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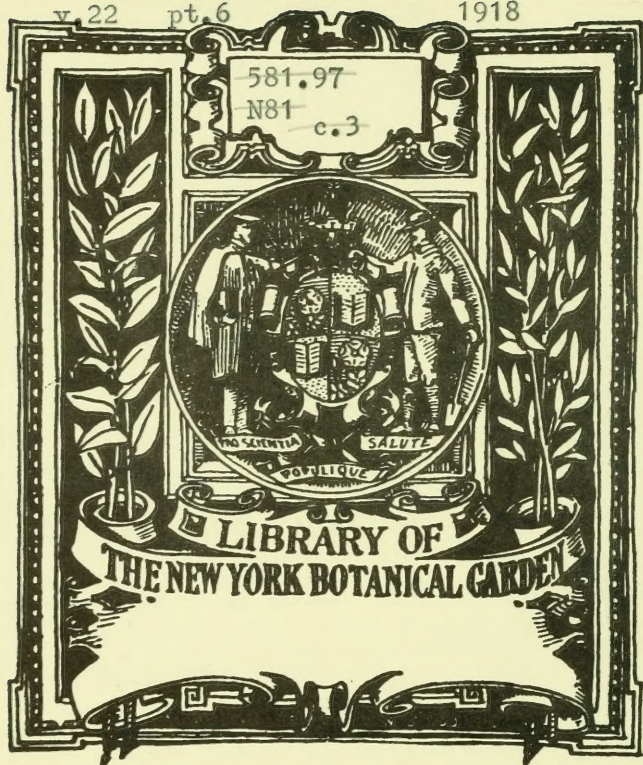


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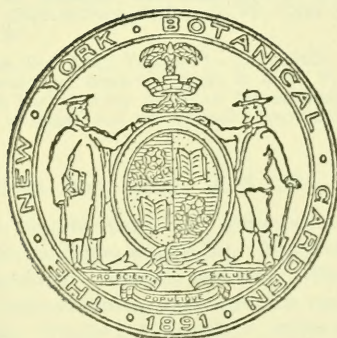
# NORTH AMERICAN FLORA

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ROSACEAE (conclusio)

PER AXEL RYDBERG

ADDITIONS AND CORRECTIONS



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Tribe 16. **KERRIEAE**. Shrubs with alternate (or in the Japanese genus *Rhodotypos* opposite), ovate or ovate-lanceolate, toothed leaves with stipules. Flowers corymbose or solitary. Hypanthium flat or somewhat concave. Sepals 4-6. Petals 4-6, or wanting. Stamens numerous; filaments filiform, with somewhat broader bases; anthers didymous. Pistils 2-6, usually 4 or 5. Fruit drupaceous or nut-like; seed with endosperm.

Petals present; fruit fleshy.

Petals wanting; fruit almost dry.

54. **KERRIA**.

55. **NEVIUSIA**.

**54. KERRIA** DC. Trans. Linn. Soc. 12: 156. 1817.

Shrub with bright-green bark. Leaves alternate, simple, ovate, serrate. Flowers solitary at the ends of the branches. Hypanthium flat or nearly so. Sepals 5, rarely 4 or 6, glabrous, spreading, glandular-toothed. Petals as many as the sepals, spreading, orbicular to elliptic. Stamens 20 or more; filaments slender, glabrous; anthers didymous, with rounded cells, opening lengthwise. Pistils as many as the sepals and opposite them; ovaries ventricose, glabrous; styles terminal, filiform; stigma simple; ovules solitary, pendulous. Fruit drupaceous.

Type species, *Rubus japonicus* L.

**1. Kerria japonica** (L.) DC. Trans. Linn. Soc. 12: 156. 1817.

*Rubus japonicus* L. Mant. 245. 1771.

*Corchorus japonicus* Thunb. Fl. Jap. 227. 1784.

*Spiraea japonica* Desv.; Thiéb. Mém. Soc. Linn. Paris 1: 25. 1822.

An erect shrub, 1-1.5 m. high; leaves petioled; blades ovate-lanceolate or ovate, acuminate, sharply and doubly serrate, pinnately veined, pleated, bright-green, shining and almost glabrous above, paler and slightly hairy beneath, rounded at the base, 2-4 cm. long, 1-2.5 cm. wide; stipules lance-linear, soon deciduous; flowers solitary, terminal; sepals glabrous, green, ovate, acute, glandular-serrate, the two inner ones narrower; petals yellow, oval, 8-20 mm. long, obtuse; drupelets fleshy; putamen about 5 mm. long, round-lenticular. [A double-flowered form is often cultivated.]

TYPE LOCALITY: [Vicinity of Nagasaki], Japan.

DISTRIBUTION: Native of Japan, extensively cultivated and occasionally escaped from Connecticut to South Carolina.

ILLUSTRATIONS: Andr. Bot. Repos. *pl.* 587 (double); Bot. Mag. *pl.* 1296 (double); Bot. Reg. 22: *pl.* 1873; Sweet, Brit. Fl. Gard. II. *pl.* 337; Sieb. & Zucc. Fl. Jap. *pl.* 98; Cycl. Am. Hort. *f.* 1210; Stand. Cycl. Hort. *f.* 2033; Rev. Hort. 40: *f.* 68.

RHODOTYPOS TETRAPETALA (Sieb.) Makino, Bot. Mag. Tokyo 17: 13. 1903. *Kerria tetrapetala* Sieb. Verh. Bat. Genos. 12: 69. 1830. *Rhodotypos kerrioides* Sieb. & Zucc. Fl. Jap. 187, *pl.* 99. 1835. This species is commonly cultivated, is hardy as far north as Massachusetts, and probably is to be found escaped. It resembles *Kerria* in habit, but has opposite leaves, 4 white petals and usually 4 drupaceous dark-red carpels.

**55. NEVIUSIA** A. Gray, Mem. Am. Acad. II. 6: 374. 1859.

Shrubs with alternate, simple, ovate, serrate leaves and setaceous stipules. Flowers corymbose at the ends of the branches. Hypanthium nearly flat. Bractlets none; sepals 5, spreading, foliaceous, incised-serrate, persistent. Corolla wanting. Stamens numerous, inserted on a thin flat disk; filaments subulate-filiform, after anthesis marcescent; anthers didymous, 2-celled, dehiscent longitudinally. Pistils 2-4, usually 4; styles terminal, filiform, introrsely stigmatose at the apex. Ovules solitary, pendulous, anatropous. Fruit drupaceous, but nearly dry, the epicarp very thin. Endosperm fleshy, enclosing the embryo; radicle superior.

Type species, *Neviusia alabamensis* A. Gray.

**1. Neviusia alabamensis** A. Gray, Mem. Am. Acad. II. 6: 374.

1859.

A shrub, 1-2 m. high, with recurved-spreading branches, sparingly pubescent when young; leaves petioled; blades ovate to oblong, rarely subcordate at the base, doubly serrate, pinnately

veined, 2-6 cm. long, acute or short-acuminate, slightly oblique; pedicels finely pubescent; sepals spreading or reflexed, oblong or obovate, about 6 mm. long, somewhat enlarging in fruit, incised above the middle; filaments white, longer than the sepals; anthers short, subintrorse; ovaries gibbous-ovate, grayish-sericeous; styles glabrous; drupelets obliquely ovate, 4 mm. long.

TYPE LOCALITY: In shady rugged places near Tuscaloosa, Alabama.

DISTRIBUTION: Type locality and vicinity.

ILLUSTRATIONS: Mem. Am. Acad. II. 6: *pl.* 30; Bot. Mag. *pl.* 6806; Lounsberry, S. Wild Fl. *pl.* 71; Meehan, Nat. Fl. II. 2: *pl.* 3.

Tribe 17. **OSMARONIEAE**. Shrubs or trees, with faint smell of bitter-almond, alternate simple leaves, and membranous, yellowish, deciduous stipules. Flowers polygamo-dioecious, in racemes with membranous deciduous oblanceolate bracts. Hypanthium turbinate or obconic. Sepals 5, lanceolate, more or less petaloid. Petals 5, obovate to oblong. Stamens 15 in two series; outer series of 10 stamens inserted on the rim of the hypanthium, the 5 inner ones inserted in the tube of the same; filaments short and incurved; anthers subrotund, didymous, in the pistillate flowers abortive. Pistils 5; or in the staminate flowers none or rudimentary; ovaries oblique; styles subterminal, filiform; stigma terminal, dilated. Fruit drupaceous; drupelets, by abortion, usually 1-3. Ovules 2, collateral. Seeds usually 1; endosperm none; cotyledons conduplicate. [An aberrant tribe, related to *Amygdalaceae*; perhaps a distinct family, unique in the *Rosales* on account of the structure of the cotyledons.]

## 56. **OSMARONIA** Greene, Pittonia 2: 189. 1891.

*Nuttallia* T. & G.; H. & A. Bot. Beech. Voy. 336. 1838. Not *Nuttallia* Raf. 1818.

Characters of the tribe.

Type species, *Nuttallia cerasiformis* T. & G.

### 1. **Osmaronia cerasiformis** (T. & G.) Greene, Pittonia 2: 191. 1891.

*Nuttallia cerasiformis* T. & G.; H. & A. Bot. Beech. Voy. 336. 1838.

? *Exochorda Davidiana* Baillon, Adansonia 9: 149. 1869.

*Osmaronia cerasiformis lancifolia* Greene, Pittonia 5: 309. 1905.

*Osmaronia cerasiformis nigra* Greene, Pittonia 5: 309. 1905.

*Osmaronia obtusa* Greene, Pittonia 5: 310. 1905.

*Osmaronia bracteosa* Greene, Pittonia 5: 310. 1905.

*Osmaronia demissa* Greene, Pittonia 5: 310. 1905.

*Osmaronia laurina* Greene, Pittonia 5: 311. 1905.

*Osmaronia padifolia* Greene, Pittonia 5: 311. 1905.

A small tree or shrub, 1-5 m. high; bark brown, smooth; leaves oblong, entire, thin, slightly wavy, 5-10 cm. long, elliptic or oblanceolate, thin, paler beneath, sparingly pubescent beneath when young, soon glabrous, acute at the base, acute or obtuse and often mucronate at the apex; racemes 3-10 cm. long; bracts yellowish, membranous, deciduous, oblanceolate to linear-oblong, 5-10 mm. long; flowers usually subtended by 1 or 2 similar bractlets; hypanthium about 5 mm. deep and about as wide; sepals 3 mm. long; petals elliptic or obovate, short-clawed, 4-5 mm. long, white; fruit black, with more or less distinct bloom, about 1 cm. long, the exocarp more or less fleshy, bitter.

TYPE LOCALITY: On the Columbia River, probably Washington.

DISTRIBUTION: British Columbia to California.

ILLUSTRATIONS: H. & A. Bot. Beech. Voy. *pl.* 82; Belg. Hort. 8: *pl.* 53; Garden 34: 78; Gard. Chron. II. 19: *f.* 44; III. 19: *f.* 75.

Tribe 18. **ROSEAE**. Shrubs or vines, usually prickly. Leaves alternate, pinnate with more or less adnate stipules or simple without stipules, and



usually serrate leaflets or leaves. Flowers perfect, solitary or corymbose. Hypanthium well-developed, urceolate, globose, ellipsoid, or turbinate, contracted at the mouth, enclosing the achenes, becoming fleshy in fruit. Sepals 5, rarely 4, with or without bractlets. Petals normally 5, rarely 4, or by the transformation of the stamens numerous, spreading, usually obcordate. Stamens numerous, inserted on the thickened margin of the hypanthium. Pistils numerous or several, inserted in bottom of the hypanthium or also on the inside walls of the same. Styles ventral, reaching the mouth of the hypanthium or long-exserted, sometimes united into a column; stigmas thickened. Achenes bony; radicle superior.

### 57. ROSA (Tourn.) L. Sp. Pl. 491. 1753.

*Rhodophora* Neck. Elem. 2: 91. 1790.

Leaves pinnate, with stipules; otherwise see characters of the tribe.

Type species, *Rosa cinnamomea* L.

Styles much exserted, about equaling the stamens; stipules adnate; sepals reflexed, deciduous.

Styles united; stem climbing, with curved prickles.

Styles free; stem erect.

Styles not exserted, or only slightly so; stigmas forming a head closing the mouth of the hypanthium.

Stipules almost free from the petioles; introduced climbers or trailers.

Leaflets 3-5; branches glabrous; stipules small, entire.

Leaflets 7-9; branches tomentose or pubescent; stipules pectinate.

Stipules for most of their length adnate to the petioles; plants rarely climbing.

Pistils numerous; styles as well as the upper part of the hypanthium persistent.

Sepals after flowering reflexed and soon deciduous.

Achenes inserted both on the inner walls and in the bottom of the hypanthium; prickles rarely infrastipular.

Leaflets 3-5, rarely 7, large, round; stem with both scattered prickles and bristles; flowers mostly solitary.

Leaflets mostly 7; stem with strong prickles, very rarely with bristles.

Achenes inserted only in the bottom of the usually bristly hypanthium; stem with infrastipular prickles and usually with numerous bristles on the young shoots.

Sepals after flowering erect, connivent, long persistent on the fruit.

Flowers corymbose, or if solitary, then supported by a bract and the leaflets large; achenes inserted both on the inner walls and in the bottom of the hypanthium.

Stem with scattered prickles, rarely with intermixed bristles; sepals more or less lobed; foliage glandular-punctate, sweet-scented. (*R. rubiginosa* and *R. tomentosa* in

Stem, at least the young shoots, bristly; prickles infrastipular or lacking; sepals entire or the outer sometimes with one or two lobes; foliage not very sweet-scented.

Flowers solitary, bractless; leaflets very small.

Leaflets 7-11; achenes inserted both on the inner walls and in the bottom of the hypanthium.

Leaflets 3-7; achenes inserted only in the bottom of the hypanthium.

Pistils few; styles deciduous with the upper part of the hypanthium, which falls off like a ring.

#### I. SYNSTYLAE

Stipules pectinate.

