



- 13a. Stipules pectinate or irregularly serrate at margin.
- 14a. Leaflets 3 or 5(or 7).
- 15a. Leaflets usually 3, ovate-lanceolate; petals pink ..... 73. *R. anemoniflora*
- 15b. Leaflets usually 5, rarely 3 or 7; petals white.
- 16a. Leaflets 4–8 × 1.5–3 cm; flowers 2.5–3.5 cm in diam. .... 67. *R. sambucina*
- 16b. Leaflets 1.5–3.6 × 0.8–1.5 cm; flowers ca. 2.5 cm in diam. .... 68. *R. taiwanensis*
- 14b. Leaflets (5 or)7 or 9.
- 17a. Stipules pectinate at margin.
- 18a. Styles and leaflets densely pubescent ..... 63. *R. kunmingensis*
- 18b. Styles glabrous; leaflets pubescent on both surfaces or only abaxially sparsely pubescent or subglabrous.
- 19a. Flower solitary; leaflets not exceeding 1 cm, both surfaces pubescent ..... 62. *R. uniflorella*
- 19b. Flowers numerous in panicle; leaflets (1.3–)1.5–5 cm, only abaxially sparsely pubescent or subglabrous.
- 20a. Leaflets doubly serrate at margin; sepals pinnately lobed, lobules linear, abaxially glandular pubescent ..... 61. *R. daishanensis*
- 20b. Leaflets usually simply serrate at margin; sepals 2-lobed usually at middle part, abaxially glabrous.
- 21a. Leaflets 7 or 9, rhomboid-elliptic, base cuneate, margin deeply serrate; sepals entire at margin ..... 59. *R. langyashanica*
- 21b. Leaflets 5–9, obovate, oblong, or ovate, base rounded or broadly cuneate, margin shallowly serrate; sepals usually 2-lobed, sometimes entire at margin ..... 60. *R. multiflora*
- 17b. Stipules irregularly serrate, rarely pectinate at margin.
- 22a. Leaflets abaxially densely villous; styles pubescent.
- 23a. Petals white; flowers 1.5–3 cm in diam., in corymb; pedicel and hypanthium densely pubescent and glandular pubescent; leaflets adaxially pubescent along veins ..... 64. *R. kwangtungensis*
- 23b. Petals pink; flowers 2.5–3 cm in diam., in umbel-like corymb; pedicel and hypanthium glabrous or sparsely glandular pubescent; leaflets adaxially glabrous ..... 65. *R. lichiangensis*
- 22b. Leaflets abaxially glabrous or subglabrous; styles pubescent or not.
- 24a. Styles glabrous ..... 72. *R. maximowicziana*
- 24b. Styles pubescent.
- 25a. Flowers double, numerous in panicle ..... 71. *R. miyiensis*
- 25b. Flowers with 5 petals, usually numerous in corymbs.
- 26a. Shrub prostrate, sprawling, or procumbent; pedicel and hypanthium glabrous ..... 70. *R. luciae*
- 26b. Shrub erect; pedicel and hypanthium glandular and sparsely pubescent ..... 69. *R. pricei*
- 13b. Stipules entire at margin, often glandular pubescent.
- 27a. Leaflets pubescent on both surfaces or only abaxially.
- 28a. Leaflets thicker in texture, adaxially rugose, abaxially densely gray-white pubescent, with prominent veins ..... 75. *R. glomerata*
- 28b. Leaflets thinner in texture, adaxially not rugose, abaxially sparsely pubescent or along veins more densely pubescent.
- 29a. Leaflets usually 5; sepals usually entire ..... 76. *R. rubus*
- 29b. Leaflets 7–9, often fewer just below inflorescence; sepals often with lateral lobes.
- 30a. Inflorescences umbel-like ..... 77. *R. helenae*
- 30b. Inflorescences compound corymbs ..... 74. *R. brunonii*
- 27b. Leaflets glabrous or sparsely pubescent abaxially along veins.
- 31a. Leaflets leathery, lucid, abaxially glabrous or sparsely pubescent; petals abaxially sericeous.
- 32a. Leaflets 5–9, 3–7 × 1–3.5 cm; sepals 0.8–1.2 cm, both surfaces glandular pubescent; flowers in corymb ..... 78. *R. longicuspis*
- 32b. Leaflets 3–5, 7–12 × 3–6 cm; sepals 1.5–2 cm, both surfaces densely whitish tomentose, not glandular; flowers in compound corymb ..... 79. *R. lasiosepala*
- 31b. Leaflets not leathery, not lucid; petals abaxially glabrous.
- 33a. Leaflets 3–5.
- 34a. Leaflets 3.5–9 cm, abaxially not glandular, margin simply serrate ..... 86. *R. henryi*
- 34b. Leaflets smaller, less than 2.5 cm, abaxially glandular, margin doubly serrate.
- 35a. Leaflets 8–15 mm, apex rounded-obtuse or truncate; flowers solitary, or 2 or 3 and fasciculate ..... 87. *R. duplicata*
- 35b. Leaflets larger, 12–25 mm, apex acute or shortly acuminate; flowers 5–10, in corymb ..... 88. *R. weisiensis*
- 33b. Leaflets (5–)7(–9).

- 36a. Leaflets abaxially glandular, larger.
  - 37a. Leaflets obovate, 7–10 × 5–8 mm, margin doubly serrate, teeth apically glandular ..... 80. *R. degenensis*
  - 37b. Leaflets ovate, elliptic, or ovate-oblong, larger, margin simply serrate, teeth not apically glandular.
    - 38a. Leaflets oblong-ovate or lanceolate, 4–7 cm; pedicel 2–3 cm ..... 81. *R. filipes*
    - 38b. Leaflets elliptic or ovate, 3–6 cm; pedicel 1.5–1.8 cm ..... 82. *R. ludingensis*
- 36b. Leaflets abaxially not glandular, smaller.
  - 39a. Leaflets 5(or 7); styles glabrous ..... 83. *R. derongensis*
  - 39b. Leaflets usually 7; styles pubescent.
    - 40a. Pedicel longer, 2–2.5 cm, and hypanthium, sepals abaxially glandular ..... 84. *R. shangchengensis*
    - 40b. Pedicel shorter, not exceeding 1 cm, and hypanthium, sepals usually glabrous, occasionally glandular ..... 85. *R. soulieana*
- 9b. Styles free, not exerted or only slightly so, shorter than stamens.
  - 41a. Flowers solitary, rarely several, ebracteate (1. *R. sect. Pimpinellifoliae*).
    - 42a. Sepals and petals 5.
      - 43a. Flowering branches densely bristly and prickly, rarely without bristles.
        - 44a. Leaflets doubly serrate at margin, glandular abaxially ..... 5. *R. kokanica*
        - 44b. Leaflets simply serrate at margin, or both simply serrate and doubly serrate on same plant, not glandular punctate abaxially.
          - 45a. Leaflets 7–11(–15), elliptic, obovate-elliptic, or oblong-elliptic ..... 4. *R. koreana*
          - 45b. Leaflets 7–9, rarely 5 or 11, oblong, oblong-ovate, suborbicular, ovate, or elliptic.
            - 46a. Leaflets oblong, oblong-ovate, or suborbicular, 1–2.2 cm; flowers 2–6 cm in diam.; hip black or dark brown, subglobose ..... 2. *R. spinosissima*
            - 46b. Leaflets ovate or elliptic, 5–18 mm; flowers 1.5–2 cm in diam.; hip deep red, ellipsoid or ovoid-oblong ..... 3. *R. farreri*
      - 43b. Flowering branches only prickly, rarely bristly.
        - 47a. Petals white, pinkish, or red.
          - 48a. Leaflets 3–7, elliptic or oblong, margin simply serrate; stipules lanceolate, filiform dissected, glandular dentate; petals white; flowers 1.8–2.5 cm in diam.; sepals ovate; pedicel ca. 1.5 cm, glandular or not ..... 66. *R. transmorrisonensis*
          - 48b. Leaflets 9–13, ovate or elliptic, margin doubly serrate; stipules broadly oblanceolate, glandular pubescent; petals pink or white; flowers 2.5–4 cm in diam.; sepals ovate-lanceolate or triangular-lanceolate; pedicel 1.5–3 cm, glandular pubescent or glabrous.
            - 49a. Leaflets (7–)9–11; petals pink or red; pedicel glandular pubescent or glabrous ..... 11. *R. graciliflora*
            - 49b. Leaflets 11–13; petals white; pedicel glabrous, but sparsely glandular pubescent ..... 12. *R. tsinglingensis*
        - 47b. Petals yellow.
          - 50a. Leaflets doubly serrate, abaxially glandular.
            - 51a. Leaflets 9–15, rarely 7, elliptic, elliptic-ovate, or long elliptic, abaxially glabrous; petals yellowish or yellow-white; flowers 2.5–4 cm in diam.; sepals apically acuminate ..... 9. *R. primula*
            - 51b. Leaflets 5–9, rarely 11, broadly ovate or obovate, abaxially pubescent; petals yellow; flowers double, 4–6.5 cm in diam.; sepals leaflike ..... 10. *R. foetida*
          - 50b. Leaflets simply serrate, abaxially not glandular.
            - 52a. Leaflets 5–9, suborbicular, obovate, or elliptic, glabrous, margin serrate at upper part, entire near base ..... 6. *R. platyacantha*
            - 52b. Leaflets 5–13, ovate, elliptic, obovate, or suborbicular, pubescent or glabrous, margin serrate from base to apex.
              - 53a. Leaflets ovate, elliptic, or obovate, glabrous, margin acutely serrate or entire; flowers 4–5.5 cm in diam.; branches sometimes bristly at base ..... 7. *R. hugonis*
              - 53b. Leaflets broadly ovate or suborbicular, rarely elliptic, abaxially sparsely pubescent, margin obtusely serrate or crenate; flowers 3–4(–5) cm in diam.; branches not bristly at base ..... 8. *R. xanthina*
      - 42b. Sepals and petals 4.
        - 54a. Leaflets abaxially glandular or at least margin doubly glandular serrate.
          - 55a. Leaflets oblong or obovate, abaxially glandular, adaxially glabrous or pilose; hip subglobose, abaxially glandular ..... 18. *R. sikangensis*
          - 55b. Leaflets obovate, adaxially densely pubescent, abaxially glabrous, glandular only along veins; hip obovoid, abaxially not glandular ..... 19. *R. zhongdianensis*
        - 54b. Leaflets abaxially not glandular, margin simply serrate.
          - 56a. Fruiting pedicel turgid.

- 57a. Leaflets 7–9(–13), oblong or oblong-obovate, abaxially glabrous, shortly bristly, margin only near apex serrate; petals yellowish; hip orange-yellow, obconic ..... 13. *R. taronensis*
- 57b. Leaflets 9–17, oblong or elliptic-oblong, abaxially glabrous or puberulous along midvein, margin serrate from base to apex; petals white; hip red or yellow, obovoid or pyriform ..... 14. *R. omeiensis*
- 56b. Fruiting pedicel not turgid.
- 58a. Leaflets glabrous on both surfaces, 7–11, oblong or broadly obovate; hip pyriform or obovoid ..... 15. *R. morrisonensis*
- 58b. Leaflets abaxially densely pubescent, 5–13, ovate, obovate, or oblong-obovate; hip globose, obovoid, or obovoid-globose.
- 59a. Leaflets 7–11(–13), ovate, obovate, or obovate-oblong, adaxially glabrous, abaxially sericeous; hip globose or obovoid, 8–15 mm in diam. .... 16. *R. sericea*
- 59b. Leaflets 5–9(–11), oblong-obovate, both surfaces sericeous; hip obovoid-globose, ca. 1 cm in diam. .... 17. *R. mairei*
- 41b. Flowers numerous in corymb or solitary, bracteate (2. *R.* sect. *Cinnamomeae*).
- 60a. Apical part of hypanthium with sepals, disk, and styles deciduous at fruit ripening.
- 61a. Prickles hooked; flowers numerous in corymb or panicle; hip globose ..... 20. *R. beggeriana*
- 61b. Prickles straight; flowers 1–4; hip subglobose, pyriform, or ellipsoid.
- 62a. Branchlets often prickly and setose; leaflets abaxially pubescent; petals white ..... 21. *R. albertii*
- 62b. Branchlets usually only prickly, rarely setose; leaflets abaxially glabrous or pubescent along veins; petals purple-red or pink.
- 63a. Leaflets 7–15, oblong or elliptic, abaxially along veins pubescent, margin usually simply serrate; hip ovoid or ellipsoid ..... 22. *R. prattii*
- 63b. Leaflets 7–9, elliptic, obovate, or suborbicular, abaxially glabrous, margin usually simple serrate or doubly serrate at upper part; hip subglobose ..... 23. *R. willmottiae*
- 60b. Apical part of hypanthium and sepals, disk, and styles not deciduous at fruit ripening.
- 64a. Leaflets ca. 1.5 cm or less, apex usually obtuse; flowers solitary or a few in corymb.
- 65a. Bracteoles 2 or 3 or more, suborbicular, ovate, or broadly ovate, apex rounded-obtuse or acute.
- 66a. Leaflets doubly serrate at margin; bracteoles suborbicular or ovate.
- 67a. Sepals pinnately lobed; leaflets usually 5, rarely 7, abaxially densely glandular pubescent ..... 45. *R. pinnatisepala*
- 67b. Sepals undivided; leaflets 5–7, rarely 9, abaxially sparsely puberulous or glandular pubescent ..... 46. *R. forrestiana*
- 66b. Leaflets simply serrate at margin; bracteoles ovate or broadly ovate.
- 68a. Flowers in corymb or panicle, 3–5 cm in diam.; leaflets 7–9 ..... 47. *R. multibracteata*
- 68b. Flower solitary, 2–2.5 cm in diam.; leaflets usually 5, rarely 3 or 7 ..... 48. *R. calyptopoda*
- 65b. Bracteoles usually 1, rarely 2, ovate, apex shortly acuminate.
- 69a. Pedicel shorter, 8–15 mm; leaflets abaxially puberulous or sparsely pubescent.
- 70a. Leaflets usually 7–9, suborbicular, obovate, or elliptic, abaxially puberulous, margin acutely serrate; petals pink; pedicel glandular pubescent ..... 51. *R. giraldii*
- 70b. Leaflets 3–5(–7), abaxially sparsely pubescent, margin obtusely serrate; petals white or pink; pedicel glandular pubescent or not.
- 71a. Leaflets rhomboid-ovate or oblong, abaxially sparsely pubescent, margin obtusely serrate or crenate; petals white, before anthesis pink; pedicel not glandular pubescent ..... 49. *R. pseudobanksiae*
- 71b. Leaflets ovate or ovate-elliptic, abaxially sparsely pubescent and densely glandular; petals pink; pedicel glandular pubescent ..... 50. *R. baiyushanensis*
- 69b. Pedicel longer, 15–30 mm; leaflets glabrous or abaxially along veins pubescent.
- 72a. Leaflets abaxially glandular punctate, 5–7, oblong, margin doubly serrate; petals white; flower solitary, 3.5–4 cm in diam.; hip ovoid, glabrous ..... 55. *R. tibetica*
- 72b. Leaflets abaxially not glandular punctate, 5–11, elliptic to obovate or suborbicular, margin simply serrate; petals pink, purple-red, or white; flowers 1 to several, 2–5 cm in diam.; hip subglobose or ovoid.
- 73a. Leaflets 7–15, broadly elliptic or ovate-elliptic, glabrous; petals pink or purple-red; flowers 1–3, 2–3.5 cm in diam. .... 52. *R. sertata*
- 73b. Leaflets 5–9, suborbicular, obovate, or broadly elliptic; petals pinkish or white; flowers 1–4, 3–5 cm in diam.
- 74a. Petals pinkish; flowers 3.5–5 cm in diam.; hip subglobose or ovoid, glabrous, rarely glandular punctate; leaflets abaxially often pubescent ..... 53. *R. webbiana*

- 74b. Petals white; flowers 3–4 cm in diam.; hip oblong or ovoid, densely glandular pubescent; leaflets glabrous ..... 54. *R. fedtschenkoana*
- 64b. Leaflets 1.5–7 cm, apex usually acute; flowers numerous, rarely a few in corymb, rarely solitary.
- 75a. Flowers numerous in corymb.
- 76a. Sepals pinnately lobed; leaflets 5–9, abaxially often glandular, glabrous or pubescent along veins, margin often glandular and doubly serrate ..... 24. *R. setipoda*
- 76b. Sepals undivided; leaflets 3–11, abaxially puberulous, subglabrous or glabrous, margin simply serrate, or simple and doubly serrate.
- 77a. Branchlets prickly and setose; leaflets 7–9, abaxially puberulous, margin simply serrate; petals red; flowers in corymb ..... 42. *R. persetosa*
- 77b. Branchlets usually only prickly, sometimes nearly not prickly; leaflets 3–11, abaxially pubescent, subglabrous, or glabrous, margin simple and/or doubly serrate; petals pink or red; flowers in umbel or corymb.
- 78a. Leaflets 3–5(–7), abaxially pubescent or glabrous, margin doubly serrate, or both simple and doubly serrate ..... 25. *R. corymbulosa*
- 78b. Leaflets 7–11, abaxially glabrous, subglabrous, or densely pubescent, margin entire below middle or serrate.
- 79a. Leaflets abaxially glabrous or subglabrous; petals red.
- 80a. Leaflets 3–10 cm, margin serrate from base to apex; pedicel 1.5–4 cm, densely glandular pubescent, rarely glabrous; flowers 3.5–6 cm in diam. .... 26. *R. caudata*
- 80b. Leaflets 1–2.5 cm, margin entire below middle; pedicel 1.5–3 cm, glabrous or sparsely glandular pubescent; flowers 2–3.5 cm in diam. .... 52. *R. sertata*
- 79b. Leaflets abaxially densely pubescent, at least along veins pubescent; petals pink.
- 81a. Styles exerted, slightly shorter than stamens; receptacle glandular pubescent, or sometimes puberulous ..... 27. *R. davidii*
- 81b. Styles slightly exerted, much shorter than stamens; receptacle glabrous, rarely glandular pubescent ..... 28. *R. banksiopsis*
- 75b. Flowers solitary or few in corymb.
- 82a. Stipules abaxially not prickly.
- 83a. Branchlets and prickles tomentose; leaflets thick in texture, adaxially rugose ..... 29. *R. rugosa*
- 83b. Branchlets and prickles glabrous; leaflets thinner in texture, not rugose.
- 84a. Leaflets abaxially glandular punctate; prickles straight, slender; hypanthium depressed globose or ovoid-globose.
- 85a. Leaflets 7 or 9, abaxially glaucous, oblong or broadly lanceolate, margin simple or doubly serrate; hypanthium depressed globose ..... 30. *R. davurica*
- 85b. Leaflets 5–9, abaxially not glaucous, ovate or elliptic, margin doubly serrate; hypanthium ovoid-globose ..... 31. *R. hezhangensis*
- 84b. Leaflets abaxially not glaucous, not glandular; prickles straight, weak, sometimes absent; hypanthium ellipsoid or oblong.
- 86a. Leaflets abaxially glabrous, margin partly doubly serrate; pedicel 1.5–2 cm ..... 34. *R. oxyacantha*
- 86b. Leaflets abaxially puberulous or hirsute, margin simply serrate or sharply doubly serrate; pedicel 2–4 cm.
- 87a. Leaflets abaxially puberulous, margin simply serrate; pedicel 2–3.5 cm ..... 32. *R. acicularis*
- 87b. Leaflets abaxially brown hirsute, margin sharply doubly serrate; pedicel 3–4 cm ..... 33. *R. fargesiana*
- 82b. Stipules abaxially prickly.
- 88a. Prickles hooked; leaflets 7–9, abaxially glabrous or puberulous; petals white or pink; flowers (1 or)3–6; pedicel glandular ..... 35. *R. laxa*
- 88b. Prickles straight or absent; leaflets 7–11, abaxially glabrous, subglabrous, or pubescent; petals pink or red; flowers 1 to several; pedicel glandular pubescent or not.
- 89a. Leaflets abaxially glabrous or subglabrous.
- 90a. Leaflets 7, ovate or ovate-lanceolate, 2.5–6.5 cm; petals dark red; flowers often solitary; pedicel 15–25(–30) mm, usually glabrous ..... 36. *R. saturata*
- 90b. Leaflets 7–9(–11), elliptic or ovate, 1–3 cm; petals pink; flowers 1–3; pedicel 5–30 mm, densely glandular pubescent or glabrous.
- 91a. Pedicel 5–10 mm, densely glandular pubescent; leaflets 1–3 cm, apex acute or obtuse; flowers 2–5 cm in diam. .... 37. *R. bella*
- 91b. Pedicel 1.5–3 cm, glabrous, rarely glandular pubescent; leaflets 0.6–2.5 cm, apex rounded, obtuse, or acute; flowers 2–3.5 cm in diam. .... 52. *R. sertata*

- 89b. Leaflets abaxially pubescent, at least along veins.
- 92a. Leaflets 5, rarely 7 or 3, adaxially glabrous, abaxially pubescent or glandular, margin doubly serrate; petals pink; flowers solitary or several, 2.5–3 cm in diam.; pedicel 1.5–3 cm ..... 38. *R. chengkouensis*
- 92b. Leaflets 7–13, adaxially glabrous, abaxially sparsely pubescent, not glandular, margin simple or doubly serrate; petals white, pink, or red; flowers 2 or more; pedicel to 1–4 cm.
- 93a. Flowers 2, fasciculate; pedicel shorter than 1 cm; stipules larger, hooked ..... 39. *R. sinobiflora*
- 93b. Flowers often more than 2; pedicel 1–4 cm; stipules shorter, not hooked.
- 94a. Sepals pinnately lobed, often glandular pubescent.
- 95a. Branches prickly and setose; leaflets 7–11, 2–5 cm, margin doubly serrate, rarely partly simply serrate; petals pink; flowers 3–5 cm in diam. .... 40. *R. sweginzowii*
- 95b. Branches only prickly; leaflets 7–13, 1–5 cm, margin usually simply serrate; petals dark red; flowers 4–6 cm in diam. .... 41. *R. moyesii*
- 94b. Sepals entire or pinnately lobed, not glandular pubescent.
- 96a. Petals white or pinkish; branchlets prickly and bristly; leaflets 9–15, elliptic or oblong, 1–4.5 cm, abaxially along veins pubescent, margin simply serrate; flowers 2–3 cm in diam. .... 44. *R. murielae*
- 96b. Petals rosy or red; branchlets densely setose or sparsely prickly or not prickly; leaflets 7–11, elliptic, ovate-elliptic, or oblong, abaxially glabrous, sparsely pubescent, or densely puberulous, margin simply serrate, rarely doubly serrate; flowers 2.5–5 cm in diam.
- 97a. Branchlets usually densely setose; leaflets 7–9(–11), elliptic or ovate-elliptic, 1.2–3 cm, abaxially glabrous or sparsely pubescent, margin simply serrate, rarely doubly serrate; flowers 2.5–3 cm in diam.; pedicel and receptacle glabrous ..... 42. *R. persetosa*
- 97b. Branchlets usually sparsely prickly or not prickly; leaflets 9–11, oblong or elliptic-ovate, 2.5–6 cm, abaxially densely puberulous, margin simply serrate; flowers 3.5–5 cm in diam.; pedicel and receptacle densely glandular pubescent, rarely glabrous ..... 43. *R. macrophylla*

**Key based mainly on vegetative characters**

- 1a. Leaves simple, exstipulate; flower solitary; petals yellow ..... 1. *R. berberifolia*
- 1b. Leaves compound, stipulate; flowers solitary to numerous; petals variously colored.
- 2a. Stipules free, deciduous.
- 3a. Leaflets 5–9, elliptic or obovate; stipules pectinate; petals white; flowers solitary, or 2 or 3 and fasciculate, 4.5–7 cm in diam.; bracts large, lacinate, abaxially tomentose ..... 92. *R. bracteata*
- 3b. Leaflets 3–5(–7), elliptic, ovate, elliptic-ovate, obovate, or oblong-lanceolate; stipules pectinate or not; petals variously colored; flowers solitary or several in umbel or corymb; bracts small or absent.
- 4a. Leaflets 3(or 4), elliptic-ovate or obovate, glabrous; petals white; flower solitary, 5–10 cm in diam.; pedicel and hypanthium densely glandular bristly ..... 91. *R. laevigata*
- 4b. Leaflets 3–5(–7), elliptic, ovate, or oblong-lanceolate; petals yellow or white; flowers 1–3, 1.5–2.5 cm diam.; pedicel and hypanthium often glabrous.
- 5a. Flowers in umbel or corymb; sepals entire ..... 89. *R. banksiae*
- 5b. Flowers in compound corymb; sepals pinnately lobed ..... 90. *R. cymosa*
- 2b. Stipules adnate to petiole, persistent.
- 6a. Stipules pectinate or irregularly serrate at margin; styles connate, exserted.
- 7a. Stipules pectinate.
- 8a. Styles hairy; flowers 5–7-flowered, in corymb; leaflets abaxially densely tomentose-pubescent ..... 63. *R. kunmingensis*
- 8b. Style glabrous; flowers solitary to numerous, in panicle or corymb; leaflets abaxially pubescent or tomentose-pubescent.
- 9a. Flower solitary; leaflets 5–7, obovate or broadly elliptic ..... 62. *R. uniflorella*
- 9b. Flowers numerous in panicle; leaflets 5–9, rhomboid-elliptic, obovate, oblong, or ovate.
- 10a. Leaflets 5–7, margin doubly serrate; sepals pinnately lobed, lobules linear, abaxially glandular pubescent ..... 61. *R. daishanensis*
- 10b. Leaflets 5–9, margin simple-serrate, occasionally doubly serrate; sepals entire or 2-lobed, abaxially not glandular pubescent.
- 11a. Leaflets 7–9, rhomboid-elliptic, base cuneate, margin deeply serrate; sepals entire at margin ..... 59. *R. langyashanica*

- 11b. Leaflets 5–9, obovate, oblong, or ovate, base rounded or broadly cuneate, margin shallowly serrate; sepals 2-lobed or entire ..... 60. *R. multiflora*
- 7b. Stipules irregularly serrate at margin.
- 12a. Leaflets 3–5, ovate-lanceolate, oblong-lanceolate, oblong, or oblong-obovate; flowers solitary or 4 to several in corymb.
- 13a. Leaflets ovate-lanceolate or oblong-lanceolate; flowers solitary or in corymb ..... 73. *R. anemoniflora*
- 13b. Leaflets oblong to oblong-obovate; flowers 4 to several in terminal corymb ..... 67. *R. sambucina*
- 12b. Leaflets (5–)7–9, elliptic, oblong, ovate or obovate, not lanceolate; flowers several in corymb.
- 14a. Leaflets abaxially densely villous; styles pubescent.
- 15a. Leaflets 5–9, adaxially along midvein pubescent; petals white or red; flowers 1.5–3 cm in diam.; pedicel and hypanthium densely pubescent and glandular pubescent ..... 64. *R. kwangtungensis*
- 15b. Leaflets 3–5(–7), abaxially glabrous; petals pink; flowers 2.5–3 cm in diam.; pedicel and hypanthium glabrous, rarely sparsely glandular pubescent ..... 65. *R. lichiangensis*
- 14b. Leaflets abaxially glabrous or subglabrous; styles glabrous or pubescent.
- 16a. Leaflets 7–9, rarely 5, apex acute or acuminate, abaxially along veins pubescent; styles glabrous; hip ovoid ..... 72. *R. maximowicziana*
- 16b. Leaflets 5–7, rarely 9, apex rounded-obtuse or acute, abaxially glabrous or sparsely pubescent; styles pubescent; hip globose or subglobose.
- 17a. Leaflets elliptic, ovate, or obovate; hypanthium and sepals abaxially subglabrous ..... 70. *R. luciae*
- 17b. Leaflets ovate or oblong; hypanthium abaxially glandular setulose; sepals glandular setulose on both surfaces ..... 69. *R. pricei*
- 6b. Stipules entire; styles free, rarely connate.
- 18a. Leaflets 3–5(–7).
- 19a. Leaflets doubly serrate at margin.
- 20a. Leaflets glabrous or abaxially pubescent along veins.
- 21a. Leaflets ovate-oblong or elliptic, 2.5–6 cm, apex acute or rounded-obtuse; petals red; flowers numerous in corymb, 2–2.5 cm in diam.; styles free, obviously exerted ..... 25. *R. corymbulosa*
- 21b. Leaflets obovate or elliptic, smaller, 0.8–1.5 cm, apex rounded-obtuse or truncate; petals yellowish or white; flowers 1–3 and fasciculate, ca. 1 cm in diam.; styles connate, slightly exerted ..... 87. *R. duplicata*
- 20b. Leaflets abaxially sparsely pubescent and glandular pubescent.
- 22a. Leaflets 3–5; styles connate or free, exerted or slightly so.
- 23a. Styles connate, exerted; petals white; flowers ca. 1.5 cm in diam., in corymb ..... 88. *R. weisiensis*
- 23b. Styles free, slightly exerted; petals pink; flowers ca. 2.5 cm in diam., solitary, rarely 2 or 3 and fasciculate ..... 50. *R. baiyushanensis*
- 22b. Leaflets 5(–7); styles free, slightly exerted.
- 24a. Leaflets elliptic, oblong, or ovate, 15–35 mm; flowers solitary or several; sepals oblong-lanceolate, margin entire, pubescent outside ..... 38. *R. chengkouensis*
- 24b. Leaflets obovate or oblong, 5–11 mm; flowers 2 or 3 and fasciculate, rarely solitary; sepals triangular-lanceolate, pinnately lobed, glabrous outside ..... 45. *R. pinnatisepala*
- 19b. Leaflets simply serrate, rarely partly doubly serrate at margin.
- 25a. Old branches prickly, bristly, or setose.
- 26a. Leaflets 5–7(–9), thick, adaxially rugose, abaxially tomentose; branchlets and prickles tomentose; petals purple-red or white; flowers 1–3; hip dark red, depressed-globose ..... 29. *R. rugosa*
- 26b. Leaflets 3–7, thin, adaxially not rugose, glabrous, abaxially pubescent or only along midvein pubescent; branchlets glabrous or subglabrous; petals pink or purple-red; flowers 1–3 or 8–12; hip black-purple, pyriform or obovoid.
- 27a. Petals pink; leaflets 3–7; hip red, pyriform or long ellipsoid, with a distinct neck ..... 32. *R. acicularis*
- 27b. Petals purple-red; leaflets 3(–5); hip purple, obovoid or pyriform, without neck ..... 58. *R. lucidissima*
- 25b. Old branches only prickly, not bristly and setose.
- 28a. Leaflets abaxially ± pubescent.
- 29a. Leaflets less than 1.5 cm, 3–5, margin obtusely serrate; flowers 3–5 in corymb; petals white but pink before anthesis; styles free ..... 49. *R. pseudobanksiae*
- 29b. Leaflets more than 2 cm, 3–7, margin acutely serrate; flowers numerous in compound corymb; petals white; styles connate.
- 30a. Leaflets with both surfaces pubescent, 5–7, oblong or long-lanceolate; branchlets densely pubescent; hip purple-brown, ovoid ..... 74. *R. brunonii*
- 30b. Leaflets adaxially glabrous, 3–7, oblong to ovate or lanceolate; branchlets glabrous or slightly

- pubescent; hip orange-red or red, subglobose.
- 31a. Leaflets adaxially rugose, abaxially densely grayish pubescent and with prominent veins, 5–7, oblong or oblong-obovate; hip orange-red ..... 75. *R. glomerata*
- 31b. Leaflets abaxially smooth, abaxially with only midvein prominent, 3–7, oblong-ovate, lanceolate, or ovate-elliptic to obovate; hip red.
- 32a. Leaflets abaxially glandular, subglabrous, 5–7, oblong-ovate or lanceolate, apex acuminate .... 81. *R. filipes*
- 32b. Leaflets abaxially not glandular, densely pubescent, (3–)5, ovate-elliptic or obovate, apex caudate-acuminate or acute ..... 76. *R. rubus*
- 28b. Leaflets abaxially glabrous.
- 33a. Erect shrub.
- 34a. Leaflets (5–)7(–9), elliptic or obovate, 1–3 cm, apex rounded-obtuse or acute; styles connate; hip ovoid-globose, orange-red ..... 85. *R. soulieana*
- 34b. Leaflets 3–5(–7), obovate or broadly ovate to ovate-oblong, 0.9–6 cm, apex acuminate or rounded-obtuse; styles free or connate; hip ovoid to pyriform or globose to obovoid-globose, red or red-brown.
- 35a. Leaflets broadly ovate to ovate-oblong, 2.5–6 cm, apex acuminate; styles free; hip red, ovoid to pyriform ..... 56. *R. chinensis*
- 35b. Leaflets obovate, 9–15 × 6–10 mm, apex rounded-obtuse; styles connate; hip red-brown, globose or obovoid-globose ..... 83. *R. derongensis*
- 33b. Climbing liana.
- 36a. Flowers 1–3; styles free.
- 37a. Leaflets 5–9, elliptic or ovate, apex acute or acuminate; petals yellow, pink, or white; sepals entire; hip depressed-ovoid ..... 57. *R. odorata*
- 37b. Leaflets 3(–5), oblong-ovate or long elliptic, apex caudate-acuminate or acute; petals purple-red; sepals entire or slightly incised; hip pyriform or obovoid ..... 58. *R. lucidissima*
- 36b. Flowers numerous in corymb or compound corymb; styles connate.
- 38a. Leaflets 5–9, rarely 3, leathery, shorter, 3–7 cm; petals abaxially pubescent; flowers in corymb ..... 78. *R. longicuspis*
- 38b. Leaflets 3–5, papery or leathery, longer, 3.5–12 cm; petals abaxially glabrous or pubescent; flowers in corymb or compound corymb.
- 39a. Leaflets papery; petals abaxially glabrous; flowers 5–15, in corymb ..... 86. *R. henryi*
- 39b. Leaflets leathery; petals abaxially pubescent; flowers numerous, in compound corymb ..... 79. *R. lasiosepala*
- 18b. Leaflets more than (5–)7.
- 40a. Leaflets more than 2 cm.
- 41a. Leaflets doubly serrate at margin.
- 42a. Branches prickly and setose.
- 43a. Leaflets 7–9, oblong or broadly lanceolate, abaxially puberulous and glandular punctate, apex acute or rounded-obtuse; petals deep pink; hip subglobose or ovoid; sepals persistent ..... 30. *R. davurica*
- 43b. Leaflets 5–7, ovate, elliptic, or obovate, abaxially pubescent, not glandular punctate, apex rounded-obtuse, rarely acute; petals white; hip pyriform or ellipsoid; sepals deciduous ..... 21. *R. albertii*
- 42b. Branches only prickly, not bristly and setose.
- 44a. Leaflets abaxially pubescent or subglabrous.
- 45a. Prickles straight, stout; leaflets 7–9, oblong or elliptic, abaxially subglabrous, apex rounded-obtuse or acute ..... 34. *R. oxyacantha*
- 45b. Prickles broad, plain; leaflets 7–11, elliptic or ovate-oblong, abaxially pubescent, apex acute, rarely rounded-obtuse ..... 40. *R. sweginzowii*
- 44b. Leaflets abaxially pubescent or subglabrous and glandular.
- 46a. Leaflets 5–9; flowers in lax corymb; styles free, slightly exerted ..... 24. *R. setipoda*
- 46b. Leaflets usually 7; flowers in corymb-panicle; styles connate, exerted ..... 82. *R. ludingensis*
- 41b. Leaflets simply serrate at margin.
- 47a. Leaflets abaxially glabrous or subglabrous.
- 48a. Branches with hooked prickles.
- 49a. Leaflets 5–9, broadly elliptic or elliptic-obovate; flowers several or numerous, rarely solitary; petals white, rarely pinkish; hip red or dark purple, subglobose, with sepals deciduous when ripe ..... 20. *R. beggeriana*
- 49b. Leaflets 7–9, elliptic, oblong, or ovate, rarely obovate; flowers (1 or)3–6; petals white or pink; hip red, oblong or ovoid, with persistent sepals ..... 35. *R. laxa*
- 48b. Branches with straight prickles.



