brown, ovoid to conical to subglobose, 2–3 cm, glabrescent when mature, densely lenticellate, lenticels brownish; persistent sepals reflexed. Seeds ca. 2 mm. Fl. Apr–May, fr. Oct.  $2n = 58^*$ .

• Hubei (Yichang).

**41. *Actinidia sorbifolia*** C. F. Liang in K. M. Feng, *Fl. Reipubl. Popularis Sin.* 49(2): 324. 1984.

花楸猕猴桃 hua qiu mi hou tao

*Actinidia truncatifolia* C. Y. Chang & P. S. Liu.

Climbing shrubs, large, deciduous. Branchlets glabrous, young branchlets velutinous, lenticels conspicuous; pith brown, lamellate. Petiole 1.5–4 cm, puberulent when young, glabrous when mature; leaf blade adaxially green, broadly obovate to oblong-obovate, 8–14 × 4.5–9 cm, thinly leathery, abaxially sparsely stellate tomentose when young, glabrous or sparsely puberulent on midvein, adaxially glabrous, lateral veins and midvein conspicuous abaxially, inconspicuous adaxially, lateral veins 5–8 pairs, reticulate veins conspicuous with distinct and raised parallel cross-bars abaxially, base narrowly rounded or cordatulate, margin inconspicuously callose-serrulate or ciliate-serrulate, apex cuspidate or shortly acuminate. Inflorescences cymose, 1–3-flowered; peduncles 3–6 mm; pedicels 1.1–1.5 cm, slightly puberulent. Flowers reddish. Sepals 5 or 6, narrowly ovate to ovate, 5–8 mm, both surfaces brownish tomentose. Petals 7 or 8, obovate to broadly obovate, 1–2 cm, narrowed at base, apex rounded. Filaments 5–8 mm; anthers yellow, oblong, ca. 2 mm. Ovary globose, densely brownish tomentose. Fruit ovoid to subglobose, 2.5–3.3 cm, densely tomentose when young, glabrescent when mature, lenticellate. Fl. unknown, fr. unknown.

• Dense forests, mountain thickets, along rivers; 800–1600 m. Guizhou, Hunan (Chengbu), Sichuan (Qianwei).

**42. *Actinidia obovata*** Chun ex C. F. Liang in K. M. Feng, *Fl. Reipubl. Popularis Sin.* 49(2): 323. 1984.

倒卵叶猕猴桃 dao luan ye mi hou tao

Climbing shrubs, large, deciduous. Branchlets sparsely puberulent to glabrous, lenticels conspicuous; buds densely yellowish tomentose; pith brown, lamellate. Petiole 4–4.5 cm, sparsely puberulent; leaf blade abaxially pale green, adaxially dark green, obovate to obovate-obtriangular, 11–14.5 × 6–7 cm, papery, sparsely stellate tomentose with hairs easily rubbing off, subglabrous adaxially, midvein and lateral veins conspicuous abaxially, sulcate adaxially, lateral veins 8 or 9 pairs, reticulate veinlets inconspicuous, with subconspicuous parallel cross-bars, base rounded and cordatulate, oblique, margin ciliate-serrulate, apex abruptly acute to truncate. Flowers white. Sepals 4 or 5, ovate, 5.5–6.5 mm, both surfaces brownish tomentose. Petals broadly obovate, 0.9–1.3 cm, narrowed at base. Filaments 2–3 mm; anthers yellow, oblong, 2–2.5 mm, sagittate at base. Sterile ovary globose, ca. 2.5 mm in diam., densely brownish tomentose. Fruit obovoid, glabrous. Fl. May–Jun, fr. Sep.

• 1200–1600 m. Guizhou (Jiangkou, Qingzhen), Yunnan (Shizong).

**43. *Actinidia lijiangensis*** C. F. Liang & Y. X. Lu, *Guihaia* 9: 21. 1989.

漓江猕猴桃 li jiang mi hou tao

Climbing shrubs, large, deciduous. Young branchlets densely brownish velutinous; two-year-old branches reddish or blackish, glabrous, lenticels linear or punctiform, conspicuous; pith brown, lamellate. Petiole 3–6.5 cm, yellowish tomentose, glabrous when mature; leaf blade broadly ovate to broadly obovate to orbicular, 4.5–12 × 4–12.5 cm, papery, abaxially sparsely stellate tomentose, soon glabrous, adaxially sparsely puberulent, soon glabrous, midvein and lateral veins conspicuous abaxially, sulcate adaxially, lateral veins 6–9 pairs, reticulate veinlets subconspicuous with distinct and raised parallel cross-bars abaxially, base cordate, margin callose-serrulate, apex cuspidate to acute, rarely emarginate. Inflorescences cymose, 1–3-flowered, brownish velutinous; peduncles 1.5–2 cm; pedicels ca. 2 cm. Flowers white. Sepals 4 or 5, broadly ovate, ca. 6 mm, both surfaces glandular-tomentose. Petals 5 or 6, yellowish white, obovate, 1.2–1.5 cm. Ovary globose, densely yellowish white tomentose; styles ca. 7 mm. Male flowers unknown. Fruit narrowly cylindrical, 4–5 cm, glabrous, lenticels brownish, dense; persistent sepals reflexed. Fl. Apr–May, fr. Oct.  $2n = 58^*$ .

• NE Guangxi.

**44. *Actinidia zhejiangensis*** C. F. Liang, *Guihaia* 2: 2. 1982.

浙江猕猴桃 zhe jiang mi hou tao

Climbing shrubs, large, deciduous or semi-evergreen. Branchlets densely brownish velutinous, lenticels linear or punctiform, subconspicuous; pith whitish or brownish, lamel-

late. Petiole 2–8 cm, stout, densely yellowish velutinous; leaf blade oblong to ovate or narrowly elliptic to narrowly ovate-lanceolate, 5–20 × 2.5–13 cm, papery, abaxially whitish and ± densely brownish tomentose with imperfectly stellate hairs, hairs simple to 2–4-furcate, glabrous or not when leaves mature, adaxially green and sparsely strigillose, soon glabrous, midvein and lateral veins conspicuous abaxially, sulcate or not adaxially, lateral veins 6–10 pairs, veinlets reticulate, conspicuous with distinct and raised parallel cross-bars abaxially, base auriculate-cordatulate, apex acuminate to long acuminate. Inflorescences 1- or 2-branched, (1–)3–7-flowered, densely yellowish brownish tomentose; peduncles 4–10 mm; pedicels 0.6–1.6 cm; bracts subulate, 3–6 mm. Flowers rose-pink. Sepals 5 or 6, ovate to narrowly ovate, 6–8 mm, both surfaces densely brown tomentose. Petals 5 or 6, obovate to narrowly obovate, 1–1.6 cm. Filaments 4–8 mm; anthers yellow, ovoid, ca. 1 mm, sagittate at base. Ovary globose, 6–8 mm in diam., densely grayish pubescent; styles ca. 5 mm. Fruit cylindrical-oblong, 3–4 cm, densely long whitish tomentose; persistent sepals reflexed, both surfaces densely brown tomentose. Seeds ca. 2 mm. Fl. May, fr. Oct.  $2n = 58^*$ .

- Fujian, Zhejiang.

*“Actinidia persicina”* (R. H. Huang & S. M. Wang, J. Wuhan Bot. Res. 13(2): 113. 1995) belongs here but was not validly published because the herbarium in which the type is conserved was not specified (*Vienna Code*, Art. 37.7).