Stipules entire or denticulate.

Leaflets of flowering branches 5-7; petals white.

Sepals narrowly lanceolate, gradually acuminate, about 2 cm. long.

Sepals ovate-lanceolate, short-acuminate, about 1 cm. long.

Leaflets of the floral branches 3, rarely 5; petals rose-colored.

Leaflets glabrous or slightly pubescent on the veins beneath, dark-green and shining above.

Leaflets velutinous-pubescent beneath, rather dull above.

#### I. SYNSTYLAE.

#### II. INDICAE.

#### III. LAEVIGATAE.

#### IV. BRACTEATAE.

#### V. GALLICAE.

#### VI. CANINAE.

#### VII. CAROLINAE.

#### VI. CANINAE.

#### VIII. CINNAMOMEAE.

#### IX. PIMPINELLIFOLIAE.

#### X. MINUTIFOLIAE.

#### XI. GYMNOCARPAE.

1. *R. multiflora*.

2. *R. moschata*.

3. *R. sempervirens*.

4. *R. setigera*.

5. *R. rubifolia*.

- One species. II. INDICAE 6. *R. indica*.
- One species. III. LAEVIGATAE 7. *R. laevigata*.
- One species. IV. BRACTEATAE 8. *R. bracteata*.
- One species. V. GALICA 9. *R. gallica*.
- VI. CANINAE
- Leaflets glandular-pruinose beneath, distinctly double-serrate with gland-tipped teeth. 10. *R. tomentosa*.
- Prickles straight or nearly so.
- Prickles strongly curved.
- Leaflets suborbicular or broadly oval, mostly rounded at the apex; hypanthium in fruit obovoid or broadly ellipsoid, abruptly contracted at the apex; sepals tardily deciduous or more or less persistent; styles pubescent. 11. *R. rubiginosa*.
- Leaflets ovate or oval, acute or short-acuminate; hypanthium in fruit narrowly elliptic, tapering at both ends; sepals rather early deciduous; styles glabrous or nearly so. 12. *R. micrantha*.
- Leaflets not glandular beneath, except sometimes on the midrib; teeth only occasionally double. 13. *R. dumetorum*.
- Leaves pubescent, at least beneath and on the rachis.
- Leaves glabrous on both sides, shining above.
- Stem strongly prickly; prickles on the stem stout, usually more than 5 mm. long. 14. *R. canina*.
- Stem unarmed or nearly so, or with a few small prickles, 4 mm. long or less. 15. *R. Montezumae*.
- VII. CAROLINAE
- Hypanthium and pedicels glandular-hispid.
- Leaflets not subcoriaceous.
- Hypanthium globose or short-ellipsoid, rounded or barely acute at the base.
- Infrastipular prickles decidedly curved.
- Leaflets finely serrulate, elliptic or oblanceolate; prickles short and stout.
- Leaflets mostly 7; flowers usually corymbose on erect branches; fruit about 12 mm. thick; northern plant. 16. *R. palustris*.
- Leaflets mostly 5; flowers usually solitary or two together on spreading branches; fruit 8-9 mm. thick.
- Fruit depressed-globose, rounded at the base. 17. *R. floridana*.
- Fruit ellipsoid, acute at the base. 18. *R. dasistema*.
- Leaflets coarsely serrate, oval or obovate.
- Leaflets not shining; prickles short and weak.
- Leaflets obovate; fruit 10-12 mm. in diameter. 19. *R. gemella*.
- Leaflets oblanceolate; fruit 7-10 mm. in diameter. 20. *R. nanella*.
- Leaflets shining; prickles long and stout. 22. *R. virginiana*.
- Infrastipular prickles straight or slightly curved.
- Leaflets oval or obovate or broadly lance-elliptic, 5-7 (in *R. virginiana* rarely 9).
- Leaflets crenate, rounded at the apex; flowers corymbose; plant practically unarmed. 21. *R. obtusiuscula*.
- Leaflets serrate, acute or acuminate. 23. *R. Lyoni*.
- Leaves decidedly pubescent beneath.
- Leaves glabrous or pubescent only on the veins beneath.
- Leaflets shining above; flowers usually corymbose; prickles as a rule stout and flattened at the base. 22. *R. virginiana*.
- Leaflets not shining above; flowers usually solitary, rarely a few together; prickles slender, terete.
- Leaflets not glandular-dentate.
- Plant low, usually less than 2 dm. high; leaflets less than 2 cm. long, dark-green; prickles 3-5 mm. long, stout, often curved. 20. *R. nanella*.
- Plant usually more than 2 dm. high; leaflets usually more than 2 cm. long; prickles more than 5 mm. long, slender.
- Leaflets broadly oval. 24. *R. obovata*.
- Leaflets elliptic or narrowly oval. 25. *R. carolina*.
- Leaflets glandular-dentate and usually glandular on the rachis.
- Branches not bristly or rarely slightly so; teeth of the leaflets ovate. 26. *R. serrulata*.
- Branches densely bristly; teeth of the leaflets lanceolate. 27. *R. subserrulata*.



- Leaflets narrowly elliptic or lance-oblong, usually 9–11, at least on the new shoots.
- Plant stout, about 1 m. high; leaflets 2–6 cm. long; prickles often 1 cm. long; fruit more than 1 cm. thick; flowers corymbose.
- Plant low and slender, 2–4 dm. high; leaflets 1–3 cm. long; prickles less than 5 mm. long; fruit 8–9 mm. thick; flowers usually solitary.
- Leaflets thin, usually light-green, glabrous or nearly so; leaf-rachis not glandular-hispid.
- Branches densely bristly; leaves very thin.
- Branches not bristly; leaves firmer.
- Leaflets firm, dark-green above, paler and pubescent beneath, at least on the veins; leaf-rachis glandular-hispid.
- Hypanthium decidedly pyriform, or ellipsoid, long-tapering at the base.
- Leaflets thin, not pale beneath, elliptic or oval, subsessile.
- Leaflets pale beneath, oblanceolate, distinctly petioluled, the cuneate base entire-margined.
- Leaflets 5–7, subcoriaceous.
- Leaflets crenate-serrulate; prickles short and very stout.
- Leaflets sharply and closely serrate; prickles moderately stout.
- Leaflets densely pubescent beneath.
- Leaflets glabrous or puberulent beneath.
- Stipules entire; leaflets sessile.
- Stipules copiously glandular-dentate; leaflets short-petioluled.
- Hypanthium and pedicels glabrous.
- Leaflets decidedly pubescent or puberulent beneath.
- Leaflets firm; stem densely bristly.
- Leaflets thin; stem unarmed or only the young shoots sparingly bristly.
- Leaflets glabrous or nearly so on both sides; stem unarmed.
30. *R. Aucuparia*.
31. *R. nitida*.
32. *R. foliolosa*.
33. *R. Palmeri*.
28. *R. Bicknellii*.
29. *R. petiolata*.
34. *R. lancifolia*.
35. *R. rudiuscula*.
36. *R. Treleasei*.
37. *R. texarkana*.
43. *R. conjuncta*.
56. *R. Williamsii*.
57. *R. johannensis*.

## VIII. CINNAMOMEAE

## Infrastipular prickles not present; branches unarmed or bristly, not prickly

- Inflorescence corymbose, terminating the stems (or rarely the branches); plant mostly suffruticose; stem very bristly, usually dying back to near the ground (except in *R. Bushii* and *R. polyanthema*); leaflets usually 9–11.
- Leaves glabrous or nearly so, rounded at the apex.
- Leaflets obovate, pale or glaucous on both sides.
- Leaflets elliptic or oval, dark-green above.
- Leaflets mostly 2–5 cm. long, not glaucous, decidedly acute; plant 3 dm. high or more; flowers corymbose.
- Leaflets rarely more than 2 cm. long, mostly rounded at the apex, somewhat glaucous beneath; plant 1–2 dm. high; flowers 1–3.
- Leaves densely pubescent, especially beneath.
- Hypanthium globose or slightly pear-shaped.
- Plant 3–6 dm. high, usually dying back to near the ground.
- Sepals erect in fruit; plant not glaucous.
- Upper stipules and bracts not densely glandular; leaflets 1.5–4 cm. long; plant 3–5 dm. high.
- Upper stipules and bracts densely glandular; leaflets seldom more than 1.5 cm. long; plant 1–3 dm. high.
- Sepals reflexed in fruit; plant glaucous.
- Plant shrubby, not dying back; branches from the upper axils soon overtopping the inflorescence.
- Hypanthium decidedly pear-shaped.
- Inflorescence of few either solitary or corymbose flowers, ending lateral branches; plant shrubby; leaflets usually 5 or 7 (or 9 on the turions only).
- Stems densely bristly even in age; stipules, petioles, and rachis in most cases glandular-granuliferous; flowers solitary.
- Leaflets comparatively thin, neither rugose nor strongly reticulate; branches and bristles glabrous.
- Hypanthium decidedly pear-shaped or elliptic, acute at the base, with a distinct neck at the top.
- Sepals rarely more than 1 cm. long; bark yellowish-green.
- Sepals 2–3 cm. long; bark brown.
- Leaflets distinctly obovate, rounded at the apex, sparingly hairy beneath.
- Leaflets elliptic or oval.
- Leaflets conspicuously glandular-granuliferous, but scarcely at all hairy beneath, rounded-oval, often double-toothed.
38. *R. subglauc.*
39. *R. arkansana*.
40. *R. Lunellii*.
41. *R. suffulta*.
42. *R. alcea*.
43. *R. conjuncta*.
44. *R. polyanthema*.
45. *R. Bushii*.
46. *R. collaris*.
47. *R. Butleri*.
48. *R. Engelmanni*.

- Leaflets densely pubescent, but rarely and slightly if at all glandular beneath, mostly elliptic, simple-toothed.
- Hypanthium subglobose, almost without neck.
- Hypanthium in fruit about 1.5 cm. in diameter; leaflets glandular-granuliferous as well as puberulent beneath.
- Hypanthium in fruit about 1 cm. in diameter; leaflets mostly obtuse, villous beneath.
- Leaflets thick, strongly reticulate, rugose; branches, and even prickles and bristles pubescent.
- Stems unarmed or when young slightly covered with more or less deciduous bristles; flowers solitary or corymbose.
- Sepals erect or connivent in fruit.
- Leaves glabrous on both sides, shining.
- Leaves decidedly pubescent beneath, dull.
- Leaflets serrate.
- Fruit globose, about 12 mm. in diameter.
- Leaflets dark-green above, pale and finely pubescent beneath.
- Leaflets light-green on both sides, finely puberulent beneath.
- Fruit ellipsoid, about 10 mm. in diameter.
- Leaflets crenate; fruit subglobose, 8-10 mm. in diameter.
- Sepals reflexed or spreading in fruit.
- Leaflets decidedly puberulent or short-pilose; sepals 9-15 mm. long; petals 1.7-2 cm. long.
- Leaflets glabrous or nearly so; sepals 2-5 cm. long; petals 2.5-3.5 cm. long.
- Infrastipular prickles usually present**
- Flowers mostly solitary; petals usually 2.5 cm. long or more; hypanthium in fruit 12-20 mm. thick.
- Prickles straight or nearly so.
- Hypanthium densely prickly.
- Hypanthium not prickly or rarely slightly so.
- Leaflets more or less doubly-toothed, more or less glandular-granuliferous beneath; stipules and rachis glandular.
- Pedicels and calyx densely bristly, but hypanthium glabrous; leaflets oval, rarely 2 cm. long; prickles weak; petals 15 mm. long.
- Pedicels and calyx not bristly, sometimes sparingly glandular-hispid.
- Prickles stout, more or less flattened below, ascending; petioles, rachis, and lower surface of the leaflets not pilose, except sometimes on the veins.
- Leaflets very thin, pale and slightly glandular-puberulent but not muriculate beneath.
- Leaflets thicker, dark-green on both sides, conspicuously glandular-muriculate beneath; flowers often corymbose.
- Prickles weak, almost terete; petioles, rachis, and lower surface of the leaflets distinctly pilose.
- Leaflets simple-toothed, puberulent beneath but not glandular-granuliferous or glandular-muricate; rachis rarely glandular.
- Leaflets finely puberulent beneath.
- Leaflets densely pilose beneath.
- Prickles more or less distinctly curved.
- Hypanthium prickly.
- Stem stout, 1 m. high or more; leaflets usually more than 3 cm. long.
- Stem low, usually less than 3 dm. high; leaflets usually not more than 2 cm. long.
- Hypanthium glabrous or merely glandular.
- Prickles very large and flat; twigs densely glandular and pubescent.
- Prickles short, not conspicuously flattened; twigs not conspicuously glandular, mostly glabrous.
- Leaves perfectly glabrous or merely glandular-granuliferous beneath.
- Stem 1 m. high or more; leaflets mostly more than 2 cm. long, pale or light-green, rather firm, rarely double-serrate, not glandular-granuliferous beneath; calyx not densely glandular.
- Stem usually less than 3 dm. high; leaflets usually less than 2 cm. long, dark-green, usually glandular-double-toothed; calyx usually densely covered with stalked glands.
- Leaves more or less hairy beneath, broadly oval.
49. *R. acicularis*.
50. *R. Bourgeauiana*.
51. *R. acicularioides*.
52. *R. rugosa*.
53. *R. subblanda*.
54. *R. blanda*.
101. *R. salictorum*.
115. *R. Pringlei*.
55. *R. anacantha*.
56. *R. Williamsii*.
57. *R. johannensis*.
58. *R. MacDougali*.
59. *R. yainacensis*.
60. *R. nutkana*.
61. *R. muriculata*.
62. *R. Brownii*.
63. *R. Spaldingii*.
98. *R. Davyi*.
64. *R. Underwoodii*.
67. *R. aciculata*.
65. *R. Durandii*.
66. *R. melina*.
67. *R. aciculata*.