- 50a. Old branches prickly, sometimes densely setose.  
 51a. Branchlets densely bristly; pedicel 1.2–3 cm ..... 42. *R. persetosa*  
 51b. Branchlets often only prickly; pedicel shorter, 5–10 mm ..... 37. *R. bella*
- 50b. Old branches only prickly, usually not setose.  
 52a. Prickles broad, plain, scattered.  
 53a. Petals red; flowers in corymb; sepals caudate, leaflike; pedicel and hypanthium often glandular, rarely smooth ..... 26. *R. caudata*  
 53b. Petals white; flowers compound corymb; sepals pinnately lobed; hypanthium prickly abaxially ..... 94. *R. kweichowensis*
- 52b. Prickles slender, straight, rarely few or absent.  
 54a. Leaflets 9–15, elliptic or oblong, apex acute or shortly acuminate; petals white; pedicel 2–4 cm ..... 44. *R. murielae*  
 54b. Leaflets 7–9(–15), ovate, long elliptic, or ovate-lanceolate, apex acute, acuminate, or rounded-obtuse; petals pink or deep red; pedicel 1.5–3 cm.  
 55a. Leaflets 7–15, ovate or long elliptic, apex acute or rounded-obtuse; petals pink; flowers solitary to several, 2–3.5 cm in diam.; sepals, pedicel, and hypanthium often smooth ..... 52. *R. sertata*  
 55b. Leaflets 7(–9), ovate or ovate-lanceolate, apex acuminate or acute; petals deep red; flowers solitary, rarely 2 or 3, 3.5–5 cm in diam.; pedicel and hypanthium usually glabrous, or sparsely glandular pubescent ..... 36. *R. saturata*
- 47b. Leaflets abaxially pubescent or along midvein and lateral veins pubescent.  
 56a. Flowers numerous in corymb.  
 57a. Pedicel and hypanthium glabrous; leaflets 7–9, ovate or oblong, rarely long elliptic-ovate; petals pink; styles free ..... 28. *R. banksiopsis*  
 57b. Pedicel and hypanthium glandular pubescent; leaflets 5–9, oblong-ovate, ovate-lanceolate, or ovate; petals pink or white; styles free or connate.  
 58a. Petals pink; styles free, slightly exerted ..... 27. *R. davidii*  
 58b. Petals white; styles connate in column.  
 59a. Leaflets (5–)7–9, oblong-ovate or ovate-lanceolate, 2.5–4.5 cm ..... 77. *R. helenae*  
 59b. Leaflets 5–7, ovate to oblong-ovate, 1.5–3.6 cm ..... 68. *R. taiwanensis*
- 56b. Flowers solitary, rarely 2 or 3.  
 60a. Pedicel and hypanthium often glandular pubescent, rarely glabrous.  
 61a. Leaflets 7–13, ovate, elliptic, or oblong-ovate, apex acute or rounded-obtuse; petals deep red; sepals often pinnately lobed; hip orange-red or purple-red, oblong-ovoid or ovoid, to 5 cm ..... 41. *R. moyesii*  
 61b. Leaflets 9–11(–13), oblong or elliptic-ovate, apex acute, rarely rounded-obtuse; petals red; sepals entire; hip deep red, oblong-ovoid or long ovoid, 1.5–3 cm ..... 43. *R. macrophylla*
- 60b. Pedicel and hypanthium glabrous.  
 62a. Leaflets oblong or broadly lanceolate, abaxially usually glandular, apex acute or rounded-obtuse ..... 30. *R. davurica*  
 62b. Leaflets ovate or ovate-lanceolate or oblong-lanceolate, abaxially eglandular.  
 63a. Leaflets ovate or ovate-lanceolate, apex acuminate or acute; flowers solitary, rarely 2, pedicel 1.5–2.5 cm ..... 36. *R. saturata*  
 63b. Leaflets ovate-lanceolate or oblong-lanceolate, apex acuminate or caudate; flowers 2, pedicel 0.5–1 cm ..... 39. *R. sinobiflora*
- 40b. Leaflets less than 1.5(–2) cm.  
 64a. Leaflets doubly serrate at margin.  
 65a. Leaflets abaxially glabrous, not glandular; branches prickly, bristly, or setose; leaflets (5–)7–9(–11), suborbicular or oblong-ovate; flowers solitary, or 2 or 3 and fasciculate; petals yellow, white, or pink; hip subglobose, black ..... 2. *R. spinosissima*  
 65b. Leaflets abaxially glandular or pubescent; branches prickly, sometimes also bristly and setose; leaflets 5–15, oblong, obovate, ovate, or elliptic; flowers 1–5; petals white, yellow, pink, or red; hip obovoid or subglobose, red or red-brown.  
 66a. Branches prickly, bristly, and setose.  
 67a. Leaflets 7–9(–13), oblong or obovate, both surfaces densely pubescent, abaxially glandular; petals 4, white; hip red, subglobose ..... 18. *R. sikangensis*  
 67b. Leaflets 5–13, ovate, elliptic, obovate, or oblong, abaxially pubescent, adaxially glabrous; petals 5, white or yellow; hip red, dark purple, or red-brown, globose, subglobose, or obovoid.

- 68a. Leaflets 11–13, elliptic or oblong; petals white; hip red-brown, obovoid ..... 12. *R. tsinglingensis*  
68b. Leaflets 5–9, oblong, ovate, elliptic, or obovate; petals white or yellow; hip red or dark purple, globose or subglobose.  
69a. Leaflets oblong, abaxially glandular; flower with bracts; petals white; hip red, globose ..... 55. *R. tibetica*  
69b. Leaflets ovate, elliptic, or obovate, abaxially glandular or pubescent; flower without bracts; petals white or yellow; hip dark purple, subglobose ..... 5. *R. kokanica*  
66b. Branches only prickly, not bristly and setose.  
70a. Leaflets hairy on both surfaces or only abaxially hairy.  
71a. Leaflets abaxially brown hirsute, densely so along veins, elliptic or oblong-elliptic ..... 33. *R. fargesiana*  
71b. Leaflets pubescent on both surfaces, broadly ovate, obovate, ovate, or elliptic.  
72a. Leaflets broadly ovate or obovate; flower double, solitary, rarely several, without bracts ..... 10. *R. foetida*  
72b. Leaflets ovate or elliptic; flowers 3–5 in corymb, with 3–5 bracts ..... 31. *R. hezhangensis*  
70b. Leaflets abaxially glabrous or subglabrous.  
73a. Leaflets apically acute or rounded-obtuse.  
74a. Leaflets (7–)9–15, elliptic, elliptic-obovate, or long elliptic, abaxially glandular, margin obtusely serrate; petals yellowish; hip black-brown, subglobose ..... 9. *R. primula*  
74b. Leaflets 9–11, ovate or elliptic, abaxially pubescent or glabrous, margin acutely serrate; petals pink; hip red, obovoid ..... 11. *R. graciliflora*  
73b. Leaflets apically rounded-obtuse or truncate.  
75a. Sepals and petals 4; leaflets obovate, abaxially not glandular or only glandular along veins ..... 19. *R. zhongdianensis*  
75b. Sepals and petals 5; leaflets ovate or obovate, abaxially sparsely glandular or not glandular.  
76a. Styles free, slightly exerted; leaflets 5–7(–9), subrounded, ovate or obovate, abaxially not or sometimes glandular pubescent ..... 46. *R. forrestiana*  
76b. Styles connate, exerted; leaflets usually 7, obovate, abaxially sparsely glandular pubescent ..... 80. *R. degenensis*  
64b. Leaflets simply serrate, rarely partly doubly serrate at margin.  
77a. Leaflets abaxially glabrous, rarely pubescent when young and wholly soon glabrate.  
78a. Branches prickly, bristly, and setose.  
79a. Leaflets entire near base of margin, 7–11, elliptic or ovate; petals pink; hip bright red ..... 3. *R. farreri*  
79b. Leaflets serrate from base to apex, 5–13, suborbicular to ovate, elliptic, or obovate; petals white or yellow; hip black or purple-red.  
80a. Leaflets (5–)7–9(–11), suborbicular or oblong-ovate; petals white, pink, or yellow; hip black ..... 2. *R. spinosissima*  
80b. Leaflets 5–13, ovate, elliptic, or obovate; petals yellow; hip purple-red ..... 7. *R. hugonis*  
78b. Branches only prickly, not bristly and setose.  
81a. Prickles slender, straight; styles free.  
82a. Leaflets serrate from base to apex, 9–15, elliptic, oblong, or obovate, apex mostly acute; petals pink; hip densely prickly ..... 93. *R. roxburghii*  
82b. Leaflets entire near base of margin, 5–13, elliptic, ovate-elliptic, suborbicular, oblong, or broadly obovate, apex mostly rounded-obtuse or truncate; petals pink or white; hip glabrous or stipitate glandular.  
83a. Branches with prickles often in pairs; leaflets 7–11(–13), oblong or broadly obovate; petals white; hip red ..... 15. *R. morrisonensis*  
83b. Branches sparsely prickly; leaflets 5–11, elliptic, ovate-elliptic, or suborbicular, obovate, or broadly elliptic; petals pink; hip deep red or reddish.  
84a. Leaflets 7–15, elliptic or ovate-elliptic; pedicel 1.5–3 cm; hip deep red, ovoid ..... 52. *R. sertata*  
84b. Leaflets 5–9, suborbicular, obovate or broadly elliptic; pedicel 1–1.5 cm; hip reddish, subglobose ..... 53. *R. webbiana*  
81b. Prickles dilated at base; styles connate, exerted.  
85a. Styles connate, exerted.  
86a. Leaflets usually 7, obovate or oblong; flowers 2 or 3 and fasciculate, simple ..... 84. *R. shangchengensis*  
86b. Leaflets 5–7, elliptic, rarely oblong; flowers double, 10–15 in panicle ..... 71. *R. miyiensis*  
85b. Styles free, slightly exerted.  
87a. Leaflets serrate from base to apex at margin.  
88a. Prickles straight; leaflets 7–13, broadly ovate or suborbicular, rarely elliptic, margin obtusely serrate; petals yellow; hip purple-brown; sepals persistent ..... 8. *R. xanthina*

- 88b. Prickles hooked; leaflets 5–9, broadly elliptic or elliptic-obovate, margin acutely serrate; petals white or pinkish; hip red at first, then becoming black-purple; sepals deciduous ..... 20. *R. beggeriana*
- 87b. Leaflets entire near base of margin.
- 89a. Branches with prickles often in pairs; leaflets 7–11, oblong or broadly obovate, apex truncate; petals 4, white; hip red, glabrous outside ..... 15. *R. morrisonensis*
- 89b. Branches sparsely prickly; leaflets 5–9, suborbicular or ovate, apex rounded-obtuse; petals 5, yellow or white, rarely pink; hip deep red or purple-brown, glandular pubescent or glabrous outside.
- 90a. Leaflets 5–7, suborbicular, obovate, or oblong; petals yellow; flowers without bracts; hip glabrous ..... 6. *R. platyacantha*
- 90b. Leaflets (5–)7(–9), suborbicular or ovate; petals white, rarely pink; flowers with bracts; hip densely glandular pubescent ..... 54. *R. fedtschenkoana*
- 77b. Leaflets abaxially or only along midvein pubescent.
- 91a. Branches prickly, sometimes densely bristly or setose.
- 92a. Leaflets serrate from base to apex at margin.
- 93a. Petals 4, white; hip bright red or yellow; fruiting pedicel short, thickened ..... 14. *R. omeiensis*
- 93b. Petals 5, white or pinkish white; fruiting pedicel slender, not thickened.
- 94a. Branchlets densely prickly; leaflets 7–11; petals pinkish white ..... 4. *R. koreana*
- 94b. Branchlets sparsely prickly, occasionally bristly; leaflets 11–13; petals white ..... 12. *R. tsinglingensis*
- 92b. Leaflets serrate at upper margin, entire at lower margin.
- 95a. Leaflets densely pubescent on both surfaces, 5–9(–11), oblong-obovate or obovate; petals white; hip red; fruiting pedicel slender ..... 17. *R. mairei*
- 95b. Leaflets only abaxially pubescent, 7–15, elliptic, oblong, ovate, or obovate; petals pinkish, yellowish, or white; hip orange-yellow or red; fruiting pedicel stout or slender.
- 96a. Sepals deciduous when fruit ripens; leaflets 7–15, elliptic or oblong, apex obtuse or acute; petals pinkish; pedicel and hypanthium often glandular pubescent ..... 22. *R. prattii*
- 96b. Sepals persistent; leaflets 7–13, ovate or obovate, apex truncate, rounded-obtuse or acute; petals yellowish or white; pedicel and hypanthium glabrous or villous.
- 97a. Leaflets 7–9(–13), obovate or oblong-obovate; petals yellowish; hip orange-yellow; fruiting pedicel turgid at base ..... 13. *R. taronensis*
- 97b. Leaflets 7–9(–11), ovate or obovate, rarely obovate-oblong; petals white; hip red; fruiting pedicel slender ..... 16. *R. sericea*
- 91b. Branches with straight, slender or broad, plain prickles, not bristly and setose.
- 98a. Leaflets 7–13, obovate or broadly elliptic, densely pubescent on both surfaces; petals red; hip sparsely glandular prickly, rarely glabrous ..... 95. *R. praelucens*
- 98b. Leaflets 5–11, pubescent abaxially or only along veins; petals white or red; hip usually prickly.
- 99a. Leaflets apically acute or acuminate, rarely rounded-obtuse.
- 100a. Flowers solitary, or 3–5 in a cyme, without bracts; petals white ..... 66. *R. transmorrisonensis*
- 100b. Flowers numerous in corymb or rarely in panicle; petals red or white.
- 101a. Leaflets ovate, obovate, or suborbicular, apex rounded-obtuse; petals red; flowers in a corymb, rarely in panicle; bracts many, in 2 whorls: 1 of ovate and 1 of lanceolate bracts; styles free, slightly exerted ..... 47. *R. multibracteata*
- 101b. Leaflets oblong-ovate or ovate-lanceolate, apex shortly acuminate; petals white; flowers in a corymb; bracts caducous, narrowly lanceolate; styles connate, exerted ..... 77. *R. helenae*
- 99b. Leaflets apically usually rounded-obtuse, rarely acute.
- 102a. Sepals deciduous when fruit ripens; leaflets 7–9(–11) ..... 23. *R. willmottiae*
- 102b. Sepals persistent; leaflets 5–9.
- 103a. Bracts 3–5, leaflike, ovate, persistent; leaflets usually 5, rarely 3 or 7 ..... 48. *R. calyptopoda*
- 103b. Bracts 1 or 2, membranous, ovate-lanceolate, deciduous, rarely persistent; leaflets 7–9.
- 104a. Leaflets serrate from base to apex at margin; petals pink; pedicel not exceeding 1 cm; hip ovoid; prickles shorter ..... 51. *R. giraldii*
- 104b. Leaflets entire near base of margin; petals reddish; pedicel 1–1.5 cm; hip subglobose; prickles longer, yellowish ..... 53. *R. webbiana*

1. *Rosa* subgen. **Hulthemia** (Dumortier) Focke in Engler & Prantl, Nat. Pflanzenfam. 3(3): 47. 1888.

单叶蔷薇亚属 dan ye qiang wei ya shu

*Hulthemia* Dumortier, Not. *Hulthemia*, 13. 1824.

Leaves exstipulate; leaf blade simple. Flower solitary. Hypanthium globose, bristly.

Two species: Asia; one species in China.

**1. *Rosa berberifolia*** Pallas, Nova Acta Acad. Sci. Imp. Petrop. Hist. Acad. 10: 379. 1797.

小檗叶蔷薇 xiao bo ye qiang wei

*Hulthemia berberifolia* (Pallas) Dumortier.

Shrubs diffuse, dwarf, 30–50 cm tall. Branchlets yellow, smooth when young, becoming dark brown and rough when old, glabrous; prickles in pairs at leaf bases, sparse, yellow, curved, somewhat hooked. Leaves simple, exstipulate, sessile or subsessile; leaf blade elliptic, oblong, rarely ovate, 1–2 × 0.5–1 cm, leathery, glabrous or abaxially sparsely puberulous

when young, base subrounded or cordate, rarely broadly cuneate, margin coarsely serrate, becoming entire toward base, apex rounded-obtuse or acute. Flower solitary, 2–2.5 cm in diam.; pedicel 1–1.5 cm, glabrous; bracts absent. Hypanthium globose, abaxially long bristly. Sepals 5, lanceolate, abaxially puberulous, sparsely long bristly, adaxially grayish tomentose, margin entire, apex caudate or long acuminate. Petals 5, yellow, purple-red spotted at base, obovate, slightly longer than sepals. Stamens purple. Styles free, slightly protruding, densely villous. Hip purple-brown, subglobose, ca. 1 cm in diam., densely setose, with persistent sepals. Fl. May–Jun, fr. Jul–Sep.

Slopes, waste fields; 100–600 m. Xinjiang [Kazakhstan, Russia].

**2. *Rosa* subgen. *Rosa***

蔷薇亚属 qiang wei ya shu

Leaves stipulate; leaf blade pinnate. Flowers numerous in corymbs, or solitary. Hypanthium urceolate, rarely cupular.

Between 150 and 200 species: N Africa, Asia, Europe, North America; 94 species (65 endemic) in China.

**1. *Rosa* sect. *Pimpinellifoliae*** Candolle ex Seringe, Mus. Helv. Bot. 1: 3. 1818.

芹叶组 qin ye zu

Shrubs erect. Branches often with straight prickles and bristles. Leaflets 7–9, rarely 15–17, often small; stipules narrow, adnate to petiole, auriculate. Flower solitary, without bracts. Sepals persistent, erect, margin entire.

About 25 species: Asia, Europe; 18 species (12 endemic) in China.

**2. *Rosa spinosissima*** Linnaeus, Sp. Pl. 1: 491. 1753.

密刺蔷薇 mi ci qiang wei

Shrubs low, ca. 1 m tall. Branches spreading or curved, glabrous; branchlets of present year purple-brown or red-brown; prickles dense to sparse, terete, straight or slightly curved, to 4 mm, fine, bristlelike, abruptly broadening at base, intermixed with smaller bristles. Leaves including petiole 4–8 cm; stipules mostly adnate to petiole, free part ovate, margin entire or serrate, teeth often glandular apically; rachis and petiole sparsely prickly and glandular pubescent; leaflets (5)–7–9(–11), oblong, oblong-ovate, or suborbicular, 1–2.2 × 0.6–1.2 cm, glabrous, base rounded or broadly cuneate, margin simply serrate or partly doubly serrate, teeth glandular apically when young, apex rounded-obtuse or acute. Flowers solitary, or 2 or 3 and fasciculate, axillary, 2–6 cm in diam.; pedicel 1.5–3.5 cm, sparsely pubescent or glabrescent, glandular pubescent or not; bracts absent. Hypanthium subglobose, glabrous. Sepals lanceolate, abaxially glabrous, adaxially pubescent, margin entire, apex acuminate or caudate-acuminate. Petals 5, white, pink, or yellowish, broadly obovate, base broadly cuneate, apex emarginate. Styles free, much shorter than stamens, pubescent. Hip black or dark brown, subglobose, 1–1.6 cm in diam., glabrous, shiny, with persistent sepals; pedicel to 4 cm, often glandular. Fl. May–Jun, fr. Oct–Sep.

Scrub in forests, grassy slopes, river sides; 1100–2300 m. Xinjiang [Russia (Siberia); C and SW Asia, Europe].

- 1a. Branchlets densely prickly; flowers smaller, 2–5 cm in diam.; petals white, pink, or yellowish; pedicel pubescent and glandular when young ..... 2a. var. *spinosissima*
- 1b. Branchlets slightly prickly; flowers larger, 4–6 cm in diam.; petals white; pedicel glabrous ..... 2b. var. *altaica*

**2a. *Rosa spinosissima* var. *spinosissima***

密刺蔷薇(原变种) mi ci qiang wei (yuan bian zhong)

Branchlets densely bristly. Flowers white, pink, or yellowish, 2–5 cm in diam.; pedicel pubescent and glandular when young.

Scrub in forests, grassy slopes, river sides; 1100–2300 m. Xinjiang (Altay Shan, Diqu Xian) [Russia (Siberia); C and SW Asia, Europe].

**2b. *Rosa spinosissima* var. *altaica*** (Willdenow) Rehder in L. H. Bailey, Cycl. Amer. Hort. 4: 1557. 1902.

大花密刺蔷薇 da hua mi ci qiang wei

*Rosa altaica* Willdenow, Enum. Pl. Hort. Berol. 543. 1809.

Branchlets slightly bristly. Flowers white, 4–6 cm in diam.; pedicel glabrous.

Xinjiang [Russia (Siberia)].

**3. Rosa farreri** Cox, Pl. Introd. Reginald Farrer, 49. 1930.

刺毛蔷薇 ci mao qiang wei

*Rosa farreri* f. *persetososa* Stapf.

Shrubs small, 1–2 m tall. Branchlets terete, slender; bristles dense; prickles sparse. Leaves including petiole 3–5 cm; stipules mostly adnate to petiole, free parts lanceolate, glabrous, margin glandular; rachis and petiole glandular pubescent and sparsely prickly; leaflets 7–9(–11), ovate or elliptic, 5–18 × 3–10 mm, glabrous or abaxially along midvein sparsely pubescent, base cuneate or subrounded-obtuse or acute, margin entire near base. Flower solitary, axillary, 1.5–2 cm in diam.; pedicel 1–2.6 cm, glabrous, glandular or not; bracts absent, rarely present, then at base of pedicel, ovate, small. Hypanthium oblong, glabrous. Sepals 5, ovate-lanceolate, abaxially glabrous, adaxially tomentose, margin entire, apex attenuate into a linear part. Petals 5, pink, pinkish, or white, obovate or oblong, apex emarginate. Styles not exerted, much shorter than stamens, densely pubescent. Hip deep red, ellipsoid or ovoid-oblong, 8–12 mm, glabrous, with a short neck at apex and persistent sepals; pedicel 1–2.6 cm, glabrous. Fl. May–Jun, fr. Jun–Sep.

• Scrub; 1500–2800 m. Gansu, Sichuan.

One of us (Robertson) has seen no specimens of this species.

**4. Rosa koreana** Komarov, Trudy Imp. S.-Peterburgsk. Bot. Sada 18: 434. 1901.

长白蔷薇 chang bai qiang wei

Shrubs small, ca. 1 m tall, dense. Branchlets dense, dark purple-red, prickles paired below each node and densely scattered, terete, straight, bristlelike, to 6 mm, fine, abruptly flaring to an elliptic base; branches of present year sparsely prickly. Leaves including petiole 4–7 cm; stipules mostly adnate to petiole, free parts ovate-lanceolate, glabrous, margin glandular serrate; rachis and petiole sparsely prickly and glandular; leaflets 7–11(–15), elliptic, obovate-elliptic, or oblong-elliptic, 6–15 × 4–8 mm, abaxially subglabrous or along veins sparsely pubescent, rarely sparsely glandular, adaxially glabrous, base subrounded or broadly cuneate, margin acutely glandular serrate, partly doubly serrate, apex rounded-obtuse. Flower solitary, axillary, 2–3 cm in diam.; pedicel 1.2–2 cm, glandular pubescent; bracts absent. Hypanthium oblong. Sepals 5, lanceolate, abaxially glabrous, adaxially sparsely pubescent, not glandular, rarely sparsely glandular at margin, apex long acuminate or caudate-acuminate. Petals 5, tinged with pinkish, obovate, base cuneate, apex emarginate. Styles free, much shorter than stamens, slightly exerted. Hip orange-red, oblong, 1.5–2 cm, shiny, with persistent, erect sepals; pedicel 1.2–2 cm, glandular pubescent. Fl. May–Jun, Jul–Sep.

Forest margins, scrub, rocky places on slopes; 600–1200 m. Heilongjiang, Jilin, Liaoning [Korea].

- 1a. Abaxial surface of leaflets, petiole, and rachis usually eglandular ..... 4a. var. *koreana*
- 1b. Abaxial surface of leaflets, petiole, and rachis densely glandular ..... 4b. var. *glandulosa*

**4a. Rosa koreana** var. *koreana*

长白蔷薇(原变种) chang bai qiang wei (yuan bian zhong)

Abaxial surface of leaflets, petiole, and rachis usually eglandular.

Forest margins, scrub, rocky places on slopes; 600–1200 m. Heilongjiang, Jilin, Liaoning [Korea].

**4b. Rosa koreana** var. *glandulosa* T. T. Yu & T. C. Ku, Bull. Bot. Res., Harbin 1(4): 6. 1981.

腺叶长白蔷薇 xian ye chang bai qiang wei

Abaxial surface of leaflets, petiole, and rachis densely glandular.

• Mixed forest margins. E Jilin.

Based on its original description, the present authors suspect that *R. ussuriensis* Juzepczuk (in Komarov Fl. URSS 10: 451, 637. 1941) may be identical with *R. koreana* var. *glandulosa*, although Juzepczuk compared it with *R. oxyacantha*. The status of *R. ussuriensis* needs further study.

**5. Rosa kokanica** (Regel) Regel ex Juzepczuk in Komarov, Fl. URSS 10: 476. 1941.

腺叶蔷薇 xian ye qiang wei

*Rosa platyacantha* Schrenk var. *kokanica* Regel, Trudy Imp. S.-Peterburgsk. Bot. Sada 5: 313. 1878; *R. platyacantha* var. *variabilis* Regel; *R. xanthina* Lindley var. *kokanica* (Regel) Boulenger.

Shrubs small, 1.5–2 m tall. Branchlets spreading, straight, rough; prickles dense, straight, fine, firm, flat, tapering to an elliptic base, intermixed with glandular hairs on young branches. Leaves including petiole 4.5–8 cm; stipules mostly adnate to petiole, free parts ovate, margin serrate and glandular; rachis and petiole with short bristles, glandular; leaflets 5–7(–9), ovate, elliptic, or obovate, 1–2.2 × 0.6–1.3 cm, abaxially glandular or sparsely pubescent, with prominent midvein, adaxially glabrous or subglabrous, base broadly cuneate or subrounded, margin acutely doubly serrate, teeth often glandular apically, rounded-obtuse, rarely acute. Flower solitary, axillary, 2–4(–6) cm in diam.; pedicel 1.5–3 cm, glandular or not, glabrous; bracts absent. Hypanthium subglobose, abaxially glandular hispid, with short prickles, or glabrous. Sepals 5, lanceolate, abaxially glandular or not, adaxially sparsely puberulous, irregularly 2- or 3-pinnately lobed, apex long acuminate. Petals 5, pale yellow or white, broadly obovate, apex emarginate. Styles free, much shorter than stamens, slightly exerted, densely pubescent. Hip dark purple or dark brown, subglobose, ca. 1 cm in diam., with persistent, spreading or erect sepals; pedicel 1.5–3 cm, glandular hispid, with short prickles or glabrous. Fl. May–Jul, fr. Aug–Nov.

Slopes at forest margins, an important species in *Larix* forests; 1500–2500 m. Xinjiang [Afghanistan, Kazakhstan, Mongolia; SW Asia (Iran)].

**6. Rosa platyacantha** Schrenk, Bull. Sci. Acad. Imp. Sci. Saint-Petersbourg 10: 252. 1842.

宽刺蔷薇 kuan ci qiang wei

Shrubs small, 1–2 m tall. Branchlets spreading, robust, glabrous; prickles abundant, yellow, straight or curved, to 8 mm, firm, flat, widening to a broad elliptic base. Leaves in-

cluding petiole 3–5 cm; stipules mostly adnate to petiole, free parts lanceolate, glandular serrate; rachis and petiole glandular when young; leaflets 5–7(–9), suborbicular, obovate, or oblong, 8–15 × 5–10 mm, leathery, glabrous or abaxially along veins sparsely pubescent, base broadly cuneate or subrounded, margin 4–6-serrate at upper part, entire below, apex rounded-obtuse. Flower solitary, or 2 or 3 and fasciculate, axillary, 3–5 cm in diam.; pedicel 1–3.5 cm, usually glabrous; bracts absent. Hypanthium globose or ovoid, abaxially glabrous. Sepals 5, lanceolate, ca. 2 × as long as hypanthium, adaxially pubescent, margin entire, apex acuminate. Petals 5, yellow, obovate, base cuneate, apex emarginate. Styles free, shorter than stamens, slightly exerted, yellowish white villous. Hip dark red or purple-brown, globose or ovoid, ca. 1 cm in diam., shiny, with persistent, erect sepals; pedicel 1–3.5 cm, usually glabrous. Fl. May–Aug, fr. Aug–Nov.  $2n = 14^*$ .

Forests, forest margins, scrub, stream sides, arid slopes, waste fields; 1100–1800 m. Xinjiang [Kazakhstan, Mongolia].

**7. *Rosa hugonis*** Hemsley, Bot. Mag. 131: t. 8004. 1905.

黄蔷薇 huang qiang wei

Shrubs small, ca. 2.5 m tall. Branchlets purple-red, terete, glabrous, robust when old; prickles scattered, straight, to 1.2 cm, stout, flat, gradually tapering to a broad, elliptic base, base often ca. as long as prickle, intermixed with smaller prickles and bristles. Leaves including petiole 4–8 cm; stipules elongate, mostly adnate to petiole, free parts short, auriculate, glabrous, margin sparsely glandular pubescent; rachis and petiole glandular when young; leaflets 5–13, ovate, elliptic, or obovate, 8–20 × 5–12 mm, glabrous, abaxially with prominent midvein, adaxially concave, base broadly cuneate or subrounded, margin entire or acutely serrate, apex acuminate. Flowers axillary, solitary, 4–5.5 cm in diam.; pedicel 1–2 cm, glabrous; bracts absent. Hypanthium subglobose, abaxially glabrous. Sepals 5, lanceolate, ca. 2 × as long as hypanthium, abaxially glabrous, adaxially slightly pubescent, midvein conspicuous, margin entire, apex acuminate. Petals 5, light yellow, broadly obovate, base broadly cuneate, apex emarginate. Styles free, shorter than stamens, slightly exerted, white villous. Hip purple-red or black-brown, depressed-globose, 1.2–1.5 cm in diam., glabrous, shiny, with persistent, reflexed sepals; pedicel 1–2 cm, glabrous. Fl. May–Jun, fr. Jul–Aug.