**45. *Actinidia grandiflora*** C. F. Liang in K. M. Feng, Fl. Reipubl. Popularis Sin. 49(2): 323. 1984.

大花猕猴桃 da hua mi hou tao

Climbing shrubs, large, deciduous. Floral branchlets sparsely villous, lenticels inconspicuous, two-year-old branches glabrous, lenticels subconspicuous; pith brown, lamellate. Petiole 2.5–4 cm, sparsely puberulent; leaf blade abaxially pale green, adaxially green, obovate, 9–12 × 6–8 cm, papery, abaxially sparsely white- and long pubescent, hairs simple to furcate to substellate, adaxially subglabrous, midvein and lateral veins abaxially conspicuous, adaxially inconspicuous, lateral veins 7 or 8 pairs, reticulate veinlets subconspicuous with distinct and raised parallel cross-bars abaxially, base narrowly rounded-cordatulate, margin ciliate-serrulate, apex acute to cuspidate. Inflorescences cymose, 1–3-flowered, brownish puberulent; peduncles 4–6 mm; pedicels 7–11 mm; bracts linear, ca. 2 mm. Flowers yellowish, ca. 2 cm in diam. Sepals ovate to narrowly ovate, 5–6.5 mm, abaxially velutinous. Petals 6, spatulate-obovate, 1–1.3 cm. Filaments 4–5 mm; anthers yellow, oblong, ca. 2 mm, sagittate at base. Sterile ovary globose, densely tomentose. Fruit unknown. Fl. May–Jun, fr. unknown.  $2n = 58^*$ .

- Mountain forests; ca. 1800 m. Sichuan (Tianquan).

**46. *Actinidia pilosula*** (Finet & Gagnepain) Stapf ex Handel-Mazzetti, Symb. Sin. 7: 390. 1931.

贡山猕猴桃 gong shan mi hou tao

*Actinidia callosa* Lindley var. *pilosula* Finet & Gagnepain, Bull. Soc. Bot. France 52(Mém. 4): 19. 1906; *A. kungshanensis* C. Y. Wu & S. K. Chen.

Climbing shrubs, mid-sized, deciduous. Branchlets reddish, glabrous, with scattered short ovoid lenticels, young branchlets white pubescent; pith white to brownish, large, lamellate. Petiole purplish, 2–3.5 cm, slightly puberulent, glabrous when mature; leaf blade ovate-oblong to ovate-orbicular, 6–11 × 5–8 cm, thinly papery, abaxially densely white pubescent throughout or ± so on midvein and lateral veins, hairs simple or 2- or 3-furcate, adaxially green and sparsely puberulent, especially on midvein and lateral veins when young, glabrous when mature, midvein and lateral veins conspicuous abaxially, subconspicuous adaxially, lateral veins 8–10 pairs, reticulate veins subconspicuous with distinct and raised parallel cross-bars abaxially, base broadly truncate to rounded or cordate, often unequal, margin mucronulate-serrulate, apex acuminate. Inflorescences cymose, axillary, 5–7-flowered, brownish tomentose; peduncles 1–1.5 cm; pedicels 7–10 mm; bracts absent to 3, linear, ca. 2 mm. Flowers yellowish, ca. 2 cm in diam. Sepals 5, ovate, ca. 5 mm, both surfaces rusty velutinous. Petals 5, obovate-oblong, 1–1.1 cm. Filaments 4–6 mm; anthers yellow, ovoid, 1.5–2 mm, both ends rounded. Ovary narrowly cylindrical, ca. 5 mm, densely brownish pubescent; styles ca. 2 mm. Fruit globose, ca. 2.3 cm, glabrous, with whitish and rounded lenticels; persistent sepals reflexed. Seeds ca. 2 mm. Fl. May–Jun, fr. Sep–Oct.

- Mountain forests; ca. 2000 m. Yunnan (Gongshan).

**47. *Actinidia stellatopilosa*** C. Y. Chang, Acta Sci. Nat. Univ. Szechuan. 1976(3): 75. 1976 [*“stellato-pilosa”*].

星毛猕猴桃 xing mao mi hou tao

Climbing shrubs, large, deciduous. Branches glabrous, lenticels subconspicuous, very sparsely puberulent when young; pith white, lamellate. Petiole 3–5 cm, sparsely pilose; leaf blade abaxially pale green, adaxially green, broadly ovate to broadly obovate, 8–12 × 4–8.5 cm, papery, abaxially sparsely pubescent, hairs simple or 2- or 3-furcate, adaxially glabrous, midvein and lateral veins conspicuous abaxially, inconspicuous adaxially, lateral veins 5 or 6 pairs, veinlets in conspicuous parallel cross-bars abaxially, base rounded-cordatulate, margin ciliate-serrulate, apex obtuse to abruptly acute. Inflorescences axillary, 1–3-flowered, slightly brownish velutinous; peduncles 3–5 mm; pedicels 0.8–1.2 cm; bracts subulate, 3–4 mm. Flowers white, ca. 1.8 cm in diam. Sepals 5, oblong-ovate, 5–7 mm, both surfaces densely brownish velutinous. Petals 5 or 6, broadly obovate, 1–1.2 cm. Filaments 4–6 mm; anthers yellow, oblong, ca. 2 mm, sagittate at base. Sterile ovary globose, densely yellowish velutinous. Fruit unknown. Fl. Jun, fr. unknown.

- Mountain thickets; ca. 1200 m. Chongqing (Chengkou).

**48. *Actinidia venosa*** Rehder in Sargent, Pl. Wilson. 2: 383. 1915.

显脉猕猴桃 xian mai mi hou tao

*Actinidia venosa* f. *pubescens* H. L. Li; *A. venosa* var. *pubescens* (H. L. Li) C. Y. Chang.

Climbing shrubs, large, deciduous. Branchlets reddish to purplish, lenticels conspicuous; young branchlets whitish pu-

berulent, soon glabrescent; pith white, large, lamellate. Petiole 1.5–4 cm, puberulent to glabrous; leaf blade ovate-oblong to ovate or ovate-orbicular, 5–15 × 3–8 cm, thinly papery, abaxially white arachnoid-pubescent throughout or only on midvein and lateral veins, hairs simple or 2- or 3-furcate, soon glabrescent or glabrous, glaucous or not abaxially, adaxially glabrous or sparsely puberulent when young, midvein and lateral veins conspicuously raised abaxially, subconspicuous to conspicuous adaxially, lateral veins 8–11 pairs, reticulate veinlets inconspicuous to subconspicuous with numerous distinct and raised parallel cross-bars abaxially, base broadly truncate to rounded or cordate, usually oblique, margin serrulate, apex acuminate to long acuminate. Inflorescences cymose, axillary, 1–7-flowered, brownish velutinous; peduncles 0.5–1.5 cm; pedicels 0.6–1.4 cm; bracts absent to 3 per pedicel, linear, small. Flowers yellow. Sepals 5, ovate to ovate-oblong, 4–5 mm, both surfaces velutinous, apex obtuse. Petals 5, obovate to oblong, 7–9 mm. Filaments 5–6 mm; anthers yellow, ovoid, 1.5–2 mm, sagittate at base. Ovary globose, ca. 2 mm in diam., densely tomentose; styles 3–4 mm. Fruit cylindrical to subglobose, 1.5–2.5 cm, glabrous when mature, lenticels small; persistent sepals reflexed. Seeds ca. 2 mm. Fl. May–Jul, fr. Sep.

- Mountain forests; 1200–2400 m. Sichuan, Xizang, Yunnan.