- Leaflets not glandular-granuliferous beneath, mostly simple-toothed.
- Leaflets sparingly pubescent beneath.
- Leaflets densely pubescent beneath, elliptic in outline.
- Leaflets more or less glandular-granuliferous beneath.
- Sepals not glandular-hispid; leaflets 2-4 cm. long, not conspicuously glandular double-toothed.
- Sepals conspicuously glandular-hispid; leaflets 1-2 cm. long, conspicuously glandular double-toothed.
- Flowers mostly corymbose, if solitary the petals 2 cm. long or less; fruit rarely more than 1 cm. in diameter.
- Prickles more or less curved.
- Lower surface of the leaves, pedicels, and rachis more or less pubescent or puberulent or glandular-granuliferous.
- Leaves softly villous or pilose beneath, or in age more glabrate; prickles stout, flattened.
- Leaflets conspicuously glandular beneath, more or less double-toothed.
- Hypanthium with a distinct neck.
- Leaflets broadly oval or obovate; fruit subglobose or broadly obovoid.
- Leaflets elliptic; fruit elongate-ellipsoid.
- Hypanthium depressed-globose without a neck; leaflets elliptic or narrowly oval.
- Leaflets not at all glandular beneath, mostly simple toothed; hypanthium with a distinct neck, often ovoid.
- Leaves very finely puberulent and glandular-pruinose beneath; prickles slender.
- Leaflets with simple teeth, not copiously glandular-pruinose beneath.
- Hypanthium ellipsoid; young shoots with rather few strong curved prickles.
- Leaflets 3-5 cm. long, lanceolate or oblanceolate, acute; flowers mostly corymbose.
- Leaflets 1-3.5 cm. long, obovate to elliptic; flowers mostly solitary or 2 or 3 together.
- Hypanthium globose; young shoots with fine, often rather numerous prickles.
- Leaflets glaucous beneath, rarely more than 2 cm. long; sepals 1-1.5 cm. long.
- Leaflets not glaucous beneath, usually about 3 cm. long; sepals 2 cm. long or more.
- Leaflets obovate, sharply serrate with lanceolate teeth, except the cuneate entire base; stipules and rachis copiously glandular-pruinose.
- Leaflets oval with ovate teeth, mostly obtuse at the base; stipules and rachis not glandular.
- Leaflets double-toothed with glandular teeth, conspicuously glandular-pruinose beneath.
- Leaflets dark-green above, firm, more than 15 mm. long, glandular-puberulent; inflorescence corymbose.
- Leaflets broadly oval; fruit broadly ellipsoid or subglobose.
- Leaflets narrowly elliptic; fruit elongate-ellipsoid.
- Leaflets pale-green, less than 15 mm. long, merely glandular-pruinose beneath; flowers mostly solitary or few.
- Lower surface of the leaves perfectly glabrous.
- Prickles straight or nearly so.
- Hypanthium globose; neck usually obsolete.
- Hypanthium normally not bristly.
- Sepals lanceolate, with long caudate-attenuate or sometimes foliaceous tips, more than 1 cm. long.
- Stipules, petiole, and rachis copiously glandular; leaflets often double-toothed with gland-tipped teeth, more or less glandular-granuliferous beneath.
- Leaflets orbicular or rounded-ovate.
- Leaflets thick, puberulent, not at all glandular, simple-toothed.
- Leaflets more or less glandular-puberulent as well as pubescent, more or less double-toothed with gland-tipped teeth.
- Leaflets very thin; prickles slender.
- Leaflets green on both sides; petals about 2 cm. long.
- Leaflets pale beneath; petals about 1 cm. long.
- Leaflets not very thin, dark-green; prickles stout.
- Leaves scarcely pubescent beneath.
68. *R. oreophila*.
71. *R. spinosissima*.
69. *R. columbiana*.
70. *R. myriadenia*.
72. *R. Aldersonii*.
73. *R. Greenei*.
74. *R. brachycarpa*.
75. *R. californica*.
76. *R. palustriformis*.
77. *R. neomexicana*.
78. *R. arizonica*.
79. *R. adenosepala*.
80. *R. puberulenta*.
81. *R. delitescens*.
73. *R. Greenei*.
82. *R. granulifera*.
83. *R. manca*.
99. *R. rotundata*.
84. *R. pinetorum*.
85. *R. calvaria*.



- Leaflets rounded at the apex, pale beneath; hypanthium less than 1 cm. broad, in fruit; prickles small.
- Leaflets acute at the apex, not paler beneath; hypanthium more than 12 mm. broad in fruit; prickles long.
- Leaves decidedly pubescent beneath.
- Leaflets rather simply serrate; hypanthium pilose when young.
- Leaflets conspicuously double-serrate; hypanthium glabrous.
- Leaflets glabrous above, scarcely glandular beneath, 3-6 cm. long.
- Leaflets pubescent on both sides, glandular-puberulent beneath, 1-2 cm. long.
- Leaflets oblong to oval.
- Leaflets puberulent as well as glandular-granuliferous, not pale beneath.
- Leaflets conspicuously glandular double-toothed; veins beneath glandular.
- Leaflets neither conspicuously glandular double-toothed, nor glandular on the veins.
- Leaflets thin, glabrous or merely glandular-pruinose, pale beneath.
- Stipules, petiole, and rachis not conspicuously glandular.
- Leaflets glabrous or nearly so.
- Leaflets broadly oval, 3-5 cm. long.
- Leaflets obovate to elliptic, rarely 3 cm. long.
- Leaflets usually obovate, not shining.
- Leaves yellowish-green; fruit orange; corymbs several-flowered.
- Leaves dark-green above, paler beneath; fruit purplish-red; flowers 1-3.
- Leaflets elliptic, shining.
- Leaflets more or less pubescent beneath.
- Leaflets villous or pilose beneath.
- Leaflets broadly obovate, cuneate at the base, densely pubescent beneath; prickles slender.
- Leaflets mostly broadly oval, rounded at the base; prickles stout.
- Leaflets sparingly pubescent on both sides, thin; prickles rather few.
- Leaflets pubescent on both sides, densely so beneath, thick; prickles very numerous.
- Leaflets finely puberulent beneath; prickles weak, except in *R. terrans*.
- Leaflets rounded-oval or suborbicular, thick; stipules glandular-denticulate; petals less than 1 cm. long.
- Leaflets elliptic to oval or obovate; stipules slightly if at all glandular-dentate; petals larger.
- Leaflets elliptic or oval, equally green on both sides.
- Sepals decidedly glandular; leaflets thin and soft; plant with few small prickles.
- Sepals not glandular or only rarely slightly so.
- Leaflets broadly oval, thin, 2-5 cm. long; plant nearly unarmed.
- Leaflets narrowly oval, less than 3 cm. long.
- Leaflets thick; plant with few prickles.
- Leaflets thin; plant very prickly.
- Leaflets obovate; or, if elliptic, more or less glaucous beneath.
- Leaflets very thin, very sharply serrate, equally green on both sides; sepals with a few bristles near the margin; prickles very slender.
- Leaflets firmer; sepals not bristly near the margin.
- Young shoots armed with stout, flat prickles; fruit about 15 mm. broad.
86. *R. bidenticulata*.
61. *R. muriculata*.
87. *R. Sanctae-Crucis*.
88. *R. corymbiflora*.
89. *R. Dudleyi*.
70. *R. myriadenia*.
90. *R. Fendleri*.
91. *R. hypoleuca*.
92. *R. rivalis*.
93. *R. chrysocarpa*.
94. *R. Woodsii*.
95. *R. mohavensis*.
96. *R. Johnstonii*.
97. *R. myriantha*.
98. *R. Davyi*.
99. *R. rotundata*.
100. *R. pisocarpa*.
101. *R. salictorum*.
102. *R. ultramontana*.
103. *R. gratissima*.
104. *R. praetincta*.
105. *R. terreus*.

- Young shoots merely bristly; fruit rarely more than 1 cm. broad.  
 Leaflets green on both sides, 2-4 cm. long.  
 Leaflets, paler beneath, 1-3 cm. long. 106. *R. pecosensis*.
- Sepals ovate, less than 1 cm. long, not conspicuously caudate.  
 Leaflets, simple-toothed, not at all glandular-puberulent beneath. 107. *R. Macounii*.
- Leaflets with glandular, more or less double teeth, glabrous, or slightly glandular-granuliferous beneath. 108. *R. Covillei*.
- Hypanthium densely bristly or prickly. 109. *R. Bolanderi*.
- Leaflets thin, usually more than 1.5 cm. long, not glaucous; sepals more than 1 cm. long.  
 Lateral leaflets subsessile; petiolules if any less than 1 mm. long.  
 Leaflets densely glandular-granuliferous beneath; teeth usually lanceolate in outline. 110. *R. granulata*.
- Leaflets sparingly glandular-granuliferous beneath; teeth ovate in outline. 111. *R. spithamea*.
- Lateral leaflets orbicular in outline, with distinct petiolules, which are 1-3 mm. long. 112. *R. adenocarpa*.
- Leaflets firm, glaucous, less than 1.5 cm. long; sepals less than 1 cm. long. 113. *R. sonomensis*.
- Hypanthium elongate, with a distinct neck.  
 Hypanthium glabrous.  
 Leaves finely puberulent beneath.  
 Pedicels glandular-hispid; achenes few; leaflets oblanceolate. 129. *R. oligocarpa*.
- Pedicels not glandular-hispid; achenes more numerous; leaflets oval or obovate.  
 Leaflets light-green, coarsely toothed; fruit usually pyriform. 114. *R. pyrifera*.
- Leaflets dark-green above, finely toothed; fruit usually elliptic. 115. *R. Pringlei*.
- Plant unarmed or nearly so; fruit 1 cm. broad; flowers corymbose.  
 Plant with slender prickles; fruit 6-8 mm. broad.  
 Flowers corymbose; sepals broadly lanceolate. 116. *R. Eastwoodiae*.
- Flowers solitary; sepals narrowly lanceolate. 117. *R. Standleyi*.
- Leaves glabrous.  
 Fruit urn-shaped; leaflets oval. 118. *R. Copelandii*.
- Fruit ellipsoid; leaflets obovate. (Form of) 94. *R. Woodsii*.
- Hypanthium pilose when young. 119. *R. piliifera*.

## IX. PIMPINELLIFOLIAE

One species.

120. *R. pimpinellifolia*.

## X. MINUTIFOLIAE

Leaves 5-7-foliolate; young branches pilose; prickles dull-brown, pubescent.  
 Leaves 3-foliolate or on shoots and vigorous branches 5-foliolate; young branches stellate or glabrous; prickles glabrous, white.  
 Young branches stellate.  
 Young branches not stellate, merely bristly and prickly.

121. *R. minutifolia*.122. *R. stellata*.123. *R. mirifica*.

## XI. GYMNOCARPAE

Leaves glabrous beneath.

Flowers mostly 2-4 together, leafy-bracted; upper stipules broadly dilated; leaflets with broadly ovate teeth, indistinctly reticulate beneath; fruit 6-8 mm. broad.

124. *R. dasypoda*.

Flowers usually solitary, not leafy-bracted; stipules narrow; leaflets with lanceolate or ovate-lanceolate teeth; fruit 6 mm. in diameter or less.

Leaves not very thin, pale and indistinctly reticulate beneath; sepals 1-1.5 cm. long.

125. *R. leucopsis*.

Leaves very thin, scarcely paler on the lower surface, which is distinctly reticulate with semi-pellucid veinlets; sepals less than 1 cm. long.

Leaflets 5-7, usually more than 1.5 cm. long; teeth ovate-lanceolate in outline; terminal leaflet usually rounded at the base.

126. *R. gymnocarpa*.

Leaflets 7-9, usually less than 1.5 cm. long, the terminal one usually acute or cuneate at base; teeth lanceolate in outline.

127. *R. prionota*.

Leaves pubescent beneath.

Leaflets oval, doubly glandular-serrate; sepals ovate, about 8 mm. long.  
 Leaflets oblanceolate, simply serrate; sepals lanceolate, about 15 mm. long.

128. *R. Bridgesii*.129. *R. oligocarpa*.

**I. Synstylae.** Climbing or trailing species, with curved prickles, corymbose inflorescence, adnate stipules, and mostly thick, often evergreen leaflets; styles connate into a slender exserted column; sepals reflexed after anthesis and soon deciduous; achenes rather few; hypanthium often tapering at the base. Introduced and two native species.

### 1. *Rosa multiflora* Thunb. Fl. Jap. 214. 1784.

*Rosa polyantha* Sieb. & Zucc. Abh. Akad. Münch. 4<sup>2</sup>: 128. 1845.

Stem 1–2 m. high, climbing, reddish, armed with mostly paired infrastipular curved prickles, which are 4–5 mm. long, flattened below; stipules adnate, 15–20 mm. long, pectinately lobed and glandular-ciliate; leaflets 5–9, deciduous, petiolulate, obovate or elliptic, obtuse or acute, sharply serrate, dull above, grayish-green beneath, softly pubescent, 2–3.5 cm. long; inflorescence pyramidal, often many-flowered, softly pubescent; lower bracts pectinate, the upper lanceolate; hypanthium globose to ellipsoid, pubescent, 5–6 mm. broad; sepals ovate-lanceolate, 12–15 mm. long, short-acuminate or with lanceolate appendages, densely pubescent, the outer often lobed, in fruit reflexed and deciduous; petals mostly white, 10–15 mm. long; styles exserted, united, glabrous.

**TYPE LOCALITY:** Near Nagasaki, Japan.

**DISTRIBUTION:** Native of Japan and China; occasionally escaped from cultivation; naturalized in Maryland, Alabama, and Costa Rica; on ballast, Washington.

**ILLUSTRATIONS:** Bot. Mag. *pl.* 1059, 7119; Redouté, *Roses* 2: *pl.* opp. 67; *pl.* opp. 69; Bot. Reg. 5: *pl.* 425; 16: *pl.* 1372; Nouv. Duham. 7: *pl.* 17; Willm. Gen. Rosa *pl.* opp. 23; *pl.* opp. 26; Garden & Forest 3: *f.* 51; C. K. Schneid. Handb. Laubh. 1: *f.* 319, *e-g'*, *f.* 320, *b-b'*; Stand. Cycl. Hort. *f.* 3435.