• Scrub at forest margins, thickets, open slopes; 600–2300 m. Gansu, Qinghai, Shaanxi, Shanxi, Sichuan.

**8. *Rosa xanthina*** Lindley, Ros. Monogr. 132. 1820

黄刺玫 huang ci mei

*Rosa xanthinoides* Nakai.

Shrubs erect, 2–3 m tall. Branchlets diffuse, dense, glabrous, robust when old; prickles paired below some leaves, frequently opposite elsewhere, straight, to 1.2 cm, stout, flat, abruptly flaring to an elliptic base, small prickles and bristles absent. Leaves including petiole 3–5 cm; stipules mostly adnate to petiole, free parts linear-lanceolate, margin serrate and glandular; rachis and petiole sparsely pubescent, sometimes with small prickles; leaflets 7–13, broadly ovate or suborbicular, rarely elliptic, 6–18 × 5–10, abaxially sparsely pubescent when

young, glabrescent, adaxially glabrous, base broadly cuneate or subrounded, margin crenate or obtusely serrate, apex rounded-obtuse. Flower solitary, axillary, 3–4(–5) cm in diam.; pedicel 1–1.5 cm, glabrous, not glandular; bracts absent. Hypanthium subglobose or obovate, abaxially glabrous. Sepals 5, lanceolate, abaxially glabrous, adaxially sparsely pubescent, margin entire, apex acuminate. Petals 5 or double, yellow, broadly obovate, base broadly cuneate, apex emarginate. Styles free, much shorter than stamens, slightly exerted, villous. Hip purple-brown or black-brown, subglobose or obovoid, 8–10 mm in diam., glabrous, with persistent, reflexed sepals; pedicel 1–1.5 cm, glabrous. Fl. Apr–Jun, fr. Jul–Aug.  $2n = 14^*$ .

• Scrub, open slopes. Gansu, Hebei, Heilongjiang, Jilin, Liaoning, Nei Mongol, Shaanxi, Shandong, Shanxi; also frequently cultivated in N and NE China.

Two forms may be recognized: *Rosa xanthina* f. *normalis* Rehder & E. H. Wilson (in Sargent, Pl. Wilson. 2: 342. 1915; *R. xanthina* f. *spontanea* Rehder), which has single flowers with 5 petals, and f. *xanthina*, which has double or semidouble flowers and is frequently planted in gardens and parks.

**9. *Rosa primula*** Boulenger, Bull. Jard. Bot. État 14: 121. 1936.

櫻草蔷薇 ying cao qiang wei

Shrubs erect, small, 1–2 m tall. Branchlets terete, slender, glabrous; prickles sparse to numerous, paired below some leaves, frequently opposite elsewhere, straight, to 1.5 cm, stout, flat, gradually tapering to a broad elliptic base, small prickles and bristles absent. Leaves including petiole 3–7 cm; stipules mostly adnate to petiole, free parts ovate-lanceolate, glabrous, margin inconspicuously serrate and glandular; rachis and petiole sparsely glandular; leaflets (7–)9–15, elliptic, elliptic-obovate, or long elliptic, 6–15 × 3–8 mm, glabrous, abaxially with prominent midvein, densely glandular punctate, base subrounded or broadly cuneate, margin doubly obtusely serrate, apex rounded-obtuse or acute. Flower solitary, axillary, 2.5–4 cm in diam.; pedicel 8–10 mm, glabrous; bracts absent. Hypanthium ovoid or subglobose, glabrous. Sepals 5, lanceolate, abaxially glabrous, adaxially sparsely villous, margin entire, apex acuminate. Petals 5, yellowish or yellow-white, obovate, base broadly cuneate, apex emarginate. Styles free, shorter than stamens, slightly exerted, villous. Hip red or black-brown, ovoid or subglobose, ca. 1 cm in diam., glabrous, with persistent, reflexed sepals; pedicel to 1.5 cm, glabrous. Fl. May–Jul, fr. Jul–Nov.

• Forests, scrub, slopes; 800–2500 m. Gansu, Hebei, Henan, Shaanxi, Shanxi, Sichuan.

**10. *Rosa foetida*** Herrmann var. *persiana* (Lemaire) Rehder, Mitt. Deutsch. Dendrol. Ges. 24: 222. 1916.

异味蔷薇 yi wei qiang wei

*Rosa lutea* Miller var. *persiana* Lemaire, Fl. Serres Jard. Eur. 4: t. 374. 1848.

Shrubs 1.5–3 m tall. Branchlets red-brown, slender, glabrous; prickles sparse, terete, straight, to 7 mm, abruptly flaring at base, sometimes intermixed with small prickles and bristles. Leaves including petiole 4–6 cm; stipules mostly adnate to petiole, free parts ovate-lanceolate, margin glandular pubescent,

apex acuminate; rachis and petiole pubescent and glandular pubescent; leaflets 5–9, rarely 11, dark green adaxially, broadly ovate or obovate, abaxially sparsely pubescent and glandular pubescent, adaxially pubescent or subglabrous, base subrounded or broadly cuneate, margin doubly serrate, apex acute or truncate. Flowers solitary, rarely several, double, 4–6.5 cm in diam.; pedicel 4–5 cm, glabrous; bracts absent. Hypanthium depressed-globose, glabrous. Sepals 5, ca. 2 × as long as hypanthium, triangular-lanceolate, leaflike, abaxially sparsely pubescent and glandular pubescent, adaxially densely villous, margin entire or outer ones with a few fine lateral appendages. Petals 5, deep yellow. Styles free, not exerted, pubescent. Hip red, globose, with persistent, erect sepals.

Cultivated. S Xinjiang (Yutian Xian) [native to SW Asia].

**11. *Rosa graciliflora*** Rehder & E. H. Wilson in Sargent, Pl. Wilson. 2: 330. 1915.

细梗蔷薇 xi geng qiang wei

Shrubs erect, small, ca. 4 m tall. Branchlets terete, slender, glabrous or subglabrous, sometimes glandular pubescent; prickles sparse, terete, mostly straight, to 1 cm, fine, abruptly flaring to a broad base. Leaves including petiole 5–8 cm; stipules mostly adnate to petiole, free parts auriculate, glabrous, margin glandular serrate; rachis and petiole shortly prickly and glandular pubescent; leaflets 9–11, rarely 7, ovate or elliptic, 8–20 × 7–12 mm, abaxially glabrous or sparsely pubescent, often glandular, adaxially glabrous, base cuneate or subrounded, margin acutely doubly serrate or partly simply serrate, teeth sometimes glandular apically, apex acute or rounded-obtuse. Flower solitary, axillary, 2.5–3.5 cm in diam.; pedicel 1.5–2.5 cm, glabrous, sometimes sparsely glandular pubescent; bracts absent. Hypanthium oblong-ovoid, glabrous. Sepals 5, ovate-lanceolate, leaflike, abaxially glabrous, adaxially white tomentose, margin entire or sometimes serrate. Petals 5, pink or deep red, obovate, base cuneate, apex emarginate. Styles free, slightly exerted, slightly shorter than stamens, densely pubescent. Hip red, obovoid or oblong-obovoid, 2–3 cm, with persistent, erect sepals; pedicel 1.5–2.5 cm, glabrous. Fl. Jul–Aug, fr. Sep–Oct.

• *Picea* forests, scrub at forest margins, slopes; 3300–4500 m. Sichuan, Xizang, Yunnan.

**12. *Rosa tsinglingensis*** Pax & Hoffmann, Repert. Spec. Nov. Regni Veg. Beih. 12: 414. 1922.

秦岭蔷薇 qin ling qiang wei

Shrubs small, 2–3 m tall. Branchlets slender; prickles sparse, occasionally bristly and glandular pubescent. Leaves including petiole 5–11 cm; stipules mostly adnate to petiole, apical free parts auriculate, glabrous, margin glandular serrate; rachis and petiole sparsely prickly and glandular pubescent; leaflets 11–13, rarely 9, elliptic or oblong, 1–2 × 0.8–1.2 cm, abaxially glabrous or subglabrous, along midvein glandular pubescent, adaxially glabrous, with concave veins, base subrounded or broadly cuneate, margin doubly or simply serrate, teeth glandular apically when young, apex rounded-obtuse or acute. Flower solitary, axillary, 2.5–3 cm in diam.; pedicel 1.5–2 cm, sparsely glandular pubescent; bracts present or not. Hypanthium glabrous. Sepals 5, triangular-lanceolate,

leaflike, abaxially glabrous, adaxially densely pubescent, margin entire or serrate. Petals 5, white, obovate, base cuneate, apex emarginate. Styles free, slightly exerted, much shorter than stamens, densely pubescent. Hip red-brown, obovoid or oblong-obovoid, 2–3 cm, with persistent, erect sepals; pedicel 1.5–2 cm, sparsely glandular pubescent. Fl. Jul–Aug, fr. Sep.

• *Betula* forests, scrub; 2800–3700 m. Gansu, Shaanxi.

One of us (Robertson) has seen no specimens of this species.

**13. *Rosa taronensis*** T. T. Yu, Bull. Bot. Res., Harbin 1(4): 6. 1981.

球江蔷薇 qiu jiang qiang wei

Shrubs 1–2.5 m tall. Branchlets terete, often glabrous; prickles paired at leaf bases, terete, straight, to 8 mm, abruptly flaring to a broad base; bristles dense, much shorter than prickles. Leaves including petiole 4–10 cm; stipules broad, mostly adnate to petiole, free parts ovate, glabrous, apex caudate; rachis and petiole glabrous, with numerous small prickles; leaflets 7–9(–13), oblong or oblong-obovate, 1–3 × 0.5–1.2 cm, glabrous or abaxially along midvein sparsely pubescent and with small prickles, base broadly cuneate or subrounded, margin acutely serrate at upper 1/3–1/2 part, entire at lower part, apex truncate. Flower solitary, 3.5–4 cm in diam.; pedicel to 1.2 cm, glabrous; bracts absent. Hypanthium obconic, glabrous. Sepals 4, broadly ovate, abaxially pubescent or subglabrous, adaxially densely yellow-white villous, margin entire, apex shortly caudate. Petals 4, yellowish, broadly obovate, base broadly cuneate, apex emarginate. Styles free, slightly exerted, shorter than stamens. Hip orange-yellow, obconic, ca. 1 cm in diam., usually with persistent, erect sepals; pedicel turgid at base, to 1.2 cm, glabrous.

• Mixed forests, grassy places; 2400–3300 m. NW Yunnan.

**14. *Rosa omeiensis*** Rolfe, Bot. Mag. 138: t. 8471. 1912.

峨眉蔷薇 e mei qiang wei

*Rosa sericea* Lindley f. *aculeatoglandulosa* Focke; *R. sericea* f. *inermieglandulosa* Focke; *R. sorbus* H. Léveillé.

Shrubs erect, 1–4 m tall. Branchlets slender; prickles absent or if present, paired below leaves, terete, straight, to 7 mm, abruptly flaring to a broad base, or prickles winglike, to 1.5 cm and 3 cm in diam.; bristles absent or if present, dense. Leaves including petiole 3–6 cm; stipules mostly adnate to petiole, free parts triangular-ovate, margin serrate or entire, sometimes glandular; rachis and petiole with a few small prickles; leaflets (5–)9–13(–17), oblong or elliptic-oblong, 8–30 × 4–10 mm, abaxially glabrous or pubescent, glandular or not, adaxially glabrous, with concave midvein, base rounded-obtuse or broadly cuneate, margin acutely serrate, apex acute or rounded-obtuse. Flower solitary, axillary, 2.5–3.5 cm in diam.; pedicel 6–20 mm, glabrous; bracts absent. Hypanthium obovoid or pyriform, glabrous. Sepals 4, lanceolate, abaxially subglabrous, adaxially sparsely pubescent, margin entire, apex acuminate or long caudate. Petals 4, white, obtriangular-ovate, base broadly cuneate, apex emarginate. Styles free, shorter than stamens, villous. Hip bright to deep red or yellow, obovoid or pyriform, 8–15

mm in diam., glabrous or glandular pubescent, with persistent, erect sepals; pedicel yellow, tapering to hip, 6–20 mm, stout, fleshy, glabrous. Fl. May–Jun, fr. Jul–Sep.

• *Abies* forests, thickets, scrub, pastures, hillsides, slopes; 700–4000 m. Gansu, Guizhou, Hubei, Ningxia, Qinghai, Shaanxi, Sichuan, Xizang, Yunnan.

Four forms can be recognized: *R. omeiensis* f. *omeiensis*, which has leaflets abaxially pubescent to subglabrous and non-glandular; f. *glandulosa* T. T. Yu & T. C. Ku (Bull. Bot. Res., Harbin 1(4): 7. 1981), which has abaxially densely glandular leaflets; f. *pteracantha* Rehder & E. H. Wilson (in Sargent, Pl. Wilson. 2: 332. 1915), which has branches with purple, broad, flat, winglike prickles; and f. *paucijuga* T. T. Yu & T. C. Ku (Acta Phytotax. Sin. 18: 502. 1986), which has only 5–9 glabrous leaflets, slightly turgid fruiting pedicels, and is intermediate between *R. omeiensis* and *R. sericea*.

The root bark, which contains about 16% tannin, is used for tanning. The sweet, edible fruit are used medicinally and to ferment wine.

**15. *Rosa morrisonensis*** Hayata, J. Coll. Sci. Imp. Univ. Tokyo 30(1): 97. 1911.

玉山蔷薇 *yu shan qiang wei*

*Rosa sericea* Lindley var. *morrisonensis* (Hayata) Masamune.

Shrubs small, 1–2 m tall. Branchlets glabrous; prickles in pairs below leaves, straight, to 1.3 cm, flat; bristles sometimes present and dense. Leaves including petiole 3–5 cm; stipules adnate to petiole, free parts oblong-lanceolate, glabrous, margin entire or sparsely crenate and glandular, apex acuminate; rachis and petiole with a few short prickles, glandular pubescent; leaflets 7–11(–13), obovate or oblong, 6–12 × 5–8 mm, glabrous, base subrounded or broadly cuneate, margin acutely serrate in upper part, entire below, apex rounded-obtuse or truncate. Flower solitary at tips of short branches, axillary, ca. 2.5 cm in diam.; pedicel 1–1.5 cm, glabrous or subglabrous; bracts absent. Hypanthium pyriform or oblong, glabrous. Sepals 4, lanceolate, abaxially glabrous, sometimes sparsely glandular, adaxially densely pubescent, margin entire, apex long acuminate. Petals 4, white, slightly long obovate, base cuneate, apex rounded. Styles free, exserted, much shorter than stamens, stout, villous. Hip red, pyriform or obovoid, 6–8(–15) mm in diam., with persistent, spreading sepals; pedicel ca. 1.5 cm, glabrous. Fl. Jun–Jul.

• Alpine regions; 3200–4200 m. Taiwan (Yushan).

**16. *Rosa sericea*** Lindley, Ros. Monogr. 105. 1820.

绢毛蔷薇 *juan mao qiang wei*

*Rosa tetrapetala* Royle; *R. wallichii* Trattinnick.

Shrubs erect, 1–2 m tall. Branchlets purple-red or purple-brown, glabrous, robust when old; prickles absent or in pairs below leaves and scattered, terete, to 1.2 cm, fine to robust, abruptly flaring to a broad base, or prickles winglike, to 1.2 cm and 3.5 cm in diam.; bristles sometimes dense. Leaves including petiole 3.5–8 cm; stipules mostly adnate to petiole, free parts auriculate, pubescent or glabrous, margin glandular; ra-

chis and petiole pubescent, sometimes sparsely prickly and glandular pubescent; leaflets (5–)7–11(–13), ovate or obovate, rarely obovate-oblong, 8–20 × 5–8 mm, abaxially sericeous-villous or subglabrous to glabrous, glandular or not, adaxially glabrous, rugose, base broadly cuneate, margin serrate in upper part, entire below, apex rounded-obtuse or acute. Flower solitary, axillary, 2.5–5 cm in diam.; pedicels 1–2 cm, glabrous; bracts absent. Hypanthium obovoid or globose, subglabrous. Sepals 4, ovate-lanceolate, abaxially sparsely pubescent or subglabrous, adaxially villous, margin entire, apex acuminate or acute. Petals 4, white, broadly obovate, base broadly cuneate, apex emarginate. Styles free, shorter than stamens, slightly exserted, villous. Hip red or purple-brown, obovoid or globose, 8–15 mm in diam., glabrous, with persistent, erect sepals; pedicel 1–2 cm, glabrous, usually not fleshy. Fl. May–Jun, fr. Jul–Aug.  $2n = 14$ .

Sparse woods, forest margins, scrub, valley slopes, dry valleys, cliffs, mountain summits, gravels, dry sunny places; 2000–4400 m. Guizhou, Sichuan, Xizang, Yunnan [Bhutan, India, Myanmar, Sikkim].

Four forms can be recognized: f. *sericea*, which has leaflets abaxially pubescent, non-glandular; f. *glandulosa* T. T. Yu & T. C. Ku (Acta Phytotax. Sin. 18: 503. 1980), which has leaflets abaxially pubescent and glandular; f. *glabrescens* Franchet (Pl. Delavay. 220. 1890), which has leaflets abaxially glabrous or subglabrous; and f. *pteracantha* Franchet (loc. cit.), which has branches with broad, flat, winglike prickles.

**17. *Rosa mairei*** H. Léveillé, Repert. Spec. Nov. Regni Veg. 11: 299. 1912.

毛叶蔷薇 *mao ye qiang wei*

Shrubs small, 0.5–2 m tall. Branchlets red-purple or brown-purple, terete, robust; prickles in pairs below leaves, straight, to 1 cm, fine to stout or winglike on same plant, gradually tapering to thickened base, winged prickles to 2 cm in diam.; bristles scattered to dense on older stems. Leaves including petiole 2–7 cm; stipules mostly adnate to petiole, free parts ovate, pubescent, margin serrate or entire; rachis and petiole sericeous; leaflets 5–9(–11), oblong-ovate or obovate, sometimes oblong, 6–20 × 4–10 mm, both surfaces sericeous, base cuneate or subrounded, margin serrate at upper 1/3–2/3 part, apex rounded-obtuse or truncate. Flower solitary, axillary, 2–3 cm in diam.; pedicel 8–15 mm, pubescent; bracts absent. Hypanthium ovoid, glabrous. Sepals 4, ovate or lanceolate, abaxially sparsely pubescent, adaxially densely pubescent, margin entire, apex acuminate. Petals 4, white, broadly obovate, base cuneate, apex undulate. Styles free, much shorter than stamens, slightly exserted, pubescent. Hip red or brown, ovoid-globose, ca. 1 cm in diam., glabrous, with persistent, erect or reflexed sepals; pedicel 8–15 mm, pubescent. Fl. May–Jul, fr. Jul–Oct.

• Stream sides in forests, sunny slopes; 2300–4200 m. Guizhou, Sichuan, Xizang, Yunnan.

**18. *Rosa sikangensis*** T. T. Yu & T. C. Ku, Acta Phytotax. Sin. 18: 501. 1980.

川西蔷薇 *chuan xi qiang wei*

Shrubs small, 1–1.5 m tall. Branchlets terete, subglabrous; prickles in pairs below leaves, or sparse and intermixed with



dense slender bristles; bristles glandular apically when young. Leaves including petiole 3–5 cm; stipules broad, mostly adnate to petiole, free parts ovate or hooked, pubescent or glabrous, margin glandular; rachis and petiole pubescent and glandular pubescent, sparsely small prickly; leaflets 7–9(–13), oblong or obovate, 6–10 × 4–8 mm, abaxially pubescent and glandular, adaxially glabrous or pubescent, base subrounded or broadly

cuneate, margin densely doubly serrate, apex rounded-obtuse or truncate. Flower solitary, axillary, ca. 2.5 cm in diam.; pedicel 8–12 mm, glandular pubescent; bracts absent. Hypanthium ovoid, glabrous. Sepals 4, ovate-lanceolate, abaxially sparsely pubescent and glandular, adaxially densely pubescent, margin entire, apex long acuminate. Petals 4, white, obovate, base broadly cuneate, apex emarginate. Styles free, much shorter than stamens, villous. Hip red, subglobose, ca. 1 cm in diam., abaxially glandular pubescent; pedicel 8–12 mm, slender, glandular pubescent. Fl. May–Jun, fr. Jul–Sep.

• Scrub, river sides, roadsides; 2900–4200 m. Sichuan, Xizang, Yunnan.

One of us (Robertson) has seen no specimens of this species.

Two forms may be recognized: f. *sikangensis*, which has leaflets adaxially glandular and f. *pilosa* T. C. Ku (Bull. Bot. Res., Harbin 10(1): 1. 1990), which has leaflets adaxially eglandular or glandular only along the veins.

**19. *Rosa zhongdianensis*** T. C. Ku, Bull. Bot. Res., Harbin 10(1): 1. 1990.

中甸蔷薇 *zhong dian qiang wei*

Shrubs small, ca. 2 m tall. Branchlets red-brown, terete, usually glabrous; prickles in pairs below leaves, rarely sparse, flat, broad at base. Leaves including petiole 1.5–2.8 cm; stipules mostly adnate to petiole, free parts oblong, glandular pubescent or glabrous abaxially, margin glandular pubescent, apex rounded; rachis and petiole pubescent and glandular pubescent; leaflets (5–)7, obovate, 5–8 × 3–5 mm, abaxially glabrous, glandular often along veins, adaxially densely pubescent, base cuneate, margin densely doubly serrate, densely glandular apically, apex rounded or truncate. Flower solitary, axillary; pedicel 5–7 mm, glabrous; bracts absent. Hypanthium obovoid, glabrous. Sepals 4, lanceolate, 9–12 mm, both surfaces densely pubescent, margin entire, apex long acuminate, caudate. Petals 4, white. Styles free, shortly exerted, shorter than stamens, pilose. Hip dark red, obovoid, glabrous; pedicel glabrous. Fr. Jul–Sep.

• About 2600 m. NW Yunnan (Zhongdian Xian).

## 2. *Rosa* sect. *Cinnamomeae* Candolle ex Seringe, Mus. Helv. Bot. 1: 2.1818.

桂味组 *gui wei zu*

Shrubs erect, with prickles in pairs or scattered, often bristly. Stipules broad or narrow, adnate to petiole; leaflets 5–15. Flowers usually numerous, rarely solitary, with large, broad bracts. Sepals often entire, after anthesis erect, persistent, rarely deciduous; styles free, not or slightly exerted.

About 50 species: Asia, Europe, North America; 36 species (26 endemic) in China.

**20. *Rosa beggeriana*** Schrenk in Fischer & C. A. Meyer, Enum. Pl. Nov. 1: 73. 1841.

弯刺蔷薇 *wan ci qiang wei*

Shrubs 1.5–3 m tall. Branchlets purple-brown, terete, slightly curved, glabrous; prickles scattered and in pairs below leaves, yellowish, hooked, to 8 mm, slender to stout, gradually tapering to broad base. Leaves including petiole 3–9 cm; stipules mostly adnate to petiole, free parts ovate, margin glandular serrate, apex acuminate; rachis and petiole pubescent, sometimes with small prickles; leaflets 5–9, broadly elliptic or ellip-

tic-obovate, 8–25 × 5–12 mm, both surfaces pubescent, densely so, or glabrous, midvein prominent abaxially, concave adaxially, base subrounded or broadly cuneate, margin acutely simply serrate, near base entire, apex acute or rounded-obtuse. Flowers several or numerous in corymb or panicle, rarely solitary, 2–3 cm in diam.; pedicel 1–2 cm, glabrous or pubescent, occasionally sparsely glandular pubescent; bracts 1–3(or 4), ovate, margin glandular serrate, apex acuminate. Hypanthium subglobose, pubescent, densely so, or glabrous. Sepals 5, deciduous, lanceolate, leaflike, abaxially glandular pubescent, adaxially densely puberulous, margin entire, apex caudate. Petals 5, white, rarely

pink, broadly obovate, base broadly cuneate, apex emarginate. Styles free, much shorter than stamens, villous. Hip red, becoming black-purple, subglobose, rarely ovoid, 6–10 mm in diam., glabrous, after ripening apical part of hypanthium and sepals deciduous together. Fl. May–Jul, fr. Jul–Oct.  $2n = 14^*$ .

Slopes, valleys, river sides, roadsides; 500–2200 m. Gansu, Xinjiang [Afghanistan, Kazakhstan, Mongolia].

- 1a. Leaflets adaxially glabrous, abaxially pubescent or glabrous; pedicels and hypanthium glabrous, or pedicels occasionally sparsely glandular pubescent ..... 20a. var. *beggeriana*
- 1b. Leaflets densely pubescent on both surfaces; pedicels and hypanthium densely pubescent ..... 20b. var. *lioui*

**20a. Rosa beggeriana** var. **beggeriana**

弯刺蔷薇(原变种) wan ci qiang wei (yuan bian zhong)

Leaflets abaxially pubescent or glabrous, adaxially glabrous. Pedicel and hypanthium glabrous, or pedicels occasionally sparsely glandular pubescent.

Slopes, valleys, river sides, roadsides; 900–2000 m. Gansu, Xinjiang [Afghanistan, Mongolia, Kazakhstan].

**20b. Rosa beggeriana** var. **lioui** (T. T. Yu & H. T. Tsai) T. T. Yu & T. C. Ku, Bull. Bot. Res., Harbin 1(4): 8. 1981.

毛叶弯刺蔷薇 mao ye wan ci qiang wei

*Rosa lioui* T. T. Yu & H. T. Tsai, Bull. Fan. Mem. Inst. Biol., Bot. Ser., 7: 115. 1936.

Leaflets densely pubescent on both surfaces. Pedicel and hypanthium densely pubescent.

- Valleys, river sides; 500–2200 m. Xinjiang.

**21. Rosa albertii** Regel, Trudy Imp. S.-Peterburgsk. Bot. Sada 8: 278. 1883.

腺齿蔷薇 xian chi qiang wei

Shrubs 1–2 m tall. Branchlets gray-brown or purple-brown, glabrous; prickles scattered, straight, slender, usually densely bristly; bristles with rounded disk basally. Leaves including petiole 3–8 cm; stipules mostly adnate to petiole, free parts ovate-lanceolate, margin glandular pubescent, apex acuminate; rachis and petiole puberulous, glandular pubescent, and sparsely prickly; leaflets 5–7, ovate, elliptic, obovate, or suborbicular, 8–30 × 5–18 mm, abaxially puberulous, adaxially glabrous, base subrounded or broadly cuneate, margin doubly or simply serrate, apex rounded-obtuse or acute. Flower solitary, or 2 or 3 and fasciculate, 3–4 cm in diam.; pedicel 1.5–3 cm, glandular pubescent or not; bracts ovate, glabrous or sometimes abaxially glandular pubescent, margin glandular pubescent, apex acuminate. Hypanthium oblong, glabrous. Sepals 5, ovate-lanceolate, sometimes leaflike, abaxially glabrous, sometimes glandular pubescent, adaxially densely pubescent, apex caudate. Petals 5, white, broadly obovate, base broadly cuneate, apex emarginate. Styles free, much shorter than stamens, vil-

lous. Hip orange-red, pyriform or ellipsoid, 8–18 mm in diam., after ripening apical part of hypanthium and sepals deciduous together. Fl. Jun–Aug, fr. Aug–Oct.

*Picea* or *Pinus* forests, forest margins, slopes; 1200–2000 m. Gansu, Qinghai, Xinjiang [Kazakhstan, Mongolia, Russia (W Siberia)].

**22. Rosa prattii** Hemsley, J. Linn. Soc., Bot. 29: 307. 1892.

铁杆蔷薇 tie gan qiang wei

Shrubs 1–2.5 m tall. Branchlets purple-brown or red-brown, terete, slightly curved, slender; prickles scattered, yellow, straight, to 1 cm, sometimes intermixed with numerous bristles; bristles sometimes glandular. Leaves including petiole 5–10 cm; stipules mostly adnate to petiole, free parts ovate, margin glandular serrate, apex acuminate; rachis and petiole pubescent and glandular pubescent, occasionally with small prickles; leaflets 7–15, elliptic or oblong, 6–20 × 4–10 mm, abaxially pubescent along prominent midvein, adaxially glabrous, with concave midvein, base subrounded or broadly cuneate, margin serrulate, sometimes near base entire, slightly revolute, apex acute or obtuse. Flowers 2–7, in umbel-like corymb, rarely solitary, ca. 2 cm in diam.; pedicel 8–30 mm, glandular pubescent; bracts ovate, margin glandular serrate, apex acuminate or caudate. Hypanthium fusiform, glabrous or glandular pubescent. Sepals 5, deciduous, ovate-lanceolate, abaxially sparsely pubescent and glandular pubescent, adaxially densely pubescent, margin entire, apex dilated and caudate. Petals 5, pink, broadly obovate, base broadly cuneate, apex emarginate. Styles free, much shorter than stamens, densely villous. Hip deep red, ovoid or ellipsoid, 5–8 mm in diam., with a short neck, after ripening apical part of hypanthium and sepals deciduous together. Fl. May–Jul, fr. Aug–Oct.

- Broad-leaved and coniferous forests, scrub on open slopes; 1900–3000 m. Gansu, Sichuan, Yunnan.

**23. Rosa willmottiae** Hemsley, Bull. Misc. Inform. Kew 1907: 317. 1907.

小叶蔷薇 xiao ye qiang wei

Shrubs 1–3 m tall. Branchlets slender, glabrous; prickles in pairs below leaves, numerous, terete, straight, to 1.2 cm, slender, abruptly flaring at base, old branches rarely bristly. Leaves including petiole 2–4 cm; stipules mostly adnate to petiole, free parts ovate-lanceolate, margin glandular serrate or entire; apex acute; rachis and petiole glabrous or sparsely pubescent, glandular pubescent and shortly prickly; leaflets 7–9, rarely 11, elliptic, obovate, or suborbicular, 6–17 × 4–12 mm, abaxially glabrous or puberulous along midvein, glandular or not, adaxially glabrous, base subrounded, rarely broadly cuneate, margin simply serrate, doubly serrate above middle, apex rounded-obtuse. Flower solitary, ca. 3 cm in diam.; pedicel 1–1.5 cm, often glandular pubescent; bracts ovate-lanceolate, abaxially with distinct midvein, margin glandular serrate, apex caudate. Hypanthium oblong to subglobose, glabrous. Sepals 5, triangular-lanceolate, abaxially glabrous, adaxially densely pubescent, margin entire, apex elongate. Petals 5, pink, obovate, base cuneate, apex emarginate. Styles free, much shorter than stamens, densely pubescent. Hip orange-red, oblong or subglobose, ca. 1

cm in diam., glabrous, shiny, when ripening apical part of hypanthium and sepals deciduous together. Fl. May–Jun, fr. Jul–Sep.

• Thickets, scrub, open slopes, stream sides, roadsides; 1300–3800 m. Gansu, Qinghai, Shaanxi, Sichuan.

- 1a. Leaflets doubly serrate at upper margin, simply serrate at lower margin, abaxially glabrous or puberulous along midvein, not glandular ..... 23a. var. *willmottiae*
- 1b. Leaflets doubly serrate along whole margin, abaxially unevenly glandular, margin teeth glandular apically ..... 23b. var. *glandulifera*

**23a. *Rosa willmottiae* var. *willmottiae***

小叶蔷薇(原变种) xiao ye qiang wei (yuan bian zhong)

Leaflets doubly serrate at upper margin, simply serrate at lower margin, abaxially glabrous or puberulous along midvein, not glandular.

• Scrub on open slopes, thickets; 2500–3800 m. Gansu, Sichuan, Xizang, Yunnan.

**23b. *Rosa willmottiae* var. *glandulifera* T. T. Yu & T. C. Ku, Acta Phytotax. Sin. 18: 503. 1980.**

多腺小叶蔷薇 duo xian xiao ye qiang wei

*Rosa willmottiae* var. *glandulosa* T. T. Yu & T. C. Ku.

Leaflets doubly serrate along whole margin, abaxially unevenly glandular, margin teeth glandular apically.

• Scrub on open slopes, roadsides; 2500–3800 m. Gansu, Sichuan, Xizang, Yunnan.

**24. *Rosa setipoda* Hemsley & E. H. Wilson, Bull. Misc. Inform. Kew 1906: 158. 1906.**

刺梗蔷薇 ci geng qiang wei

*Rosa hemsleyana* Tackholm; *R. macrophylla* Lindley var. *crasseaculeata* Vilmorin.