**49. *Actinidia persicina*** R. G. Li & L. Mo, **sp. nov.**

桃花猕猴桃 tao hua mi hou tao

Type: China. Guangxi: Guilin, research orchard of Guangxi Institute of Botany, Sep 2001, *R. G. Li 0107* (fr.) (holotype, IBK).

Validating Latin diagnosis: that of “*Actinidia persicina*” (R. G. Li & L. Mo, *Guihaia* 23: 197. 2003).

Climbing shrubs, deciduous, large. Branchlets brown velutinous, lenticels conspicuous; second-year branches glabrous, lenticels conspicuous; pith brown, laminate. Petiole 2.5–6 cm, brown velutinous when young, glabrescent; leaf blade ovate to broadly ovate, 9–20 × 5–9.5 cm, papery, abaxially glaucous near margin, stellate tomentose when young, glabrescent, lateral veins 6–8 pairs, adaxially glabrous, base rounded or cordate, margin finely serrate, apex acute. Inflorescences 1–3-flowered, brown velutinous; peduncle 3–7 mm; pedicel 0.6–1.3 cm. Flowers pink. Sepals 3–5, ovate, ca. 5 mm. Petals 5, obovate, ca. 9 mm. Ovary ovoid, whitish tomentose. Fruit ovoid or oblong, ca. 2 cm, sparsely velutinous; persistent sepals not reflexed. Fl. Apr, fr. Oct.

- Guangxi (Rongshui).

Introduced from Rongshui Xian in 1992, this species is cultivated in the research orchard of the Guangxi Institute of Botany, Guilin. The name was not validly published by Li and Mo in 2003 because no type was indicated (*Vienna Code*, Art. 37.1). The apparent earlier homonym, “*Actinidia persicina*” (R. H. Huang & S. M. Wang, *J. Wuhan Bot. Res.* 13(2): 113. 1995) was not validly published because the herbarium in which the type is conserved was not specified (Art. 37.7).

**50. *Actinidia rongshuiensis*** R. G. Li & X. G. Wang, **sp. nov.**

融水猕猴桃 rong shui mi hou tao

Type: China. Guangxi: Guilin, research orchard of Guang-

xi Institute of Botany, Sep 2001, *R. G. Li 0106* (fr.) (holotype, IBK).

Validating Latin diagnosis: that of “*Actinidia rongshuiensis*” (R. G. Li & X. G. Wang, *Guihaia* 23: 196. 2003).

Climbing shrubs, deciduous, large. Branchlets brown velutinous, glabrescent, lenticels subconspicuous; lenticels conspicuous on second-year branches; pith white, laminate. Petiole 2–4.5 cm, velutinous, glabrescent; leaf blade ovate-oblong to broadly ovate, 7–21 × 4–11 cm, papery, abaxially stellate tomentose, glabrescent, lateral veins 8 or 9 pairs, reticulate veins prominent, adaxially slightly puberulent, soon glabrous, base cordatulate, margin finely serrate, apex acuminate. Inflorescences 1–3-flowered, velutinous; peduncle 1–2 mm; pedicel 1.2–1.5 cm. Flowers red. Sepals 3–6, ovate, 6–7 mm. Petals 5 or 6, broadly ovate, 1.1–1.4 cm. Ovary globose, whitish tomentose. Fruit cylindrical, ca. 2.3 cm, tomentose; persistent sepals not reflexed. Fl. Jun, fr. Oct–Nov.

- Guangxi (Rongshui).

Introduced from Rongshui Xian in 1983, this species is cultivated in the research orchard of the Guangxi Institute of Botany, Guilin. The name was not validly published by Li and Wang in 2003 because no type was indicated (*Vienna Code*, Art. 37.1).

**51. *Actinidia longicarpa*** R. G. Li & M. Y. Liang, **sp. nov.**

长果猕猴桃 chang guo mi hou tao

Type: China. Guangxi: Guilin, research orchard of Guangxi Institute of Botany, Sep 2001, *R. G. Li 0108* (fr.) (holotype, IBK).

Validating Latin diagnosis: that of “*Actinidia longicarpa*” (R. G. Li & M. Y. Liang, *Guihaia* 23: 198. 2003).

Climbing shrubs, deciduous, large. Branchlets velutinous, glabrescent, lenticels subconspicuous; second-year branches glabrous, lenticels subconspicuous; pith white, laminate. Petiole 3.5–6 cm, velutinous, glabrescent; leaf blade ovate to orbicular, 6.2–19 × 5.4–11.5 cm, papery, abaxially stellate tomentose, glabrescent, adaxially glabrous, lateral veins 6–8 pairs, apex shortly caudate or acuminate. Inflorescences 1–7-flowered; peduncle ca. 1.2 cm; pedicel 0.9–2 cm, velutinous. Flowers pink. Sepals 3–6, ovate, ca. 6 mm, velutinous. Petals 5, pink, or upper part white and lower part red, narrowly ovate, 1.4–1.7 cm. Ovary oblong, whitish tomentose. Fruit oblong, 2–4 cm, densely tomentose, with persistent reflexed sepals or not. Fl. Apr–Jun, fr. Oct.

- Guangxi (Longsheng or Ziyuan).

Introduced from Longsheng or Ziyuan Xian in 1981, this species is cultivated in the research orchard of the Guangxi Institute of Botany, Guilin. The name was not validly published by Li and Liang in 2003 because no type was indicated (*Vienna Code*, Art. 37.1). “*Actinidia rubrafilmenta*” [sic] (R. G. Li & J. W. Li, *Guihaia* 23: 199. 2003) also belongs here but was not validly published for the same reason.

**52. *Actinidia linguensis*** R. G. Li & X. G. Wang, **sp. nov.**

临桂猕猴桃 lin gui mi hou tao

Type: China. Guangxi: Guilin, research orchard of Guang-

xi Institute of Botany, Sep 2001, *R. G. Li 0110* (fr.) (holotype, IBK).

Validating Latin diagnosis: that of "*Actinidia linguensis*" (R. G. Li & X. G. Wang, *Guihaia* 23: 200. 2003).

Climbing shrubs, deciduous, large. Branchlets velutinous, glabrescent, lenticels conspicuous; second-year branches glabrous, lenticels conspicuous; pith brown, laminate. Petiole 4–6 cm, velutinous, glabrescent; leaf blade ovate to orbicular, 8–14 × 4.5–10 cm, papery, abaxially stellate tomentose, glabrescent, adaxially pubescent, soon glabrous, lateral veins 8 pairs, base cordatulate, margin finely serrate, apex acuminate. Inflorescences 1–3-flowered, velutinous; peduncle 0.6–1.4 cm; pedicel

1–1.8 cm. Flowers pink or pinkish yellow. Sepals 4–6, broadly ovate, 5–7 mm, velutinous. Petals 5–7, ovate or narrowly ovate, 1–1.3 cm. Ovary globose, ca. 4 mm, whitish tomentose. Fruit oblong to ovoid, ca. 1.7 cm, tomentose, with persistent sepals. Fl. Apr–Jun, fr. Oct–Nov.

- Guangxi (Lingui).

Introduced from Wantian Village, Lingui Xian in 1991, this species is cultivated in the research orchard of the Guangxi Institute of Botany, Guilin. The name was not validly published by Li and Wang in 2003 because no type was indicated (*Vienna Code*, Art. 37.1). "*Actinidia wantianensis*" (R. G. Li & L. Mo, *Guihaia* 23: 201. 2003) also belongs here but was not validly published for the same reason.