### 2. *Rosa moschata* Mill. Gard. Dict. ed. 8. Rosa no. 13. 1768.

Stem branched, sarmentose or climbing, 2–4 m. high, armed with scattered, somewhat curved and rather strong prickles; stipules adnate, about 1 cm. long, narrow, somewhat glandular-dentate; free portion lanceolate, spreading; rachis and petiole sparingly glandular; leaflets 5–7, oval, elliptic, or lance-elliptic, more or less acuminate, 1.5–7 cm. long, finely serrate, usually pubescent and paler beneath, more or less persistent; flowers corymbose; pedicels more or less glandular-hispid; hypanthium ellipsoid, more or less pubescent and glandular; sepals narrowly lanceolate, long-acuminate, caudate-attenuate, glandular and pubescent without, tomentose within, soon reflexed and in fruit deciduous, 15–20 mm. long, the outer sometimes lobed; petals white, 15–20 mm. long; styles exserted, united, hairy.

**TYPE LOCALITY:** Not given.

**DISTRIBUTION:** Occasionally escaped from cultivation and naturalized in Jamaica, Porto Rico, and Alabama; native of southern Asia and Abyssinia.

**ILLUSTRATIONS:** Jacq. Hort. Schoenb. *pl.* 280; Hayne, Arzn. Gew. 11: *pl.* 33; Redouté, *Roses* 1: *pl.* opp. 33; *pl.* opp. 99; Bot. Reg. 10: *pl.* 829; Willm. Gen. Rosa *pl.* opp. 34; *pl.* 9; *pl.* opp. 37; *pl.* opp. 39; C. K. Schneid. Hand. Laubh. 1: *f.* 319, *m-n*<sup>2</sup>; *f.* 320, *g*.

### 3. *Rosa sempervirens* L. Sp. Pl. 492. 1753.

*Rosa alba* All. Fl. Ped. 2: 139. 1785. Not *R. alba* L. 1753.

Stem climbing, 5–20 m. high, armed with scattered, curved prickles, which are about 5 mm. long and flattened at the base; stipules small, adnate, about 1 cm. long, glabrous on both sides, glandular on the margins; rachis and petioles often sparingly prickly; leaflets 5–7, those of the floral branches usually 5 or those of the uppermost leaves sometimes 3, elongate-oval or ovate, usually rounded at the base, abruptly acuminate at the apex, appressed-serrate, glabrous on both sides or rarely pubescent on the veins beneath, shining above, and evergreen; flowers corymbose or sometimes solitary; pedicels glandular-hispid; hypanthium ellipsoid or subglobose, glandular-hispid; sepals ovate, abruptly acuminate, glandular-hispid on the back, tomentose on the margins and within, reflexed and deciduous; corolla white, 15–25 mm. long; styles exserted, united, usually villous.

**TYPE LOCALITY:** Germany.

**DISTRIBUTION:** Cultivated and rarely escaped in the south; naturalized in Porto Rico according to Urban; native of southern Europe and northern Africa.

**ILLUSTRATIONS:** Redouté, *Roses* 2: *pl.* opp. 15; Bot. Reg. 6: *pl.* 465; Dill. Hort. Elth. *pl.* 246; Nouv. Duham. 7: *pl.* 13, *f.* 1.



4. *Rosa setigera* Michx. Fl. Bor. Am. 1: 295. 1803.*Rosa rubifolia fenestralis* Lindl. Ros. Monog. 123. 1820.*Rosa trifoliata* Raf. Ann. Gén. Sci. Phys. 5: 213. 1820. Not *R. trifoliata* Bosc, 1821.*Rosa fenestrata* Donn (Hort. Cantab. ed. 7. 154, name only. 1812); Tratt. Ros. 2: 187. 1823.

Stems 2-5 m. high, climbing, glabrous, terete, often reddish on the sunny side, armed with scattered, curved prickles, which are 4-8 mm. long and flattened below; stipules adnate, 1-2 cm. long, usually narrow, glabrous, glandular-ciliate on the margins; free portions lanceolate, acuminate, spreading; petiole and rachis glandular-hispid and often with a few prickles; leaflets 3 or on the new shoots sometimes 5, the median long-petiolulate, the lateral nearly sessile, lanceolate, or rarely ovate, acute or rounded, or the median rarely subcordate at the base, 4-9 cm. long, dark-green, glabrous and shining above, pale but glabrous beneath except the veins, which are slightly glandular; flowers corymbose; pedicels glandular-hispid; hypanthium globose or rounded-ellipsoid, more or less glandular-hispid, in fruit about 1 cm. broad; sepals lanceolate, acuminate, about 15 mm. long, glandular-hispid on the back, tomentulose within, reflexed and deciduous; petals 2-3 cm. long, rose-colored; styles exserted, united, glabrous.

TYPE LOCALITY: South Carolina.

DISTRIBUTION: Ohio to North Carolina, Florida, and Kansas; also collected in New York state.

ILLUSTRATIONS: Lindl. Ros. Monog. pl. 15 [poor]; Newhall, Vines NE. Am. f. 40; Britt. &amp; Brown, Ill. Fl. f. 1965; ed. 2. f. 2307; Cycl. Am. Hort. f. 2152, 2153; Willm. Gen. Rosa pl. opp. 71; Garden &amp; Forest 10: f. 42; Stand. Cycl. Hort. f. 3438, 3439; Meehan's Monthly 8: pl. 5.

5. *Rosa rubifolia* R. Br.; Ait. Hort. Kew. ed. 2. 3: 260. 1811.*Rosa kentukensis* Raf. Ann. Gén. Sci. Phys. 5: 213. 1820.*Rosa cursor* Raf. Ann. Gén. Sci. Phys. 5: 215. 1820.*Rosa mutabilis* Bradb.; James, Long's Exped. 1: 69. 1823. Not *R. mutabilis* Dum.-Cours. 1811.*Rosa setigera tomentosa* T. & G. Fl. N. Am. 1: 458. 1840.

Stem 2-4 m. high, climbing, round, glabrous, armed with scattered prickles, which are 4-10 mm. long, flattened below and more or less curved; stipules adnate, 1-2 cm. long, very narrow, more or less pubescent and copiously glandular-ciliate on the margins, petioles and rachis glandular and sometimes prickly; leaflets 3 or rarely 5, usually ovate, or ovate-lanceolate, rounded at the base, abruptly acuminate at the apex, serrate with gland-tipped teeth, glabrous and rather dull above, pale and densely short-villous, almost velutinous beneath, 3-7 cm. long; flowers corymbose; pedicels glandular-hispid; hypanthium globose or rounded-ellipsoid, glandular-hispid, in fruit about 1 cm. broad, purple; sepals ovate, abruptly acuminate, glandular as well as pubescent on the back, 12-15 mm. long; petals rose-colored, obcordate, 1.5-2.5 cm. long; styles exserted, united, glabrous. Perhaps not specifically distinct from the preceding.

TYPE LOCALITY: North America.

DISTRIBUTION: Ontario and New York to Georgia, Texas, and Nebraska.

ILLUSTRATIONS: Redouté, Roses 3: pl. opp. 71; Loud. Arb. 2: f. 516.

II. *Indicae*. Upright or procumbent species with few mostly hooked prickles and 1-many-flowered inflorescence; leaflets 3-5, rarely 7, usually firm; sepals entire or lobed, reflexed after anthesis; stipules adnate, narrow; styles conspicuously exserted, but distinct. Introduced Asiatic species.

6. *Rosa indica* L. Sp. Pl. 492. 1753.*Rosa chinensis* K. Koch, Dendr. 1: 272. 1869. Not *R. chinensis* Jacq. 1765.*Rosa sinica* Murr. Syst. ed. 13. 394. 1774.*Rosa canina* Thunb. Fl. Jap. 214. 1784. Not *R. canina* L. 1753.

Stem erect, stout, terete, 1-2 m. high, armed with stout, flat, almost straight prickles 5-8 mm. long, or sometimes unarmed; stipules adnate, often red, narrow, 1-2 cm. long, glabrous, glandular-denticulate or glandular-ciliate; free portion subulate-attenuate; rachis and petiole glabrous or nearly so, sometimes glandular and usually somewhat prickly; leaflets 3-5, rarely 7, ovate, acuminate, evergreen, finely-serrate, shining and dark-green above, paler beneath, glabrous, 2-6 cm. long, the lateral ones petioluled; flowers few, corymbose or solitary; pedicels glabrous or slightly glandular; hypanthium pear-shaped, acute at the base, glabrous,

in fruit 15–20 mm. long and 10–12 mm. broad, brown; sepals lanceolate, caudate, attenuate, about 2 cm. long, glabrous or slightly glandular on the back, tomentose on the margins and within, often lobed on the margins and tinged with red; petals about 2 cm. long, crimson, pink or white; styles exserted, distinct.

TYPE LOCALITY: China.

DISTRIBUTION: Louisiana; Cuba and Porto Rico; Mexico; naturalized from India and China.

ILLUSTRATIONS: Redouté, *Roses* 1: *pl.* opp. 49; Willm. *Gen. Rosa* *pl.* opp. 79 and 81.

III. *Laevigatae*. Climbing or trailing species with solitary white flowers and scattered hooked prickles; leaflets 3–5, leathery, evergreen; stipules small, entire, distinct; sepals after anthesis erect, persistent, entire; styles merely reaching the mouth of the hypanthium, distinct. Asiatic species, naturalized in the south.

### 7. *Rosa laevigata* Michx. Fl. Bor. Am. 1: 295. 1803.

*Rosa ternata* Poir. in Lam. *Encyc.* 6: 284. 1804.

*Rosa nivea* DC. *Cat. Hort. Monsp.* 137. 1813.

*Rosa sinica* Lindl. *Ros. Monog.* 126. 1820. Not *R. sinica* Murr. 1774.

*Rosa hystrix* Lindl. *Ros. Monog.* 129. 1820.

*Rosa cucumerina* Tratt. *Ros. Monog.* 2: 181. 1823.

*Rosa amygdalifolia* Seringe, in DC. *Prodr.* 2: 601. 1825.

*Rosa cherokeeensis* Donn (*Hort. Cantab.* ed. 7. 155, name only. 1812); Small, *Fl. SE. U. S.* 528. 1903.

Stems high-climbing, 2–5 m. high, glabrous, terete, armed with stout recurved more or less flattened prickles, which are 4 or 6 mm. long, rarely with some intermixed bristles; leaves 3-foliolate, rarely 5-foliolate; stipules small, subulate, only slightly adnate to the petioles, 3–10 mm. long; petioles 2–3 cm. long, unarmed or with a few small recurved prickles; leaflets lanceolate or elliptic, acute or obtuse at the base, acute or acuminate at the apex, finely but sharply serrate, their teeth directed forward, evergreen, subcoriaceous, glabrous, dark-green and shining above, paler and reticulate beneath, 3–6 cm. long, petioluled; petiolule of the terminal leaflet about 1 cm. long, those of the lateral ones much shorter; flowers solitary, terminating short branches; peduncle and hypanthium strongly hispid; sepals narrowly lanceolate, long-attenuate, 2–3 cm. long, often more or less glandular-bristly, tomentose within; petals cuneate-obcordate, 3–4 cm. long, white or rarely rose-colored; hypanthium in fruit pyriform, bristly, 3.5–4 cm. long, 2 cm. broad, with a tapering long-conic base; styles distinct, persistent, not exserted.

TYPE LOCALITY: Georgia.

DISTRIBUTION: South Carolina to Florida and Texas; West Indies; naturalized from China.

ILLUSTRATIONS: Bot. Mag. *pl.* 2847; Bot. Reg. 23: *pl.* 1922; Cycl. Am. Hort. f. 2166, 2167; Willm. *Gen. Rosa* *pl.* opp. 117; Lindl. *Ros. Monog.* *pl.* 16, *pl.* 17; Stand. Cycl. Hort. f. 3458, 3459.

IV. *Bracteatae*. Climbing or trailing or erect species, with paired hooked prickles and white flowers subtended by bracts; leaflets 7–9, coriaceous and evergreen; stipules nearly distinct, pectinately divided; receptacle tomentose; sepals reflexed after anthesis; styles distinct, merely reaching the mouth of the receptacle. Introduced Asiatic species.

### 8. *Rosa bracteata* Wendl. Bot. Beob. 50. 1798.

*Rosa lucida* Lawrance, *Roses* *pl.* 84; hyponym. 1799. Not *R. lucida* Ehrh. 1799.

*Rosa Macartnea* Dum.-Cours. Bot. Cult. 3: 351. 1802.

Stems usually decumbent or sarmentose, villous-tomentose, especially when young, often also glandular-hispid, armed with usually paired stout recurved prickles 5–8 mm. long; leaves pinnate; stipules lanceolate, pectinately toothed, about 5 mm. long, slightly adnate; petioles 1 cm. long or less, villous and often armed; leaflets 5–9, persistent, coriaceous, glabrous or lightly pubescent on the midvein beneath, dark-green and shining above, paler beneath, obovate, rounded or mucronate at the apex, acute at the base, finely serrulate, 1–3.5 cm. long, short-petioluled; flowers solitary or a few together, short-pedicelled, subtended by large-toothed tomentose bracts; sepals lanceolate, long-acuminate, tomentose on both sides, about

2 cm. long; petals white, about 3 cm. long, deeply obcordate; styles distinct, persistent, not exserted; hypanthium in fruit pyriform, 1.5–2 cm. long, and nearly as broad, densely tomentose.

TYPE LOCALITY: China.

DISTRIBUTION: Virginia to Florida and Texas; West Indies; naturalized from southern China.

ILLUSTRATIONS: Wendl. Hort. Herrenh. *pl.* 23; Jacq. Fragm. *pl.* 34; Vent. Descr. Pl. Cels *pl.* 28; Bot. Mag. *pl.* 1377; Redouté, *Roses* 1: *pl.* opp. 35; Nouv. Duham. 7: *pl.* 13, *f.* 2; Willm. Gen. *Rosa* *pl.* opp. 125; Lawrance, *Roses* *pl.* 84; Britton & Brown, Ill. Fl. ed. 2, *f.* 2317.