Shrubs to 3 m tall. Branchlets terete, slightly curved, glabrous; prickles sparse to absent, straight or slightly curved, to 1 cm, stout, flat, evenly tapering to a broader base. Leaves including petiole 8–19 cm; stipules broad, mostly adnate to petiole, free parts auriculate, triangular-lanceolate, abaxially and at margin glandular, apex acuminate; rachis and petiole densely glandular pubescent and sparsely shortly prickly; leaflets 5–9, ovate, elliptic, or broadly elliptic, 2.5–5.2 × 1.2–3 cm, abaxially pubescent and glandular, with prominent midvein and lateral veins, adaxially glabrous, base subrounded or broadly cuneate, margin doubly serrate, teeth often glandular apically, apex acute or rounded-obtuse. Flowers in lax corymb, 3.5–5 cm in diam.; pedicel 1.3–2.4 cm, glandular; bracts 2 or 3, ovate, abaxially reticulate, pubescent and glandular, margin irregularly serrate and glandular, apex acuminate. Hypanthium oblong or ovoid, densely stipitate glandular, glands to 2 mm. Sepals 5, ovate, leaflike, abaxially glandular, margin pinnately lobed or serrate, adaxially tomentose, teeth glandular apically, apex long caudate. Petals 5, pink or rose-purple, broadly obovate,

abaxially slightly pubescent, base cuneate, apex emarginate. Styles free, slightly exerted, much shorter than stamens, pubescent. Hip deep red, oblong-ovoid, 1–2 cm in diam., with a neck at apex, glandular pubescent or not, with persistent, erect sepals. Fl. May–Jul, fr. Jul–Oct.

• Scrub, slopes; 1800–2600 m. Hubei, Sichuan.

**25. *Rosa corymbulosa* Rolfe, Bot. Mag. 140: t. 8566. 1914.**

伞房蔷薇 san fang qiang wei

Shrubs small, 1.3–2 m tall. Branchlets terete, straight or slightly curved, glabrous; prickles absent or sparse, straight, short, to 5 mm, stout, gradually tapering to base. Leaves including petiole 5–13 cm; stipules mostly adnate to petiole, flat, free parts ovate, margin glandular pubescent, apex acuminate; rachis and petiole sparsely puberulous, glandular pubescent, often with tiny prickles; leaflets 3–5, rarely 7, ovate-oblong or elliptic, 2.5–6 × 1.5–3.5 cm, abaxially pubescent and paler, adaxially glabrous, base cuneate or subrounded, margin doubly or simply serrate, apex acute or rounded-obtuse. Flowers numerous or several, in umbel-like corymb, rarely solitary, 2–2.5 cm in diam.; pedicel 2–4 cm, pubescent and glandular pubescent; bracts ovate or ovate-lanceolate, margin glandular pubescent, apex long acuminate. Hypanthium subglobose or ovoid, pubescent, glandular. Sepals 5, ovate-lanceolate, leaflike, both surfaces pubescent, margin entire or inconspicuously serrate, glandular pubescent, apex expanding. Petals 5, red, white at base, broadly obcordate, apex emarginate. Styles free, exerted, slightly shorter than or equaling stamens, densely yellowish white villous. Hip bright red, globose or ovoid, ca. 8 mm in diam., with persistent, erect sepals. Fl. Jun–Jul, fr. Aug–Oct.

• Forests, thickets, scrub, slopes, river sides; 1600–2000 m. Gansu, Hubei, Shaanxi, Sichuan.

**26. *Rosa caudata* Baker in E. Willmott, *Rosa* 2: 495. 1914.**

尾萼蔷薇 wei e qiang wei

Shrubs to 4 m tall. Branchlets spreading, terete, glabrous; prickles scattered, triangular, straight, stout. Leaves including petiole 10–20 cm; stipules broad, mostly adnate to petiole, free parts ovate, glandular pubescent or not, margin entire, apex acuminate; rachis and petiole sparsely glandular pubescent, shortly prickly; leaflets 7–9, ovate, oblong-ovate, or elliptic-ovate, 3–10 × 1–6 cm, glabrous or sparsely puberulous abaxially along veins, with prominent midvein and lateral veins, base rounded or broadly cuneate, margin simply serrate, apex acute or shortly acuminate. Flowers numerous, in corymb, 3.5–6 cm in diam.; pedicel 1.5–4 cm, densely glandular pubescent or not; bracts several, ovate, margin glandular or not, apex caudate. Hypanthium oblong, densely glandular pubescent or glabrous. Sepals 5, triangular-ovate, to 3 cm, leaflike, abaxially glabrous, adaxially densely puberulous, margin entire, apex caudate. Petals 5, red, broadly obovate, abaxially glabrous or sericeous, base broadly cuneate, apex emarginate. Styles free, much shorter than stamens, pubescent. Hip orange-red, oblong, 2–2.5 cm, with persistent, often erect sepals. Fl. Jun–Jul, fr. Jul–Nov.

• Valley forests, scrub, slopes; 1200–2500 m. Hubei, Shaanxi, Sichuan.

- 1a. Flowers 3.5–5 cm in diam., numerous in corymb; petals abaxially glabrous; leaflets 3–7 × 1–3 cm ..... 26a. var. *caudata*  
1b. Flowers larger, 4–6 cm in diam., 8–10 in corymb; petals abaxially sericeous; leaflets larger, 8–10 × 4–6 cm ..... 26b. var. *maxima*

**26a. *Rosa caudata* var. *caudata***

尾萼蔷薇(原变种) wei e qiang wei (yuan bian zhong)

Leaflets 3–7 × 1–3 cm. Flowers numerous in corymb, 3.5–5 cm in diam. Petals abaxially glabrous.

- Scrub, slopes; 1600–2000 m. Hubei, Shaanxi, Sichuan.

**26b. *Rosa caudata* var. *maxima*** T. T. Yu & T. C. Ku, Bull. Bot. Res., Harbin 1(4): 8. 1981.

大花尾萼蔷薇 da hua wei e qiang wei

Leaflets large, 8–10 × 4–6 cm. Flowers 8–10 in corymb, large, 4–6 cm in diam. Petals abaxially sericeous.

- Valley forests, open slopes; 1200–2500 m. Shaanxi (Gouchang Xian), C Sichuan (Tianquan Xian).

**27. *Rosa davidii*** Crépin, Bull. Soc. Roy. Bot. Belgique 13: 253. 1873.

西北蔷薇 xi bei qiang wei

Shrubs 1.5–4 m tall. Branchlets spreading, terete, slender, glabrous; prickles sparse to scattered, triangular, straight or slightly curved, flat, gradually tapering to broad base. Leaves including petiole 7–14 cm; stipules mostly adnate to petiole, free parts ovate, margin glandular, apex apiculate; rachis and petiole puberulous, glandular pubescent, sparsely shortly prickly; leaflets 7–9, rarely 11 or 5, 2.5–7 × 1–2(–3) cm, abaxially densely puberulous or sparsely pubescent, rarely glabrous, adaxially usually glabrous, base subrounded or broadly cuneate, margin acutely simply serrate, apex acute. Flowers 3 to numerous in corymb, 2–3 cm in diam.; pedicel 1.5–2.5 cm, pubescent and stipitate glandular, glands to 3 mm; bracts large, ovate or lanceolate, both surfaces puberulous, margin entire, apex acuminate. Hypanthium elliptic or long ovoid, densely stipitate glandular. Sepals 5, ovate, leaflike, both surfaces puberulous, abaxially glandular pubescent, margin entire. Petals 5, deep pink, broadly obovate, base broadly cuneate, apex emarginate. Styles free, slightly exerted, shorter than or nearly equaling stamens, densely pubescent. Hip deep red or orange-red, long ellipsoid or long obovoid, 1–1.5 × 1.8–2.5 cm, with a long neck at apex, glandular pubescent or not, with persistent, erect sepals. Fl. Jun–Jul, fr. Sep.

- Forest margins, scrub; 1500–3000 m. Gansu, Ningxia, Shaanxi, Sichuan, Yunnan.

- 1a. Leaflets 2.5–4(–6) × 1–2(–3) cm, abaxially densely puberulous or sparsely pubescent; flowers numerous in corymb; hip long ellipsoid or long obovoid, fruiting pedicel 1–2 cm ..... 27a. var. *davidii*  
1b. Leaflets larger, 5–7 × 1.5–3 cm, abaxially pubescent, rarely glabrous; flowers 3–7,

in corymb; hip long ellipsoid, to 2.5 cm, projecting at apex and base, fruiting pedicel 3–4 cm ..... 27b. var. *elongata*

**27a. *Rosa davidii* var. *davidii***

西北蔷薇(原变种) xi bei qiang wei (yuan bian zhong)

Leaflets 2.5–4(–6) × 1–2(–3) cm, abaxially densely puberulous or sparsely pubescent. Flowers numerous in corymb. Hip long ellipsoid or long obovoid; pedicel 1–2 cm.

- Forest margins, scrub; 1500–2600 m. Gansu, Ningxia, Shaanxi, Sichuan, Yunnan.

**27b. *Rosa davidii* var. *elongata*** Rehder & E. H. Wilson in Sargent, Pl. Wilson. 2: 323. 1915.

长果西北蔷薇 chang guo xi bei qiang wei

*Rosa parmentieri* H. Léveillé

Leaflets large, 5–7 × 1.5–3 cm, abaxially pubescent, rarely glabrous. Flowers 3–7 in corymb. Hip long ellipsoid, to 2.5 cm, projecting at apex and base; pedicel 3–4 cm.

- Thickets; 1600–3000 m. Shaanxi, Sichuan.

**28. *Rosa banksiopsis*** Baker in E. Willmott, *Rosa* 2: 503. 1914.

拟木香 ni mu xiang

Shrubs small, 1–3 m tall. Branchlets terete; prickles mostly absent, or if present, small. Leaves including petiole 5–13 cm; stipules mostly adnate to petiole, free parts ovate, glabrous, auriculate, margin glandular serrate or entire, apex acuminate; rachis and petiole glabrous, or sparsely shortly prickly and glandular pubescent; leaflets 7–9, ovate or oblong, abaxially glabrous or sparsely pubescent, with prominent midvein and lateral veins, adaxially glabrous, with concave midvein and lateral veins, base rounded or broadly cuneate, margin acutely simply serrate, apex acute or shortly acuminate. Flowers numerous in corymb, 2–3 cm in diam.; pedicel 1–2.5 cm, glabrous, sparsely puberulous or stipitate glandular; bracts ovate or lanceolate, sparsely puberulous, margin glandular serrate or entire, apex caudate-acuminate. Hypanthium ovoid. Sepals 5, ovate-lanceolate, leaflike, abaxially glabrous or sparsely pubescent, adaxially densely pubescent, stipitate glandular. Petals 5, pink or rose, obovate, apex emarginate. Styles free, slightly exerted, much shorter than stamens, densely villous. Hip orange-red, ovoid, ca. 8 mm in diam., glabrous or stipitate glandular, with persistent, erect sepals. Fl. Jun–Jul, fr. Jul–Sep.

- Forests, thickets; 1200–2100 m. Gansu, Hubei, Jiangxi, Shaanxi, Sichuan.

**29. *Rosa rugosa*** Thunberg in Murray, Syst. Veg., ed. 14, 473. 1784.

玫瑰 mei gui

*Rosa ferox* Lawrence; *R. pubescens* Baker.

Shrubs erect, to 2 m tall. Stems fasciculate, robust; branchlets tomentose; prickles dense, yellowish, terete, straight, greatly variable in size and intermixed, to 5 mm, fine, evenly tapering to base, lower parts tomentose, intermixed with glandular

bristles. Leaves including petiole 5–13 cm, thick; stipules mostly adnate to petiole, free parts ovate, abaxially tomentose, margin glandular pubescent, apex acute; rachis and petiole tomentose, sometimes with a few, short prickles; leaflets 5–7(–9), elliptic or elliptic-obovate, 1.5–4.5 × 1–2.5 cm, abaxially tomentose, reticulate, adaxially glabrous, shiny, rugose due to concave veins, base rounded or broadly cuneate, margin acutely serrate, apex acute or rounded-obtuse. Flower solitary, or several and fasciculate, axillary, 4–5.5 cm in diam.; pedicel 5–25 mm, tomentose and glandular pubescent; bracts ovate, abaxially tomentose, margin glandular pubescent, apex acuminate. Hypanthium subglobose, glabrous. Sepals 5, ovate-lanceolate, often leaflike, abaxially pubescent and stipitate glandular, adaxially sparsely pubescent, pinnately lobed, apex caudate-acuminate. Petals 5, semidouble, or double, purple-red, dark pink, or white, obovate, base cuneate, apex emarginate. Styles free, slightly exerted, much shorter than stamens. Hip dark red, depressed-globose, 2–2.5 cm in diam., smooth, with persistent, erect sepals. Fl. May–Jun, fr. Aug–Sep. 2n = 14\*.

Coastal hillsides, sandy soils on sea shores, offshore islands; below 100 m. Native in E Jilin (Hunchun Xian), Liaoning, NE Shandong (Yantai Shi); widely cultivated elsewhere in China [Japan, Korea, Russia (Far East)].

This species has many horticultural forms widely cultivated in China. According to Fu (China Plant Red Data Book 1: 558–559. 1992), it is endangered as a wild plant by picking and uprooting.

**30. Rosa davurica** Pallas, Fl. Ross. 1(2): 61. 1789.

山刺玫 shan ci mei

Shrubs erect, ca. 1.5 m tall. Branchlets purple-brown or gray-brown, terete, glabrous; prickles paired below leaves, yellowish, terete, slightly curved, abruptly flaring to broad base. Leaves including petiole 4–10 cm; stipules mostly adnate to petiole, free parts ovate, abaxially pubescent, margin glandular serrate, apex acute; rachis and petiole pubescent, glandular pubescent, sparsely prickly; leaflets 7–9, oblong or broadly lanceolate, 1.5–3.5(–4) × 0.5–1.5 cm, abaxially glandular punctate or not, sparsely puberulous or glabrous with prominent midvein and lateral veins, adaxially glabrous, with concave midvein and lateral veins, base rounded or broadly cuneate, margin simple and doubly serrate, apex acute or rounded-obtuse. Flowers solitary, or 2 or 3 and fasciculate, axillary, 3–4 cm in diam.; pedicel 5–8 mm, glabrous or glandular pubescent; bracts ovate, abaxially pubescent and glandular punctate, margin glandular serrate, apex acuminate. Hypanthium subglobose, glabrous. Sepals 5, lanceolate, leaflike, abaxially sparsely pubescent and shortly glandular pubescent, adaxially pubescent, margin irregularly serrate or glandular pubescent. Petals 5, pink, obovate, base broadly cuneate, apex rounded. Styles free, much shorter than stamens, pubescent. Hip red, globose or ovoid, 1–1.5 cm in diam., with a distinct neck, glabrous, with persistent, erect sepals. Fl. Jun–Jul, fr. Aug–Sep.

Sunny places at forest margins, grassy places on hills, slopes; 400–2500 m. Hebei, Heilongjiang, Jilin, Liaoning, Nei Mongol, Shanxi [Japan, Korea, S Mongolia, Russia (E Siberia)].

- 1a. Branchlets densely prickly, prickles unequal ..... 30c. var. *setacea*

- 1b. Branchlets sparsely prickly, prickles equal.
  - 2a. Leaflets usually smaller, 1.5–3.4(–4) cm, abaxially glandular punctate, sparsely pubescent or glabrous ..... 30a. var. *davurica*
  - 2b. Leaflets to 4 cm, abaxially not glandular punctate, glabrous or pubescent only along veins ..... 30b. var. *glabra*

**30a. Rosa davurica** var. *davurica*

山刺玫(原变种) shan ci mei (yuan bian zhong)

*Rosa willdenowii* Sprengel.

Branches sparsely prickly. Leaflets usually smaller, 1.5–3.4(–4) cm, abaxially glandular punctate, sparsely pubescent or glabrous.

Sunny places at forest margins, grassy places on hills, slopes; 400–2500 m. Hebei, Heilongjiang, Jilin, Liaoning, Nei Mongol, Shanxi [Japan, Korea, S Mongolia, Russia (E Siberia)].

The roots and fruit are used medicinally.

**30b. Rosa davurica** var. *glabra* Liou, Fl. Pl. Herb. Chin. Bor.-Orient. 314. 1955.

光叶山刺玫 guang ye shan ci mei

Branches sparsely prickly. Leaflets to 4 cm, abaxially not glandular punctate, glabrous or pubescent along veins.

Heilongjiang, Jilin, Liaoning [N Korea].

This variety is cultivated for ornament and as a grafting stock for various roses in NE China. The succulent fruit are edible, and the roots, flowers, and fruit are used medicinally.

**30c. Rosa davurica** var. *setacea* Liou, Fl. Pl. Herb. Chin. Bor.-Orient. 314. 1955.

多刺山刺玫 duo ci shan ci mei

Branchlets prickly; prickles unequal. Leaflets abaxially glandular punctate or not, usually glabrous or pubescent only along veins.

• Slopes; ca. 900 m. Hebei, Heilongjiang, Jilin, Liaoning, Nei Mongol.

**31. Rosa hezhangensis** T. L. Xu, Acta Phytotax. Sin. 38: 74. 2000.

赫章蔷薇 he zhang qiang wei

Shrubs low, ca. 1 m tall. Branches terete, glabrous, densely prickly; prickles broad, turgid at base. Leaves 4–8 cm including petiole; stipules mostly adnate to petiole, free parts auriculate or ovate-lanceolate, glabrous, margin glandular serrate, apex acuminate; leaflets (5–)9, pale green abaxially, deep green adaxially, ovate or oblong, 0.8–2 × 0.4–1 cm, abaxially pubescent and glandular punctate, adaxially glabrous, midvein and other veins prominent, base subrounded or broadly cuneate, margin doubly serrate, apex obtuse or acute. Flowers 3–5 in a corymb, rarely solitary; pedicel 0.8–2 cm, stipitate glandular; bracts 3–5, broadly ovate, glabrous, margin glandular serrate, apex acuminate. Hypanthium ellipsoid or ovoid. Sepals ovate-lanceolate, abaxially glandular pilose, adaxially densely yellowish tomentose.

tose, margin entire, apex acute or acuminate. Petals unknown. Stamens numerous. Styles free, shorter than stamens, densely white pubescent at base. Hip red, ovoid-globose, 0.7–1.1 cm in diam., apex with a short neck and persistent, erect sepals; pedicel to 2.2 cm, stipitate glandular. Fr. Oct.

- 2400–2800 m. W Guizhou (Hezhang Xian).

One of us (Robertson) has seen no specimens of this species.

**32. *Rosa acicularis* Lindley, Ros. Monogr. 44. 1820.**

刺蔷薇 ci qiang wei

*Rosa acicularis* var. *albiflora* X. Lin & Y. L. Lin; *R. acicularis* var. *glandulifolia* Y. B. Chang; *R. acicularis* var. *glandulosa* Liou; *R. acicularis* var. *gmelinii* (Bunge) C. A. Meyer; *R. acicularis* var. *pubescens* Liou; *R. acicularis* var. *setacea* Liou; *R. fauriei* H. Léveillé; *R. gmelinii* Bunge; *R. granulosa* Keller; *R. korsakoviensis* H. Léveillé.

Shrubs 1–3 m tall. Branchlets red-brown or purple-brown, terete, slightly curved, glabrous; prickles sparse to dense, terete, straight, to 4 mm, fine, evenly tapering to small base. Leaves including petiole 7–14 cm; stipules mostly adnate to petiole, free parts broadly ovate, abaxially pubescent, margin glandular serrate, apex acuminate; rachis and petiole pubescent, glandular pubescent, and sparsely prickly; leaflets 3–7, broadly elliptic or oblong, 1.5–5 × 0.8–2.5 cm, abaxially pubescent, with prominent midvein and lateral veins, adaxially glabrous, with slightly concave midvein and lateral veins, base subrounded, rarely broadly cuneate, margin simply serrate or inconspicuously doubly serrate, apex acute or rounded-obtuse. Flowers solitary, or 2 or 3 and fasciculate, 3.5–5 cm in diam.; pedicel 2–3.5 cm, densely glandular pubescent; bracts ovate or ovate-lanceolate, margin glandular serrate or incised, apex acuminate or caudate. Hypanthium ellipsoid, usually glabrous, rarely glandular pubescent. Sepals 5, lanceolate, leaflike, abaxially pubescent, glandular, and sparsely bristly, adaxially densely pubescent, margin entire. Petals 5, pink, rarely white, fragrant, obovate, base broadly cuneate, apex emarginate. Styles free, shorter than stamens, pubescent. Hip red, pyriform, long ellipsoid, or obovoid, 1–1.5 cm in diam., with a distinct neck, shiny, glabrous or rarely slightly glandular, with persistent, erect sepals. Fl. Jun–Jul, fr. Jul–Sep.  $2n = 28$ , 56.

*Betula* forests, scrub, sunny slopes, roadsides; 400–1800 m. Gansu, Hebei, Heilongjiang, Jilin, Liaoning, Nei Mongol, Shaanxi, Shanxi, Xinjiang [Japan, Kazakhstan, Korea, Mongolia, Russia; N Europe, North America].

This species is widely distributed in the N temperate zone and has a great morphological variation. The varieties described by various authors are difficult to distinguish, owing to the presence of intermediate forms, and are all reduced to synonymy for the time being in this account.

**33. *Rosa fargesiana* Boulenger, Bull. Jard. Bot. Étât 14: 182. 1936.**

川东蔷薇 chuan dong qiang wei

Shrubs deciduous. Branchlets purple-brown, terete, slender, glabrous; prickles scattered, straight, short. Leaves 7–10 cm including petiole; stipules mostly adnate to petiole, free

parts ovate or lanceolate, ca. 3 mm, glabrous, abaxially and at margin glandular pubescent; rachis and petiole densely glandular pubescent; leaflets (5 or) 7–11, pale green abaxially, deep green adaxially, elliptic or oblong-elliptic, 1.5–4 × 1–2.5 cm, abaxially brown hirsute, densely so along veins, adaxially subglabrous, base cuneate to broadly so, margin acutely doubly serrate; teeth glandular apically when young. Flowers 1–3, 1.5–2 cm in diam.; peduncle ca. 2 cm, slightly glandular pubescent or subglabrous; pedicel 3–4 cm, glandular hairy; bracts ovate-lanceolate, ca. 2 mm, abaxially and at margin glandular pubescent, apex acute or acuminate. Hypanthium campanulate, abaxially glandular pubescent. Sepals lanceolate, ca. 1 cm, margin glandular pubescent, sometimes pinnately lobed, apex long acuminate or caudate-acuminate. Petals white, broadly obovate, 1.2–1.5 × 1–1.3 cm, base broadly cuneate, apex emarginate or 2-lobed. Styles free, slightly exerted, shorter than stamens, pubescent. Hip unknown. Fl. Jun–Aug.

- Chongqing (Chengkou Xian).

One of us (Robertson) has seen no specimens of this species.

**34. *Rosa oxyacantha* Marschall von Bieberstein, Fl. Taur.-Caucas. 3: 338. 1819.**

尖刺蔷薇 jian ci qiang wei

*Rosa pimpinellifolia* Linnaeus var. *subalpina* Bunge ex Marschall von Bieberstein.

Shrubs small, 1–2 m tall. Branchlets red-brown, glabrous; prickles numerous, yellowish, straight, unequally long and thick, abruptly tapering to broadened base. Leaves including petiole 4–9 cm; stipules mostly adnate to petiole, free parts lanceolate, margin entire, glandular pubescent, apex acute; rachis and petiole sparsely shortly prickly, glandular pubescent; leaflets 7–9, oblong or elliptic, 1.5–2.5 × 0.8–1.7 cm, glabrous, abaxially with prominent veins, base subrounded or broadly cuneate, margin doubly serrate, apex acute or rounded-obtuse. Flowers solitary, rarely 2 or 3 and fasciculate, 2.5–3 cm in diam.; pedicel 1.5–2 cm, glabrous or glandular pubescent; bracts ovate, margin glandular pubescent, apex long caudate. Hypanthium ovoid or oblong, glabrous or sparsely stipitate glandular. Sepals 5, lanceolate, leaflike, abaxially densely glandular pubescent, adaxially densely pubescent, margin entire. Petals 5, pink, obovate, base broadly cuneate, apex emarginate. Styles shorter than stamens, pubescent. Hip bright red, oblong or ovoid, 1–1.5 cm in diam., glabrous or sparsely stipitate glandular, with persistent, erect sepals. Fl. Jun–Jul, fr. Jul–Sep.

Scrub; 1100–1400 m. Xinjiang [Mongolia, Russia (Siberia)].

One of us (Robertson) has seen no specimens of this species.

**35. *Rosa laxa* Retzius in Hoffmann, Phytogr. Bl. 39. 1803.**

疏花蔷薇 shu hua qiang wei

Shrubs 1–2 m tall. Branchlets terete, straight or slightly curved, glabrous; prickles in pairs below leaves or scattered, yellowish, strongly hooked, to 1.5 cm, flat, gradually tapering to broad base, often densely intermixed with small prickles and bristles. Leaves including petiole 4.5–10 cm; stipules mostly adnate to petiole, free parts ovate, glabrous, auriculate, margin

glandular serrate, apex acute; rachis and petiole sparsely prickly, glandular pubescent, puberulous; leaflets 7–9, elliptic, oblong, or ovate, rarely obovate, ca. 1.5 × 0.8–2 cm, glabrous or pubescent, with prominent midvein and lateral veins, base subrounded or broadly cuneate, margin simply serrate, rarely doubly serrate, apex acute or rounded-obtuse. Flowers often 3–6 in corymb, sometimes solitary, ca. 3 cm in diam.; pedicel 1–1.8(–3) cm, glandular; bracts ovate, pubescent, glandular hispid, apex acuminate. Hypanthium oblong or ovoid, glabrous, rarely glandular hispid. Sepals 5, ovate-lanceolate, leaflike, abaxially sparsely pubescent and glandular hispid, adaxially densely pubescent, margin entire. Petals 5, white or pink, obovate, apex erose. Styles free, much shorter than stamens, densely villous. Hip red, oblong or ovoid, 1–1.8 cm in diam, glabrous, often shiny, apex with a short neck and persistent, erect sepals. Fl. Jun–Aug, fr. Aug–Sep. 2n = 14\*.

*Populus* forests, scrub, valleys, damp grassy places, river and stream sides; 500–1500 m. Xinjiang [Mongolia, Russia (C Siberia); C Asia].

- 1a. Leaflets glabrous on both surfaces or abaxially pubescent ..... 35a. var. *laxa*
- 1b. Leaflets densely pubescent on both surfaces ..... 35b. var. *mollis*

**35a. *Rosa laxa* var. *laxa***

疏花蔷薇(原变种) *shu hua qiang wei* (yuan bian zhong)

*Rosa gebleriana* Schrenk; *R. soongarica* Bunge.

Leaflets glabrous on both surfaces or abaxially pubescent.

Scrub, valleys, stream sides; 500–1500 m. Xinjiang [Mongolia, Russia (C Siberia); C Asia].

**35b. *Rosa laxa* var. *mollis*** T. T. Yu & T. C. Ku, Bull. Bot. Res., Harbin 1(4): 9. 1981.

毛叶疏花蔷薇 *mao ye shu hua qiang wei*

Leaflets densely pubescent on both surfaces.

• *Populus* forests, damp grassy places, river sides; 600–1100 m. N Xinjiang.

**36. *Rosa saturata*** Baker in E. Willmott, *Rosa* 2: 503. 1914.

大红蔷薇 *da hong qiang wei*

Shrubs 1–2 m tall. Branchlets erect or spreading, terete, glabrous, often densely bristly when old; prickles usually absent, or if present, straight, small. Leaves including petiole 7–16 cm; stipules broad, adnate to petiole to 2/3 part, free parts ovate, subglabrous, auriculate, margin entire, apex acute; rachis and petiole pubescent, sparsely small prickly; leaflets 7(–9), ovate or ovate-lanceolate, 2.5–6.5 × 1.5–4 cm, abaxially pubescent along veins or subglabrous, glandular punctate or not, with prominent midvein and lateral veins, adaxially glabrous, base subrounded or broadly cuneate, margin simply serrate or partly doubly serrate, apex acute or shortly acuminate. Flowers solitary, or 2(or 3), 3.5–5 cm in diam.; pedicel 1.5–2.5(–3) cm, glabrous or sparsely glandular pubescent; bracts 1 or 2, ovate-lanceolate, large, 1.5–3 cm, apex caudate. Hypanthium ovoid,

glabrous. Sepals 5, ovate-lanceolate, leaflike, abaxially subglabrous, adaxially densely pubescent, margin entire or sometimes sparsely serrate apically. Petals 5, red, obovate, base broadly cuneate, apex rounded-obtuse. Styles free, much shorter than stamens, densely pubescent. Hip deep red, ovoid, 1.5–2 cm in diam., glabrous, with persistent, erect sepals. Fl. Jun, fr. Jul–Oct.

• Scrub, stream sides; 2200–2400 m. Hubei, Sichuan, Zhejiang.

- 1a. Leaflets abaxially not glandular punctate, margin acutely simply serrate, not glandular ..... 36a. var. *saturata*
- 1b. Leaflets abaxially densely glandular punctate, margin partly doubly serrate, teeth glandular apically ..... 36b. var. *glandulosa*

**36a. *Rosa saturata* var. *saturata***

大红蔷薇(原变种) *da hong qiang wei* (yuan bian zhong)

Leaflets abaxially not glandular punctate, margin acutely simply serrate, teeth not glandular.

• Scrub, stream sides; 2200–2400 m. Hubei, Sichuan, Zhejiang.

**36b. *Rosa saturata* var. *glandulosa*** T. T. Yu & T. C. Ku, Bull. Bot. Res., Harbin 1(4): 9. 1981.

腺叶大红蔷薇 *xian ye da hong qiang wei*

Leaflets abaxially densely glandular punctate, margin partly doubly serrate, teeth glandular apically.

• C Sichuan (Baoping Xian).

**37. *Rosa bella*** Rehder & E. H. Wilson in Sargent, Pl. Wilson. 2: 341. 1915.

美蔷薇 *mei qiang wei*

Shrubs 1–3 m tall. Branchlets terete, slender; prickles scattered, terete, straight or slightly curved, to 1 cm, abruptly tapering to base; old branches often densely bristly. Leaves including petiole 4–11 cm; stipules broad, mostly adnate to petiole, free parts ovate, glabrous, margin glandular serrate, apex acute; rachis and petiole glabrous or sparsely pubescent, prickly, or sparsely glandular and shortly prickly; leaflets 7–9, rarely 5, elliptic, ovate, or oblong, 1–3 × 0.6–2 cm, glabrous or abaxially along veins sparsely pubescent and glandular pubescent, base subrounded, margin simply serrate, apex acute or rounded-obtuse. Flowers solitary, or 2 or 3 and fasciculate, 2–5 cm in diam.; pedicel 5–10 mm, stipitate glandular pubescent or not; bracts ovate-lanceolate, glabrous, margin glandular serrate, apex acuminate. Hypanthium ellipsoid-ovoid. Sepals 5, ovate-lanceolate, leaflike, abaxially stipitate glandular, adaxially densely pubescent, margin entire. Petals 5, pink, obovate, base cuneate, apex emarginate. Styles free, much shorter than stamens, densely villous. Hip deep red, ellipsoid-ovoid, 1–1.5 cm in diam., with a short neck at apex, stipitate glandular or not, with persistent sepals. Fl. May–Jul, fr. Aug–Oct.

• Scrub, bases of mountains, stream sides; ca. 1700 m. Hebei, Henan, Jilin, Nei Mongol, Shanxi.

Essential oils are extracted from the flowers, and the fruit are used to make jam. Both the flowers and fruit are used medicinally.

- 1a. Flowers 4–5 cm in diam.; pedicels and hypanthium glandular pubescent ..... 37a. var. *bella*
- 1b. Flowers smaller, 2–3 cm in diam.; pedicels and hypanthium glabrous, not glandular pubescent ..... 37b. var. *nuda*

**37a. Rosa bella** var. *bella*

美蔷薇(原变种) mei qiang wei (yuan bian zhong)

*Rosa bella* f. *pallens* Rehder & E. H. Wilson.

Flowers 4–5 cm in diam.; pedicel and hypanthium glandular pubescent.

• Scrub, bases of mountains, stream sides; ca. 1700 m. Hebei, Henan, Jilin, Nei Mongol, Shanxi.

**37b. Rosa bella** var. *nuda* T. T. Yu & H. T. Tsai, Bull. Fan. Mem. Inst. Biol., Bot. Ser., 7: 114. 1936.

光叶美蔷薇 guang ye mei qiang wei

Flowers 2–3 cm in diam.; pedicel and hypanthium glabrous, not glandular pubescent.

• Scrub. NC Henan (Song Shan), SC Shaanxi (Zhongnan Shan).