## 2. CLEMATOCLETHRA (Franchet) Maximowicz, Trudy Imp. S.-Peterburgsk. Bot. Sada 11: 36. 1890.

藤山柳属 *teng shan liu shu*

*Clethra* sect. *Clematoclethra* Franchet, *Nouv. Arch. Mus. Hist. Nat.*, sér. 2, 10: 53. 1888; *Pentastigma* Maximowicz ex Komarov.

Woody vines, deciduous. Branchlets glabrous, puberulent, tomentose, lanate, or setose. Bud scales laminated, blackish brown, leathery, hairy or not, always persistent at bases of young shoots. Leaves petiolate, leathery to papery, margin entire or finely bristle-toothed or callus-toothed. Flowers solitary or on cymose inflorescences, bisexual. Sepals 5, imbricate, connate at base, persistent. Petals 5, imbricate. Stamens 10; filaments short, stout, dilated toward base; anthers ovoid, versatile, 2-celled, dehiscing through 2 longitudinal slits, inverted due to inflexion of filaments after anthesis, their morphological bases apical when mature. Ovary globose, glabrous, 5-ribbed, 5-loculed; ovules 8–10 per locule; styles connate into a cylindrical to filiform, somewhat fleshy, sometimes 5-striate structure; stigma capitate, small, 5-lobed. Fruit berrylike or a leathery capsule, 5-ribbed when dry, with 1 seed per carpel, apex with persistent style. Seeds obtriangular, smooth, with endosperm.

- One species: China.

*Clematoclethra giraldii* Diels (*Bot. Jahrb. Syst.* 29: 472. 1900), described from "Huan tou shan," was identified by Tang and Xiang (*Acta Phytotax. Sin.* 27: 92. 1989) as *Actinidia tetramera* Maximowicz (see p. 339).

*Clematoclethra racemosa* H. Léveillé (*Repert. Spec. Nov. Regni Veg.* 10: 440. 1912) is a synonym of *Gouania javanica* Miquel in the Rhamnaceae (see p. 163).

**1. Clematoclethra scandens** (Franchet) Maximowicz, Trudy Imp. S.-Peterburgsk. Bot. Sada 11: 38. 1890.

藤山柳 *teng shan liu*

Branchlets glabrous or pubescent. Leaves highly variable, usually ovate, elliptic, broadly ovate, lanceolate, or oblong-obovate, 3–15 × 1.5–8 cm, papery to leathery, both surfaces glabrous or hairy, base obtuse, rounded, cordate, or cuneate, margin finely bristle-toothed, rarely entire, apex acute to caudate. Cymes axillary, 1–12-flowered. Sepals connate at base, white or whitish green, broadly ovate, 3–4 × 2–3 mm. Petals free, white or tinged with red, broadly ovate to broadly elliptic, 5–8 × 4–5 mm. Fruit a leathery capsule, red or purple to black, subglobose, 5–7(–10) mm in diam., 5-ridged. Fl. Jun–Jul, fr. Jul–Sep.  $2n = 48^*$ .

- Forests, thickets, mountain slopes, valleys; 1000–3900 m. Chongqing, Gansu, Guangxi, Guizhou, Henan, Hubei, Ningxia, Qinghai, Shaanxi, Shanxi, Sichuan, Yunnan.

- 1a. Annual branchlets setose; fruit mostly scarlet at maturity ..... 1a. subsp. *scandens*
- 1b. Annual branchlets not setose or very

sparsely setose; fruit mostly purplish black to black at maturity.

- 2a. Pedicel and calyx usually woolly; inflorescences often 3–7(–12)-flowered ..... 1b. subsp. *hemsleyi*
- 2b. Pedicel and calyx usually not woolly; inflorescences 1–6-flowered.
  - 3a. Leaves abaxially and annual branchlets usually tomentose; inflorescences often 3–6-flowered ..... 1c. subsp. *tomentella*
  - 3b. Leaves abaxially usually glabrous or sparsely pilose; annual branchlets usually glabrous or puberulent; inflorescences often 1–3-flowered ..... 1d. subsp. *actinidioides*

**1a. Clematoclethra scandens** subsp. *scandens*

藤山柳(原亚种) *teng shan liu* (*yuan ya zhong*)

*Clethra scandens* Franchet, *Nouv. Arch. Mus. Hist. Nat.*, sér. 2, 10: 53. 1888; *Clematoclethra cordifolia* Franchet; *C.*

*guangxiensis* C. F. Liang & Y. C. Chen; *C. guizhouensis* C. F. Liang & Y. C. Chen; *C. leiboensis* C. F. Liang & Y. C. Chen ex C. Y. Chang; *C. loniceroides* C. F. Liang & Y. C. Chen; *C. maximowiczii* Baillon; *C. nanchuanensis* W. T. Wang ex C. F. Liang & Y. C. Chen; *C. oliviformis* C. F. Liang & Y. C. Chen; *C. pachyphylla* C. F. Liang & Y. C. Chen; *C. pauciseta* C. Y. Chang; *C. pyrifolia* C. Y. Chang; *C. sichuanensis* C. Shih ex C. F. Liang & Y. C. Chen; *C. strigillosa* Franchet; *C. variabilis* C. F. Liang & Y. C. Chen; *C. variabilis* var. *multinervis* C. F. Liang & Y. C. Chen; *C. wilsonii* Hemsley.

Young annual branchlets setose, puberulent, or tomentose. Leaves usually tomentose abaxially. Cymes (1–)3–6-flowered. Petioles and sepals tomentose to glabrous, rarely intermixed lanate or setose. Berry usually red when mature, occasionally black. Fl. Jun–Jul, fr. Jul–Aug.

• Sparse forests, thickets, mountain slopes, valleys; 1500–2500 m. Chongqing, Gansu, Guangxi, Guizhou, Sichuan, Yunnan.

**1b. *Clematoclethra scandens* subsp. *hemsleyi*** (Baillon) Y. C. Tang & Q. Y. Xiang, Acta Phytotax. Sin. 27: 90. 1989.

繁花藤山柳 fan hua teng shan liu

*Clematoclethra hemsleyi* Baillon, Bull. Mens. Soc. Linn. Paris 2: 873. 1890; *C. henryi* Franchet ex Komarov; *C. lanosa* Rehder.

Young annual branchlets and young leaves lanate abaxially, glabrescent. Cymes 3–7(–12)-flowered. Petioles and sepals persistently lanate. Berry purplish black to black when mature. Fl. Jun–Jul, fr. Jul–Aug.

• Dense forests, mountain slopes, valleys; 1000–2500 m. Hubei, Shaanxi.

**1c. *Clematoclethra scandens* subsp. *tomentella*** (Franchet) Y. C. Tang & Q. Y. Xiang, Acta Phytotax. Sin. 27: 90. 1989.

绒毛藤山柳 rong mao teng shan liu

*Clematoclethra tomentella* Franchet, J. Bot. (Morot) 8: 280. 1894; *C. cordifolia* var. *tiliacea* (Komarov) C. Y. Chang; *C. disticha* Hemsley; *C. floribunda* W. T. Wang ex C. F. Liang & Y. C. Chen; *C. tiliacea* Komarov.

Young annual branchlets and leaves tomentose abaxially, indumentum always persistent on leaves abaxially. Cymes (1–)3–6-flowered. Petioles and sepals glabrous to puberulent, occasionally tomentose. Berry purplish black to black, rarely red when mature. Fl. Jun–Jul, fr. Jul–Aug.

• Dense forests, thickets; 1100–2100 m. Chongqing, Sichuan.