V. *Gallicae*. Low upright, often nearly herbaceous shrubs, with hooked prickles mixed with bristles; flowers solitary or few together; stipules narrow, adnate; leaflets 3–5, usually firm; sepals reflexed after flowering, the outer ones often lobed, deciduous; styles distinct, not exserted. European and Asiatic species.

### 9. *Rosa gallica* L. Sp. Pl. 492. 1753.

Stems from rootstocks, erect, 5–10 dm. high, round, armed with various prickles, some flat, curved or straight, others bristle-like, often glandular at the end; floral branches densely glandular-hispid; stipules adnate, about 2 cm. long, pubescent and glandular, copiously glandular-ciliate, the free portions lanceolate, acute, more or less spreading; petiole and rachis glandular-hispid and bristly; leaflets usually 5, seldom 3 or 7, leathery, 2–6 cm. long, somewhat persistent, broadly oval or rounded-ovate, rounded or subcordate at the base, rounded or abruptly acute at the apex, more or less doubly glandular-toothed, dark-green and glabrous above, pale and appressed-hairy beneath, nervose; flowers solitary, seldom 2 or 3; pedicels rather long, densely glandular; hypanthium globose or ellipsoid, glandular-hispid, in fruit about 12 mm. broad; sepals lanceolate, acuminate, glandular-hispid on the back and the margins, after flowering reflexed and deciduous; petals pink or crimson, about 15 mm. long; styles not exserted, or slightly so, distinct, densely villous.

TYPE LOCALITY: France.

DISTRIBUTION: New Hampshire to Missouri; Mexico; introduced from Europe and sparingly naturalized.

ILLUSTRATIONS: Hayne, Arzn. Gew. 11: *pl.* 30; Redouté, *Roses* 1: *pl.* opp. 73; Nouv. Duham. 7: *pl.* 8; Willm. Gen. *Rosa* *pl.* opp. 325; Fl. Deuts. ed. 5. *pl.* 2634.

VI. *Caninae*. Upright or rarely climbing species, with scattered prickles, rarely with intermixed bristles; stipules adnate, the upper usually dilated; leaflets mostly 5–7, rather firm but not persistent; flowers corymbose; bracts dilated; sepals often lobed, at least the outer ones, reflexed after flowering and deciduous, rarely persistent; styles distinct, barely reaching outside the mouth of the hypanthium; achenes inserted on the inner walls of the hypanthium as well as in the bottom. Introduced European species.

### 10. *Rosa tomentosa* Smith, Fl. Brit. 539. 1800.

Stem terete, 1–2 m. high, often with elongate drooping branches, armed with straight or slightly curved, often paired prickles, somewhat flattened towards the base, 5–7 mm. long; stipules 1–1.5 cm. long, glabrous above, pubescent on the back, glandular-ciliate on the margins; petiole and rachis villous and glandular-hispid, sometimes prickly; leaflets 5–7, oval or ovate, 2–4 cm. long, rounded at the base, acute or short-acuminate at the apex, more or less doubly serrate, finely appressed-pubescent above, villous and glandular-pruinose beneath; flowers solitary or few together; pedicels often glandular-hispid; hypanthium globose or somewhat ellipsoid, often glandular-hispid at the base; sepals lanceolate, glandular on the margins and back, about 2 cm. long, acuminate, usually more or less lobed, tardily deciduous before the ripening of the fruit; petals 18–20 mm. long, pale rose-colored or nearly white.

TYPE LOCALITY: About London.

DISTRIBUTION: Native of Europe; collected in North Carolina and at Big Sandy, Texas.

ILLUSTRATIONS: Engl. Bot. *pl.* 999; Sv. Bot. *pl.* 571; Redouté, *Roses* 2: *pl.* opp. 39; *pl.* opp. 87; Fl. Deuts. ed. 5. *pl.* 2631; A. Dietr. Fl. Boruss. *pl.* 863.



11. *Rosa rubiginosa* L. Mant. 564. 1771.

*Rosa suaveolens* Pursh, Fl. Am. Sept. 346. 1814.  
*Rosa Walpoleana* Greene, Leaflets 2: 264. 1912.

Stems branched, often 2 m. high, armed with strong, curved, flattened prickles, which are 5–10 mm. long, sometimes also somewhat bristly; leaves 5–7-foliolate; stipules adnate, 15–20 mm. long, mostly dilated, densely glandular and usually also pubescent beneath, glandular-ciliate on the margins; petioles and rachis pubescent, glandular-hispid, and more or less prickly; leaflets suborbicular or broadly oval, rounded at both ends or acutish at the apex, 1–3 cm. long, doubly serrate with gland-tipped teeth, more or less pubescent on both sides, densely glandular-pruinose beneath; flowers 1–4 together, subtended by foliaceous bracts; pedicels 1–3 cm. long, glandular-hispid; hypanthium pear-shaped or broadly ellipsoid, abruptly contracted above, often tapering at the base, often with a few bristles, at least near the base, in fruit 10–12 mm. thick, 12–15 mm. long, orange or scarlet; sepals lanceolate, 15–18 mm. long, caudate-attenuate, more or less lobed, glandular-hispid on the back, in fruit spreading and tardily deciduous; petals bright rose-colored, 15–20 mm. long; styles distinct, at last slightly exserted, pubescent; achenes inserted, both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Southern Europe.

DISTRIBUTION: Roadsides, from Nova Scotia to Georgia, Mississippi, and Kansas; also from British Columbia to California; escaped from cultivation and naturalized; native of Europe.

ILLUSTRATIONS: Engl. Bot. *pl.* 991; A. Dietr. Fl. Boruss. 12: *pl.* 862; Redouté, *Roses* 1: *pl.* opp. 93; *pl.* opp. 125; 2: *pl.* opp. 5; *pl.* opp. 75; Nouv. Duham. 7: *pl.* 7, *f.* 1; Audubon, *Birds* *pl.* 137; Miller & Whiting, *Wild Fl.* 149; G. T. Stevens, *Ill. Guide* *pl.* 70, *f.* 4; C. A. Reed, *Wild Fl.* 164, *f.*; Peterson, *Wild Fruits* 63, *f.*

12. *Rosa micrantha* Borrer; Smith, Engl. Bot. *pl.* 2490. 1813.

Stems branched, 1–2 m. high, terete, armed with uniform, hooked, flattened prickles 5–10 mm. long; leaves 5–7-foliolate; stipules adnate, 1–1.5 cm. long, the lower narrow, the upper dilated, pubescent and glandular beneath, glandular-ciliate on the margins; petioles and rachis pubescent, and glandular-hispid, rarely prickly; leaflets broadly ovate, rounded at the base, short-acuminate at the apex, 1–3 cm. long, more or less pubescent on both sides, and densely glandular-pruinose beneath, doubly serrate with gland-tipped teeth; flowers 1–4 together, leafy-bracted; pedicels glandular-hispid, 1–2 cm. long; hypanthium narrowly elliptic, tapering at both ends, glabrous, in fruit 8–10 mm. thick, 15–20 mm. long; sepals lanceolate, caudate-attenuate, 12–18 mm. long, glandular-hispid on the back, tomentose within, more or less lobed; petals 10–15 mm. long, obcordate, rose-colored; styles distinct, glabrous, at last slightly exserted; achenes inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Not given, probably near London.

DISTRIBUTION: Roadsides, from Massachusetts and New York to South Carolina and Texas; in Oregon and Washington; escaped from cultivation and sometimes naturalized; native of Europe.

ILLUSTRATIONS: Engl. Bot. *pl.* 2490; Fl. Deuts. ed. 5. *pl.* 2630B; Britt. & Brown, *Ill. Fl.* *f.* 1974; ed. 2. *f.* 2316 (both as *R. rubiginosa*).

13. *Rosa dumetorum* Thuill. Fl. Par. ed. 2. 250. 1799.

Stems terete, branched, about 2 m. high, armed with uniform, curved, flattened prickles 5–10 mm. long; leaves 5–7-foliolate; stipules adnate, mostly narrow, 1–2 cm. long, more or less pubescent, glandular-ciliate only on the margins; petiole and rachis sparingly pubescent, sometimes slightly prickly; leaflets ovate, acute, sharply serrate, with ascending teeth, more or less pubescent, at least beneath, 1–3 cm. long; flowers 1–3; pedicels glabrous, 1–2 cm. long; hypanthium ellipsoid, glabrous, in fruit 10–12 mm. thick, 15–18 mm. long; sepals lanceolate, caudate-attenuate, 15–20 mm. long, glabrous on the back, tomentose within, more or less lobed, in fruit reflexed and at last deciduous; petals pale pink or white; styles distinct, persistent, slightly exserted; achenes inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Vicinity of Paris.

DISTRIBUTION: Bowling Green, Kentucky; escaped from cultivation; native of Europe.

ILLUSTRATIONS: Engl. Bot. *pl.* 2610; Redouté, *Roses* 2: *pl.* opp. 85; Willm. Gen. *Rosa* *pl.* opp. 397.

14. *Rosa canina* L. Sp. Pl. 491. 1753.*Rosa flexuosa* Raf. Préc. Dec. 35. 1814.*Rosa Rafinesquiana* Tratt. Ros. Monog. 2: 234. 1823.

Stems branched, upright, terete, 2–3 m. high, armed with uniform, stout, curved, flattened prickles 5–10 mm. long; leaves 5–7-foliolate; stipules adnate, mostly dilated, 2–3 cm. long, mostly glabrous beneath, glandular-dentate on the margins; petiole and rachis often glandular-hispid, otherwise glabrous; leaflets 1–4 cm. long, oval or ovate, acute at the apex, glabrous on both sides, shining above, not at all glandular beneath except rarely so on the midrib, sharply serrate, occasionally with double teeth; flowers 1–3 together; pedicels glabrous. 1–3 cm. long; hypanthium ellipsoid, acute at both ends, glabrous, in fruit orange, red or scarlet, 10–15 mm. thick, 15–20 mm. long; sepals lanceolate, caudate-attenuate, 15–20 mm. long, glabrous on the back, tomentose within, entire or with linear lobes, in fruit reflexed and deciduous; petals about 2 cm. long, pink, obcordate; styles distinct, hairy, persistent, at last slightly exserted; achenes inserted both in the bottom and on the sides of the receptacle.

TYPE LOCALITY: Europe.

DISTRIBUTION: Roadsides, from Massachusetts to District of Columbia and Tennessee; naturalized from Europe.

ILLUSTRATIONS: Fl. Dan. *pl.* 555; *pl.* 1695; Engl. Bot. *pl.* 992; Sv. Bot. *pl.* 29; Hayne, Arzn. Gew. 11: *pl.* 32; Nouv. Duham. 7: *pl.* 11; Britt. & Brown, Ill. Fl. f. 1973; ed. 2. f. 2312; Willm. Gen. Rosa *pl.* opp. 379; *pl.* on 381; A. Dietr. Fl. Boruss. *pl.* 861.15. *Rosa Montezumae* Humb. & Bonpl.; Redouté, Roses 1: 55.  
1817.*Rosa canina Montezumae* Seringe (Mus. Helv. 1: 22. 1818); DC. Prodr. 2: 614. 1825.*Rosa mexicana* Willd.; (Spreng. Syst. 2: 555, as synonym. 1825) Crépin, Bull. Soc. Bot. Belg. 11: 82. 1872.*Rosa canina* Crépin, Bull. Soc. Bot. Belg. 15: 75. 1876. Not *R. canina* L. 1762.

Stem branched, terete, usually unarmed. 1–2 m. high; stipules adnate, 1–1.5 cm. long, rather dilated, slightly pubescent, glandular-ciliate; petiole and rachis somewhat pubescent, occasionally armed with small hooked prickles; leaves 3–7-foliolate; leaflets oval, acute, slightly pubescent or glabrous, acute or short-acuminate, at the apex, more or less doubly serrate, 1–2 cm. long; flower solitary or few; pedicels short, 1 cm. long, glabrous; hypanthium ellipsoid, glabrous; sepals about 15 mm. long, caudate-acuminate, glabrous on the back, tomentose within, often lobed; petals pink, 15–18 mm. long; styles distinct, persistent, hairy, scarcely exserted; achenes inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Mountains bordering the valley of Mexico.

DISTRIBUTION: Central Mexico.

ILLUSTRATION: Redouté, Roses 1: *pl.* opp. 55.

VII. *Carolinae*. Upright low species; new shoots usually covered with bristles, older stems with paired infrastipular prickles; stipules adnate, the upper often dilated; leaflets 5–11, usually rather thin; flowers solitary or in few-flowered corymbs; pedicels and hypanthium usually more or less glandular-hispid; sepals entire or lobed, reflexed after anthesis, soon deciduous; achenes inserted in the bottom of the hypanthium only; styles distinct, barely protruding through the mouth of the hypanthium. Native species.

16. *Rosa palustris* Marsh. Arbust. 135. 1785.*Rosa carolina* L. Sp. Pl. ed. 2. 703. 1762. Not *R. carolina* L. 1753.*Rosa corymbosa* Ehrh. Beitr. 4: 21. 1789.*Rosa fragrans* Salisb. Prodr. 358. 1796.*Rosa pennsylvanica* Michx. Fl. Bor. Am. 1: 296. 1803.*Rosa caroliniana* Bigel. Fl. Bost. 121. 1814.*Rosa enneaphylla* Raf. Préc. Dec. 35. 1814.*Rosa hudsoniana* Thory; Redouté, Ros. 1: 95. 1817.? *Rosa glandulosa* Raf. Ann. Gén. Sci. Phys. 5: 214. 1820.*Rosa elegans* Raf. Ann. Gén. Sci. Phys. 5: 214. 1820. Not *R. elegans* Salisb. 1799.*Rosa salicifolia* Redouté, Roses 3: 121. 1823.? *Rosa Sprengeliana* Tratt. Ros. Monog. 2: 163. 1823.*Rosa elongata* Roessig; Steud. Nom. Bot. ed. 2. 2: 468. 1841.*Rosa hispidocarpa* Chabert; Cariot, Etude Fl. Bot. ed. 4. 2: 677. 1865.