**38. Rosa chengkouensis** T. T. Yu & T. C. Ku, Bull. Bot. Res., Harbin 1(4): 9. 1981.

城口蔷薇 cheng kou qiang wei

Shrubs 1.5–2 m tall. Branchlets terete, slender; prickles scattered or in pairs below leaves, straight. Leaves including petiole 5–8 cm; stipules mostly adnate to petiole, free parts ovate or ovate-lanceolate, abaxially and margin densely glandular pubescent, apex acute; rachis and petiole pubescent, glandular pubescent, shortly prickly; leaflets usually 5, rarely 7 or 3, elliptic, oblong, or ovate, 1.5–3.5 × 1–1.8 cm, abaxially sparsely pubescent and glandular punctate, distinctly reticulate, adaxially glabrous, base broadly cuneate or subrounded, margin doubly serrate, teeth often glandular apically, apex acute or rounded-obtuse. Flowers solitary or several, 2.5–3 cm in diam.; pedicel 1.5–3 cm, glandular pubescent; bracts ovate-lanceolate, margin glandular pubescent, apex long acuminate. Sepals 5, oblong-lanceolate, leaflike, both surfaces densely pubescent, margin entire, glandular pubescent. Petals 5, pink, broadly obovate, base cuneate, apex rounded. Styles free, slightly exerted, much shorter than stamens, densely pubescent. Hip dark red, ovoid or obovoid, 7–8 mm in diam., sparsely glandular pubescent, with persistent, erect sepals. Fl. May–Jun, fr. Aug–Oct.

• Scrub, river sides; 1300–2100 m. Chongqing (Chengkou Xian, Wuxi Xian).

One of us (Robertson) has seen no specimens of this species.

**39. Rosa sinobiflora** T. C. Ku, *nom. nov.*

双花蔷薇 shuang hua qiang wei

Replaced synonym: *Rosa biflora* T. C. Ku, Bull. Bot. Res., Harbin 10(1): 3. 1990, not Aublet (1775), nor Krockner (1790).

Shrubs small, ca. 2 m tall. Branchlets red-brown, terete, slender, glabrous; prickles subulate. Leaves including petiole 8–14 cm; stipules hooked, large and broad, mostly adnate to peti-

ole, free parts triangular or ovate, both surfaces glabrous, margin densely stipitate glandular, apex shortly acuminate; rachis and petiole glabrous, laxly glandular pubescent and with small prickles; leaflets 7–9, yellow-green abaxially, deep green adaxially, ovate-lanceolate or oblong-lanceolate, 1.5–5.5 cm × 7–21 mm, abaxially pubescent only along midvein, adaxially glabrous, base suborbicular or broadly cuneate, margin shallowly serrate, and often reflexed, apex acuminate or caudate-acuminate. Flowers 2, fasciculate; pedicel short, 5–10 mm, nearly glabrous; bracts caducous, ovate. Hypanthium obovoid, glabrous. Sepals 5, ovate-lanceolate, 7–13 mm, abaxially nearly glabrous, adaxially densely tomentose-pubescent. Petals unknown. Stamens numerous. Styles slightly exerted, much shorter than stamens, pubescent. Hip red-brown, obovoid or subglobose, 1–1.2 cm in diam., glabrous; with persistent sepals. Fr. Aug–Oct.

• *Tsuga* forests; ca. 2600 m. NW Yunnan (Gongshan Xian).

One of us (Robertson) has seen no specimens of this species.

**40. Rosa sweginzowii** Koehne, Repert. Spec. Nov. Regni Veg. 8: 22. 1910.

扁刺蔷薇 bian ci qiang wei

Shrubs 3–5 m tall. Branchlets terete, glabrous or sparsely puberulous, prickly; prickles paired below leaves, sometimes scattered, straight or slightly curved, to 1.5 cm, stout, flat, gradually tapering to broad base, sometimes intermixed with smaller prickles and bristles, old branches sometimes intermixed with bristles. Leaves including petiole 6–11 cm; stipules mostly adnate to petiole, free parts ovate-lanceolate, margin glandular serrate, apex acuminate; rachis and petiole pubescent, glandular pubescent, sparsely shortly prickly; leaflets 7–11, elliptic or ovate-oblong, 2–5 × 0.8–2 cm, abaxially pubescent or glandular, with prominent midvein and lateral veins, adaxially glabrous, base subrounded or broadly cuneate, margin doubly serrate, apex acute, rarely rounded-obtuse. Flowers solitary, or 2 or 3 and fasciculate, 3–5 cm in diam.; pedicel 1.5–3 cm; bracts 1 or 2, ovate-lanceolate, abaxially with distinct midvein, margin glandular serrate, sometimes pinnately lobed, apex caudate. Hypanthium oblong or obovoid, often stipitate glandular. Sepals 5, ovate-lanceolate, leaflike, abaxially subglabrous, stipitate glandular or not, adaxially puberulous, margin entire or sometimes pinnately lobed. Petals 5, pink, broadly obovate or suborbicular, glabrous or abaxially tomentose, base broadly cuneate, apex emarginate. Styles free, much shorter than stamens, densely pubescent. Hip purple-red, oblong or obovoid-oblong, 1.5–2.5 × 1–1.7 cm, with a short neck at apex, often glandular hirsute, with persistent, erect sepals. Fl. Jun–Jul, fr. Aug–Nov.

• *Pinus* forest margins, scrub, roadsides; 2300–4600 m. Gansu, Hubei, Qinghai, Shaanxi, Sichuan, Xizang, Yunnan.

- 1a. Petals tomentose abaxially; sepals entire ..... 40c. var. *stevensii*
- 1b. Petals glabrous; sepals usually pinnately lobed.
  - 2a. Leaflets abaxially pubescent or only along veins pubescent, not glandular; pedicel 1.5–2 cm, glandular pubescent ..... 40a. var. *sweginzowii*



- 2b. Leaflets abaxially with dense, stalked glands; pedicel longer, 2–3 cm, densely pubescent ..... 40b. var. *glandulosa*

**40a. *Rosa sweginzowii* var. *sweginzowii***

扁刺蔷薇(原变种) *bian ci qiang wei* (*yuan bian zhong*)

Leaflets abaxially pubescent or only along veins pubescent, not glandular. Pedicel 1.5–2 cm, glandular pubescent. Sepals usually pinnately lobed. Petals glabrous.

- Scrub, roadsides; 2300–3600 m. Gansu, Hubei, Qinghai, Shaanxi, Sichuan, Xizang, Yunnan.

**40b. *Rosa sweginzowii* var. *glandulosa*** Cardot, Notul. Syst. (Paris) 3: 269. 1916.

腺叶扁刺蔷薇 *xian ye bian ci qiang wei*

Leaflets abaxially with dense stalked glands. Pedicel 2–3 cm, densely pubescent. Sepals usually pinnately lobed. Petals glabrous.

- *Pinus* forest margins, scrub; 2300–3800 m. Gansu, Sichuan, Xizang, Yunnan.

**40c. *Rosa sweginzowii* var. *stevensii*** (Rehder) T. C. Ku, **comb. et stat. nov.**

毛瓣扁刺蔷薇 *mao ban bian ci qiang wei*

Basionym: *Rosa stevensii* Rehder, J. Arnold Arbor. 11: 162. 1930.

Sepals entire. Petals tomentose abaxially.

- 2700–4600 m. Sichuan.

**41. *Rosa moyesii*** Hemsley & E. H. Wilson, Bull. Misc. Inform. Kew 1906: 159. 1906.

华西蔷薇 *hua xi qiang wei*

Shrubs 1–4 m tall. Branchlets terete, glabrous or sparsely puberulous; prickles absent or if present, paired below leaves, straight or slightly curved, to 5 mm, stout, flat, tapering below to broad base. Leaves including petiole 7–13 cm; stipules broad, mostly adnate to petiole, free parts long ovate, glabrous, margin glandular serrate, apex acute; rachis and petiole puberulous, glandular pubescent, sparsely small prickly, leaflets 7–13, ovate, elliptic, or oblong-ovate, 1–5 × 0.8–2.5 cm, abaxially densely pubescent or only along prominent veins pubescent, adaxially glabrous, base subrounded or broadly cuneate, margin acutely simply serrate, apex acute or rounded-obtuse. Flowers solitary, or 2 or 3 and fasciculate, 4–6 cm in diam.; pedicel 1–3 cm, usually densely stipitate glandular, rarely glabrous; bracts 1 or 2, oblong-ovate, to 2 cm, margin glandular pubescent, apex acute or acuminate. Hypanthium ovoid. Sepals 5, ovate, leaf-like, abaxially glabrous or with a few glandular bristles at base, adaxially pubescent, pinnately lobed. Petals 5, deep red, broadly obovate, base broadly cuneate, apex emarginate. Styles free, shorter than stamens, pubescent. Hip purple-red or orange-red, globose-ovoid, to 5 cm, 1–2 cm in diam., with a short neck at apex, stipitate glandular, with persistent, erect sepals. Fl. Jun–Jul; fr. Aug–Oct.

- Scrub, slopes; 2700–3800 m. Shaanxi, Sichuan, Yunnan.

1a. Leaflets abaxially pubescent only along veins, rachis puberulous ..... 41a. var. *moyesii*

1b. Leaflets abaxially and rachis densely pubescent ..... 41b. var. *pubescens*

**41a. *Rosa moyesii* var. *moyesii***

华西蔷薇(原变种) *hua xi qiang wei* (*yuan bian zhong*)

Leaflets abaxially only along veins pubescent, rachis puberulous.

- Scrub, slopes; 2700–3800 m. Shaanxi, Sichuan, Yunnan.

**41b. *Rosa moyesii* var. *pubescens*** T. T. Yu & H. T. Tsai, Bull. Fan. Mem. Inst. Biol., Bot. Ser., 7: 116. 1936.

毛叶华西蔷薇 *mao ye hua xi qiang wei*

Leaflets abaxially and rachis densely pubescent.

- Sichuan.

**42. *Rosa persetosa*** Rolfe, Bull. Misc. Inform. Kew 1913: 263. 1913.

全针蔷薇 *quan zhen qiang wei*

*Rosa elegantula* Rolfe.

Shrubs ca. 1.5 m tall. Branches numerous; branchlets waxy farinose; prickles sparse, straight or slightly curved, flat, densely bristly, or sparsely prickly; prickles straight or slightly curved, flat, sometimes turgid at base. Leaves including petiole 5–10 cm; stipules mostly adnate to petiole, free parts narrowly oblong, margin entire, apex rounded-obtuse; rachis and petiole sparsely puberulous, glandular pubescent, shortly prickly; leaflets 7–9, rarely 11, elliptic or ovate-elliptic, 1.2–3 × 0.6–1.7 cm, glabrous or abaxially sparsely pubescent, with prominent midvein and lateral veins, base subrounded or broadly cuneate, margin simply serrate or inconspicuously doubly serrate, apex rounded-obtuse or acute. Flowers several in corymb, rarely solitary, 2.5–3 cm in diam.; pedicel 1.2–3 cm, glabrous; bracts 3–5, ovate, margin entire or glandular serrate, apex caudate. Hypanthium ovoid, glabrous. Sepals 5, ovate-lanceolate, abaxially subglabrous, glandular or not, adaxially densely puberulous, margin entire, apex caudate. Petals 5, red, broadly obovate, base broadly cuneate, apex rounded-obtuse. Styles free, shorter than stamens, puberulous. Hip bright red, ovoid, 1–1.5 cm, glabrous, with persistent sepals. Fl. May–Jun, fr. Jul–Oct.

- Scrub; 1300–2800 m. Sichuan.

One of us (Robertson) has seen no specimens of this species.

**43. *Rosa macrophylla*** Lindley, Ros. Monogr. 35. 1820.

大叶蔷薇 *da ye qiang wei*

Shrubs 1.5–3 m tall. Branchlets purple-brown, robust; prickles absent or in pairs below leaves, straight. Leaves including petiole 7–15 cm; stipules broad, mostly adnate to petiole, free parts ovate, usually glabrous, margin glandular serrate, apex shortly acuminate; rachis and petiole villous, sparsely glandular pubescent, sometimes shortly prickly; leaflets (7 or 9–11(–13)), oblong or elliptic-ovate, 2.5–6 cm, abaxially villous,

glandular or not, with prominent veins, adaxially glabrous, with concave midvein, base rounded, rarely broadly cuneate, margin simple or doubly serrate, apex acute, rarely rounded-obtuse. Flowers solitary, or 2 or 3 and fasciculate, 3.5–5 cm in diam.; pedicel 1.5–2.5 cm, densely stipitate glandular or not; bracts 1 or 2, long ovate, 1.5–2.5 cm, abaxially puberulous along midvein or glabrous, with prominent midvein and lateral veins, margin glandular pubescent, apex acuminate. Hypanthium ovoid or long obovoid, densely stipitate glandular. Sepals 5, ovate-lanceolate, 2–3.5(–5) cm, abaxially stipitate glandular, sparsely pubescent or not, adaxially densely pubescent, margin entire, apex long caudate. Petals 5, deep red, obtriangular-obovate, base broadly cuneate, apex emarginate. Styles free, much shorter than stamens, pubescent. Hip purple-red, oblong-ovoid or long obovoid, 1.5–3 × ca. 1.5 cm, stipitate glandular or not, shiny, with a short neck at apex, with persistent, erect sepals. Fl. Jun–Jul, fr. Aug–Nov. 2n = 14.

Forest margins, scrub, slopes; 2400–3700 m. S Xizang, NE Yunnan [Bhutan, India, Kashmir, Sikkim].

In populations of Yunnan, the leaves often have 7–9 smaller leaflets and the flowers are smaller, 2.8–3.5 cm in diameter.

- 1a. Leaflets abaxially not glandular, margin simply serrate, rarely doubly serrate ..... 43a. var. *macrophylla*
- 1b. Leaflets abaxially glandular, margin usually doubly serrate ..... 43b. var. *glandulifera*

**43a. Rosa macrophylla var. macrophylla**

大叶蔷薇(原变种) da ye qiang wei (yuan bian zhong)

*Rosa alpina* Linnaeus var. *macrophylla* (Lindley) Boulenger.

Leaflets abaxially not glandular, margin simply serrate, rarely doubly serrate.

Scrub, slopes; 3000–3700 m. S Xizang, NE Yunnan [Bhutan, India, Kashmir, Sikkim].

**43b. Rosa macrophylla var. glandulifera** T. T. Yu & T. C. Ku, Acta Phytotax. Sin. 18: 502. 1980.

腺果大叶蔷薇 xian guo da ye qiang wei

Leaflets abaxially glandular, margin usually doubly serrate.

• Forest margins, scrub, open slopes; 2400–3400 m. S Xizang.

**44. Rosa murielae** Rehder & E. H. Wilson in Sargent, Pl. Wilson. 2: 326. 1915.

西南蔷薇 xi nan qiang wei

Shrubs 1.5–3 m tall. Branchlets erect or spreading, terete, slender, glabrous; prickles sparse, straight, to 6 mm, fine, tapering to a broad base; bristles and small, slender prickles often dense. Leaves including petiole 9–14 cm; stipules mostly adnate to petiole, free parts ovate, auriculate, margin glandular serrate, apex acuminate; rachis and petiole sparsely pubescent and shortly prickly, sometimes glandular pubescent; leaflets 9–15, elliptic or oblong, rarely ovate or broadly elliptic, 1–4.5 × 0.8–2.5 cm, abaxially pubescent, with prominent midvein and

lateral veins, adaxially glabrous, base subrounded or broadly cuneate, margin simple glandular serrate, apex acute or shortly acuminate. Flowers 2–5(–7), in corymb, sometimes solitary, 2–3 cm in diam.; pedicel 2–4 cm, subglabrous or sparsely pubescent and glandular pubescent; bracts and bracteoles ovate-lanceolate, abaxially puberulous or not, margin glandular serrate, apex caudate. Hypanthium ellipsoid, glabrous or villous toward apex. Sepals 5, longer than petals, triangular-ovate, abaxially subglabrous, adaxially puberulous, margin entire, apex long caudate. Petals 5, white, or pink and white at base, obovate, apex emarginate. Styles free, much shorter than stamens, densely pubescent. Hip orange-red, ellipsoid or pyriform, ca. 1 cm in diam., glabrous, with a short neck at apex, with persistent sepals. Fl. Jun–Jul, fr. Aug–Nov.

• Scrub; 2300–3800 m. Sichuan, Yunnan.

**45. Rosa pinnatisepala** T. C. Ku, Bull. Bot. Res., Harbin 10(1): 2. 1990.

羽萼蔷薇 yu e qiang wei

Shrubs small, ca. 2 m tall. Branchlets red-brown, terete, slender, glabrous, prickly; prickles scattered or in pairs below leaves, erect, terete. Leaves including petiole 2.5–4 cm; stipules mostly adnate to petiole, free part ovate or lanceolate, abaxially sometimes glandular, margin stipitate glandular, apex shortly acuminate; rachis and petiole glandular pubescent; leaflets usually 5, rarely 7, obovate or oblong, 5–11 × 3–6 mm, abaxially glandular pubescent, adaxially glabrous, base cuneate or subrounded, margin doubly serrate, teeth glandular apically, apex truncate, rarely rounded. Flowers 2 or 3 and fasciculate, rarely solitary, ca. 2.5 cm in diam.; pedicel 1–1.4 cm, glabrous or glandular pubescent; bracts caducous, unknown. Hypanthium oblong, usually glabrous or glandular pubescent abaxially. Sepals 5, triangular-lanceolate, 6–8 mm, abaxially glabrous or stipitate glandular, adaxially pubescent, margin pinnately lobed; lobes stipitate glandular apically, apex caudate-acuminate. Petals 5, pink, broadly obovate, base broadly cuneate, apex rounded-obtuse. Styles free, slightly exerted, much shorter than stamens, hairy. Hip purple-brown, oblong or obovoid-oblong, 1–2 cm in diam., glabrous. Fl. Jun–Jul, fr. Aug–Nov.

• 1400–2300 m. C and SW Sichuan (Luding Xian, Muli Xian).

Two forms may be recognized: f. *pinnatisepala*, which has hypanthium and sepals usually glabrous, and f. *glandulosa* T. C. Ku (Bull. Bot. Res., Harbin 10(1): 3. 1990), which has hypanthium and sepals densely glandular pubescent. One of us (Robertson) has seen no specimens of either form.

**46. Rosa forrestiana** Boulenger, Bull. Jard. Bot. État 14: 126. 1936.

滇边蔷薇 dian bian qiang wei

Shrubs small, 1–2 m tall. Branchlets terete, slightly curved, slender; prickles scattered or in pairs below leaves, yellowish, straight, stout. Leaves including petiole 2.2–6 cm; stipules broad, mostly adnate to petiole, free parts ovate, rarely lanceolate, glabrous, margin glandular serrate, apex acuminate; rachis and petiole sparsely glandular pubescent and shortly prickly; leaflets 5–7, rarely 9, suborbicular, ovate, or obovate,

6–18 × 4–15 mm, abaxially sparsely puberulous along veins or glandular pubescent, adaxially glabrous, base subrounded, margin doubly serrate, teeth often glandular apically, apex rounded-obtuse or truncate. Flowers solitary or to 5, in corymb, 2–3.5 cm in diam.; pedicel 1.5–2.5 cm, glandular pubescent; bracts 1–3, at base or middle of pedicel, orbicular or ovate, glabrous, margin glandular serrate, apex apiculate. Hypanthium ovoid, glandular pubescent. Sepals 5, ovate-lanceolate, abaxially glandular, adaxially puberulous, leaflike, margin entire, sometimes serrate, apex slightly elongate. Petals 5, deep red, broadly ovate, base broadly cuneate, apex emarginate. Styles free, slightly exerted, nearly equaling stamens, densely yellow-white villous. Hip red, ovoid, 9–13 mm in diam., with a short neck at apex, glabrous, with persistent, erect sepals. Fl. May, fr. Jul–Oct.

- Scrub; 2400–3000 m. Sichuan, NW Yunnan.

Two forms may be recognized: f. *forrestiana*, which has leaflets abaxially eglandular and f. *glandulosa* T. C. Ku (Bull. Bot. Res., Harbin 10(1): 3. 1990), which has leaflets abaxially glandular pubescent. One of us (Robertson) has seen no specimens of either form.

**47. *Rosa multibracteata*** Hemsley & E. H. Wilson, Bull. Misc. Inform. Kew 1906: 157. 1906.

多苞蔷薇 duo bao qiang wei

*Rosa latibracteata* Boulenger; *R. orbicularis* Baker; *R. reducta* Baker; *R. rotundibracteata* Cardot.

Shrubs to 2.5 m tall. Branchlets terete, slender, glabrous; prickles scattered and in pairs below leaves, terete, straight, to 1 cm, abruptly tapering to turgid base. Leaves including petiole 5–9 cm; stipules large, mostly adnate to petiole, free parts ovate, glabrous, margin glandular serrate, apex shortly acuminate; rachis and petiole glabrous or sparsely glandular pubescent and puberulous, sparsely shortly prickly; leaflets (5–)7–9, ovate, obovate, or suborbicular, 8–15 × 5–10 mm, glabrous or abaxially sparsely pubescent along veins, sometimes glandular, with prominent midvein and lateral veins, base subrounded or broadly cuneate, margin simply serrate, entire near base, apex rounded-obtuse or acute. Flowers 2 or 3, or several in corymb or panicle, rarely solitary, (2–)3–5 cm in diam.; pedicel 0.5–3 cm, densely stipitate glandular; bracts 3–5 or 8–10 in two whorls at base of corymb, those of external whorl ovate, those of internal one lanceolate, glabrous, margin glandular serrulate. Hypanthium subglobose, stipitate glandular. Sepals 5, triangular-lanceolate, 1.1–1.5 cm, leaflike, abaxially glabrous or sparsely to densely stipitate pubescent, adaxially densely pubescent, margin entire. Petals 5, reddish, obovate, base broadly cuneate, apex emarginate. Styles free, slightly exerted, nearly equaling stamens, villous. Hip red, subglobose, 6–10 mm in diam.; stipitate glandular, with persistent, erect sepals. Fl. May–Jul, fr. Jul–Oct.

- Open places near forest margins; 2100–2500 m. Sichuan, Yunnan.

**48. *Rosa calyptopoda*** Cardot, Notul. Syst. (Paris) 3: 270. 1916.

短角蔷薇 duan jiao qiang wei

Shrubs small, 1–2 m tall. Branchlets purple-brown, slightly curved, robust, glabrous; prickles scattered, to 1 cm, slightly turgid at base. Leaves including petiole 1.5–4 cm; stipules mostly adnate to petiole, free parts oblong, margin glandular pubescent, apex shortly acuminate; rachis and petiole glandular pubescent, sparsely shortly prickly; leaflets usually 5, rarely 7 or 3, suborbicular or broadly obovate, 4–8 × 3–7 mm, abaxially sparsely pubescent along veins, adaxially glabrous, base broadly cuneate, rarely subrounded, margin acutely serrate at upper part, near base entire, apex truncate. Flower solitary, 2–2.5 cm in diam.; pedicel short or nearly absent; bracts 3–5, ovate, leaflike, margin glandular pubescent, apex shortly acuminate. Hypanthium subglobose, glandular pubescent. Sepals 5, ovate, abaxially glandular pubescent, adaxially densely pubescent, margin entire, apex cuspidate or elongate and linear. Petals 5, pink, obcordate, base broadly cuneate, apex emarginate. Styles free, slightly exerted, equaling or slightly longer than stamens, densely pubescent. Hip red-brown, subglobose, 6–8 mm in diam., with an inconspicuous neck at apex, with persistent sepals. Fl. May–Jun, fr. Jul–Sep.

- Scrub; 1600–1800 m. W Sichuan.

One of us (Robertson) has seen no specimens of this species.

**49. *Rosa pseudobanksiae*** T. T. Yu & T. C. Ku, Bull. Bot. Res., Harbin 1(4): 11. 1981.

粉蕾木香 fen lei mu xiang

Shrubs climbing, small. Branchlets gray-brown or gray-green, slightly curved; prickles slightly curved, short, flat. Leaves including petiole 2–3 cm; stipules mostly adnate to petiole, free parts lanceolate, both surfaces sparsely pubescent, margin glandular pubescent, apex acuminate; rachis and petiole pubescent; leaflets 3–5, rhomboid-ovate or oblong, 1–1.5 cm × 5–8 mm, abaxially sparsely pubescent, with prominent midvein and lateral veins, adaxially glabrous, base cuneate or broadly cuneate, margin crenate or obtusely serrate, apex acute or rounded-obtuse. Flowers 3–5 in corymb, ca. 2 cm in diam.; pedicel ca. 1 cm, subglabrous; bracts deciduous, ovate-lanceolate, both surfaces pubescent, margin glandular pubescent, apex broadly caudate. Hypanthium obovoid, subglabrous. Sepals 5, lanceolate, abaxially sparsely glandular pubescent, adaxially densely pubescent, apex acuminate. Petals 5, white, before and at beginning of anthesis pink, obovate, base broadly cuneate, apex erose. Styles 5 or 6, free, exerted, slightly shorter than stamens, pubescent. Hip unknown.

- W Yunnan (Midu Xian).

One of us (Robertson) has seen no specimens of this species.

**50. *Rosa baiyushanensis*** Q. L. Wang, Bull. Bot. Res., Harbin 4(4): 207. 1984.

白玉山蔷薇 bai yu shan qiang wei

Shrubs. Branchlets yellow-brown when young, brown-purple when old, terete, glabrous, prickly; prickles yellow-brown, robust, to 8 mm, inflated at base. Leaves including petiole 3–6 cm; stipules mostly adnate to petiole, free part triangular, sometimes abaxially glandular, margin glandular, apex acute; rachis and petiolule densely glandular and prickly; leaf-

lets 5(–7), pale green abaxially, green adaxially, ovate or obovate-elliptic, 8–15(–18) × 6–10(–13) mm, abaxially densely glandular and pilose, adaxially slightly pubescent, base subrounded or broadly cuneate, margin doubly serrate, teeth glandular apically, apex acute. Flower solitary, rarely 2 or 3 and fasciculate, ca. 2.5 cm in diam.; pedicel 7–10 mm, glandular; bracts 1 or 2, ovate or ovate-lanceolate, margin glandular, apex acuminate. Hypanthium subellipsoid, abaxially slightly glandular or glabrous. Sepals 5, reflexed, ovate-lanceolate, 1–1.5 cm, adaxially pubescent, margin shallowly pinnately lobed and serrate, teeth glandular apically, apex caudate-acuminate. Petals 5, pink, obovate, ca. 1.2 cm in diam., apex emarginate. Styles free, slightly exerted, shorter than stamens, white pubescent. Hip yellow-red, subellipsoid, ca. 1.4 cm, ca. 1 cm in diam., glabrous, with a short neck at apex, with persistent, erect sepals. Fl. Jun–Jul, fr. Aug–Oct.

- Dry slopes. S Liaoning (Lüshun).

One of us (Robertson) has seen no specimens of this species.

**51. *Rosa giraldii*** Crépín, Bull. Soc. Bot. Ital. 1897: 232. 1897.

陕西蔷薇 shan xi qiang wei

Shrubs to 2 m tall. Branchlets erect or spreading, slender; prickles paired at base of leaves, sparse, terete, straight, to 8 mm, slender, abruptly narrowing to elliptic base. Leaves including petiole 4–8 cm; stipules mostly adnate to petiole, free parts ovate, margin glandular serrate, shortly acuminate; rachis and petiole sparsely pubescent, glandular pubescent, shortly prickly; leaflets 7–9, suborbicular, obovate, or elliptic, 1–2.5 × 0.6–1.5 cm, abaxially pubescent or rarely puberulous along midvein, adaxially glabrous or pubescent, base rounded or broadly cuneate, margin simple or doubly serrate, teeth glandular or not, apex rounded-obtuse or acute. Flowers solitary, or 2 or 3 and fasciculate, 2–3 cm in diam.; pedicel not exceeding 1 cm, glandular pubescent or not; bracts 1 or 2, ovate, glabrous, margin glandular serrate, apex acute or shortly caudate. Hypanthium obovate, glandular pubescent. Sepals 5, ovate-lanceolate, abaxially glandular pubescent, adaxially puberulous, margin entire or 1- or 2-lobed, apex caudate. Petals 5, pink, broadly obovate, base cuneate, apex emarginate. Styles free, shorter than stamens, densely yellowish pubescent. Hip dark red, ovoid, ca. 1 cm in diam., glandular pubescent or not, with a short neck at apex, often with persistent, erect sepals. Fl. May–Jul, fr. Jul–Oct.

- Scrub, slopes; 700–2000 m. Gansu, Henan, Hubei, Shaanxi, Shanxi, Sichuan.

Three varieties are recognized here. *Rosa nanothamnus* Boulenger (Bull. Jard. Bot. État 13: 206. 1935), described from Xinjiang, is very similar to *R. giraldii* and differs only in having larger prickles, equaling or longer than the largest leaflets, and crenate leaflet margins. Further study is needed to ascertain whether *R. nanothamnus* should be treated as a separate species or a fourth variety of *R. giraldii*.

- 1a. Leaflets abaxially along midvein pubescent, sparsely glandular, and shortly prickly, margin irregularly doubly serrate, teeth glandular apically ..... 51c. var. *bidentata*
- 1b. Leaflets abaxially not glandular pubescent and not prickly, margin simply serrate,

not glandular.

- 2a. Leaflets adaxially glabrous, abaxially puberulous or only along midvein puberulous, not reticulate ..... 51a. var. *giraldii*
- 2b. Leaflets adaxially pubescent, abaxially densely pubescent, distinctly reticulate ..... 51b. var. *venulosa*

**51a. *Rosa giraldii* var. *giraldii***

陕西蔷薇(原变种) shan xi qiang wei (yuan bian zhong)

Leaflets abaxially puberulous or only along midvein puberulous, not reticulate, adaxially glabrous.

- Scrub, slopes; 700–2000 m. Gansu, Henan, Hubei, Shaanxi, Shanxi, Sichuan.

**51b. *Rosa giraldii* var. *venulosa*** Rehder & E. H. Wilson in Sargent, Pl. Wilson. 2: 328. 1915.

毛叶陕西蔷薇 mao ye shan xi qiang wei

Leaflets abaxially densely pubescent, distinctly reticulate, adaxially pubescent.

- Scrub; 1000–1600 m. W Hubei, S Shaanxi, Sichuan.

**51c. *Rosa giraldii* var. *bidentata*** T. T. Yu & T. C. Ku, var. nov.

重齿陕西蔷薇 chong chi shan xi qiang wei

Type: China. Shaanxi: Chang’an Xian, Zhongnan Shan, s.d., *Anonymous s.n.* (holotype, PE).

*A var. giraldii foliolis margine irregulariter duplicato-serratis, serraturis apice glandulosis, foliorum rhachidibus et foliolis subtus ad costam pubescentibus sparse glandulosis et breve aculeatis, differt.*

Leaflets abaxially along midvein pubescent, sparsely glandular, and shortly prickly, leaflet margin irregularly doubly serrate, teeth glandular apically.

- Rocky slopes; ca. 1700 m. SC Shaanxi (Zhongnan Shan).

This variety was accepted in FRPS (p. 418), with the place of publication cited as “Bull. Bot. Res. [Harbin] 1(4): 1981,” i.e., without a page number. The name was published nowhere in that journal, and no validating description, diagnosis, nor indication of type was included in FRPS. It is therefore validated here. One of us (Robertson) has seen no specimens of this variety.

**52. *Rosa sertata*** Rolfe, Bot. Mag. 139: t. 8473. 1913.

钝叶蔷薇 dun ye qiang wei

Shrubs 1–2 m tall. Branchlets terete, slender, glabrous; prickles paired below leaves, and sometimes sparsely scattered, terete, straight, to 8 mm, fine, abruptly tapering to a disclike base. Leaves including petiole 5–8 cm; stipules mostly adnate to petiole, free parts ovate, glabrous, auriculate, margin glandular pubescent, apex acuminate; rachis and petiole sparsely pubescent, glandular pubescent, and shortly prickly; leaflets 7–15, broadly elliptic or ovate-elliptic, (0.6–)1–2.5 × 0.7–1.5 cm, glabrous or abaxially along midvein sparsely pubescent, with prominent midvein and lateral veins, base subrounded,

margin simply serrate to doubly serrate, entire near base, apex acute or rounded-obtuse. Flowers solitary, or 2 or 3 or more in a corymb, 2–3.5 cm in diam.; pedicel 1.5–3 cm, glabrous or sparsely glandular pubescent; bracteoles 1–3; bracts ovate, margin glandular pubescent, apex shortly acuminate. Hypanthium ovoid, glabrous or rarely sparsely stipitate glandular. Sepals 5, ovate-lanceolate, leaflike, abaxially glabrous, adaxially densely yellowish white pubescent, margin entire, apex elongate. Petals 5, pink or rose, broadly obovate, base broadly cuneate, apex emarginate. Styles free, shorter than stamens, pubescent. Hip deep red, ovoid, 1.2–2 × ca. 1 cm, glabrous or rarely sparsely stipitate glandular, with a short neck at apex; sepals persistent, erect. Fl. Jun, fr. Aug–Oct.