**1d. *Clematoclethra scandens* subsp. *actinidioides*** (Maximowicz) Y. C. Tang & Q. Y. Xiang, Acta Phytotax. Sin. 27: 91. 1989.

猕猴桃藤山柳 mi hou tao teng shan liu

*Clematoclethra actinidioides* Maximowicz, Trudy Imp. S.-Peterburgsk. Bot. Sada 11: 38. 1890; *C. actinidioides* var. *integrifolia* (Maximowicz) C. F. Liang & Y. C. Chen; *C. actinidioides* var. *populifolia* C. F. Liang & Y. C. Chen; *C. argenti-folia* C. F. Liang & Y. C. Chen; *C. faberi* Franchet; *C. faberi* var. *emeiensis* C. Y. Chang; *C. franchetii* Komarov; *C. grandis* Hemsley; *C. hemsleyi* Baillon ex Komarov; *C. integrifolia* Maximowicz; *C. lasioclada* Maximowicz; *C. lasioclada* var. *grandis* (Hemsley) Rehder; *C. lasioclada* var. *oblonga* C. F. Liang & Y. C. Chen ex C. Y. Chang; *C. pingwuensis* C. Y. Chang & Y. C. Chen; *C. prattii* Komarov.

Nearly all young annual branchlets glabrous to puberulent, rarely tomentose. Leaves mostly glabrous to pilose abaxially. Cymes 1–3-flowered, rarely to 6-flowered. Petioles and sepals usually glabrous to puberulent. Berry purplish black to black. Fl. May–Jul, fr. Jul–Aug.

• Sparse forests, thickets, mountain slopes, valleys; 1500–3900 m. Gansu, Guizhou, Henan, Hubei, Ningxia, Qinghai, Shaanxi, Sichuan, Yunnan.

### 3. SAURAUIA Willdenow, Ges. Naturf. Freunde Berlin Neue Schriften 3: 407. 1801 [“*Saurauja*”], nom. cons.

水东哥属 shui dong ge shu

Trees or shrubs. Branchlets usually with unguiculate hairs or subulate scales. Leaves petiolate; petiole scaly or not, rarely long setose; leaf blade tomentose or not abaxially, veins with scales or stiff hairs, numerous lateral veins diverging parallel to midvein, margin serrate. Inflorescences thyrsoid, paniclelike, composed of terminal cymes, solitary or fasciculate, usually scaly, tomentose or glabrous. Pedicels 2-bracteate. Flowers hermaphroditic or plants functionally dioecious. Sepals 5, strongly imbricate. Petals 5, imbricate, usually connate at base. Stamens 15–130; filaments adnate to base of petals; anthers obtrigonal, dorsifixed, dehiscing longitudinally or poricidally. Ovary 3–5-loculed, with many ovules per locule; styles 3–5, connate below middle, rarely free; stigma simple to discoid. Fruit baccate, white to pale green, rarely red, globose or depressed-globose, usually ribbed. Seeds brown, minute, areolate.

About 300 species: Asia and the Americas, principally in tropical regions; 13 species (seven endemic) in China.

1a. Branchlets and petioles with hirsute or setose hairs, without scales.

2a. Branchlets and petioles ferruginous long setose; stamens ca. 39 ..... 12. *S. macrotricha*

2b. Branchlets and petioles hirsute; stamens 50–90 ..... 13. *S. sinohirsuta*

1b. Branchlets and petioles with unguicular or subulate scales.

3a. Leaves abaxially not tomentose or lanate.

4a. Leaves adaxially at least setose on midvein.

5a. Cymose inflorescences in axils of leaves on young branchlets, 8–12 cm, ca. 13-flowered ..... 7. *S. thyriflora*

5b. Cymose inflorescences in axils of fallen leaves on old branches, 1–5 cm, 1–3-flowered ..... 8. *S. tristylia*

- 4b. Leaves adaxially not setose.  
 6a. Inflorescences paniculate, 7–33 cm ..... 9. *S. polyneura*  
 6b. Inflorescences cymose or flowers solitary, less than 3 cm.  
 7a. Flowers 3.5–4 cm in diam., solitary ..... 10. *S. cerea*  
 7b. Flowers ca. 0.8 cm in diam., on cymose inflorescences ..... 11. *S. yunnanensis*
- 3b. Leaves abaxially tomentose or lanate.  
 8a. Abaxial tomentum thickly ferruginous tomentose or lanate.  
 9a. Inflorescences paniculate on young branchlets; sepals hairy; leaves with 37–40 pairs of lateral veins .... 1. *S. griffithii*  
 9b. Inflorescences cymose in axils of fallen leaves on old branches; sepals glabrous; leaves with 23–30 pairs of lateral veins ..... 2. *S. miniata*
- 8b. Abaxial tomentum sparsely brownish scurfy-tomentose.  
 10a. Inflorescences paniculate, 12–33 cm; leaves with 28–40(–46) pairs of lateral veins ..... 3. *S. napaulensis*  
 10b. Inflorescences cymose, 3–7 cm; leaves with 20–34 pairs of lateral veins.  
 11a. Branchlets sparsely brown or ferruginous velutinous; styles 4- or 5-fid above middle ..... 4. *S. erythrocarpa*  
 11b. Branchlets only with unguicular scales; styles 5-fid above middle.  
 12a. Leaf blade ovate, with 26 pairs of lateral veins; inflorescences in axils of fallen leaves on old branches; bracts elliptic, 2–3 mm; flowers 5–8 mm in diam. .... 5. *S. rubricalyx*  
 12b. Leaf blade narrowly elliptic to oblong-elliptic, with 25–34 pairs of lateral veins; inflorescences in axils of leaves on young branchlets; bracts broadly ovate, ca. 4 mm; flowers 1.8–2 cm in diam. .... 6. *S. punduana*

**1. *Saurauia griffithii*** Dyer in J. D. Hooker, Fl. Brit. India 1: 286. 1874.

绵毛水东哥 mian mao shui dong ge

Trees ca. 8 m tall. Branchlets stout, densely brown tomentose, hairs intermixed with subulate scales. Petiole 4.5–5 cm, stout, scaly, tomentose; leaf blade broadly or narrowly elliptic-oblong, 20–40 × 8–17 cm, leathery, abaxially flocculently brown or ferruginous tomentose, adaxially glabrous, midvein and lateral veins with subulate scales buried in tomentum, lateral veins 37–40 pairs, base obtuse to rounded, symmetrical to oblique, margin remotely setose-serrate, apex abruptly acuminate. Inflorescences 15–33 cm, axillary, densely tomentose, sparsely scaly; pedicels 1–1.7 cm; bracteoles 2, above middle, narrowly elliptic, ca. 8 × 3 mm, abaxially tomentose. Sepals broadly elliptic, 4–5 mm wide, abaxially sparsely to densely tomentose. Petals unknown. Stamens 52–54. Ovary subglobose, glabrous; styles 5, connate below middle. Fruit unknown. Fl. and fr. unknown.

Broad-leaved forests; 600–1300 m. SE Xizang [Bhutan, NE India, N Vietnam].

- 1a. Leaf blade broadly elliptic-oblong, ca. 40 × 17 cm, base rounded, abaxially densely tomentose; inflorescences and sepals densely tomentose ..... 1a. var. *griffithii*  
 1b. Leaf blade narrowly elliptic-oblong, 20–30 × 8–11 cm, base obtuse, abaxially ± sparsely tomentose; inflorescences and sepals ± sparsely tomentose ..... 1b. var. *annamica*

**1a. *Saurauia griffithii* var. *griffithii***

绵毛水东哥(原变种) mian mao shui dong ge (yuan bian zhong)

Leaf blade broadly elliptic-oblong, ca. 40 × 17 cm, base rounded, symmetrical. Abaxial surface of leaves, inflorescences, and sepals densely tomentose.