*Rosa carolina sepalorelevata* Schuette, Proc. Am. Assoc. Adv. Sci. 46: 279. 1898.  
*Rosa carolina aculeata* Schuette, Proc. Am. Assoc. Adv. Sci. 46: 279. 1898.

Stems usually tall, 0.3–2 m. high, erect, sometimes reddish, glabrous, terete, armed with strong but rather short, more or less curved prickles, which are usually paired, flattened at the base, 4–6 mm. long; floral branches 1–3 dm. long, glabrous, prickly or unarmed; stipules adnate, 2–3 cm. long, usually narrow, only the upper somewhat dilated, somewhat enrolled, usually pubescent beneath, somewhat glandular-denticulate or naked on the margins, the free portion lanceolate or subulate, usually somewhat spreading; petioles and rachis pubescent, rarely prickly, not glandular or rarely slightly so; free portion of the petioles above the stipules very short, 3–8 mm. long; leaflets 7, rarely 9, dull and dark-green, glabrous or nearly so above, paler and more or less finely appressed-puberulent beneath, at least on the veins, short-petiolate, lance-elliptic or oblanceolate, on vigorous shoots sometimes elliptic, usually acute at both ends, 2–6 cm. long, finely and closely serrulate, with simple non-glandular teeth; flowers usually corymbose, sometimes solitary, leafy-bracted; pedicels short, 1–2 (rarely 3) cm. long, usually glandular-hispid; hypanthium subglobose or somewhat depressed, glandular-hispid, usually acute at the base, in fruit 10–12 mm. broad; sepals narrowly lanceolate, caudate-attenuate, 2–2.5 cm. long, sometimes with foliaceous tips, glandular-hispid on the back, tomentose within and on the margins, reflexed after anthesis, soon deciduous; petals obcordate, rose-colored, 1.5–2 cm. long; styles distinct, numerous, not exserted, persistent; achenes attached mainly in the bottom of the hypanthium.

TYPE LOCALITY: Not given, but by inference Pennsylvania.

DISTRIBUTION: Nova Scotia to Minnesota, Mississippi, and Florida.

ILLUSTRATIONS: Wangenh. Beytr. Nordam. Holz. pl. 31, f. 71; Roessig, Rosen pl. 44; Redouté, Roses 1: pl. opp. 95; 2: pl. opp. 117; Lindl. Ros. Monog. pl. 4; Audubon, Birds pl. 93; Meehan, Nat. Fl. 1: pl. 43; Britt. & Brown, Ill. Fl. f. 1970; ed. 2. f. 2313; Cycl. Am. Hort. f. 2158; Willm. Gen. Rosa pl. opp. 211; pl. on 213; Stand. Cycl. Hort. f. 3443; G. T. Stevens, Ill. Guide pl. 70, f. 1; C. A. Reed, Wild Fl. 162, f.; Lounsbury, Guide Wild Fl. f. opp. 52; Mathews, Field Book 205, f.

*Rosa carolina* × *palustris* (*Rosa humilis gracilis* Porter, MS.). This resembles *R. palustris* in the narrow, rather firm and finely serrulate leaflets and the curved prickles; but the prickles are more slender or sometimes none, the flowers usually solitary and the habit of the plant is more like that of *R. carolina*. Island Park, above Easton, Pennsylvania, July 18, 1899, Porter. New Hampshire, New Jersey, and Pennsylvania.

*Rosa johannensis* × *palustris*? Resembling *R. johannensis* in habit, but stricter, with hypanthium more or less bristly, and leaflets inclined to be narrower, thicker, and finely pubescent beneath. Portage Lake, Maine, August 9, 1901, Robinson & Fernald (Gray Herb.).

*Rosa nitida* × *palustris*. (*R. carolina* × *nitida* Crépín, Rhodora 2: 113. 1900. *R. carolina seligera* Crépín, Rhodora loc. cit.) This resembles *R. carolina* in the finely serrate and dark leaflets, but the leaves are more shining and the stem and branches are bristly and the prickles are more straight. Muddy shore, Foxcroft, Maine.

*Rosa palustris* × *serrulata*. Resembling *R. palustris* in habit and inflorescence, but the leaflets are shorter, thinner, and glandular double-serrate, and the stipules, petioles, and rachis also glandular-hispid. Fort Howard, Wisconsin, 1894, Schuette (Gray Herb.).

*Rosa palustris* × *virginiana*. This has the short curved prickles of *R. palustris*, but the leaves are more shining, broader and sharper toothed, approaching *R. virginiana*. Palisades, New Jersey, August, 1890, Southworth. Maine, New York, and New Jersey, near the coast.

## 17. *Rosa floridana* Rydb.; Small, Shrubs Fla. 27. 133. 1913.

*Rosa foliolosa* T. & G. Fl. N. Am. 1: 460, in small part. 1840.

Stem low, 1 m. high or less, with spreading branches, reddish, glabrous, terete, armed with short curved prickles, which are somewhat flattened at the base, 3–5 mm. long; floral branches spreading, flexuose; stipules adnate, about 1 cm. long, narrow, glabrous or nearly so, usually entire; free portion short, lanceolate, ascending; petioles and rachis glabrous or slightly pubescent, unarmed; leaflets 5, dull and dark-green and glabrous above, somewhat paler and usually wholly glabrous beneath, 1–4 cm. long, acute at each end, finely and closely serrulate, with simple, non-glandular teeth; flowers usually solitary, rarely in pairs; pedicels 1–2 cm. long, usually glandular; hypanthium globose or somewhat depressed, glandular-hispid, in fruit 8–9 mm. thick; sepals linear-lanceolate, caudate-attenuate, 2–2.5 cm. long, glandular-hispid on the back, tomentose on the margins, reflexed after anthesis and soon deciduous; petals obcordate, 1.5–2 cm. long, rose-colored; styles distinct, numerous, not exserted, persistent; achenes mainly attached in the bottom of the hypanthium.

TYPE LOCALITY: Near Jacksonville, Florida.

DISTRIBUTION: North Carolina to Florida.



18. *Rosa dasistema* Raf. Ann. Gén. Sci. Phys. 5: 219. 1820.

Stem terete, armed with small curved prickles 3–5 mm. long; branches spreading; stipules narrow, 1 cm. long or less, glabrous or slightly pubescent, the free portion short, lanceolate or subulate, spreading; petioles and rachis sparingly hairy, sparingly prickly, sparingly pubescent; leaflets 5, rarely 7, elliptic, glabrous on both sides or somewhat pubescent on the veins beneath, 2–4 cm. long, finely crenate-serrate, obtuse or acute at each end; flowers solitary or two together; pedicels short, usually about 1 cm. long, glandular-hispid; hypanthium more or less pyriform or ellipsoid, acute at the base, glandular-hispid, about 8 mm. thick in fruit; sepals linear-lanceolate, caudate-acuminate, 12–15 mm. long, glandular-hispid without, tomentose within, after anthesis spreading and soon deciduous; petals 1.5–2 cm. long; styles numerous, not exserted, distinct; achenes inserted in the bottom of the hypanthium.

TYPE LOCALITY: Ohio and Indiana.

DISTRIBUTION: Swamps of West Virginia, Ohio, Indiana, and Missouri.

*Rosa dasistema* × *virginiana*. This has the leaf form and serration of *R. dasistema*, and the hypanthium is acute at the base, but the plant is stouter, the leaves larger and more shining, and the prickles very stout and straight or nearly so. Wet places, Butler County, Missouri, August 2, 1892, H. Eggert.

19. *Rosa gemella* Willd. Enum. 544. 1809.

*Rosa cinnamomea gemella* Seringe, in DC. Prodr. 2: 605. 1825.

Stem low, 3–10 dm. high, often reddish, terete, rarely bristly, armed with short curved prickles 4–5 mm. long; stipules narrow, or the upper dilated, about 1.5 cm. long, adnate, glabrous or nearly so, often glandular-dentate; petiole and rachis glabrous, sometimes glandular-hispid; free portion of the petiole 3–8 mm. long; leaflets 5–7, elliptic, oval, or obovate, 1.5–3 cm. long, acute at the base, usually obtuse or rounded at the apex, finely serrate, glabrous on both sides or slightly pubescent on the veins beneath; flowers 1–4, corymbose; pedicels 1–3 cm. long, glandular-hispid; hypanthium globose, glandular-hispid, in fruit 10–12 cm. broad; sepals lanceolate, caudate-acuminate, glandular-hispid on the back, tomentose within, entire or with a few subulate lobes, reflexed after anthesis and soon deciduous; petals obcordate, about 2 cm. long; styles distinct, persistent, not exserted; achenes in the bottom of the hypanthium.

TYPE LOCALITY: North America.

DISTRIBUTION: Massachusetts to southern New York.

20. *Rosa nanella* Rydberg, sp. nov.

Stem low, 1–3 dm. high, dark reddish-brown, glabrous, terete, armed with short somewhat curved prickles, which are 3–5 mm. long, somewhat curved; young shoots somewhat bristly; floral branches short, ascending; stipules adnate to the petioles, 1–1.5 cm. long, glabrous or slightly pubescent, sparingly glandular-ciliate, the free portion lanceolate, ascending; petiole and rachis glabrous or nearly so; leaflets 5–7, rather shining, glabrous on both sides, oblanceolate or lance-elliptic, 1–2 cm. long, acute, serrate, with simple teeth; flowers usually solitary; pedicels 1–1.5 cm. long, glandular-hispid; hypanthium subglobose, somewhat glandular-hispid, in fruit 7–10 mm. in diameter; sepals spreading, glandular-hispid, soon deciduous; styles distinct, numerous, not exserted, persistent; achenes attached in the bottom of the hypanthium.

Type collected September 29, 1915, at Chappaquiddick Island, Massachusetts, E. P. Bicknell (herb. N. Y. Bot. Gard.).

DISTRIBUTION: Sand-dunes, from southern Massachusetts to New Jersey.

*Rosa Bicknellii* × *nanella*. See under *R. Bicknellii*.

21. *Rosa obtusiuscula* Rydberg, sp. nov.

Stem slender, dark-brown, about 1 m. high, practically unarmed, branched; stipules adnate, narrow, about 1 cm. long, sparingly pubescent, the free portion lanceolate, more or less toothed; petiole and rachis sparingly pubescent, unarmed; leaflets 5 or 7, elliptic, rounded at the apex, crenate, dark-green, glabrous on both sides or sparingly pubescent beneath, 1–4 cm. long; flowers 1–4 together; pedicels short, rarely over 1 cm. long, sparingly glandular; hypanthium depressed-globose, sparingly glandular-hispid, in fruit 8–10 mm. thick; sepals

lanceolate, caudate-attenuate, 1.5–2 cm. long, rather copiously glandular-hispid, spreading and at last deciduous; styles numerous, distinct, persistent, not exserted; achenes inserted in the bottom of the hypanthium.

Type collected along the French Broad River between Paint Rock and Del Rio, Cocke County, Tennessee, August 25, 1897, *Thomas H. Kearney 695* (herb. N. Y. Bot. Gard.).

## 22. *Rosa virginiana* Mill. Gard. Dict. ed. 8. Rosa no. 10. 1768.

*Rosa carolinensis* Marsh. Arbust. 135. 1785.

*Rosa blanda* Ait. Hort. Kew. 2: 202, in part. 1789.

*Rosa lucida* Ehrh. Beitr. 4: 22. 1789.

*Rosa rapa* Bosc, Nouv. Cours. Agr. 11: 247. 1809.

*Rosa pennsylvanica* Andr. Roses pl. 101. 1828.

*Rosa humilis lucida* Best, Bull. Torrey Club 14: 256, in part. 1887.

*Rosa virginiana lucida* Best; C. K. Schneid. Handb. Laubh. 1: 570. 1905.

*Rosa blanda Willmottiana* Baker; Willm. Gen. Rosa 2: 308. 1911.

Stem 5–20 dm. high, stout, terete, glabrous, armed with stout prickles, which are 8–12 mm. long, straight or slightly curved but often somewhat reflexed, decidedly flattened at the base, only the young shoots bristly; stipules adnate, 1.5–3 cm. long, the lower narrow, the upper more or less dilated, glabrous or slightly pubescent, usually glandular-dentate, the free portion lanceolate, usually spreading; petiole and rachis usually prickly and sometimes glandular-hispid; free portion of the petiole 2–8 mm. long; leaflets 7–9, lance-elliptic, usually acute at both ends, serrate with numerous sharp strongly ascending teeth, dark-green, shining, and glabrous above, duller and pubescent on the veins or glabrous beneath, 2–6 cm. long; flowers corymbose, rarely solitary; pedicels 1–3 cm. long, glandular-hispid; hypanthium glandular-hispid, depressed-globose, 10–15 mm. broad at maturity; sepals narrowly lanceolate, caudate-attenuate, glandular-hispid on the back, 2–2.5 cm. long, after anthesis reflexed and soon caducous; petals rose-colored, 2–3 dm. long, obcordate; styles distinct, persistent, not exserted; achenes attached in the bottom of the hypanthium.

TYPE LOCALITY: Virginia.

DISTRIBUTION: Newfoundland to Virginia, Alabama, Arkansas, and Missouri.

ILLUSTRATIONS: Redouté, Roses 1: pl. opp. 45; 2: pl. opp. 7 (double); Nouv. Duham. 7: pl. 7, f. 2; Willm. Gen. Rosa pl. opp. 197; pl. opp. 198; pl. on 199; pl. opp. 202 (as *R. humilis* var.); 2: pl. opp. 308 (as *R. blanda Willmottiana*); Jacq. Fragm. pl. 107, f. 7; Traill, Can. Wild Fl. pl. 7 (as *R. blanda*); Andr. Roses pl. 101; pl. 102 (double).

*Rosa Bicknellii* × *virginiana*. See under *R. Bicknellii*.