• Sparse woods, slopes, stream sides, roadsides; 1400–2200 m. Anhui, Gansu, Henan, Hubei, Jiangsu, Jiangxi, Shaanxi, Shanxi, Sichuan, Yunnan, Zhejiang.

- 1a. Leaflets 7–11, margin simply serrate, teeth not aristate ..... 52a. var. *sertata*
- 1b. Leaflets 9–15, margin tending to doubly serrate, teeth irregularly aristate apically ..... 52b. var. *multijuga*

**52a. Rosa sertata** var. *sertata*

钝叶蔷薇(原变种) *dun ye qiang wei* (*yuan bian zhong*)

*Rosa hwangshanensis* P. S. Hsu; *R. iochanensis* H. Léveillé.

Leaflets 7–11, margin simply serrate, teeth not aristate.

• Sparse woods, slopes, stream sides, roadsides; 1400–2200 m. Anhui, Gansu, Henan, Hubei, Jiangsu, Jiangxi, Shaanxi, Shanxi, Sichuan, Yunnan, Zhejiang.

**52b. Rosa sertata** var. *multijuga* T. T. Yu & T. C. Ku, Bull. Bot. Res., Harbin 1(4): 12. 1981.

多对钝叶蔷薇 *duo dui dun ye qiang wei*

Leaflets 9–15, margin tending to doubly serrate, teeth irregularly aristate apically.

• Sichuan (Dawu Xian).

**53. Rosa webbiana** Wallich ex Royle, Ill. Bot. Himal. Mts. 1: 208. 1835.

藏边蔷薇 *zang bian qiang wei*

Shrubs 1–2 m tall. Branchlets purple-brown, slender; prickles in pairs below leaves, and scattered, yellow, terete, straight, to 1 cm, stout, gradually tapering below to a broad base. Leaves including petiole 3–4 cm; stipules mostly adnate to petiole, free parts ovate, margin glandular, apex acute; rachis and petiole glabrous but very sparsely small prickly; leaflets 5–9, suborbicular, obovate, or broadly elliptic, 6–20 × 4–12 mm, glabrous or abaxially sparsely puberulous along veins, base subrounded or cuneate, margin simply serrate at upper part, near base entire, apex rounded-obtuse, rarely acute. Flowers solitary, rarely 2 or 3 and fasciculate, 3.5–5 cm in diam.; pedicel 1–1.5 cm, glabrous or glandular pubescent; bracts ovate, margin glandular serrate, midvein and lateral veins abaxially conspicuous. Hypanthium subglobose or ovoid, glabrous or

glandular puberulous. Sepals 5, triangular-lanceolate, abaxially glandular pubescent, adaxially densely puberulous, margin entire, apex elongate. Petals 5, reddish or rose, broadly obovate, base cuneate, apex emarginate. Styles free, shorter than stamens, pubescent. Hip nodding, bright red, subglobose or ovoid, 1.5–2 cm in diam., glabrous, with persistent, spreading sepals. Fl. Jun–Jul, fr. Jul–Sep.

Forests, scrub, grassy places, valleys, slopes, farmland; 2000–4500 m. Xizang [Afghanistan, N India, Kashmir, Mongolia, W Nepal].

*Rosa dawoensis* Pax & Hoffmann (Repert. Spec. Nov. Regni Veg. Beih. 12: 414. 1922), described from Sichuan (Dawu Xian), is similar to *R. webbiana* and requires further study.

**54. Rosa fedtschenkoana** Regel, Trudy Imp. S.-Peterburgsk. Bot. Sada 5: 314. 1878.

腺果蔷薇 *xian guo qiang wei*

Shrubs large, to 6 m tall. Branchlets purple-brown, terete, prickly; prickles yellowish, straight, to 7 mm, rigid, gradually tapering to broad base. Leaves including petiole 3–4.5 cm; stipules mostly adnate to petiole, free parts lanceolate or ovate, margin glandular pubescent, apex acute; rachis and petiole glabrous or sparsely glandular pubescent; leaflets usually 7, rarely 5 or 9, suborbicular or ovate, glabrous, leathery, abaxially with prominent veins, base subrounded or broadly cuneate, margin simply serrate, entire near base, apex rounded-obtuse. Flowers solitary, sometimes 2–4 and fasciculate, 3–4 cm in diam.; pedicel 1–2 cm, stipitate glandular pubescent; bracts ovate or ovate-lanceolate, margin glandular pubescent, apex caudate or acute. Hypanthium ovoid, stipitate glandular, rarely glabrous. Sepals 5, lanceolate, abaxially stipitate glandular, adaxially densely pubescent, apex acuminate. Petals 5, white, rarely pink, broadly obovate, base broadly cuneate, apex erose. Styles free, shorter than stamens, pubescent. Hip deep red, oblong or ovoid, 1.5–2 cm in diam., densely glandular pubescent, with persistent sepals. Fl. Jul–Aug, fr. Aug–Oct.

Scrub, slopes, stream sides in valleys; 2400–2700 m. Xinjiang [Kazakhstan].

**55. Rosa tibetica** T. T. Yu & T. C. Ku, Acta Phytotax. Sin. 18: 500. 1980.

西藏蔷薇 *xi zang qiang wei*

Shrubs small. Branchlets slightly curved, glabrous; prickles scattered or in pairs, yellowish, straight, often intermixed with bristles. Leaves including petiole ca. 4 cm; stipules mostly adnate to petiole, free parts ovate, margin glandular pubescent, apex acute; rachis and petiole sparsely glandular pubescent and shortly prickly; leaflets 5–7, oblong, 1–1.3 × 0.5–0.8 cm, abaxially glandular pubescent, with prominent midvein and lateral veins, adaxially glabrous, base subrounded or broadly cuneate, margin doubly serrate, teeth often glandular apically, apex rounded-obtuse. Flower solitary, 3.5–4 cm in diam.; pedicel ca. 2 cm, glabrous; bracts ovate, ca. 1.5 cm, abaxially and margin glandular pubescent, 3-lobed at apex. Hypanthium ovoid, glabrous. Sepals 5, ovate-lanceolate, abaxially subglabrous, adaxially densely pubescent, margin entire or inconspicuously serrate near apex, apex caudate. Petals 5, white, slightly broadly

obovate, base cuneate, apex rounded-obtuse. Styles free, slightly exerted, shorter than stamens, densely white villous. Hip red-brown, ovoid or globose, 1–1.2 cm in diam., glabrous and smooth, with persistent, erect sepals. Fl. Jul–Aug, fr. Aug–Oct.

• Coniferous forests, secondary *Populus-Betula* forests; 3800–4000 m. S Xizang.

One of us (Robertson) has seen no specimens of this species.

3. *Rosa* sect. **Chinenses** Candolle ex Seringe, Mus. Helv. Bot. 1: 2. 1818.

月季组 yue ji zu

Shrubs erect or climbing, with curved prickles. Leaflets 3–5, rarely 7; stipules narrow, adnate to petiole. Flowers 1 to numerous. Sepals entire or with a few lobes, after anthesis reflexed and deciduous. Styles free, exerted, nearly equaling stamens.

Three species: China, Myanmar, N Thailand, N Vietnam, widely cultivated elsewhere; three species (two endemic) in China.

56. *Rosa chinensis* Jacquin, Observ. Bot. 3: 7. 1768.

月季花 yue ji hua

Shrubs erect, 1–2 m tall. Branchlets purple-brown, terete, robust, subglabrous; prickles abundant to absent, curved, stout, flat. Leaves including petiole 5–11 cm; stipules mostly adnate to petiole, free parts auriculate, margin entire, often glandular pubescent, apex acuminate; rachis and petiole sparsely prickly and glandular pubescent; leaflets 3–5, rarely 7, greenish abaxially, dark green adaxially, broadly ovate or ovate-oblong, 2.5–6 × 1–3 cm, both surfaces subglabrous, adaxially often shiny, base subrounded or broadly cuneate, margin acutely serrate, apex long acuminate or acuminate. Flowers 4 or 5 and fasciculate, rarely solitary, slightly fragrant or not, 4–5 cm in diam.; pedicel 2.5–6 cm, subglabrous or glandular pubescent; bracts 1–3, linear, glabrous, margin glandular or entire, apex acute. Hypanthium ovoid-globose or pyriform, glabrous. Sepals 5, deciduous, ovate, sometimes leaflike, abaxially glabrous, adaxially densely villous, margin entire or pinnately few lobed, occasionally parted, apex acuminate or caudate. Petals 5, semi-double, or double, red, pink, white, or purple, obovate, base cuneate, apex emarginate. Styles free, exerted, nearly equaling stamens, pubescent. Hip red, ovoid or pyriform, 1–2 cm in diam., glabrous. Fl. Apr–Sep, fr. Jun–Nov.  $2n = 21^*$ ,  $28^*$ .

• Native in Guizhou, Hubei, Sichuan; also widely cultivated in China [widely cultivated elsewhere].

- 1a. Flowers single ..... 56b. var. *spontanea*
- 1b. Flowers double or semidouble.
  - 2a. Branches robust, often with hooked prickles; leaflets 3–5, rarely 7, abaxially dark green; flowers several, rarely solitary; petals red, pink, or white ..... 56a. var. *chinensis*
  - 2b. Branches slender, with short prickles; leaflets 5–7, thinner, often tinged with purple-red; flowers often solitary, or 2 or 3 and fasciculate; petals deep red or deep purple ..... 56c. var. *semperflorens*

56a. *Rosa chinensis* var. **chinensis**

月季花(原变种) yue ji hua (yuan bian zhong)

*Rosa nankinensis* Loureiro; *R. sinica* Linnaeus.

Branches robust, often with hooked prickles. Flowers double or semidouble, several, rarely solitary. Leaflets 3–5, rarely

7, abaxially dark green. Petals red, pink, or white. Sepals often with a few lobes.

Cultivated in China [widely cultivated elsewhere, of cultivated origin].

A famous Chinese ornamental plant with many widely cultivated horticultural forms.

56b. *Rosa chinensis* var. **spontanea** (Rehder & E. H. Wilson) T. T. Yu & T. C. Ku in T. T. Yu, Fl. Reipubl. Popularis Sin. 37: 423. 1985.

单瓣月季花 dan ban yue ji hua

*Rosa chinensis* f. *spontanea* Rehder & E. H. Wilson in Sargent, Pl. Wilson. 2: 320. 1915.

Branches with broad prickles. Flowers single, often solitary. Leaflets 3–5. Petals red. Sepals often entire, rarely with a few lobes.

• Native in Guizhou, Hubei, Sichuan.

56c. *Rosa chinensis* var. **semperflorens** (Curtis) Koehne, Deut. Dendrol. 281. 1893.

紫月季花 zi yue ji hua

*Rosa semperflorens* Curtis, Bot. Mag. 8: t. 284. 1794.

Branchlets slender, with short prickles. Flowers double or semidouble, often solitary, or 2 or 3 and fasciculate. Leaflets 5–7, thinner, often tinged with purple-red. Petals deep red or deep purple. Sepals often with a few lobes.  $2n = 14^*$ .

Cultivated in China [widely cultivated elsewhere; of cultivated origin].

57. *Rosa odorata* (Andrews) Sweet, Hort. Suburb. Lond. 119. 1818.

香水月季 xiang shui yue ji

Shrubs evergreen or semi-evergreen, climbing or scrambling, with long repent branches. Branches robust, glabrous; prickles scattered, curved, to 7 mm, stout, flat, gradually tapering to broad base. Leaves including petiole 5–10 cm; stipules mostly adnate to petiole, free parts auriculate, glabrous, glandular at margin or only at base, apex acuminate; rachis and petiole sparsely shortly prickly and glandular pubescent; leaflets 5–9, elliptic, ovate, or oblong-ovate, 2–7 × 1.5–3 cm, leathery, both surfaces glabrous, base cuneate or subrounded, margin appressed-serrate, apex acute or acuminate. Flowers solitary, or 2 or 3 and fasciculate, very fragrant, 3–10 cm in diam.; pedicel 2–3

cm, glabrous or glandular pubescent; bracts 1–3, linear, margin entire or sparsely glandular, apex attenuate. Hypanthium depressed-globose. Sepals 5, lanceolate, abaxially glabrous, adaxially densely villous, margin entire, rarely few pinnately lobed, apex long acuminate, after anthesis reflexed, deciduous. Petals 5, semidouble, or double, white or tinged with pink, yellow, or orange, fragrant, obovate, base cuneate, apex emarginate. Styles free, exserted, nearly equaling stamens, pubescent. Hip red, depressed-globose, rarely pyriform, glabrous. Fl. Jun–Sep.

Mixed forests, thickets, scrub on hillsides, pastures, grassy slopes, roadsides; 1400–2700 m. Native in Yunnan; cultivated in Jiangsu, Sichuan, Yunnan, Zhejiang [Myanmar, N Thailand, N Vietnam].

According to Fu (China Plant Red Data Book 1: 556–557. 1992), this is a rare species threatened by habitat loss.

- 1a. Flowers single, 8–10 cm in diam.; petals white ..... 57b. var. *gigantea*
- 1b. Flowers double or semidouble, usually smaller, 3–8 cm in diam.; petals yellow, orange, or white, or white tinged pinkish.
  - 2a. Petals yellow or orange; flowers ca. 8 cm in diam. .... 57c. var. *pseudoindica*
  - 2b. Petals white or tinged pinkish; flowers 5–8 cm in diam.
    - 3a. Petals white or tinged pinkish; flowers 5–8 cm in diam. .... 57a. var. *odorata*
    - 3b. Petals pale pink; flowers 3–6 cm in diam. .... 57d. var. *erubescens*

**57a. *Rosa odorata* var. *odorata***

香水月季(原变种) xiang shui yue ji (yuan bian zhong)

*Rosa indica* Linnaeus var. *odorata* Andrews, *Roses* 2: t. 77. 1810; *R. gechouitangensis* H. Léveillé; *R. indica* var. *fragrans* Thory; *R. odoratissima* Sweet ex Lindley; *R. oulengensis* H. Léveillé; *R. thea* Savi; *R. tongtchouanensis* H. Léveillé.

Flowers double or semidouble, 5–8 cm in diam. Petals white or pinkish.

Cultivated. Jiangsu, Sichuan, Yunnan, Zhejiang [widely cultivated elsewhere; of cultivated origin].

**57b. *Rosa odorata* var. *gigantea*** (Crépin) Rehder & E. H. Wilson in Sargent, *Pl. Wilson*. 2: 338. 1915.

大花香水月季 da hua xiang shui yue ji

*Rosa gigantea* Collett ex Crépin, *Bull. Soc. Roy. Bot. Belgique* 27: 148. 1888; *R. duclouxii* H. Léveillé; *R. macrocarpa* Watt ex Crépin; *R. xanthocarpa* Watt ex E. Willmott.

Flowers single, 8–10 cm in diam. Petals white.  $2n = 21^*$ .

**4. *Rosa* sect. *Synstylae*** Candolle, *Cat. Pl. Horti Monsp.* 137. 1813.

合柱组 he zhu zu

Shrubs climbing, rarely erect; prickles curved. Leaflets 5–9, rarely 3; stipules adnate to petiole, margin entire, serrate, or pectinately lobed. Flowers numerous in corymb. Sepals often pinnately lobed, rarely entire, after anthesis reflexed and deciduous. Styles connate into a column, exserted.

About 35 species: N Africa, Asia, Europe, North America; 30 species (22 endemic) in China.

Mixed forests, thickets, scrub on hillsides, pastures, grassy slopes, roadsides; 1400–2700 m. Yunnan [Myanmar, N Thailand, N Vietnam].

**57c. *Rosa odorata* var. *pseudoindica*** (Lindley) Rehder, *Mitt. Deutsch. Dendrol. Ges.* 24: 221. 1916.

橘黄香水月季 ju huang xiang shui yue ji

*Rosa pseudoindica* Lindley, *Ros. Monogr.* 132. 1820; *R. chinensis* Jacquin var. *pseudoindica* (Lindley) E. Willmott.

Flowers double, ca. 8 cm in diam. Petals yellow or orange.

• NW Yunnan.

**57d. *Rosa odorata* var. *erubescens*** (Focke) T. T. Yu & T. C. Ku in T. T. Yu, *Fl. Reipubl. Popularis Sin.* 37: 424. 1985.

粉红香水月季 fen hong xiang shui yue ji

*Rosa gigantea* f. *erubescens* Focke, *Notes Roy. Bot. Gard. Edinburgh* 7: 68. 1911; *R. odorata* var. *gigantea* f. *erubescens* (Focke) Rehder & E. H. Wilson.

Flowers double, 3–6 cm in diam. Petals pale pink.

• 2000–2500 m. NW Yunnan (Dali Xian, Lijiang Xian).

**58. *Rosa lucidissima*** H. Léveillé, *Repert. Spec. Nov. Regni Veg.* 9: 444. 1911.

亮叶月季 liang ye yue ji

*Rosa anemonoides* Rehder; *R. boisii* Cardot; *R. lucidissima* f. *setosa* Cardot.

Shrubs evergreen or semi-evergreen, climbing. Branchlets robust, glabrous when old; prickles sparse, curved, flat, gradually tapering to base; bristles sometimes dense. Leaves including petiole 6–11 cm; stipules mostly adnate to petiole, free parts lanceolate, glabrous, margin glandular, apex acuminate; rachis and petiole shortly prickly, sparsely glandular pubescent; leaflets usually 3, rarely 5, pale green abaxially, deep green adaxially, often purple-brown when old, oblong-ovate or long elliptic, 4–8 × 2–4 cm, glabrous, base subrounded or broadly cuneate, margin acutely depressed serrate, apex caudate-acuminate or acute. Flower solitary, 3–3.5 cm in diam.; pedicel 6–12 mm, glabrous or sparsely pubescent when young, rarely glandular pubescent; bracts absent. Hypanthium pyriform or obovoid. Sepals 5, oblong-lanceolate, abaxially glabrous, adaxially densely pubescent, margin entire or slightly incised, apex caudate-acuminate, after anthesis reflexed, deciduous. Petals 5, purple-red, broadly obovate, base cuneate, apex emarginate. Styles free, exserted, purple-red, equaling stamens, pubescent. Hip often black-purple, pyriform or obovoid, smooth. Fl. Apr–Jun, fr. May–Aug.

• Mixed forests, scrub; 400–1400 m. Guizhou, Hubei, Sichuan.

*Rosa alexandrae* Buzunova (Novon 4: 209. 1994) was described from a single specimen collected in Gansu in 1885: *Potanin s.n.* (LE). It apparently has no close relatives within *R. sect. Synstylae*, but may be remotely related to *R. weisiensis*, which differs from *R. alexandrae* in its straight, basally dilated prickles and narrower leaflets.

**59. *Rosa langyashanica*** D. C. Zhang & J. Z. Shao, Acta Phytotax. Sin. 35: 265. 1997.

琅琊山蔷薇 lang ya shan qiang wei

Shrubs deciduous, ca. 2 m tall. Branchlets dark purple or grayish brown, terete, glabrous, sparsely prickly; prickles yellowish, curved or straight, flat, turgid at base. Leaves 7–10 cm including petiole; stipules mostly adnate to petiole, free parts pectinately parted to base, margin glandular pubescent or not; rachis and petiole glandular pubescent or subglabrous; leaflets (5 or) 7 or 9, sessile or subsessile, pale green abaxially, deep green adaxially, rhomboid-elliptic, 2.5–3 × 0.8–1.8 cm, midvein and lateral veins prominent abaxially, impressed adaxially, both surfaces glabrous, base cuneate or broadly so, margin sharply deeply serrate, apex acute or acuminate; teeth triangular-ovate. Compound corymb 5–9-flowered; peduncle sparsely glandular pubescent. Flowers 2–3 cm in diam.; pedicel 2–2.5 cm; bracts unknown. Hypanthium obovoid, abaxially glabrous. Sepals lanceolate or ovate-lanceolate, ca. 2 × as long as hypanthium, abaxially subglabrous, adaxially densely pubescent, margin entire, usually glandular pubescent, apex caudate-acuminate. Petals pink, broadly obovate, 6–7 × 4–5 mm, base cuneate, apex emarginate. Stamens numerous. Styles connate into a column, exserted, slightly longer than stamens, glabrous. Hip ovoid-globose, glabrous when young. Fl. May.

- Forest margins; 100–200 m. E Anhui (Chu Xian).

One of us (Robertson) has seen no specimens of this species.

**60. *Rosa multiflora*** Thunberg in Murray, Syst. Veg., ed. 14, 474. 1784.

野蔷薇 ye qiang wei

Shrubs climbing. Branchlets terete, usually glabrous; prickles paired below leaves, sometimes sparsely scattered, curved, to 6 mm, stout, flat, gradually tapering to broad base. Leaves including petiole 5–10 cm; stipules pectinate, mostly adnate to petiole, margin glandular pubescent or not; rachis and petiole pubescent or glabrous, glandular pubescent, shortly prickly; leaflets (3–)5–9, obovate, oblong, or ovate, 1–5 × 0.8–2.8 cm, abaxially pubescent, adaxially glabrous, base rounded or cuneate, margin simply serrate, apex acute or rounded-obtuse. Flowers numerous in corymb, 1.5–4 cm in diam.; pedicel 1.5–2.5 cm, puberulous, glabrous, or glandular pubescent, margin sometimes pectinate; bracts at base of pedicel, small. Hypanthium subglobose, glabrous. Sepals 5, deciduous, lanceolate, abaxially glabrous, adaxially pubescent, margin entire or with 2 linear lobes at middle. Petals 5, semidouble, or double, white, pinkish, or pink (in some cultivated plants), fragrant, obovate, base cuneate, apex emarginate. Styles connate in column, exserted, slightly longer than stamens, glabrous. Hip red-brown or purple-brown, subglobose, 6–8 mm in diam., glabrous, shiny.  $2n = 14^*$ , 21.

Thickets, scrub, slopes, river sides; 300–2000 m. Anhui, Fujian, S Gansu, Guangdong, Guangxi, Guizhou, S Hebei, Henan, Hunan, Jiangsu, Jiangxi, S Shaanxi, Shandong, Taiwan, ?Yunnan, Zhejiang [Japan, Korea].

Two varieties are recognized here. Plants of this species from Taiwan are usually called var. *formosana* Cardot (Notul. Syst. (Paris) 3: 263. 1916), which is characterized by small leaflets, 1–3 × 0.8–1.5 cm, but this taxon seems to fall within the overall range of variation for var. *multiflora*. Two other varieties are cultivated in China, but do not occur spontaneously: var. *alboplana* T. T. Yu & T. C. Ku (Bull. Bot. Res., Harbin 1(4): 12. 1981), which has white, double flowers, and var. *carnea* Thory (in Redouté, Roses 2: 67. 1821; *Rosa blinii* H. Léveillé; *R. lebrunei* H. Léveillé), which has pink, double flowers.

- 1a. Petals white; flowers 1.5–2 cm in diam.  
..... 60a. var. *multiflora*
- 1b. Petals pink; flowers to 4 cm in diam.  
..... 60b. var. *cathayensis*

**60a. *Rosa multiflora* var. *multiflora***

野蔷薇(原变种) ye qiang wei (yuan bian zhong)

Flowers 1.5–2 cm in diam. Petals white.

Henan, Jiangsu, Shandong [Japan, Korea].

**60b. *Rosa multiflora* var. *cathayensis*** Rehder & E. H. Wilson in Sargent, Pl. Wilson. 2: 304. 1915.

粉团蔷薇 fen tuan qiang wei

?*Rosa adenoclada* H. Léveillé (1912), not Hy (1895); *R. calva* (Franchet & Savatier) Boulenger var. *cathayensis* (Rehder & E. H. Wilson) Boulenger; *R. cathayensis* (Rehder & E. H. Wilson) L. H. Bailey; ?*R. damascena* Miller f. *brachyacantha* Focke; *R. gentiliana* H. Léveillé & Vaniot; *R. kwangsiensis* H. L. Li; *R. macrophylla* Lindley var. *hypoleuca* H. Léveillé; ?*R. multiflora* var. *brachyacantha* (Focke) Rehder & E. H. Wilson; *R. multiflora* var. *gentiliana* (H. Léveillé & Vaniot) T. T. Yu & H. T. Tsai.

Flowers to 4 cm in diam. Petals pink.  $2n = 14^*$ , 28\*.

• Thickets, scrub, slopes, river sides; 300–2000 m. Anhui, Fujian, S Gansu, Guangdong, Guangxi, Guizhou, S Hebei, Henan, Hunan, Jiangxi, S Shaanxi, S Shandong, ?Yunnan, Zhejiang.

The root, which contains 23–25% tannin, is used for tanning. The fresh flowers, from which essential oils can be extracted, are used in the cosmetic industry. The roots, leaves, flowers, and seeds are all used medicinally.

**61. *Rosa daishanensis*** T. C. Ku, Bull. Bot. Res., Harbin 10(1): 11. 1990.

岱山蔷薇 dai shan qiang wei

Shrubs climbing, small, to 1 m tall. Branchlets terete, slightly curved, slender, subglabrous; prickles short, slightly flat, inflated at base. Leaves including petiole 5.5–7 cm; stipules mostly adnate to petiole, margin pectinate and glandular; rachis and petioles densely stipitate glandular and sparsely pubescent; leaflets 5–7, pale green abaxially, deep green adaxially, usually obovate-oblong or elliptic, 1.3–2 × 0.9–1.5 cm, abaxially glabrous or sparsely glandular or pubescent along midvein, adaxially subglabrous, base broadly cuneate or rounded, margin doubly serrate, apex acuminate. Flowers 8–12-flow-



ered in panicle, 2–2.5 cm in diam.; pedicel 5–10 mm, glandular; bracts caducous. Hypanthium ovoid-globose, subglabrous, sparsely villous and glandular pubescent. Sepals 5, lanceolate, abaxially stipulate-glandular, adaxially densely villous, margin pinnately lobed; lobules lanceolate to linear, apex long acuminate. Petals 5, white, unknown. Styles connate in column, exserted, slightly shorter than stamens, glabrous. Hip unknown.

- NE Zhejiang (Daishan Xian).

One of us (Robertson) has seen no specimens of this species.

**62. Rosa uniflorella** Buzunova, Novon 4: 209. 1994.

单花合柱蔷薇 dan hua he zhu qiang wei

*Rosa uniflora* T. T. Yu & T. C. Ku, Bull. Bot. Res., Harbin 1(4): 12. 1981, not Galushko (1959).

Shrubs small. Branchlets brown or purple-brown, terete, curved, slender, striate, subglabrous; prickles scattered or in pairs, short, flat. Leaves including petiole 2.5–3.5 cm; stipules pectinate, mostly adnate to petiole, both surfaces and margin sparsely pubescent, densely glandular pubescent; rachis and petiole densely pubescent and glandular pubescent; leaflets 5–7, obovate or broadly elliptic, 7–10 × 5–7 mm, abaxially pubescent, with prominent midvein, adaxially sparsely pubescent, base broadly cuneate or subrounded, margin simply serrate or nearly doubly serrate, apex acute or obtuse. Flower solitary, axillary, 2–2.5 cm in diam.; pedicel less than 1 cm, sparsely pubescent and glandular pubescent; bracts 2 or 3, at base of pedicel, ovate-lanceolate, abaxially and margin densely glandular pubescent. Hypanthium oblong, abaxially densely glandular pubescent. Sepals 5, lanceolate, ca. 5 mm, abaxially densely glandular pubescent, adaxially densely pubescent, margin entire or rarely lobed, apex acuminate. Petals 5, white, oblong-obovate, base cuneate, apex emarginate. Styles connate into column, slightly shorter than stamens, glabrous. Hip unknown.

- Sunny sea shores. NE Zhejiang (Daishan Xian).

One of us (Robertson) has seen no specimens of this species.

**63. Rosa kunmingensis** T. C. Ku, Bull. Bot. Res., Harbin 10(1): 10. 1990.

昆明蔷薇 kun ming qiang wei

Shrubs ca. 3 m tall. Branchlets red-brown, terete, robust, glabrous, glandular; prickles sparse, straight or slightly curved, to 9 mm, robust, flat, gradually tapering to broad base. Leaves including petiole 6–8 cm; stipules usually partly adnate to petiole, margin pectinate; rachis and petioles densely tomentose-pubescent, laxly prickly; leaflets 7–9, pale green abaxially, deep green adaxially, elliptic or obovate-oblong, 1.2–2.5 cm × 6–14 mm, abaxially densely tomentose-pubescent, adaxially subglabrous or sparsely pubescent, base cuneate or broadly cuneate, margin sharply serrate, apex acute. Flowers 5–7-flowered, in corymb, ca. 2.8 cm in diam.; pedicel 1.7–2.3 cm, densely glandular pubescent; bracts caducous. Hypanthium ovoid-globose, glabrous. Sepals 5, oblong or lanceolate, 8–11 cm, abaxially densely tomentose-pubescent, margin entire except for 1 pair of lobes, adaxially pubescent and glandular pubescent, apex long caudate. Petals double, white, long obovate, base cuneate, apex

rounded-obtuse. Styles connate in column, exserted, slightly longer than stamens, densely pubescent. Hip unknown.

- Mountain slopes; ca. 2300 m. Yunnan (Kunming Shi).

**64. Rosa kwangtungensis** T. T. Yu & H. T. Tsai, Bull. Fan. Mem. Inst. Biol., Bot. Ser., 7: 114. 1936.

广东蔷薇 guang dong qiang wei

Shrubs climbing, small, with long repent branches. Branchlets dark gray or red-brown, terete, when young puberulous, soon glabrescent; prickles scattered, curved, to 7 mm, stout, flat, gradually tapering to broad base. Leaves including petiole 3.5–6 cm; stipules mostly adnate to petiole, free parts lanceolate, pubescent, margin irregularly serrate to fimbriate, glandular, apex shortly acuminate; leaflets 5–7(–9), greenish abaxially, dark green adaxially, elliptic, long elliptic, or elliptic-ovate, 1.5–3 × 0.8–1.5 cm, abaxially pubescent, along prominent midvein densely pubescent, sparsely shortly prickly and glandular pubescent, adaxially along midvein pubescent, base broadly cuneate or subrounded, margin serrulate, apex acute or acuminate. Flowers 4–15, 1.5–3 cm in diam., in terminal corymb 5–7 cm in diam.; pedicel 1–3 cm, densely pubescent and glandular pubescent or subglabrous; bracts 1–3, ovate, margin glandular, lacinate or serrate, apex acuminate. Hypanthium ovoid, puberulous and glandular pubescent, glabrate. Sepals 5, deciduous, ovate-lanceolate, both surfaces pubescent or subglabrous, abaxially intermixed with glandular hairs, margin entire, apex long acuminate. Petals 5 or double, white or red, fragrant, obovate, base broadly cuneate, apex emarginate or rounded-obtuse. Styles connate into column, exserted, slightly longer than stamens, pubescent. Hip purple-brown, globose, 7–10 mm in diam., shiny. Fl. Mar–May, fr. Jun–Jul.

- Scrub, slopes, river sides, roadsides; 100–500 m. Fujian, Guangdong, Guangxi.

- 1a. Flowers single, 1.5–2 cm in diam. .... 64a. var. *kwangtungensis*
- 1b. Flowers double, 1–3 cm in diam.
  - 2a. Pedicels and sepals tomentose-pubescent; flowers 1–1.5 cm in diam. .... 64b. var. *mollis*
  - 2b. Pedicels and sepals subglabrous; flowers 2.5–3 cm in diam. .... 64c. var. *plena*

**64a. Rosa kwangtungensis** var. *kwangtungensis*

广东蔷薇(原变种) guang dong qiang wei (yuan bian zhong)

Flowers single, 1.5–2 cm in diam.

- Scrub, slopes, river sides, roadsides; 100–500 m. Fujian, Guangdong, Guangxi.

**64b. Rosa kwangtungensis** var. *mollis* Metcalf, J. Arnold Arbor. 21: 111. 1940.

毛叶广东蔷薇 mao ye guang dong qiang wei

*Rosa multiflora* Thunberg var. *nanningensis* Y. Wan & Z. R. Huang.

Flowers double, 1–1.5 cm in diam. Pedicels and sepals tomentose-pubescent.

- Ravine slopes. S Fujian (Xiamen Shi), Guangdong, Guangxi.

**64c. *Rosa kwangtungensis* var. *plena*** T. T. Yu & T. C. Ku, Bull. Bot. Res., Harbin 1(4): 13. 1981.

重瓣广东蔷薇 chong ban guang dong qiang wei

Flowers double, 2.5–3 cm in diam. Pedicels and sepals subglabrous.

- Fujian (Cangqian Shan); cultivated in Guangdong.