Broad-leaved forests; 600–1200 m. SE Xizang [Bhutan, NE India].

**1b. *Saurauia griffithii* var. *annamica*** Gagnepain in Humbert, Fl. Indo-Chine, Suppl. 1: 27. 1938.

越南水东哥 yue nan shui dong ge

Leaf blade narrowly elliptic-oblong, 20–30 × 8–11 cm, base obtuse to rounded, oblique. Abaxial surface of leaves, inflorescences, and sepals ± sparsely tomentose.

Broad-leaved forests; 1000–1300 m. SE Xizang [N Vietnam].

**2. *Saurauia miniata*** C. F. Liang & Y. S. Wang in X. Y. Zhu et al., Legumes China, 638. 2007.

朱毛水东哥 zhu mao shui dong ge

Small trees or shrubs, 2–8 m tall. Branchlets densely ferruginous tomentose, hairs intermixed with unguiculate scales, scales occasionally truncate-tipped or 2-fid. Petiole 2–2.5 cm, densely ferruginous tomentose and sparsely scaly; leaf blade oblong-elliptic, 19–24 × 6–14 cm, leathery, abaxially thickly tomentose, hairs intermixed with subulate scales on midvein and lateral veins, adaxially glabrous, with subulate scales on midvein, lateral veins 23–30 pairs, base obtuse to subrounded, margin mucronate-serrate, apex acute or shortly acuminate. Inflorescences 2.5–7 cm, axillary, 3- or 4-fascicled on old branches, ferruginous tomentose and sparsely scaly; peduncles 5–10 mm, with 4 or 5 bracts at apex; bracts broadly elliptic to ovate-triangular, 2–6 mm, ciliate; pedicels ca. 1.2 cm, ferruginous tomentose and sparsely scaly, with 2 bracteoles at base; bracteoles ca. 1 mm. Flowers pink, small, ca. 8 mm in diam. Sepals elliptic to broadly elliptic, 3–4 mm. Petals oblong, ca. 5 mm. Stamens 45–75. Ovary subglobose, glabrous; styles 5, connate below middle. Fruit green to white, depressed-globose, 3–5 mm in diam. Fl. May–Jun, fr. Oct.  $2n = 78^*$ .

• Mountain forests, thickets on riverbanks, valleys; 500–1500 m. NW Guangxi, SE Yunnan.



**3. *Saurauia napaulensis*** Candolle, Mém. Soc. Phys. Genève 1: 421. 1822.

尼泊尔水东哥 ni bo er shui dong ge

*Saurauia napaulensis* var. *montana* C. F. Liang & Y. S. Wang; *S. napaulensis* var. *omeiensis* C. F. Liang & Y. S. Wang.

Trees 4–20 m tall. Branchlets brown pubescent to glabrescent, with setose hairs intermixed with subulate scales. Petiole 2.5–5 cm, pubescent to glabrescent, with minute hairs intermixed with subulate and unguiculate scales; leaf blade narrowly elliptic to oblong-obovate, 13–36 × 7–15 cm, thinly leathery, abaxially sparsely ferruginous tomentose, indumentum caducous or not, sparsely scaly on midvein and lateral veins, adaxially glabrescent, sometimes with scales at base of midvein, lateral veins 28–40(–46) pairs, base obtuse to subrounded to cuneate, margin finely serrate, apex acuminate to acute. Inflorescences 12–33 cm, axillary, sparsely scaly and puberulent; peduncle ca. 1/2 as long as inflorescence, with 1 or 2 bracts at base of each branch; pedicels 1.7–2.5 cm, with 2 nearly opposite bracteoles below middle; bracteoles caducous, lanceolate, 2–4 mm. Flowers pink to purplish, 0.8–1.5 cm in diam. Sepals unequal, outer 3 smaller, elliptic to broadly elliptic; inner 2 larger, broadly elliptic to orbicular, 5–7 mm. Petals oblong, ca. 8 mm, connate at base, recurved at apex. Stamens 50–90. Ovary globose to depressed-globose; styles 4 or 5, connate below middle. Fruit green to yellowish, globose to depressed-globose, ribbed or slightly ribbed. Fl. Jun–Dec, fr. Jun–Dec.

Sparse mountain forests, thickets, valleys; 400–3200 m. Guangxi, Guizhou, Sichuan, Yunnan [Bhutan, India, Laos, Malaysia, Myanmar, Nepal, Thailand, Vietnam].

**4. *Saurauia erythrocarpa*** C. F. Liang & Y. S. Wang, Fl. Reipubl. Popularis Sin. 49(2): 330. 1984.

红果水东哥 hong guo shui dong ge

Trees or shrubs, 1–6 m tall. Branchlets with subulate or unguiculate scales. Petiole 1.5–4.5 cm, scaly; leaf blade elliptic-obovate to elliptic-oblong, 15–25 × 5–10 cm, abaxially brown tomentose, scaly on midvein and lateral veins, even on reticulate veins, adaxially glabrous, sparsely scaly, lateral veins 22–28 pairs, base obtuse to subrounded, margin biserrate, apex shortly acuminate. Inflorescences 2.5–5 cm, 1–3-fascicled in axils of leaves on current year or older branches, scaly, brown puberulent to glabrous; bracts 1 or 2 at base of each branch, broadly to narrowly ovate, 5–9 mm; pedicels 1.2–1.7 cm; bracteoles 2 below middle or at base of pedicel, broadly ovate, 2–3 mm. Flowers pink, 1–1.3 cm in diam. Sepals broadly elliptic, outer 3 small, 7–8 mm, inner 2 large, 7–10 mm. Petals broadly elliptic to suborbicular, 7–10 mm. Stamens 70–80. Ovary subglobose, glabrous; styles 4 or 5, connate below middle. Fruit pink, depressed-globose to subglobose, 7–8 mm in diam. Fl. Sep–Oct, fr. Oct–Nov.

• Mountain forests, valleys; 800–2500 m. SE Xizang, Yunnan.

1a. Branchlets, petioles, and veins with unguiculate hairs or scales, some scales truncate; bract narrowly ovate, ca. 5 mm ..... 4a. var. *erythrocarpa*

1b. Branchlets, petioles, and veins with subulate scales; bract broadly ovate, 5–9 mm ..... 4b. var. *grosseserrata*

**4a. *Saurauia erythrocarpa* var. *erythrocarpa***

红果水东哥(原变种) hong guo shui dong ge (yuan bian zhong)

Trees. Branchlets and petioles ferruginous- to brown tomentose, with sparse unguiculate hairs or scales, some scales truncate or 2-fid at apex. Leaf blade narrowly elliptic, unguiculate-scaly on midvein and lateral veins. Inflorescences 2.5–5 cm, stout, with 2 bracts at base of each branch; bracts narrowly ovate, ca. 5 mm. Petals suborbicular. Fruit depressed-globose or subglobose. Fl. Sep–Oct, fr. Oct–Nov.

• Mountain forests, valleys; 800–2500 m. SE Xizang, Yunnan.

**4b. *Saurauia erythrocarpa* var. *grosseserrata*** C. F. Liang & Y. S. Wang, Fl. Reipubl. Popularis Sin. 49(2): 331. 1984.