*Rosa blanda* × *virginiana*. See under *R. blanda*.

*Rosa carolina* × *virginiana*. This hybrid most resembles *R. lucida* in the shining leaflets, in the prickly and glandular rachis and in the corymbose inflorescence, but the habit of the plant is that of *R. humilis*, the stem being slender, often bristly, and the prickles being slender and straight. Farmingdale, New Jersey, July 4, 1910, *Norman Taylor 2159*.

*Rosa dasistema* × *virginiana*. See under *R. dasistema*.

*Rosa Lyoni* × *virginiana*. *Rosa humilis lucida* Best, Bull. Torrey Club 14: 256, in part. 1887. This hybrid resembles most *R. virginiana* in habit, form, and color of the leaflets, which are quite shining above, and in the corymbose inflorescence and stout prickles, but the leaflets are quite pubescent beneath and not of so dark a color. Kingswood, New Jersey, June 20, 1887, *Best*. New Jersey and Pennsylvania.

*Rosa nitida* × *virginiana*. See under *R. nitida*.

*Rosa palustris* × *virginiana*. See under *R. palustris*.

*Rosa serrulata* × *virginiana*. This resembles *R. virginiana* in habit, but is more glandular and the leaflets are double-toothed with gland-tipped teeth. The sepals are also more inclined to be lobed. Top of Monte Sano, Auburn, Alabama, May 23, 1897, *C. F. Baker*.

## 23. *Rosa Lyoni* Pursh, Fl. Am. Sept. 345. 1814.

*Rosa pusilla* Raf. Ann. Gén. Sci. Phys. 5: 218. 1820.

*Rosa lucida* γ T. & G. Fl. N. Am. 1: 459. 1840.

*Rosa humilis villosa* Best, Bull. Torrey Club 14: 256. 1887.

Stem usually low, 3–15 dm. high, terete, glabrous, more or less bristly, especially the young shoots, armed with infrastipular prickles, which are spreading, usually slender and terete, 4–8 mm. long, or rarely stouter, up to 10 mm. long, and then slightly flattened below; stipules adnate, usually narrow or the upper somewhat dilated, 1.5–2 cm. long, more or less villous, often somewhat glandular-dentate; petiole and rachis villous, sometimes prickly or glandular-hispid; free portion of the petioles 1–2 cm. long; leaflets 5–7, oval to lance-elliptic, usually acute at both ends or rarely obtuse at the apex, 1.5–5 cm. long, regularly serrate, the lateral ones short-petioluled, rather thin and dull, sparingly pubescent or glabrate above, decidedly

villous beneath; flowers 2-4, corymbose or solitary; pedicels 1-4 cm. long, more or less glandular-hispid; hypanthium usually depressed-globose, more or less glandular-hispid or rarely glabrous, in fruit 8-10 mm. broad; sepals lanceolate, caudate-acuminate, glandular-hispid on the back, tomentose within, 1.5-2 cm. long; some of them usually with linear or subulate lobes, after anthesis reflexed and soon deciduous; petals obcordate, rose-colored, 2-2.5 cm. long; styles distinct, persistent, not exserted; achenes attached in the bottom of the hypanthium.

TYPE LOCALITY: Tennessee.

DISTRIBUTION: Massachusetts to Georgia, Arkansas, Kansas, and Minnesota.

**Rosa Lyoni**  $\times$  **serrulata**. This hybrid resembles *R. serrulata* in habit, in the glandular-hispid rachis, the glandular-serrate leaflets and the slender prickles, but the leaflets are more or less hairy beneath and broader. Matthews, North Carolina, *Biltmore Herbarium 6628*.

**Rosa Lyoni**  $\times$  **virginiana**. See under *R. virginiana*.

## 24. *Rosa obovata* Raf. Ann. Gén. Sci. Phys. 5: 217. 1820.

*Rosa carolina*  $\epsilon$  Ait. Hort. Kew. ed. 2. 3: 260. 1811.

*Rosa laxa* Lindl. Ros. Monog. 18. 1820. Not *Rosa laxa* Retz. 1803.

*Rosa Lindleyi* Spreng. Syst. 2: 547. 1825. Not *Rosa Lindleyana* Tratt. 1823.

*Rosa humilis grandiflora* Baker; Willm. Gen. Rosa 1: 207. 1911. Not *R. grandiflora* Salisb. 1796.

Stem slender, terete, about 1 m. high, glabrous, armed with slender, short, terete, mostly straight prickles 5-18 mm. long; stipules adnate to the petioles, 1-2 cm. long, mostly narrow and entire, sometimes glandular, the free portion lanceolate; petioles and rachis mostly glabrous, often armed with small prickles, sometimes glandular; leaflets mostly 7, obovate or broadly oval, 1.5-4 cm. long, acute or often rounded at the apex, coarsely serrate except the cuneate base, glabrous on both sides, rather dull and somewhat glaucescent; flowers mostly solitary or 2-4 together; pedicels more or less glandular-hispid; hypanthium more or less glandular-hispid, globose or depressed-globose, rounded at the base, in fruit about 12 mm. in diameter; sepals lanceolate, caudate-attenuate, 15-20 mm. long, glandular-hispid on the back, tomentose within, more or less lobed, after anthesis reflexed and deciduous in fruit; petals about 3 cm. long, obcordate, rose-colored; styles distinct, persistent, not exserted; achenes attached mainly in the bottom of the hypanthium.

TYPE LOCALITY: Mountains of the Highlands and Catskills, New York.

DISTRIBUTION: Maine to Delaware, Missouri, and Michigan.

ILLUSTRATIONS: Lindl. Ros. Monog. pl. 3; Willm. Gen. Rosa pl. opp. 66.

## 25. *Rosa carolina* L. Sp. Pl. 492. 1753.

*Rosa humilis* Marsh. Arbust. 136. 1785.

*Rosa parviflora* Ehrh. Beitr. 4: 21. 1789.

*Rosa pennsylvanica* Wangerh. Beytr. Nordam. Holz. 113. 1787.

*Rosa caroliniana* Michx. Fl. Am. Bor. 1: 295. 1803.

*Rosa pratensis* Raf. Ann. Gén. Sci. Phys. 5: 215. 1820.

*Rosa lucida*  $\alpha$  T. & G. Fl. N. Am. 1: 458. 1840.

*Rosa parviflora vulgaris* Crépín, Bull. Soc. Bot. Belg. 15: 68. 1876.

*Rosa humilis parviflora* Koehne, Deuts. Dendr. 293. 1893.

*Rosa virginiana humilis* C. K. Schneid. Handb. Laubh. 1: 570. 1906.

Stems low, slender, 3-10 dm. high, terete, glabrous, usually very bristly when young and armed with slender, straight, paired, terete, infrastipular prickles 5-8 (rarely 10) mm. long; branches usually not bristly, either with infrastipular prickles or sometimes unarmed; stipules adnate, usually very narrow, 1-15 cm. long, glabrous or slightly pubescent, rarely with a few glandular teeth, the free portion lanceolate, acuminate, about 5 mm. long; petioles and rachis sparingly pubescent or glabrous, rarely with a few prickles; leaflets usually 5, rarely 7, elliptic or lance-elliptic, rarely oval or oblanceolate, 1-3 cm. long, glabrous but not very shining above, usually somewhat paler and pubescent on the veins or glabrate beneath, sharply and regularly serrate with ascending teeth, usually acute at both ends or obtuse at the apex, short-petiolulate; flowers usually solitary; pedicels 1-3 cm. long, glandular-hispid; hypanthium globose or a little depressed, glandular-hispid, in fruit about 8 mm. broad; sepals lanceolate, caudate-acuminate, 1.5-2 cm. long, usually very glandular on the back, tomentose within, all or at least the outer ones with linear or subulate lobes, reflexed after anthesis and soon deciduous; petals rose-colored, 2-2.5 cm. long; styles distinct, persistent, not exserted; achenes attached mainly on the bottom of the hypanthium.

TYPE LOCALITY: Carolina.



DISTRIBUTION: Maine to Florida, Texas, Kansas, and Wisconsin.

ILLUSTRATIONS: Dill. Hort. Elth. *pl.* 245, *f.* 316; Redouté, *Roses* 2: *pl.* opp. 73 (form); Loud. Arb. 2: *f.* 479; Miller & Whiting, *Wild Fl.* 151; Britt. & Brown, *Ill. Fl.* *f.* 1971; ed. 2. *f.* 2314; Willm. Gen. *Rosa* *pl.* opp. 201; Meehan, *Nat. Fl.* 2: *pl.* 9 (as *R. lucida*); Stand. Cycl. Hort. *f.* 3444; Peterson, *Wild Fruits* 60, *f.*; G. T. Stevens, *Ill. Guide* *pl.* 70. *f.* 5; Andr. *Roses* *pl.* 103; *pl.* 104, 105 (double).

*Rosa acicularioides* × *carolina*. See under *R. acicularioides*.

*Rosa acicularis* × *carolina*. This has the low habit and bristly hypanthium of *R. carolina* but the pubescent and rugose leaves of *R. acicularis*. The hypanthium is pear-shaped but much smaller than in the latter species; the sepals are erect and persistent. Little Sturgeon, Wisconsin, 1890, Schuette (Gray Herb.).

*Rosa carolina* × *palustris*. See under *R. palustris*.

*Rosa carolina* × *virginiana*. See under *R. virginiana*.

## 26. *Rosa serrulata* Raf. Ann. Gén. Sci. Phys. 5: 218. 1820.

*Rosa parviflora glandulosa* Crépín, Bull. Soc. Bot. Belg. 15: 68. 1876.

*Rosa parviflora setigera* Crépín, Bull. Soc. Bot. Belg. 15: 68. 1876.

*Rosa mexicana* S. Wats. Proc. Am. Acad. 17: 354. 1882. Not *R. mexicana* Willd. 1825.

Stem slender, terete, glabrous, 3–10 dm. high, bristly, especially the young shoots, armed with slender infrastipular prickles, which are straight, terete, 4–8 mm. long; stipules adnate, about 1 cm. long, narrow, glabrous or slightly pubescent, strongly glandular-ciliate on the margins and often glandular on the back; petioles and rachis glandular-hispid, otherwise glabrous or nearly so, the free portion of the petioles 3–10 mm. long; leaflets usually 5, rarely 3 or 7, lance-elliptic or rarely oval, 1–4 cm. long, acute at both ends, light-green, glabrous or nearly so and somewhat shining above, often paler, glabrous or slightly pubescent on the veins and sometimes glandular beneath, sharply serrate with gland-tipped teeth, some of which are often denticulate or glandular-ciliate; flowers solitary; peduncles 1–3 cm. long, more or less glandular-hispid; hypanthium globose or slightly depressed, glandular-hispid, in fruit 8–12 mm. broad; sepals lanceolate, glandular-hispid on the back, tomentose within, caudate-acuminate, 1.5–2.5 cm. long, some of them usually with lanceolate or subulate appendages, after anthesis reflexed and soon deciduous; petals rose-colored, 1.5–2.5 cm. long; styles distinct, persistent, not exserted; achenes inserted in the bottom of the hypanthium.

TYPE LOCALITY: Highlands and Catskills, New York.

DISTRIBUTION: Massachusetts to Ontario, Iowa, Texas, and Florida; Coahuila and Nuevo León.

*Rosa Lyoni* × *serrulata*. See under *R. Lyoni*.

*Rosa palustris* × *serrulata*. See under *R. palustris*.

*Rosa serrulata* × *virginiana*. See under *R. virginiana*.

## 27. *Rosa subserrulata* Rydberg, sp. nov.

*Rosa serrulata* Crépín, Bull. Soc. Bot. Belg. 15: 91. 1876. Not *R. serrulata* Raf. 1820.

Stem slender, 3–8 dm. high, terete, usually densely bristly and armed with slender infrastipular prickles, which are straight, diverging, 4–5 mm. long; flowering branches also very bristly and prickly, glandular-hispid; stipules adnate, about 1 cm. long, mostly narrow or the upper somewhat dilated, slightly pubescent or glabrous, glandular-ciliate, the free portion narrowly lanceolate; petiole and rachis more or less glandular-hispid and bristly; free portion of petioles 3–5 cm. long; leaflets 3–7, lance-elliptic to oblanceolate or obovate, acute at both ends, light-green, thin, glabrous on both sides or pubescent on the veins beneath, sharply serrate with long lanceolate teeth, which are more or less gland-tipped and some of them often with one or two small teeth or glandular-ciliate; flowers solitary; pedicels 1–2 cm. long, glandular-hispid; hypanthium globose, more or less glandular-hispid, in fruit 8–10 mm. broad; sepals lanceolate, caudate-attenuate, about 1.5 cm. long, glandular-hispid without, tomentose within, entire or with a few subulate lobes, reflexed after anthesis and soon deciduous; petals rose-colored, about 2 cm. long, obcordate; styles distinct, persistent, not exserted; achenes in the bottom of the hypanthium.

Type collected at Swan, Missouri, June 2, 1899, *B. F. Bush* 42 (herb. N. Y. Bot. Gard.).

DISTRIBUTION: Missouri and Arkansas to Texas.

## 28. *Rosa Bicknellii* Rydberg, sp. nov.

Stem dark, 5–10 dm. tall, erect, branched, glabrous, terete, armed with rather stout, long prickles, which are 7–12 mm. long, flattened at the base, sometimes slightly curved,

the young shoots strongly bristly; floral branches 1–2 dm. long, usually armed; stipules adnate, about 2 cm. long, glabrous or nearly so, glandular-dentate, the lower narrow, the upper dilated, the free portion semi-ovate; petiole and rachis sparingly hairy; leaflets glabrous, 5 or 7, mostly 7, dark-green and shining above, paler and lighter green beneath, elliptic or oval, 2–4 cm. long, thin, acute at both ends; serrate with sharp non-glandular teeth; flower in clusters of 1–3; pedicels about 2 cm. long, glandular-hispid; hypanthium decidedly pyriform, tapering into the pedicels, in fruit light-red, 10–12 mm. thick; sepals lanceolate, caudate-attenuate, about 1.5 cm. long, strongly glandular-hispid, usually more or less lobed, with subulate lobes, deciduous; petals obcordate, 2–2.5 cm. long; styles distinct, numerous, not exerted, persistent; achenes inserted mainly in the bottom of the hypanthium.