**65. *Rosa lichiangensis*** T. T. Yu & T. C. Ku, Bull. Bot. Res., Harbin 1(4): 14. 1981.

丽江蔷薇 li jiang qiang wei

Shrubs climbing, ca. 2 m tall. Branchlets terete, slender; prickles scattered, slightly curved, short, stout. Leaves including petiole 3–5 cm; stipules mostly adnate to petiole, free parts lanceolate, abaxially pubescent, margin entire, often sparsely glandular pubescent, apex long acuminate; rachis and petiole pubescent and sparsely shortly prickly; leaflets 3–5(–7), elliptic or obovate, 1–2.3 × 0.5–1.3 cm, abaxially glabrous, adaxially sparsely pubescent or glabrous, base cuneate or broadly cuneate, rarely subrounded, margin simply serrate, teeth often glandular apically when young, apex acute or rounded-obtuse. Flowers 2–4 in umbel-like corymb, 2.5–3 cm in diam.; pedicel 1–1.5 cm, glabrous or sparsely glandular pubescent; bracts unknown. Hypanthium obovate-oblong, abaxially glabrous or sparsely glandular pubescent. Sepals 5, ovate-lanceolate, abaxially glabrous or sparsely glandular pubescent, adaxially densely pubescent, margin glandular pubescent, often with 2–4 linear lobes, apex long acuminate. Petals 5, pink, obovate, base broadly cuneate, apex emarginate. Styles connate in column, exerted, nearly equaling stamens, densely pubescent. Hip unknown.

- Scrub. NW Yunnan (Lijiang Xian).

One of us (Robertson) has seen no specimens of this species.

**66. *Rosa transmorrisonensis*** Hayata, Icon. Pl. Formosan. 3: 97. 1913.

高山蔷薇 gao shan qiang wei

Shrubs evergreen, dwarf. Branchlets glabrous; prickles sparse or in pairs below leaves, to 7 mm, flat. Stipules mostly adnate to petiole, free parts lanceolate, ca. 1 cm, both surfaces subglabrous or sparsely pubescent, margin filiform-dissected and glandular pubescent; rachis and petiole pubescent, glandular pubescent, sparsely prickly; leaflets 5–7, rarely 3, elliptic or oblong, 5–25 × 5–15 mm, abaxially puberulous along midvein, adaxially subglabrous, sometimes sparsely glandular pubescent, margin acutely simply serrate, apex rounded-obtuse, pubescent, apex acute, or truncate. Flowers solitary or 3–5 in cyme, 1.8–2.5 cm in diam.; pedicel ca. 1.5 cm, glandular pubescent or not; bracts absent. Hypanthium subglobose to urceolate, glabrous. Sepals 5, triangular-ovate, abaxially pubescent and glandular pubescent, adaxially tomentose, margin lacinate and glandular minute. Petals 5, white, obovate, ca. 10 × 5 mm, apex emarginate. Styles connate into column, subequaling stamens, villous. Hip subglobose, ca. 6 mm in diam.

Alpine regions; ca. 2400 m. Taiwan [Philippines].

**67. *Rosa sambucina* Koidzumi var. *pubescens*** Koidzumi, Bot. Mag. (Tokyo) 31: 130. 1917.

山蔷薇 shan qiang wei

Shrubs climbing. Branchlets purple-brown, slender, glabrous; prickles sparse to scattered, to 2 mm, flat, gradually tapering to a broad base 2–3 × height, often with shortly stipitate glands. Leaves including petiole 7–16 cm; stipules mostly adnate to petiole, free parts lanceolate, both surfaces glabrous, margin glandular pubescent, apex acuminate; rachis and petioles sparsely pubescent or glabrous, sparsely shortly prickly, shortly stipitate glandular; leaflets 5, sometimes 3, subleathery, oblong to oblong-lanceolate, 4–8 × 1.5–3 cm, both surfaces glabrous, base truncate to rounded, margin serrate, apex acuminate. Flowers 4 to several, in terminal corymbs, 2.5–3.5 mm in diam.; pedicel 2–3 cm, slightly pubescent, shortly stipitate glandular; bracts lanceolate, small. Hypanthium ellipsoid, sparsely pubescent, shortly stipitate glandular. Sepals 5, deciduous, reflexed, lanceolate, shorter than petals, abaxially mostly glabrous, shortly stipitate glandular, adaxially densely pubescent, margin entire or with 2 small lobes, apex acuminate. Petals 5, white or pink, broadly ovate, base cuneate, apex emarginate. Styles connate into a column, slightly longer than stamens, villous or glabrous. Hip red or black, ellipsoid, ca. 1 cm in diam., glabrous, sometimes with a few shortly stipitate glands.

- Broad-leaved forests (climbing in the crowns of trees), roadside slopes; 1500–1700 m. Taiwan.

*Rosa sambucina* var. *sambucina* is endemic to Japan.

**68. *Rosa taiwanensis*** Nakai, Bot. Mag. (Tokyo) 30: 238. 1916.

小金樱子 xiao jin ying zi

Shrubs climbing. Branchlets slender; prickles scattered, hooked. Leaves including petiole 5–15 cm; stipules 1/2 or more adnate to petiole, free parts triangular to linear, margin ciliate-serrate, glandular pubescent, apex acuminate; rachis and petiole mostly glabrous but sparsely prickly and sparsely shortly stipitate glandular; leaflets 5–7, elliptic or ovate, 1.5–3.6 × 0.8–1.5 cm, terminal one larger than lateral ones, both surfaces glabrous or sparsely pubescent along midvein, base obtuse to acute, margin simply serrate, especially in upper 1/2, apex acute or acuminate to obtuse. Flowers many, in large terminal corymbs, ca. 2.5 cm in diam.; pedicel ca. 1 cm, pubescent, shortly stipitate glandular; bracts linear, margin ciliate. Hypanthium globose, glandular pubescent. Sepals 5, deciduous, reflexed, shorter than petals, ovate-oblong, abaxially pubescent, stipitate glandular, adaxially tomentose, margin entire or occasionally with small, linear lobes, apex acute. Petals 5, white, broadly ovate, apex emarginate. Styles connate in column, exerted, longer than stamens, villous. Hip red, globose, 6–8 mm in diam.

- Mountain ranges; below 2500 m. Taiwan.

**69. *Rosa pricei*** Hayata, Icon. Pl. Formosan. 5: 58. 1915.

太鲁阁蔷薇 tai lu ge qiang wei

Shrubs, erect. Branchlets yellow-brown when young, subglabrous; prickles scattered, curved, to 3 mm, gradually tapering to broad base; bristles sometimes present, glandular. Leaves

including petiole 5–8 cm; stipules mostly adnate to petiole, free parts triangular, both surfaces glabrous, margin glandular pubescent, apex acuminate; rachis and petioles glabrous, sparsely shortly prickly; leaflets 5–7, ovate to elliptic, 1–2 × 0.6–0.8 cm, slightly leathery, both surfaces glabrous, base rounded, margin simply serrulate, especially in upper 1/2, apex acuminate. Flowers few in cymes, 1.5–2 cm in diam.; pedicel 0.8–1.5 mm, pubescent and glandular pubescent; bracts ca. 5 mm. Hypanthium ovoid-globose, ca. 2.5 mm, often glandular bristly. Sepals 5, reflexed, nearly equaling petals, lanceolate, abaxially glabrous and sometimes glandular bristly, adaxially puberulous, margin entire, apex attenuate. Petals 5, white, obovate, base broadly cuneate, apex emarginate. Styles connate into a column, slightly longer than stamens, villous. Hips unknown.

- 1500–2000 m. Taiwan.

**70. *Rosa luciae*** Franchet & Roehbrune, Bull. Soc. Roy. Bot. Belgique 10: 324. 1871.

光叶蔷薇 *guang ye qiang wei*

Shrubs prostrate, sprawling, or procumbent, 3–5 m. Branches often prostrate, sometimes rooting at nodes; branchlets red-brown, terete, pubescent when young, soon glabrate; prickles scattered, sometimes paired, often tinged with purple-red, curved or nearly straight, to 5 mm, flat, gradually tapering to broad base. Leaves including petiole 5–10 cm; stipules mostly adnate to petiole, free parts lanceolate, margin glandular serrate or dentate, apex shortly acuminate; rachis and petiole shortly prickly, sparsely glandular pubescent; leaflets 5–7, rarely 9, greenish abaxially, dark green adaxially, elliptic, ovate, or obovate, 1–3 × 0.7–1.5 cm, glabrous, abaxially with prominent midvein, base rounded or broadly cuneate, margin remotely serrate, apex rounded-obtuse or acute. Flowers numerous in corymb or solitary, 1.5–3 cm in diam.; pedicel 6–10 mm, with peduncle sparsely pubescent when young, soon glabrescent, rarely sparsely glandular pubescent; bracts caducous, ovate. Hypanthium subglobose, sparsely glandular pubescent. Sepals 5, tardily deciduous, lanceolate or ovate-lanceolate, abaxially subglabrous, adaxially densely pubescent, margin entire, apex acuminate. Petals 5, white or pink, fragrant, obovate, base cuneate, apex rounded-obtuse. Styles connate into column, exserted, slightly longer than stamens, pubescent. Hip purple-black-brown, globose or subglobose, 6–18 mm in diam., shiny, sparsely glandular pubescent. Fl. Apr–Jul, fr. Oct–Nov.

Thickets, sea cliffs, coasts, on limestone; sea level to 500 m. Fujian, Guangdong, Guangxi, Taiwan, Zhejiang [Japan (Ryukyu Islands), Korea, Philippines].

- 1a. Petals white; flowers 2–3 cm in diam. .... 70a. var. *luciae*
- 1b. Petals pink; flowers ca. 1.5 cm in diam. .... 70b. var. *rosea*

**70a. *Rosa luciae* var. *luciae***

光叶蔷薇(原变种) *guang ye qiang wei* (*yuan bian zhong*)

*Rosa acicularis* Lindley var. *taquetii* (H. Léveillé) Nakai; *R. luciae* var. *wichurana* (Crépin) Koidzumi; *R. taquetii* H. Léveillé; *R. wichurana* Crépin (as “*wichuriana*”).

Flowers 2–3 cm in diam. Petals white.

Thickets, sea cliffs; sea level to 500 m. Fujian, Guangdong, Guangxi, Taiwan, Zhejiang [Japan (Ryukyu Islands), Korea, Philippines].

**70b. *Rosa luciae* var. *rosea*** H. L. Li, Lloydia 14: 235. 1952.

粉花光叶蔷薇 *fen hua guang ye qiang wei*

Flowers ca. 1.5 cm in diam. Petals pink.

- Coasts, on limestone; near sea level. Taiwan.

This variety is evidently known only from the type.

**71. *Rosa miyiensis*** T. C. Ku, Bull. Bot. Res., Harbin 10(1): 9. 1990.

米易蔷薇 *mi yi qiang wei*

Shrubs small, 1–2 m tall. Branchlets red-brown, slightly recurved, glabrous but glandular pubescent; prickles usually sparse, robust, inflated at base. Leaves including petiole 5.5–9 cm; stipules mostly adnate to petiole, margin unequally serrate and glandular pubescent, abaxially glandular, free parts lanceolate, apex long acuminate, rachis and petioles glabrous but glandular pubescent and sparsely shortly prickly; leaflets 5–7, yellow-green abaxially, deep green adaxially, elliptic, rarely oblong, 2–3.5 × 1.2–2.2 cm, both surfaces glabrous, base rounded or subrounded, margin serrate or nearly doubly serrate, apex acute or shortly acuminate. Flowers 10–15 in panicle, 2.7–3 cm in diam.; pedicel 2–3 cm, densely glandular pubescent; bracts caducous, unknown. Hypanthium obovoid, subglabrous or very sparsely glandular. Sepals 5, ovate-lanceolate, ca. 1 cm, abaxially glandular, adaxially densely tomentose-pubescent, margin glandular, apex acuminate. Petals double, white, obovate, base cuneate, apex rounded-obtuse. Styles connate in column, exserted, longer than stamens, pubescent. Hip unknown.

- About 1700 m. S Sichuan (Miyi Xian).

One of us (Robertson) has seen no specimens of this species.

**72. *Rosa maximowicziana*** Regel, Trudy Imp. S.-Peterburgsk. Bot. Sada 5: 378. 1878.

伞花蔷薇 *san hua qiang wei*

Shrubs small, with long repent branches. Branchlets terete; prickles scattered, curved, to 6 mm, flat, gradually tapering to broad base; bristles and smaller prickles sometimes present. Leaves including petiole 4–11 cm; stipules mostly adnate to petiole, free parts lanceolate, margin irregularly serrate and glandular pubescent; leaflets 7–9, rarely 5, deep green adaxially, ovate, elliptic, or oblong, 1.5–3(–6) × 1–2 cm, abaxially glabrous or along midvein sparsely pubescent, or shortly prickly and glandular pubescent, adaxially glabrous, base broadly cuneate or subrounded, margin acutely serrate, apex acute or acuminate. Flowers several in corymb, 3–3.5 cm in diam.; pedicel 1–2.5 cm, glandular pubescent; bracts long ovate, margin glandular pubescent. Hypanthium ovoid, abaxially glandular pubescent. Sepals 5, deciduous, triangular-ovate, both surfaces pubescent, abaxially glandular pubescent, margin entire, sometimes 1- or 2-lobed, apex long acuminate. Petals 5, white or tinged with pink, obovate, base cuneate, apex rounded-obtuse. Styles connate into column, exserted, nearly equaling stamens,

glabrous. Hip black-brown, ovoid, 8–10 mm in diam., shiny. Fl. Jun–Jul, fr. Sep.  $2n = 14$ .

Scrub, open slopes, stream sides, roadsides. Liaoning, Shandong [Korea, Russia (Far East)].

**73. *Rosa anemoniflora*** Fortune ex Lindley, J. Hort. Soc. London 2: 315. 1874.

银粉蔷薇 yin fen qiang wei

*Rosa sempervirens* Linnaeus var. *anemoniflora* (Fortune ex Lindley) Regel; *R. triphylla* Roxburgh ex Hemsley.

Shrubs climbing, small. Branchlets purple-brown, terete, slender, glabrous; prickles sparse, curved, to 2 mm, flat, gradually tapering to base, sometimes intermixed with smaller prickles, bristles, and glandular trichomes. Leaves including petiole 4–11 cm; stipules narrow, mostly adnate to petiole, apical free parts lanceolate, margin glandular serrate, apex acuminate; rachis and petiole sparsely shortly prickly and glandular pubescent; leaflets 3, rarely 5, ovate-lanceolate or oblong-lanceolate, 2–6 × 0.8–2 cm, glabrous, midvein prominent abaxially, concave adaxially, base rounded or broadly cuneate, margin depressed-serrulate, apex acuminate. Flowers solitary or several in corymb, rarely in corymb-panicle, 2–2.5 cm in diam.; pedicel 1–3.5 cm, sparsely glandular pubescent; bracts ovate-oblong, margin glandular pubescent, apex acuminate. Hypanthium ovoid, glabrous. Sepals 5, lanceolate, abaxially glabrous, adaxially puberulous, margin sparsely glandular pubescent, entire, apex acuminate. Petals 5, pink or white, obovate, base cuneate, apex emarginate. Styles connate into column, exserted, slightly longer than stamens, pubescent. Hip purple-brown, ovoid, ca. 7 mm in diam., glabrous, with persistent sepals. Fl. Mar–May, fr. Jun–Aug.

- Slopes, river sides, roadsides, waste fields; 400–1000 m. Fujian.

**74. *Rosa brunonii*** Lindley, Ros. Monogr. 120. 1820.

复伞房蔷薇 fu san fang qiang wei

*Rosa clavigera* H. Léveillé; *R. moschata* Herrmann var. *nepalensis* Lindley; *R. pubescens* Roxburgh.

Shrubs climbing or scandent, 4–6 m. Branchlets red-brown or purple-brown, terete, pubescent when young, glabrate; prickles scattered, curved, to 5 mm, flat, gradually tapering to broad base. Leaves including petiole 6–9 cm; stipules mostly adnate to petiole, free parts lanceolate, both surfaces pubescent, margin glandular, apex acuminate; rachis and petiole densely pubescent, with scattered small, curved prickles; leaflets 7, often 5 or 3 on leaves near corymb, oblong or oblong-lanceolate, 3–5 × 1–1.5 cm, abaxially glabrous, adaxially sparsely pubescent or rarely glabrous, base subrounded or broadly cuneate, margin serrate, apex acuminate or acute. Flowers numerous in compound corymb, 3–5 cm in diam.; pedicel 2.8–3.5 cm, pubescent and sparsely glandular pubescent; bracts sometimes a unifoliate leaf at base of inflorescence; bracteoles tiny or absent. Hypanthium obovoid, abaxially pubescent. Sepals 5, deciduous, lanceolate, both surfaces pubescent, often with 1 or 2 pairs of lobes, apex acuminate. Petals 5, white, fragrant, broadly obovate, base broadly cuneate, apex emarginate. Styles connate into column, exserted, slightly longer than stamens, pubescent.

Hip purple-brown or dark red, ovoid, ca. 1 cm in diam., glabrous, shiny. Fl. Jun, fr. Jul–Nov.

Forests, thickets, scrub at forest margins, valleys; 1900–2800 m. Sichuan, Xizang, Yunnan [Bhutan, N India, Kashmir, Myanmar, Nepal, Pakistan].

**75. *Rosa glomerata*** Rehder & E. H. Wilson in Sargent, Pl. Wilson. 2: 309. 1915.

绣球蔷薇 xiu qiu qiang wei

Shrubs diffuse, scandent, or vines to 9 m. Branches repent, terete, long, glabrous; branchlets sometimes pubescent; prickles scattered, curved, to 4 mm, flat, gradually tapering to broad base. Leaves including petiole 10–15 cm; stipules mostly adnate to petiole, free parts auriculate, margin entire, glandular pubescent, apex acuminate; rachis and petiole with small, curved prickles, densely pubescent; leaflets 5–7, rarely 3 or 9, oblong or oblong-obovate, 4–10 × 1.8–4.5 cm, leathery, abaxially densely gray-white pubescent, with prominent veins, adaxially glabrous, rugose, base rounded, rarely subcordate, slightly oblique, margin serrulate or nearly entire, apex acuminate or shortly acuminate. Flowers numerous, 1.5–2 cm in diam., in corymb 4–10 cm in diam.; peduncle 2–4 cm; pedicel 1–1.5 cm, densely gray pubescent and sparsely glandular pubescent; bracts unknown. Hypanthium subglobose, gray pubescent, sparsely glandular pubescent. Sepals 5, deciduous, ovate-lanceolate, abaxially pubescent and sparsely glandular pubescent, adaxially densely pubescent, margin entire, apex acuminate. Petals 5, white or pink, fragrant, broadly obovate, abaxially sericeous, base cuneate, apex emarginate. Styles connate into column, exserted, slightly longer than stamens, densely pubescent. Hip orange-red, subglobose or ovoid, 8–10 mm in diam., sparsely pubescent and glandular pubescent when young, glabrate, shiny. Fl. Jul, fr. Aug–Oct.

- Forest margins, thickets, scrub, slopes; 1300–3000 m. Guizhou, Hubei, Sichuan, Yunnan.

**76. *Rosa rubus*** H. Léveillé & Vaniot, Bull. Soc. Bot. France 55: 55. 1908.

悬钩子蔷薇 xuan gou zi qiang wei

*Rosa ernestii* Stapf ex Bean; *R. gentiliana* H. Léveillé & Vaniot f. *puberula* Handel-Mazzetti; *R. henryi* Boulenger var. *puberula* (Handel-Mazzetti) Metcalf; *R. moschata* Herrmann var. *hupehensis* Pampanin; *R. rubus* var. *yunnanensis* H. Léveillé.

Shrubs creeping or scandent, or vines to 5–6 m. Branchlets terete, pubescent when young, glabrate when old; prickles scattered, curved, to 2 mm, stout, flat, gradually tapering to broader base. Leaves including petiole 8–15 cm; stipules mostly adnate to petiole, free parts lanceolate, pubescent, margin entire, often glandular, apex acuminate; rachis and petiole pubescent, with sparse small hooked prickles; leaflets 5 or 3, ovate-elliptic, obovate, or elliptic, 3–6(–9) × 2–4.5 cm, abaxially densely or sparsely pubescent or glandular, adaxially usually glabrous, rarely pubescent, base subrounded or broadly cuneate, margin acutely serrate, apex caudate, acute, or acuminate. Flowers 10–25 in a paniculate corymb, 2.5–3 cm in diam.;

peduncle with pedicels 1.5–2 cm, pubescent and glandular pubescent; bracts narrowly ovate, small, margin glandular, apex acuminate. Hypanthium globose or obovoid, pubescent and sparsely glandular pubescent. Sepals 5, deciduous, lanceolate, both surfaces densely pubescent, abaxially glandular pubescent, margin entire or with a few small lobes, apex long acuminate. Petals 5, white, fragrant, obovate, base broadly cuneate, apex emarginate. Styles connate into column, exserted, slightly longer than stamens, pubescent. Hip bright red, purple-brown, or orange-brown, subglobose, 8–10 mm in diam., shiny, mostly glabrous. Fl. Apr–Jun, fr. Jul–Sep.

• Scrub, grassy places, slopes, montane regions, cliffs, river banks, roadsides; 500–1300 m. Fujian, Gansu, Guangdong, Guangxi, Guizhou, Hubei, Jiangxi, Shaanxi, Sichuan, Yunnan, Zhejiang.

Two forms may be recognized: f. *rubus*, which has leaflets abaxially eglandular, and f. *glandulifera* T. T. Yu & T. C. Ku (Bull. Bot. Res., Harbin 1(2): 15. 1981), which has leaflets abaxially densely glandular.

**77. Rosa helenae** Rehder & E. H. Wilson in Sargent, Pl. Wilson. 2: 310. 1915.

卵果蔷薇 luan guo qiang wei

*Rosa floribunda* Baker.

Shrubs diffuse or scandent, with long repent branches to 9 m. Branches purple-brown, robust; branchlets of present year red-brown, glabrous; prickles scattered, yellowish, curved, to 4 mm, stout, flat, tapering gradually to broad base. Leaves including petiole 8–17 cm; stipules 1.5–2.5 cm, mostly adnate to petiole, apical free parts auriculate, margin glandular pubescent, apex acuminate; rachis and petiole pubescent, with scattered small prickles; leaflets (5–)7–9, oblong-ovate or ovate-lanceolate, 2.5–3.5(–4.5) × 1–2.5 cm, abaxially pubescent, with prominent veins, adaxially glabrous, base rounded or broadly cuneate, margin appressed-serrate, apex acute or shortly acuminate. Flowers 2.5–3.1 cm in diam., in terminal corymbs 6–15 cm in diam., partly umbel-like; pedicel 1.5–2 cm, densely pubescent and glandular pubescent; bracts caducous, lanceolate. Hypanthium ovoid, ellipsoid, or obovoid, pubescent and glandular pubescent. Sepals 5, deciduous, ovate-lanceolate, abaxially villous and glandular pubescent, adaxially densely villous, margin often lobed, apex acuminate. Petals 5, fragrant, white, obovate, base cuneate, apex emarginate. Styles connate into column, exserted, nearly equaling stamens, densely villous. Hip deep red, ovoid, ellipsoid, or obovoid, 1–1.5 × 0.8–1 cm, shiny; sepals reflexed after anthesis and deciduous. Fl. May–Jul, fr. Sep–Oct.

Wood margins, thickets, scrub, slopes, stream sides; 1000–3000 m. Gansu, Guizhou, Hubei, Shaanxi, Sichuan, Yunnan [Thailand, Vietnam].

Three forms may be recognized: f. *helenae*, which has singly serrate, abaxially eglandular leaflets; f. *duplicata* T. C. Ku (Bull. Bot. Res., Harbin 10(1): 12. 1990), which has doubly serrate, abaxially eglandular leaflets; and f. *glandulifera* T. C. Ku (Bull. Bot. Res., Harbin 10(1): 12. 1990), which has singly serrate, abaxially glandular leaflets.

**78. Rosa longicuspis** Bertoloni, Mem. Reale Accad. Sci. Ist. Bologna 11: 101. 1861.

长尖叶蔷薇 chang jian ye qiang wei

Shrubs usually evergreen, climbing or scrambling, 1.5–6 m tall. Branchlets purple-brown; prickles sparse or scattered, curved, to 5 mm, stout, flat, gradually tapering to a broad base. Leaves including petiole 7–14 cm; stipules mostly adnate to petiole, free parts lanceolate, often glandular pubescent; rachis and petiole glabrous, with a few hooked prickles; leaflets 5–9, ovate, elliptic, or ovate-oblong, 3–7(–11) × 1–3.5(–5) cm, leathery, both surfaces glabrous, abaxially with prominent midvein, adaxially shiny, rugose or not, base subrounded or broadly cuneate, margin acutely serrate, apex acuminate or long acuminate. Flowers numerous, in corymb, 3–4(–5) cm in diam.; pedicel 1.5–3.5 cm, sparsely pubescent, densely glandular pubescent; bracts ovate-oblong, margin glandular pubescent. Hypanthium ovoid or obovoid, sparsely pubescent and glandular pubescent. Sepals 5, deciduous, lanceolate, 0.8–1.2 cm, both surfaces pubescent, abaxially intermixed with glandular hairs, margin entire or few pinnately lobed, apex long acuminate. Petals 5, fragrant, white or creamy-white, broadly obovate, abaxially sericeous, base broadly cuneate, apex erose. Styles connate into column, exserted, slightly longer than stamens, pubescent. Hip dark red, obovoid, 1–1.2 cm in diam., glabrous; sepals reflexed, deciduous at hip ripening. Fl. May–Jul, fr. Jul–Nov.

Mixed evergreen forests, thickets, scrub, dry open areas; 400–2700 m. Guizhou, Sichuan, Yunnan [N India].

One of us (Robertson) would prefer not to recognize varieties in this species, and notes that the distinguishing characters given below are not those used by Rehder (Man. Cult. Trees, ed. 2, 447. 1940, as species).

- 1a. Leaflets 7–9, leaves near corymb often with 5 leaflets, adaxially not rugose ..... 78a. var. *longicuspis*
- 1b. Leaflets 5(or 7), adaxially slightly rugose ..... 78b. var. *sinowilsonii*

**78a. Rosa longicuspis** var. *longicuspis*

长尖叶蔷薇(原变种) chang jian ye qiang wei (yuan bian zhong)

*Rosa charbonneaui* H. Léveillé; *R. lucens* Rolfé; *R. moschata* Herrmann var. *yunnanensis* Crépin; *R. willmottiana* H. Léveillé; *R. yunnanensis* (Crépin) Boulenger

Leaflets 7–9, leaves near corymb often with 5 leaflets, adaxially not rugose. Flowers in corymbs.

Mixed evergreen forests, thickets, scrub, dry open areas; 400–2700 m. Guizhou, Sichuan, Yunnan [N India].

**78b. Rosa longicuspis** var. *sinowilsonii* (Hemsley) T. T. Yu & T. C. Ku, Bull. Bot. Res., Harbin 1(4): 15. 1981.

多花长尖叶蔷薇 duo hua chang jian ye qiang wei

*Rosa sinowilsonii* Hemsley, Bull. Misc. Inform. Kew 1906: 158. 1906.

Leaflets 5(or 7), abaxially glabrous or slightly pubescent, adaxially slightly rugose. Compound corymb 30-flowered.

• Guizhou, Sichuan, Yunnan.

**79. Rosa lasiosepala** Metcalf, J. Arnold Arbor. 21: 274. 1940.

毛萼蔷薇 mao e qiang wei

Shrubs climbing, ca. 10 m tall. Branchlets purple-brown, curved, robust, angulate, glabrous; prickles scattered, hooked, short, stout, flat. Leaves including petiole 17–25 cm; stipules mostly adnate to petiole, free parts ovate-lanceolate, margin pubescent and glandular pubescent, glabrate; rachis and petiole glabrous; leaflets usually 5, rarely 7, often 3 on leaves near corymb, elliptic, rarely ovate-oblong, 7–12 × 3–6 cm, leathery, glabrous, abaxially midvein and lateral veins prominent, adaxially midvein concave, base rounded, margin acutely serrate, apex acuminate or shortly caudate. Flowers numerous, in compound corymbs, 3–4 cm in diam.; pedicel 2.5–4 cm; densely puberulous; bracts unknown. Hypanthium subglobose, abaxially densely pubescent. Sepals 5, reflexed, deciduous, lanceolate, 1.5–2 cm, both surfaces densely whitish tomentose, margin entire, apex acuminate. Petals 5, white, obovate, abaxially sparsely pubescent, base cuneate, apex erose. Styles connate into column, exerted, slightly longer than stamens, densely white pubescent. Hip purple-brown, subglobose or ovoid, 1.8–2.3 cm in diam., sparsely pubescent; sepals deciduous at hip ripening. Fl. May–Jul, fr. Jul–Nov.

• Valleys in forests, stream sides, roadsides; 900–1800 m. Guangxi.

**80. *Rosa degenensis*** T. C. Ku, Bull. Bot. Res., Harbin 10(1): 5. 1990.

德钦蔷薇 de qin qiang wei

Shrubs small, ca. 1 m tall, glabrous. Branchlets gray-green, red-brown when old, terete, glabrous; prickles sparse, subulate, straight or slightly curved. Leaves including petiole 2–2.5 cm; stipules mostly adnate to petiole; rachis and petioles glabrous, sparsely glandular pubescent, with small, straight or curved prickles; leaflets usually 7, obovate, 7–10 × 5–8 mm, both surfaces glabrous, abaxially sparsely glandular pubescent, base cuneate, margin doubly serrate, apex rounded. Flowers 2 or 3 and fasciculate; bracts caducous, unknown. Hypanthium compressed-globose, sparsely glandular. Sepals 5, deciduous, ovate-lanceolate, 8–10 mm, abaxially sparsely pubescent and glandular pubescent, adaxially densely tomentose-pubescent, margin glandular, with 1–3 pairs of lobules, apex acuminate or caudate. Petals unknown. Styles connate into column, exerted, equaling stamens, sparsely pubescent. Hip red-brown, subglobose, 8–10 mm in diam., sparsely glandular pubescent or densely so; sepals reflexed, very late deciduous. Fr. Jul.

• Stream sides; 2000–2100 m. NW Yunnan (Dêqên Xian).

One of us (Robertson) has seen no specimens of this species.

**81. *Rosa filipes*** Rehder & E. H. Wilson in Sargent, Pl. Wilson. 2: 311. 1915.

腺梗蔷薇 xian geng qiang wei

Shrubs climbing, 3–5 m tall, with long repent branches. Branchlets purple-brown, terete, glabrous; prickles scattered, curved, to 5 mm, stout, flat, gradually tapering to a broad base. Leaves including petiole 8–14 cm; stipules narrow, mostly adnate to petiole, free parts lanceolate, margin entire, sparsely glandular pubescent, apex acuminate; rachis and petiole sparse-

ly pubescent, glandular pubescent, with scattered, small hooked prickles; leaflets 5–7, rarely 3 or 9, oblong or lanceolate, rarely obovate, 4–7 × 1.5–3 cm, abaxially subglabrous or puberulous along prominent veins, glandular punctate, adaxially glabrous, base subrounded or broadly cuneate, sometimes slightly oblique, margin simply serrate, rarely inconspicuously doubly serrate, apex acuminate. Flowers 25–35, 2–2.5 cm in diam., in compound corymb or panicle ca. 15 cm in diam.; pedicel sparsely glandular pubescent, 2–3 cm; bracts ovate-lanceolate or lanceolate, margin glandular pubescent, apex acuminate. Hypanthium ovoid, glandular pubescent. Sepals 5, deciduous, ovate-lanceolate, abaxially sparsely pubescent and glandular pubescent, adaxially densely pubescent, margin entire, apex acuminate. Petals 5, fragrant, white, obovate. Styles connate into column, exerted, nearly equaling stamens, pubescent. Hip deep red, subglobose, ca. 8 mm in diam.; sepals reflexed, eventually deciduous. Fl. Jun–Jul, fr. Jul–Nov.

• Thickets, roadsides; 1300–2300 m. Gansu, Shaanxi, Sichuan, Xizang, Yunnan.

One of us (Gu) wonders if *Rosa tatsienlouensis* Cardot (Notul. Syst. (Paris) 3: 264. 1916), described from Sichuan (Kangding Xian), is identical with *R. filipes*. Further study is required.

**82. *Rosa ludingensis*** T. C. Ku, Bull. Bot. Res., Harbin 10(1): 4. 1990.

泸定蔷薇 lu ding qiang wei

Shrubs small. Branches red-brown, robust, glabrous, Branchlets terete, slightly curved, usually glabrous; prickles curved, flat, inflated at base. Leaves including petiole 9–17 cm; stipules mostly adnate to petiole, abaxially and margin glandular pubescent, free parts triangular, margin glandular pubescent, apex acuminate; rachis and petioles subglabrous or sparsely pubescent, densely glandular pubescent; leaflets usually 7, pale green abaxially, deep green adaxially, elliptic or ovate, 3–6 × 1.5–3 cm, abaxially subglabrous, glandular pubescent, adaxially subglabrous, base rounded, margin doubly serrate, apex acute or shortly caudate. Flowers numerous, 1.8–3.2 cm in diam., in corymb-panicle; pedicel 1.5–1.8 cm, densely glandular pubescent, bracts caducous, unknown. Hypanthium ovate-globose, glabrous, glandular pubescent. Sepals 5, ovate-lanceolate, 8–10 mm, margin entire, 2–4-lobulate, apex long caudate, acuminate. Petals 5, white, broadly obovate, base cuneate, apex rounded-obtuse. Styles connate into a column, exerted, nearly equaling stamens, pubescent. Hips unknown. Fl. May–Jul, fr. Jul–Oct.