粗齿水东哥 cu chi shui dong ge

Shrubs. Branchlets and petioles tomentose or not, with dense subulate scales, and proximally with some unguiculate hairs, scales truncate or 2-fid at apex. Leaf blade narrowly to broadly elliptic-obovate, subulate scaly on veins abaxially, base obtuse to rounded. Inflorescences ca. 3 cm, slender, with 1 bract at base of each branch; bract broadly ovate, large, 5–9 mm. Petals broadly elliptic to suborbicular. Fl. Sep–Oct, fr. Oct–Nov.

• Sparse mountain forests, valleys; 1200–1400 m. S Yunnan.

**5. *Saurauia rubricalyx*** C. F. Liang & Y. S. Wang, Fl. Reipubl. Popularis Sin. 49(2): 331. 1984.

红萼水东哥 hong e shui dong ge

Shrubs ca. 3 m tall. Branchlets with fine subulate scales. Petiole 1.3–3.5 cm, scaly; leaf blade ovate, 9–23 × 5–10 cm, leathery, abaxially glandular-puberulent, sparsely scaly on midvein and lateral veins, adaxially glabrous, sparsely scaly on midvein, lateral veins ca. 26 pairs, reticulate veins conspicuous, base broadly cuneate, margin biserrate, apex shortly acuminate. Inflorescences 3.5–4.5 cm, 1–3-fascicled on old branches, 2- or 3-flowered; bracts 2 at base of branches, elliptic, 2–3 mm; pedicels ca. 1.5 cm, with 2 bracteoles at middle; bracteoles ca. 2 mm. Flowers small, 5–8 mm in diam. Sepals red, elliptic, unequal. Petals and stamens unknown. Ovary subglobose; styles 5, connate below middle. Fruit unknown. Fl. and fr. unknown.

• Margins of broad-leaved forests, mountain slopes; 1600–2000 m. SE Xizang.

**6. *Saurauia punduana*** Wallich, Pl. Asiat. Rar. 2: 40. 1831.

大花水东哥 da hua shui dong ge

Trees ca. 6 m tall. Branchlets pubescent to glabrescent with minute scurfy hairs intermixed with unguiculate scales. Petiole 3–5 cm, with similar pubescence as branchlets; leaf blade narrowly elliptic to narrowly obovate, ca. 33 × 11 cm, thinly leathery, abaxially densely brown scurfy-puberulent, with sparse scales on midvein and lateral veins, adaxially glabrous but scaly on midvein, lateral veins 25–34 pairs, base cuneate,

margin finely biserrate, apex shortly acuminate. Inflorescences ca. 5 cm, axillary, 1–3-fascicled, 2- or 3-flowered, glabrous, scaly; pedicels slender; bracts broadly elliptic, ca. 4 mm. Flowers pinkish white, large, 1.8–2 cm in diam. Sepals: outer 2 broadly elliptic, inner 3 narrowly elliptic to orbicular, enlarged when in fruit. Petals oblong, ca. 1.2 × 1.1 cm. Stamens ca. 90. Ovary subglobose, ribbed; styles 5, connate below middle. Fruit unknown. Fl. and fr. unknown.

Broad-leaved forests on mountains; 700–1700 m. SE Xizang [Bhutan, India, Myanmar].

**7. *Saurauia thyrsoiflora*** C. F. Liang & Y. S. Wang, Fl. Reipubl. Popularis Sin. 49(2): 332. 1984.

聚锥水东哥 ju zhui shui dong ge

Small trees or shrubs, 2–4 m tall. Branchlets with scurfy tomentum, intermixed with subulate scales. Petiole 1.5–4 cm, brown puberulent, with subulate scales; leaf blade oblong-elliptic, 14–26 × 5.5–11 cm, membranous, both surfaces sparsely brown tomentose when young, puberulent on midvein and lateral veins abaxially when mature, sparsely setose only on midvein and lateral veins abaxially, sparsely setose on midvein and lateral veins and occasionally in between veins adaxially, lateral veins 12–15 pairs, base obtuse to rounded, margin finely serrate, apex shortly acuminate to acute. Inflorescences axillary, 8–12 cm, brown puberulent and subulate-scaly, ca. 13-flowered; bracts more than 2 at base of each branch, elliptic, 2–5 mm, sometimes leaflike, to 1.6 cm; pedicels 1–1.7 cm, with 2 bracteoles at base. Flowers pink, 0.8–1 cm in diam. Sepals white to greenish white, outer 3 broadly elliptic, inner 2 narrowly elliptic, ca. 5 mm, abaxially brown tomentose, margin occasionally ciliate. Petals oblong, connate at base. Stamens 48–65. Ovary subglobose; styles 3 or 4 (or 5), connate below middle. Fruit green, subglobose, 0.8–1.2 cm in diam., slightly 5-ribbed. Fl. May–Jul, fr. Aug–Dec.

• Mountain forests, thickets, valleys; 500–1500 m. W Guangxi, SE Guizhou, E Yunnan.

**8. *Saurauia tristyla*** Candolle, Mém. Soc. Phys. Genève 1: 423. 1822.

水东哥 shui dong ge

*Saurauia oldhamii* Hemsley; *S. tristyla* var. *hekouensis* C. F. Liang & Y. S. Wang; *S. tristyla* var. *oldhamii* (Hemsley) Finet & Gagnepain.

Small trees or shrubs, 3–6(–12) m tall. Branchlets tomentose to glabrescent, with unguiculate hairs or subulate scales. Petiole tomentose or not, with unguiculate hairs or subulate scales; leaf blade obovate to broadly elliptic-obovate, 10–28 × 4–11 cm, papery, both surfaces sparsely pubescent with appressed setose to unguiculate hairs on midvein and lateral veins, with sparse and appressed setose hairs especially on veins adaxially, lateral veins 8–20 pairs, base cuneate to broadly so, margin setose-serrate, apex shortly acuminate to caudate. Inflorescences 1–4-fascicled, axillary, 1–5 cm, hairy and scaly, 1–3-flowered; bracts 2 or 3 at base of branches, ovate; bracteoles 2, nearly opposite at base of pedicel, 1–5 mm. Flowers pink to white, 0.7–1.6 cm in diam. Sepals broadly ovate to elliptic, 3–4

mm. Petals ovate, ca. 8 mm, recurved at apex. Stamens 25–34. Ovary ovoid to globose; styles 3 or 4 (or 5), connate below middle. Fruit green to white to pale yellow, globose, 6–10 mm in diam. Fl. Mar–Jul, fr. Aug–Dec.

Broad-leaved forests, sparse mountain forests, thickets, valleys; 100–1700 m. Fujian, Guangdong, Guangxi, Guizhou, Hainan, Sichuan, Taiwan, S Yunnan [India, Malaysia, Nepal, Thailand].

**9. *Saurauia polyneura*** C. F. Liang & Y. S. Wang, Fl. Reipubl. Popularis Sin. 49(2): 333. 1984.

多脉水东哥 duo mai shui dong ge

Trees 3–6 m tall. Branchlets unguiculate-scaly. Petiole 1.5–3 cm, sparsely subulate-scaly; leaf blade obovate-lanceolate to elliptic, 12–32 × 5–10 cm, membranous to leathery, both surfaces glabrous, except with scalelike hairs on midvein and lateral veins abaxially, lateral veins 22–40 pairs or more, base cuneate to obtuse, margin finely serrate, apex acute to rounded. Inflorescences solitary, axillary, 7–33 cm, with sparsely distributed scales; pedicels 0.8–1.5 cm, with 2 bracteoles below middle; bracteoles narrowly ovate, ca. 2 mm. Flowers pink to white, 6–10 mm in diam. Sepals elliptic to broadly elliptic, 4–5 mm, abaxially glabrous to very sparsely tomentose. Petals oblong, 5–6 mm, connate at base. Stamens 50–64. Ovary subglobose, 6–8 mm in diam. Fl. Jul–Sep, fr. Sep–Nov.