• About 1500 m. C Sichuan (Luding Xian).

One of us (Robertson) has seen no specimens of this species.

**83. *Rosa derongensis*** T. C. Ku, Bull. Bot. Res., Harbin 10(1): 7. 1990.

得荣蔷薇 de rong qiang wei

Shrubs small. Branchlets purple-brown or red-brown, terete, curved, glabrous; prickles often yellowish or gray-brown, straight or slightly curved, robust, inflated at base. Leaves including petiole 2.5–3.2 cm; stipules mostly adnate to petiole, free parts shortly triangular or ovate, glabrous, margin glandular

serrate, rachis and petioles glabrous, sparsely glandular pubescent and with small, curved prickles; leaflets 5, rarely 7, yellow-green abaxially, deep green adaxially, obovate, 9–15 × 6–10 mm, both surfaces glabrous, base cuneate or subrounded, margin sharply serrate, apex rounded. Flowers 2 or 3 and fasciculate, rarely solitary; bracts caducous, unknown. Hypanthium ovoid. Sepals 5, lanceolate or ovate-lanceolate, 7–9 mm, abaxially pubescent and glandular pubescent, adaxially tomentose-pubescent, margin with 1 or 2 pairs of lobes, apex acuminate, after anthesis reflexed. Petals unknown. Style connate in column, exserted, slightly shorter than stamen, glabrous. Hip red-brown, subglobose or obovoid, ca. 8 mm in diam., sparsely glandular. Hip unknown.

- About 2100 m. W Sichuan (Dêrong Xian).

One of us (Robertson) has seen no specimens of this species.

**84. Rosa shangchengensis** T. C. Ku, Bull. Bot. Res., Harbin 10(1): 8. 1990.

商城蔷薇 shang cheng qiang wei

Shrubs. Branchlets red-brown, terete, often curved, glabrous; prickles subulate, straight. Leaves including petiole 4–5.5 cm; stipules mostly adnate to petiole, free parts lanceolate, margin entire, sometimes glandular serrate, apex acuminate; rachis and petiole glabrous, with sparse, short, curved prickles; leaflets usually 7, obovate or oblong, 1–2 × 0.5–1.5 cm, both surfaces glabrous, base cuneate or broadly cuneate, margin serrate, apex acute or truncate. Flowers 2 or 3 and fasciculate, ca. 2.8 cm in diam.; pedicel 2–2.5 cm, densely stipitate glandular, bracts caducous. Hypanthium obovoid-oblong, abaxially densely stipitate glandular. Sepals 5, ovate-lanceolate, 1–1.3 cm, abaxially densely stipitate glandular, adaxially densely yellow-white pubescent, margin entire, apex acuminate or caudate-acuminate. Petals 5, white, long obovate, base cuneate, apex rounded. Styles connate in column, exserted, nearly equaling or slightly shorter than stamens, pubescent. Hip unknown.

- SE Henan (Shangcheng Xian).

One of us (Robertson) has seen no specimens of this species.

**85. Rosa soulieana** Crépín, Bull. Soc. Roy. Bot. Belgique 35: 21. 1896.

川滇蔷薇 chuan dian qiang wei

Shrubs erect, 2–4 m tall. Branchlets spreading, usually green, terete, often curved, glabrous, often glaucous; prickles scattered, straight or slightly curved, flat, gradually tapering to turgid base. Leaves including petiole 3–8 cm; stipules mostly adnate to petiole, free parts very short, triangular, sometimes glandular, margin entire, apex acute; rachis and petiole sparsely shortly prickly, glabrous or sparsely pubescent; leaflets (5–)7(–9), elliptic or obovate, 1–3 × 0.7–2 cm, abaxially glabrous or puberulous with prominent midvein, adaxially glabrous, with concave midvein, base subrounded or broadly cuneate, margin appressed-serrate, near base often entire, apex rounded-obtuse, acute, or truncate. Flowers numerous, 3–5 cm in diam., in corymb 3–4 cm in diam., or solitary and terminal; pedicel less than 1 cm, glabrous, sometimes shortly glandular pubescent; bracteoles less than 1 cm. Hypanthium subglobose or ovoid,

glabrous, sometimes shortly glandular pubescent. Sepals 5, deciduous, ovate, abaxially sparsely puberulous, sometimes shortly glandular pubescent, adaxially densely puberulous, margin 1- or 2-lobed near base, apex acuminate. Petals 5, yellow-white, obovate, base cuneate, apex emarginate. Styles connate into column, exserted, slightly longer than stamens, pubescent or glabrous. Hip orange-red initially, becoming black-purple, subglobose or ovoid, ca. 1 cm in diam., shiny. Fl. May–Jul, fr. Aug–Sep.

- Scrub, slopes, stream sides, farmland; 2500–3700 m. S Anhui, Chongqing, Sichuan, Xizang, Yunnan.

- 1a. Flower solitary; styles glabrous or subglabrous; leaflets small, not exceeding 8 mm ..... 85d. var. *microphylla*
- 1b. Flowers numerous in corymb or in corymbose panicle, rarely solitary; styles pubescent; leaflets more than 1 cm.
  - 2a. Leaflets ca. 3.5 cm; flowers in corymbose panicle; pedicel glabrous, not glandular ..... 85c. var. *sungpanensis*
  - 2b. Leaflets 1–3 cm; flowers in corymb, rarely solitary; pedicel glabrous or pubescent, sometimes glandular.
    - 3a. Rachis and abaxial leaflet glabrous or subglabrous; pedicel glabrous, occasionally glandular ..... 85a. var. *soulieana*
    - 3b. Rachis and abaxial leaflet pubescent; pedicel pubescent and glandular ..... 85b. var. *yunnanensis*

**85a. Rosa soulieana** var. *soulieana*

川滇蔷薇(原变种) chuan dian qiang wei (yuan bian zhong)

Rachis and leaflet abaxially glabrous or subglabrous, occasionally glandular. Flowers numerous, in corymbs, rarely solitary.

- Scrub, slopes, stream sides; 2500–3000 m. S Anhui (Jiuhua Shan), Sichuan, Xizang, Yunnan.

**85b. Rosa soulieana** var. *yunnanensis* C. K. Schneider, Bot. Gaz. (Crawfordsville) 64: 77. 1917.

毛叶川滇蔷薇 mao ye chuan dian qiang wei

Rachis and leaflet abaxially pubescent. Flowers numerous, in corymbs, rarely solitary; pedicel pubescent and glandular.

- Chongqing (Nanchuan Xian), C Sichuan (Kangding Xian), NW Yunnan (Lijiang Xian, Zhongdian Xian).

**85c. Rosa soulieana** var. *sungpanensis* Rehder, J. Arnold Arbor. 11: 161. 1930.

大叶川滇蔷薇 da ye chuan dian qiang wei

Leaflets large, ca. 3.5 cm. Flowers in corymbose panicle; pedicel glabrous, not glandular.

- N Sichuan (Songpan Xian).

**85d. Rosa soulieana** var. *microphylla* T. T. Yu & T. C. Ku, Acta Phytotax. Sin. 18: 502. 1980.

小叶川滇蔷薇 xiao ye chuan dian qiang wei

Leaflets small, not exceeding 8 mm. Flower solitary. Styles glabrous, or subglabrous.

- Scrub on slopes, farmland; 3200–3700 m. Xizang, Yunnan.

**86. *Rosa henryi*** Boulenger, Ann. Soc. Sci. Bruxelles, sér. B, 53: 143. 1933.

软条七蔷薇 ruan tiao qi qiang wei

?*Rosa gentiliana* H. Léveillé & Vaniot var. *australis* Rehder & E. H. Wilson; ?*R. henryi* var. *australis* (Rehder & E. H. Wilson) F. P. Metcalf; ?*R. henryi* var. *glandulosa* Ze M. Wu & Z. L. Cheng; *R. moschata* Herrmann var. *densa* Vilmorin; *R. paucispinosa* H. L. Li.

Shrubs climbing, 3–8 m, with long repent branches. Branchlets purple-brown, terete, glabrous; prickles scattered, curved, to 3 mm, flat, gradually tapering to a broad base, or prickles absent. Leaves including petiole 9–14 cm; stipules mostly adnate to petiole, free parts lanceolate, glabrous or sparsely glandular pubescent, margin entire, apex acuminate; rachis and petiole glabrous, sparsely shortly prickly; leaflets mostly 5, leaves near corymb often with 3 leaflets, oblong, ovate, elliptic, or elliptic-ovate, 3.5–9 × 1.5–5 cm, papery, both surfaces glabrous, abaxially with prominent midvein, base subrounded or broadly cuneate, margin acutely simply serrate, apex long acuminate or caudate. Flowers 5–15, 3–4 cm in diam., in umbel-like corymb 3–4 cm in diam.; pedicel 1.5–2 cm, glabrous, but shortly glandular pubescent; bracts caducous, lanceolate. Hypanthium globose, glabrous, but shortly glandular pubescent. Sepals 5, deciduous, lanceolate, abaxially subglabrous, sparsely glandular punctate, adaxially villous, margin few lobed, apex acuminate. Petals 5, white, fragrant, broadly obovate, abaxially glabrous, base broadly cuneate, apex emarginate. Styles connate into column, exserted, slightly longer than stamens, pubescent. Hip brown-red, subglobose, 8–10 mm in diam., shiny. Fl. Apr–Jul, fr. Jul–Sep.

- Forest margins, thickets, scrub, valleys, farmland; 1700–2000 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Shaanxi, Sichuan, Yunnan, Zhejiang.

**87. *Rosa duplicata*** T. T. Yu & T. C. Ku, Acta Phytotax. Sin. 18: 501. 1980.

重齿蔷薇 chong chi qiang wei

Shrubs small, 1.5–2 m tall. Branchlets purple-brown when young, later gray-brown, terete, curved, slender, glabrous; prickles sparse, yellowish. Leaves including petiole 2–2.5 cm; free parts lanceolate, glabrous or sparsely glandular pubescent, margin entire, apex acuminate; rachis and petiole shortly

prickly, glandular pubescent; leaflets 3–5, obovate or elliptic, 8–15 × 5–8 mm, glabrous, abaxially glandular, base subrounded or broadly cuneate, margin doubly serrate, apex rounded-obtuse or truncate. Flowers solitary or 2 or 3 and fasciculate, ca. 1 cm in diam.; pedicel 5–10 mm, glandular pubescent; bracts unknown. Hypanthium subglobose, abaxially sparsely pubescent and glandular pubescent. Sepals 5, deciduous, ovate-lanceolate, abaxially sparsely pubescent and glandular pubescent, adaxially densely puberulous, margin entire, apex shortly caudate. Petals 5, yellowish or white, obovate, base broadly cuneate, apex rounded-obtuse. Styles connate into column, exserted, slightly longer than stamens, sparsely pubescent or subglabrous. Hip purple-red, subglobose, ca. 5 mm in diam., sparsely glandular; sepals very late deciduous. Fl. May–Jul, fr. Aug–Sep.

- Farmland, roadsides; 2400–2600 m. Xizang.

One of us (Robertson) has seen no specimens of this species.

**88. *Rosa weisiensis*** T. T. Yu & T. C. Ku, Bull. Bot. Res., Harbin 1(4): 16. 1981.

维西蔷薇 wei xi qiang wei

Shrub climbing, small. Branchlets purple-brown, terete, glabrous, those of present year glandular pubescent and sparsely pubescent; prickles scattered, short, flat. Leaves including petiole 4–4.5 cm; stipules membranous, mostly adnate to petiole, free parts lanceolate, abaxially and margin glandular, apex acuminate; rachis and petiole sparsely glandular pubescent and pubescent; leaflets 3–5, pale green abaxially, deep green adaxially, ovate or elliptic, rarely oblong, 1.2–2.5 × 0.4–1.4 cm, abaxially glandular pubescent and sparsely pubescent, adaxially glabrous, base subrounded, margin doubly serrate, teeth often glandular apically when young, apex acute or shortly acuminate. Flowers 5–10 in corymb, ca. 1.5 cm in diam.; pedicel 8–12 mm, densely glandular pubescent, sparsely pubescent; bracts caducous, unknown. Hypanthium oblong or ovate-oblong, abaxially glandular pubescent and sparsely pubescent. Sepals 5, lanceolate, abaxially glandular pubescent and sparsely pubescent, adaxially densely pubescent, margin entire, apex long acuminate. Petals 5, fragrant, white, broadly obovate, base cuneate, apex emarginate. Styles connate into column, nearly equaling stamens, exserted, densely pubescent. Hip unknown. Fl. May–Jul, fr. Aug–Oct.

- Scrub; 1800–2300 m. NW Yunnan (Weixi Xian).

One of us (Robertson) has seen no specimens of this species.

**5. *Rosa* sect. *Banksianae*** Lindley, Ros. Monogr. 39. 1820.

木香组 mu xiang zu

Shrubs evergreen, climbing, prickly or not. Leaflets 3–7; stipules caducous, free, subulate. Flowers numerous in umbels or in compound corymbs. Sepals deciduous, reflexed, margin entire or lobed. Styles free, slightly exserted.

Two species: China, Laos, Vietnam; two species (one endemic) in China.

**89. *Rosa banksiae*** W. T. Aiton, Hortus Kew. 3: 258. 1811.

木香花 mu xiang hua

*Rosa banksiae* var. *alboplana* Rehder.

Shrubs evergreen, climbing, to 6 m tall. Old branches with large, rigid prickles; branchlets red-brown, terete, glabrous;



prickles scattered, curved, short, to 5 mm, flat, gradually tapering to a broad base; branches of cultivated plants sometimes not prickly. Leaves including petiole 4–6 cm; stipules caducous, free, linear-lanceolate, membranous, margin entire, apex acuminate; rachis and petiole sparsely pubescent, usually lacking small prickles; leaflets 3–5, rarely 7, elliptic-ovate or oblong-lanceolate, 2–5 × 0.8–1.8 cm, leathery, abaxially pubescent along veins, with prominent midvein, adaxially glabrous, shiny, base subrounded or broadly cuneate, margin depressed-serrulate, apex acute or slightly acute. Flowers 4–15, in simple umbels or corymbs, 1.5–2.5 cm in diam.; pedicel 2–3 cm, glabrous; bracts caducous, linear, small. Hypanthium globose or ovoid, glabrous. Sepals 5, deciduous, ovate, abaxially glabrous, adaxially white pubescent, margin entire, apex long acuminate. Petals 5, semidouble, or double, fragrant or not, white or yellow, obovate, base cuneate, apex rounded. Carpels numerous; styles free, much shorter than stamens, densely pubescent. Hip orange or black-brown, globose or ovoid, 5–7 mm in diam., glabrous, with deciduous sepals. Fl. Apr–May, fr. Aug–Oct. 2n = 14\*, 28\*.

• Thickets, scrub, valleys, stream sides, roadsides; 500–2200 m. Gansu, Guizhou, Henan, Hubei, Jiangsu, Sichuan, Yunnan; also widely cultivated in China.

- 1a. Flowers double or semidouble, not fragrant ..... 89a. var. *banksiae*
- 1b. Flowers single, fragrant or not ..... 89b. var. *normalis*

**89a. Rosa banksiae** var. *banksiae*

木香花(原变种) mu xiang hua (yuan bian zhong)

Flowers double or semidouble, not fragrant.

• Thickets, scrub, stream sides, roadsides; 500–2200 m. Sichuan, Yunnan; also widely cultivated in China.

*Rosa banksiae* var. *banksiae* f. *lutea* (Lindley) Rehder (Bibliogr. 316. 1949; *R. banksiae* var. *lutea* Lindley, Bot. Reg. 13: 1105. 1827) has yellow flowers.

**89b. Rosa banksiae** var. *normalis* Regel, Trudy Imp. S.-Peterburgsk. Bot. Sada 5: 376. 1878.

单瓣木香花 dan ban mu xiang hua

Flowers single, fragrant or not.

• Valleys; 500–1500 m. Gansu, Guizhou, Henan, Hubei, Sichuan, Yunnan.

*Rosa banksiae* var. *normalis* f. *lutescens* Voss (Blumengart. 1: 49. 1896) has yellow, non-fragrant flowers.

**90. Rosa cymosa** Trattinnick, Ros. Monogr. 1: 87. 1823.

小果蔷薇 xiao guo qiang wei

*Rosa amoyensis* Hance; *R. banksiae* W. T. Aiton var. *microcarpa* Regel; *R. bodinieri* H. Léveillé & Vaniot; *R. cavaleriei* H. Léveillé; *R. chaffonjonii* H. Léveillé & Vaniot; *R. esquirolii* H. Léveillé & Vaniot; *R. fukienensis* Metcalf; *R. indica* Linnaeus, p.p.; *R. microcarpa* Lindley; *R. sorbiflora* Focke.

Shrubs evergreen, climbing or scandent, 2–5 m. Branchlets terete, glabrous or pubescent; prickles scattered, hooked, to 6 mm, flat, gradually tapering to a broad base. Leaves including petiole 5–10 cm; stipules caducous, free, linear, membranous, margin entire, apex acuminate; rachis and petiole glabrous or pubescent, often sparsely prickly, rarely glandular pubescent; leaflets 3–5, rarely 7, ovate-lanceolate or elliptic, 2.5–6 × 0.8–2.5 cm, leathery, both surfaces glabrous, abaxially puberulous along midvein or both surfaces densely puberulous, midvein prominent, adaxially shiny, base subrounded, margin acutely serrulate, apex acuminate. Flowers numerous, 2–2.5 cm in diam., in compound corymbs; pedicel ca. 1.5 cm, pubescent when young, glabrescent; bracts lanceolate, margin sparsely glandular pubescent, apex acuminate. Hypanthium globose or ovoid, glabrous. Sepals 5, deciduous, ovate, abaxially subglabrous, rarely setose, adaxially sparsely white tomentose, margin often pinnately lobed, apex acuminate. Petals 5, fragrant, white or yellow, obovate, base cuneate, apex emarginate. Styles free, slightly exerted, nearly equaling stamens, densely white pubescent. Hip red, black, purple, or black-brown, globose, 4–7 mm in diam. Fl. May–Jun, fr. Jul–Nov.

Hills, open slopes, stream sides, roadsides; 200–1800 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, E Hubei, Hunan, Jiangsu, Jiangxi, S Shaanxi, Sichuan, Taiwan, Yunnan, Zhejiang [Laos, Vietnam].

- 1a. Branchlets, petioles, and both surfaces of leaflets glabrous or leaflets abaxially sparsely pubescent ..... 90a. var. *cymosa*
- 1b. Branchlets, petioles, and both surfaces of leaflets densely puberulous ..... 90b. var. *puberula*

**90a. Rosa cymosa** var. *cymosa*

小果蔷薇(原变种) xiao guo qiang wei (yuan bian zhong)

Branchlets, petioles, and both surfaces of leaflets glabrous or leaflets abaxially sparsely pubescent.

Hills, open slopes, stream sides, roadsides; 200–1800 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hunan, Jiangsu, Jiangxi, Sichuan, Taiwan, Yunnan, Zhejiang [Laos, Vietnam].

**90b. Rosa cymosa** var. *puberula* T. T. Yu & T. C. Ku, Bull. Bot. Res., Harbin 1(4): 17. 1981.

毛叶山木香 mao ye shan mu xiang

Branchlets, petioles, and both surfaces of leaflets densely puberulous.

• S Anhui (Huang Shan), E Hubei (Wuchang Xian), W Jiangsu (Jiangpu Xian), S Shaanxi (Lantian Xian).

金樱子组 jin ying zi zu

Shrubs evergreen, climbing, with scattered, curved prickles. Leaflets 3; stipules free or with base adnate to petiole, caducous, serrate. Flower solitary, large; pedicel and hypanthium densely glandular bristly; bracts absent. Sepals persistent, erect, margin entire. Styles free, not exerted.

One species: China, Vietnam, cultivated elsewhere.

91. *Rosa laevigata* Michaux, Fl. Bor.-Amer. 1: 295. 1803.

金樱子 jin ying zi

*Rosa amygdalifolia* Seringe; *R. argyi* H. Léveillé; *R. cucumerina* Trattinnick; *R. laevigata* var. *kaiscianensis* Pampanini; *R. laevigata* var. *leiocarpa* Y. Q. Wang & P. Y. Chen; *R. nivea* Candolle; *R. ternata* Poiret; *R. triphylla* Roxburgh.

Shrubs evergreen, climbing, to 5 m. Branchlets purple-brown, terete, robust; prickles scattered, curved, to 4 mm, flat, gradually tapering to a broad base; bristles glandular, dense on young stems, to 4 mm. Leaves including petiole 5–10 cm; stipules caducous, free or with base adnate to petiole, lanceolate, glandular serrate, apex acuminate; rachis and petiole shortly prickly and glandular bristly; leaflets 3, rarely 4, elliptic-ovate, obovate, or lanceolate-ovate, 2–6 × 1.2–3.5 cm, leathery, sometimes abaxially minutely prickly and glandular bristly along midvein when young, glabrescent, adaxially glabrous, base broadly cuneate, margin acutely serrate, apex acute or rounded-obtuse. Flower solitary, axillary, 5–10 cm in diam.; pedicel 1.8–2.5(–3) cm, densely glandular bristly; bracts absent.

Hypanthium ovoid, densely glandular bristly. Sepals 5, persistent, slightly shorter than petals, ovate-lanceolate, leaflike, abaxially glabrous, adaxially densely pubescent, margin entire, often glandular bristly. Petals 5, semidouble, or double, white, broadly obovate, base broadly cuneate, apex emarginate. Styles free, much shorter than stamens, pubescent. Hip purple-brown, pyriform or obovoid, rarely subglobose, 0.8–1.5 cm in diam., densely glandular bristly, with persistent, erect sepals. Fl. Apr–Jun, fr. Jul–Nov.

Thickets, scrub, open montane areas, open fields, farmland; 200–1600 m. Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hubei, Hunan, Jiangsu, Jiangxi, Shaanxi, Sichuan, Taiwan, Yunnan, Zhejiang [Vietnam; cultivated elsewhere].

Two forms may be recognized: f. *laevigata*, which has flowers single, 5–7 cm in diam., and f. *semiplena* T. T. Yu & T. C. Ku (Bull. Bot. Res., Harbin 1(4): 17. 1981), which has flowers semidouble, 5–10 cm in diam.

The root bark contains tannin, and is used for tanning. Sugar is extracted from the fruit, which is also used to ferment wine. The roots, leaves, and fruit are all used medicinally.

7. *Rosa* sect. *Bracteatae* Thory, Prodr. Monogr. Rosier, 124. 1820.

硕苞组 shuo bao zu

Shrubs evergreen, climbing, with curved prickles in pairs below leaves. Leaflets 5–9; stipules with base adnate to petiole, pectinate. Flower solitary, with large bracts. Hypanthium tomentose. Sepals reflexed after anthesis, margin entire. Styles free, slightly exerted.

Two species: E and S Asia; one species in China.

92. *Rosa bracteata* J. C. Wendland, Bot. Beob. 50. 1798.

硕苞蔷薇 shuo bao qiang wei

*Rosa macartnea* Dumont de Courset; *R. sinica* Linnaeus var. *braamiana* Regel.

Shrubs evergreen, diffuse, 0.5–3 m tall, with long repent branches. Branchlets purple-brown, terete, robust, tomentose; prickles often in pairs below stipules, straight to slightly curved, to 9 mm, flat, smaller prickles and glandular bristles often present and dense to scattered. Leaves including petiole 4–9 cm; stipules mostly free, or with base adnate to petiole, densely pubescent, margin pectinate, densely glandular pubescent; rachis and petiole sparsely pubescent, glandular pubescent and shortly prickly; leaflets 5–9, elliptic or obovate, 1–2.5 × 0.5–1.5 cm, leathery, abaxially glabrous or pubescent along veins, adaxially glabrous, shiny, base broadly cuneate or subrounded, margin crenate, apex truncate, rounded-obtuse, or slightly acute. Flowers solitary or 2 or 3 and fasciculate, 4.5–9 cm in diam.; pedicel less than 1 cm, densely villous, sparsely glandular pubescent; bracts several, large, broadly ovate, abaxially densely tomentose, adaxially subglabrous, margin irregularly incised serrate, lacinate, or pectinate. Hypanthium depressed-globose, abaxially densely tawny pubescent and glandu-

lar pubescent. Sepals 5, broadly ovate, abaxially densely tawny pubescent, adaxially sparsely pubescent, apex caudate-acuminate. Petals 5, white or yellowish white, obovate, base broadly cuneate, apex emarginate. Styles free, slightly exerted, slightly shorter than stamens, densely pubescent. Hip globose, 1.3–2.7 cm in diam., densely tawny pubescent, with persistent, reflexed sepals. Fl. May–Jul, fr. Aug–Nov.

Mixed forests, scrub, sandy hills, stream sides, seashores, roadsides; sea level to 300 m. Fujian, Guizhou, Hunan, Jiangsu, Jiangxi, Taiwan, Yunnan, Zhejiang [S Japan].

- 1a. Branchlets densely tawny pubescent, intermixed with scattered bristles and glandular bristles ..... 92a. var. *bracteata*
- 1b. Branchlets densely bristly and glandular bristly ..... 92b. var. *scabriacaulis*

92a. *Rosa bracteata* var. *bracteata*

硕苞蔷薇(原变种) shuo bao qiang wei (yuan bian zhong)

Branchlets densely tawny pubescent, intermixed with bristles and glandular bristles.

Scrub, sandy hills, stream sides, seashores, roadsides; sea level to 300 m. Fujian, Guizhou, Hunan, Jiangsu, Jiangxi, Taiwan, Yunnan,

Zhejiang [S Japan].

In warm regions this variety is easily propagated and is often cultivated as a hedge; it also has ornamental use owing to its abundant, beautiful flowers.

**92b. *Rosa bracteata* var. *scabriacaulis*** Lindley ex Koidzumi, J. Coll. Sci. Imp. Univ. Tokyo 24(2): 227. 1913.

**8. *Rosa* sect. *Microphyllae*** Crépín, J. Hort. Soc. London 11: 227. 1889.

小叶组 xiao ye zu

Shrubs diffuse, with paired prickles below leaves. Leaflets 5–9; stipules adnate to petiole, narrow, with subulate auricles. Flowers 1 or 2 or in compound corymbs, with small deciduous bracts, or bracts absent. Hypanthium cupular, densely prickly. Sepals persistent, erect, pinnately lobed or entire. Carpels on projected torus at base of hypanthium; styles free, not exserted.

Three species: E Asia; three species (two endemic) in China.

**93. *Rosa roxburghii*** Trattinnick, Ros. Monogr. 2: 233. 1823.

刺梨 ci li

*Juzepczukia roxburghii* (Trattinnick) Chrshanovski; *Rosa microphylla* Desfontaines var. *glabra* Regel.

Shrubs diffuse, 1–2.5 m tall. Bark gray-brown; branchlets ascending-spreading, purple-brown, terete; prickles paired at nodes, mostly straight, to 5 mm, somewhat flat, abruptly narrowing to broad base. Leaves including petiole 5–11 cm; stipules mostly adnate to petiole, free parts subulate, margin glandular pubescent; rachis and petioles with scattered small prickles; leaflets 9–15, elliptic or oblong, rarely obovate, 1–2 × 0.6–1.2 cm, glabrous, abaxially with prominent veins, conspicuously reticulate, base broadly cuneate, margin acutely simply serrulate, apex acute or rounded-obtuse. Flowers solitary, or 2 or 3 and fasciculate apically on branches, 4–6 cm in diam.; pedicel short; bracts 2 or 3, small, margin glandular pubescent. Hypanthium depressed-globose, densely bristly. Sepals 5, usually broadly ovate, abaxially densely prickly, adaxially tomentose, pinnately lobed, apex acuminate. Petals 5, semidouble, or double, slightly fragrant, pink to rose-purple or reddish, obovate. Carpels on projected torus at base of hypanthium; styles free, not exserted, shorter than stamens, pubescent. Hip green-red, depressed-globose, 1.5–2 cm in diam., densely prickly, with persistent, erect sepals. Fl. Mar–Jul, fr. Aug–Oct.

Mountain forests, thickets, slopes, stream sides, also cultivated; 500–1400 m, Anhui, Fujian, S Gansu, Guangxi, Guizhou, Hubei, Hunan, Jiangxi, S Shaanxi, Sichuan, Xizang, Yunnan, Zhejiang [Japan].

Two forms may be recognized: f. *roxburghii*, which has double or semidouble, reddish or pink flowers 5–6 cm in diam., and f. *normalis* Rehder & E. H. Wilson (in Sargent, Pl. Wilson. 2: 318. 1915; *Rosa forrestii* Focke), which has simple, pink flowers 4–6 cm in diam. The specific epithet was spelled “*roxbourgii*” in the protologue.

The edible fruit are very rich in vitamins and have a sweet, sour taste; they are used medicinally and to ferment wine. The roots are also used medicinally. The species is also cultivated for ornament, for its showy flowers, or as a hedge because of its abundant prickles.

**94. *Rosa kweichowensis*** T. T. Yu & T. C. Ku, Bull. Bot. Res., Harbin 1(4): 17. 1981.

贵州刺梨 gui zhou ci li

Shrubs evergreen or semi-evergreen, climbing, small. Branchlets purple-brown, terete, curved, glabrous; prickles

密刺硕苞蔷薇 mi ci shuo bao qiang wei

Branchlets densely bristly and glandular bristly.

• Mixed forests, stream sides, seashores. Fujian, Taiwan, Zhejiang.

One of us (Robertson) has seen no specimens of this variety.

short, flat. Leaves including petiole 5–10 cm; stipules with 1/3 part adnate to petiole, free parts lanceolate, margin glandular

serrate, apex acuminate, and petiole with scattered, small prickles, leaflets 7–9, elliptic, obovate, or ovate, 1.5–3.5 × 0.8–2 cm, glabrous, abaxially with prominent midvein and lateral veins, base broadly cuneate or subrounded, margin acutely simply serrate, apex acuminate or acute. Flowers 7–17 in compound corymb, 2.5–3 cm in diam.; peduncle and pedicels pubescent, pedicel 7–10 mm; bracts unknown. Hypanthium depressed-globose, abaxially subglabrous, densely prickly. Sepals 5, usually broadly ovate, abaxially densely prickly, adaxially tomentose, margin irregularly pinnately lobed, apex acuminate. Petals 5, white, slightly longer than sepals, obovate, base cuneate, apex erose. Carpels on projected torus at base of hypanthium; styles free, slightly exerted, pubescent. Hip unknown. Fl. May–Jul.

- Shady places. C Guizhou (Qingzhen Xian).

One of us (Robertson) has seen no specimens of this species.

**95. *Rosa praelucens*** Byhouwer, *J. Arnold Arbor.* 10: 97. 1929.

中甸刺玫 *zhong dian ci mei*

Shrubs 2–3 m tall. Branchlets purple-brown, terete, robust; prickles few, scattered, straight or curved at tip, to 1.5 cm, robust, flat, gradually tapering to base to 2 cm across. Leaves including petiole 5–13(–20) cm; stipules mostly adnate to petiole, free parts triangular or lanceolate, both surfaces pubescent, margin glandular pubescent, apex acuminate; rachis and petioles tomentose, sparsely shortly prickly; leaflets 7–13, obovate or elliptic, 1–3.5(–6) × 0.7–1.2(–2.3) cm, both surfaces densely puberulous, abaxially villous along veins, base rounded or broadly cuneate, margin simply serrate in upper 1/2, or inconspicuously doubly serrate, apex rounded-obtuse or acute. Flower solitary, (5–)8–9 cm in diam.; pedicel 3–6 cm, tomentose, sometimes sparsely glandular pubescent; bracts at base, leaflike. Hypanthium depressed-globose, pubescent, glandular bristly. Sepals 5, slightly shorter than petals, ovate-lanceolate, leaflike, both surfaces tomentose-villous, sometimes abaxially glandular bristly at base, margin entire. Petals 5, red, broadly obovate, base broadly cuneate, apex rounded or emarginate. Carpels on projected torus at base of hypanthium; styles free, not exerted, shorter than stamens, densely villous. Hip green-brown, depressed-globose, 1–1.5 cm in diam., sparsely glandular prickly, with persistent, erect sepals. Fl. Jun–Jul.

- Woods on open slopes; 2700–3000 m. NW Yunnan (Zhongdian Xian).

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