• Forests, valleys; 1200–3200 m. SE Xizang, NW and W Yunnan.

- 1a. Leaf blade narrowly obovate-lanceolate to narrowly oblong, base often cuneate, lateral veins 28–40 pairs or more ..... 9a. var. *polyneura*
- 1b. Leaf blade obovate-elliptic to narrowly so to elliptic or narrowly so, base attenuate, lateral veins 22–30 pairs ..... 9b. var. *paucinervis*

**9a. *Saurauia polyneura* var. *polyneura***

多脉水东哥(原变种) duo mai shui dong ge (yuan bian zhong)

Leaf blade narrowly obovate-lanceolate to narrowly oblong, rarely obovate-lanceolate, 16–32 × 5–8.5 cm, membranous to thinly leathery, lateral veins 28–40 pairs or more, base often cuneate, occasionally obtuse, margin finely serrate, apex acute.

• Mountain forests, valleys; 1200–3200 m. SE Xizang, NW and W Yunnan.

**9b. *Saurauia polyneura* var. *paucinervis*** J. Q. Li & Soejarto, Novon 16: 363. 2006.

少脉水东哥 shao mai shui dong ge

*Saurauia paucinervis* C. F. Liang & Y. S. Wang, Fl. Reipubl. Popularis Sin. 49(2): 333. 1984.

Leaf blade obovate-elliptic to narrowly so to elliptic or narrowly so, 12–26 × 6–10 cm, leathery, lateral veins 22–30, base attenuate, margin finely serrate, apex obtuse to rounded, emarginate or mucronate.

• Forests, valleys; 1600–2200 m. SE Xizang.

**10. *Saurauia cerea*** Griffith ex Dyer in J. D. Hooker, Fl. Brit. India 1: 288. 1874.

蜡质水东哥 la zhi shui dong ge

Trees 5–15 m tall. Branchlets stout, with dense unguiculate hairs or subulate scales, not tomentose. Petiole 1.1–3.5 cm, stout, with subulate scales; leaf blade obovate, 17–36 × 12–20 cm, leathery, abaxially yellowish tomentose when young, glabrous when old, unguiculate-scaly on midvein and lateral veins on both surfaces, lateral veins 23–29 pairs, base cuneate, rarely obtuse, margin densely setose-serrate, apex acute. Inflorescences 1-flowered, fascicled on old branches; pedicels to 1.5 cm, somewhat thick, with yellowish indumentum and scales, with 2 bracts below middle; bracts ovate, 5–7 mm, abaxially hairy and scaly. Flowers large, 3.5–4 cm in diam. or larger. Sepals ca. 1 cm, outer 3 elliptic, inner 2 orbicular, abaxially yellowish tomentose and scaly, adaxially yellowish white puberulent at base. Petals white to pink, purple at base, oblong, ca. 1.9 × 1.2 cm. Stamens 120–130. Ovary subglobose, yellowish brown tomentose; styles 4 or 5, distinct. Fruit greenish white, depressed-globose, ca. 8 mm in diam., 5-ribbed, yellowish brown tomentose. Fl. Jul–Sep, fr. Oct–Nov.

Moist mountain forests, valleys; 400–2200 m. SE Xizang, S Yunnan [India, Myanmar].

**11. *Saurauia yunnanensis*** C. F. Liang & Y. S. Wang, Fl. Reipubl. Popularis Sin. 49(2): 334. 1984.

云南水东哥 yun nan shui dong ge

Small trees or shrubs, 4–5 m tall. Branchlets with sparse fine unguiculate scales, with tomentose indumentum or not. Petiole 1.5–2.5 cm, sparsely scaly; leaf blade narrowly obovate-lanceolate, 6–22 × 1.2–5.2 cm, thinly leathery, midvein and lateral veins with sparse unguiculate scales on both surfaces, lateral veins 12–14 pairs, base obtuse, margin serrate, apex shortly acuminate. Inflorescences 2.5–3.3 cm, few flowered, sparsely scaly, with 2 bracts at base of branches; bracts lanceolate, 1.5–3 mm; pedicels ca. 1.2 cm, with 2 bracteoles proximally; bracteoles ovate-triangular, 1–2 mm. Flowers pink, ca. 8 mm in diam. Sepals: outer 2 elliptic, ca. 3.5 mm, inner 3 broadly elliptic to suborbicular, 3.5–5 mm. Petals unknown. Stamens ca. 45. Ovary depressed-globose; styles 4 or 5, connate below middle. Fruit white when mature, ca. 5 mm in diam. Fl. Apr–Jul, fr. Aug–Nov.

• Shaded moist places in forests, thickets, valleys, by marshes; 400–1700 m. Guangxi, Guizhou, Yunnan.

**12. *Saurauia macrotricha*** Kurz ex Dyer in J. D. Hooker, Fl. Brit. India 1: 287. 1874.

长毛水东哥 chang mao shui dong ge

Small trees or shrubs, 1–5 m tall. Branchlets stout, dark reddish ferruginous pubescent, hairs setose, long. Petiole 2–3.8 cm, densely ferruginous pubescent with long setose hairs; leaf blade narrowly lanceolate, 20–28 × 3.7–6.8 cm, papery, both surfaces setose, lateral veins 17 pairs, base obtuse, margin setose-serrate, apex acuminate. Inflorescences ca. 2.5 cm, axillary, 2- or 3-fascicled, 1–3-flowered, on young branchlets; peduncles ca. 8 mm, with 2 bracts at base of branches; bracts nearly opposite, lanceolate, 2–3 mm; pedicels 8–11 mm, densely setose with long, ferruginous hairs. Flowers pink, ca. 8 mm in diam. Sepals elliptic to suborbicular, ca. 5 mm, connate at base. Petals suborbicular, connate at base. Stamens ca. 39. Ovary depressed-globose, glabrous; styles 5, connate below middle. Fruit unknown. Fl. and fr. unknown.

Mountain forests, valleys; 900–1400 m. NW and W Yunnan [India, Myanmar].

**13. *Saurauia sinohirsuta*** J. Q. Li & Soejarto, *nom. nov.*

糙毛水东哥 cao mao shui dong ge

Replaced synonym: *Saurauia hirsuta* C. F. Liang, Guihaia 6: 175. 1986, not *Saurauia hirsuta* Blume, Bijdr. 128. 1825 [*“Saurauja”*].

Trees small, 3–5 m tall. Young branches hirsute, old branches glabrescent to glabrous. Leaf blade obovate, 15–25 × 9–15 cm, softly leathery, abaxially densely appressed-hirsute, hairs on midvein and lateral veins thicker, adaxially sparsely setulose, hairs on midvein and lateral veins longer, lateral veins ca. 18 pairs, base obtuse, margin densely setose-serrate, apex shortly acute. Flowers solitary, axillary on young branchlets; pedicels 1–1.3 cm, hirsute; bracts ca. 4 mm. Sepals sanguineous, ovate to oblong, 8–10 mm, densely hirsute. Petals pink, spatulate-oblong, 1.1–1.2 cm. Stamens 50–90, 3–4 mm. Ovary subglobose, hirsute; styles 4. Fruit unknown. Fl. and fr. unknown.

• Semi-evergreen forests on mountains; 800–1700 m. SE Xizang.