Type collected at Coskaty, Nantucket Island, Massachusetts, August 14, 1906, *E. P. Bicknell*.

DISTRIBUTION: Islands and coast, Nova Scotia to New York; apparently the same in Tennessee.

*Rosa Bicknellii* × *nanella*. This resembles *R. nanella* in habit, leaf-form, the small curved prickles, and small fruit, but the plant is larger, more bristly on the young shoots and the fruit is decidedly elongate. Chappaquiddick Island, Massachusetts, September 24, 1915, *E. P. Bicknell*.

*Rosa Bicknellii* × *virginiana*. This resembles most *R. virginiana* in habit, having corymbose flowers, but the prickles are smaller and perhaps more curved and the fruit varies from round-elliptic to somewhat pyriform, acutish at the base. Squam, Nantucket Island, September 25, 1915, *E. P. Bicknell*.

### 29. *Rosa petiolata* Rydberg, sp. nov.

Stem simple, terete, 1–2 m. high, unarmed or with small straight prickles; stipules adnate to the petioles, about 2 cm. long, narrow, entire or slightly glandular-dentate, the free portion lanceolate; leaflets 7–9, oblanceolate, distinctly petiolulate, acute at the apex; serrate except at the cuneate base, glabrous on both sides, paler beneath, 3–6 cm. long; flowers corymbose; pedicels 2–5 cm. long, more or less glandular-hispid; hypanthium ellipsoid, tapering at the base; glandular-hispid, in fruit 12–14 mm. long, 8–9 mm. wide; sepals glandular-hispid, lanceolate, caudate-acuminate, about 1.5 cm. long; petals unknown; styles included, persistent.

Type collected in Clark County, Missouri, August 27, 1892, *Bush* (herb. Mo. Bot. Gard.).

DISTRIBUTION: Type locality, and apparently also West Medford, Massachusetts.

### 30. *Rosa Aucuparia* Rydberg, sp. nov.

Stem tall, 1 m. high or more, green, terete, armed with slender, straight prickles, which are 5–10 mm. long; young shoots also rather densely bristly; stipules narrow, adnate, about 2 cm. long, slightly pubescent, entire, the free portion narrowly lanceolate, acuminate; petiole and rachis finely pubescent, and rarely with a few weak prickles; leaflets mostly 9, rarely 7, oblong or lance-oblong, sharply serrate, 2–6 cm. long, glabrous or nearly so on both sides, dark-green above, only slightly paler beneath; flowers corymbose; pedicels about 2 cm. long, sparingly glandular; hypanthium globose, sparingly glandular-hispid, in fruit about 12 mm. thick; sepals lanceolate, caudate-attenuate, glandular on the back, tomentose on the margins, about 2 cm. long, after anthesis reflexed and deciduous; achenes inserted in the bottom of the hypanthium.

Type collected at Dumas, Missouri, July 6, 1909, *Bush 5866* (herb. N. Y. Bot. Gard.).

### 31. *Rosa nitida* Willd. Enum. 544. 1809.

*Rosa blanda* Pursh, Fl. Am. Sept. 344, in part. 1814. Not *R. blanda* Ait. 1789.

*Rosa rubripina* Bosc; Poir. in Lam. Encyc. Suppl. 4: 715. 1816.

? *Rosa Redoutia rubescens* Thory; Redouté, Roses 1: 103. 1817.

Stem slender, terete, often reddish, 1–6 dm. high, densely bristly and with very slender prickles 3–5 mm. long; branches usually also copiously bristly, about 1 dm. long; stipules rather broad, especially the upper ones, adnate, 1–2 cm. long, glandular-dentate, glabrous or nearly so; petioles and rachis glabrous or nearly so, often somewhat bristly; leaflets usually 7–9, rather crowded, elliptic or oblong, 1–3 cm. long, acute at both ends or obtuse at the apex, glabrous on both sides or slightly pubescent beneath, sharply and finely serrate, shining above; flowers solitary or 2 or 3 together, usually with dilated bracts; pedicels 1–3 cm. long, glandular-hispid; hypanthium globose, glandular-hispid, in fruit about 1 cm. broad; sepals lanceolate, caudate-attenuate, about 1.5 cm. long, glandular-hispid on the back, tomentose within, usually

entire, after anthesis spreading and deciduous; petals rose-colored, obcordate, about 2 cm. long; styles distinct, persistent, not exserted; achenes inserted in the bottom of the hypanthium.

TYPE LOCALITY: North America.

DISTRIBUTION: Newfoundland to Connecticut.

ILLUSTRATIONS: Lindl. Ros. Monog. *pl.* 2; Loud. Arb. 2: *f.* 477; Britt. & Brown, Ill. Fl. *f.* 1972; ed. 2. *f.* 2315; Willm. Gen. Rosa *pl.* opp. 215; *pl.* on 217; G. T. Stevens, Ill. Guide *pl.* 70, *f.* 2.

*Rosa nitida* × *palustris*. See under *R. palustris*.

*Rosa nitida* × *virginiana*. Resembles mostly *R. nitida* in the very hispid stems, the small sharply serrate leaflets, the light color and few flowers, but the leaflets are much broader and shorter and more shining above, and the prickles slightly stouter. Bay St. George, Newfoundland, August 5-7, 1901, *Howe & Lang 1002*. Also Branch Island, Massachusetts.

### 32. *Rosa foliolosa* Nutt.; T. & G. Fl. N. Am. 1: 460. 1840.

Stem low, 1.5-5 dm. high, rarely bristly, armed with short, straight but usually somewhat reflexed prickles 2-5 mm. long, or unarmed; branches 1-2 dm. long, erect; stipules adnate, usually narrow, glabrous or slightly pubescent, often somewhat glandular-dentate, 1-1.5 cm. long; petiole and rachis glabrous or nearly so, often sparingly bristly and glandular-hispid; free portion of petiole very short; leaflets 5-11, usually 9, glabrous on both sides or slightly pubescent on the veins beneath, oblong or oblanceolate, usually acute at both ends, finely and densely serrate, shining above, the teeth rarely glandular-ciliate, 1-3 cm. long; flowers usually solitary; pedicels short, 2-10 mm. long, sparingly glandular-hispid; hypanthium subglobose, sparingly glandular or sometimes smooth, in fruit about 8 mm. broad; sepals glandular-hispid on the back; tomentose within, lanceolate, caudate-attenuate, about 1.5 cm. long, the outer usually with a few subulate lobes, after anthesis spreading and early deciduous; petals obcordate, about 2 cm. long; styles distinct, persistent, not exserted; achenes in the bottom of the hypanthium.

TYPE LOCALITY: Prairies of Arkansas.

DISTRIBUTION: Arkansas, Oklahoma, and Texas.

ILLUSTRATIONS: Willm. Gen. Rosa *pl.* opp. 219; Garden & Forest 3: *f.* 22; Dippel, Handb. Laubh. 3: *f.* 243; Stand. Cycl. Hort. *f.* 3445.

### 33. *Rosa Palmeri* Rydberg, sp. nov.

Stem 5 dm. high or more, rather densely bristly and weakly prickly, especially on the young shoots, somewhat glandular; prickles slender, terete, somewhat reflexed; floral branches less armed; stipules 1.5-2 cm. long, more or less puberulent, entire, the free portion lanceolate; petioles and rachis more or less glandular-hispid; leaflets on the young shoots mostly 9 and the floral branches mostly 5, dark-green and glabrous above, paler and mostly pubescent on the veins beneath, 2-4 cm. long, regularly serrate, oblong-lanceolate or lanceolate, or on the floral branches oblanceolate; flowers solitary, or few in a corymb; peduncles 1-2 cm. long, glandular-hispid; hypanthium globose, glandular-hispid, in fruit about 12 mm. thick; sepals 2-2.5 cm. long, glandular-hispid, caudate-attenuate, reflexed in fruit; petals obcordate, about 2 cm. long; styles persistent, not exserted.

Type collected at Carthage, Missouri, August 13, 1911, *E. J. Palmer 3428* (Gray Herb.).

DISTRIBUTION: Missouri, Oklahoma, and Texas.

### 34. *Rosa lancifolia* Small, Fl. SE. U. S. 527, 1331. 1903.

Stems branching, 1-2 m. high, terete, gray, armed with stout, straight prickles, which are 5-10 mm. long and only slightly flattened; floral branches 1-2 dm. long, usually unarmed; stipules adnate, 1-2 cm. long, narrow, mostly entire, glabrous; free portion lanceolate; leaflets 3-7, lanceolate or oblong-lanceolate, 2-6 cm. long, acute, subcoriaceous, finely crenate-serrulate, glabrous, somewhat shining above, sessile; petioles and rachis sparingly strigose; flowers corymbose; pedicels short, rarely over 1 cm. long, glabrous or sparingly glandular; hypanthium somewhat glandular-hispid, globose, in fruit 8-10 mm. thick; sepals narrowly lanceolate, caudate-attenuate, about 2 cm. long, often with a few subulate lateral lobes, glandular-hispid on the back; petals about 12 mm. long, emarginate; achenes inserted in the bottom of the hypanthium.

TYPE LOCALITY: Exact locality not given, but the type was collected in the vicinity of Eustis, Lake County, Florida.

DISTRIBUTION: Florida.



**35. *Rosa rudiuscula* Greene, Leaflets 2: 134. 1911.**

Stem stout, mostly simple, about 1 m. high, terete, gray, bristly and armed with very small prickles, which are very slender and 3–5 mm. long; stipules adnate, narrow, mostly entire, densely pubescent and glandular on the back, about 1 cm. long, the free portion ovate or lanceolate and spreading; petiole and rachis densely pubescent and glandular; leaflets 5 or 7, mostly crowded, subcoriaceous, coarsely serrate, elliptic or oval, acute at each end, 2–3 cm. long, dark-green, glabrous and shining above, paler and densely pubescent beneath; flowers corymbose; pedicels very short, rarely 1 cm. long, usually densely glandular-hispid; hypanthium globose, glandular-hispid, in fruit 12 mm. thick and red; sepals lanceolate, caudate-attenuate, 15–20 mm. long, glandular on the back, mostly entire, reflexed, at last deciduous in fruit, styles distinct, persistent, not exserted; achenes inserted in the bottom of the hypanthium.

TYPE LOCALITY: Northwestern part of Missouri. [More exactly supplied from the label: Little Blue, Jackson County.]

DISTRIBUTION: Iowa and Missouri to Oklahoma.

**36. *Rosa Treleasei* Rydberg, sp. nov.**

Stems slender, terete, reddish, 5–10 dm. high, armed with slender, terete, straight, dark-brown infrastipular prickles, which are 5–10 mm. long; young stems more or less bristly; stipules adnate, narrow, about 1 cm. long, glabrous, entire, the free portion lanceolate, ascending; petioles and rachis glabrous, sparingly armed with bristles or weak prickles; leaflets 5, subcoriaceous, lanceolate or lance-elliptic, acute, 2–4 cm. long, sharply serrate, acute at both ends, glabrous on both sides or sparingly pubescent on the veins beneath; flowers solitary or in pairs; pedicels 2–3 cm. long, sparingly glandular-hispid; hypanthium globose, sparingly glandular-hispid, in fruit bright red, about 1 cm. thick; sepals lanceolate, caudate-attenuate, soon deciduous; achenes inserted in the bottom of the hypanthium.

Type collected at Alden Bridge, Louisiana, June 30, 1898, *Trelease* (herb. Mo. Bot. Gard.).

**37. *Rosa texarkana* Rydberg, sp. nov.**

Stems terete, 1 m. high, slender, armed with slender, terete, straight prickles, which are 5–8 mm. long, as well as conspicuously bristly; stipules adnate, about 1 cm. long, rather narrow, glabrous, densely dentate on the margin, the teeth ending in stipitate glands, the free portion lanceolate and more or less spreading; petiole and rachis copiously glandular-hispid and somewhat prickly; leaflets subcoriaceous, 1–4 cm. long, elliptic or oval, acute at both ends, sharply serrate, glabrous on both sides, or puberulent beneath, dark and shining above, paler beneath; flowers corymbose; pedicels 1–1.5 cm. long, sparingly glandular-hispid; hypanthium globose or slightly depressed, in fruit 10–12 mm. thick, sparingly glandular; sepals lanceolate, glandular on the back, caudate-attenuate, soon deciduous; achenes inserted in the bottom of the hypanthium.

Type collected on railroad north of Texarkana, Arkansas, July 24, 1896, *H. Eggert* (herb. Mo. Bot. Gard.).

DISTRIBUTION: Arkansas and northern Mississippi.

VIII. **Cinnamomeae.** Upright species with new shoots usually more or less bristly, old stems and branches either unarmed or bristly, or armed with infrastipular prickles which sometimes are paired; stipules adnate, the upper usually dilated; leaflets 5–11; sepals usually entire or some of them with a few lobes, erect and persistent after anthesis; hypanthium glabrous or rarely bristly; achenes inserted on the inner walls of the hypanthium as well as in the bottom; styles rarely exserted from the mouth of the hypanthium. Native species, except *R. spinosissima* and *R. rugosa*.

**38. *Rosa subglauca* Rydberg, sp. nov.**

Stem erect, about 5 dm. high, apparently dying back to near the base, densely bristly, otherwise glabrous, terete, simple or somewhat branched above; stipules adnate, 1.5–2.5 cm.

long, rather broad, glabrous and glaucous, glandular-denticulate on the margins, the free portion ovate or lanceolate, acute, ascending; rachis and petiole glabrous, sometimes glandular; leaflets 7-9, obovate, rounded at the apex, acute at the base, short-petioluled, coarsely serrate, glabrous and glaucescent on both sides, 2-4 cm. long; flowers corymbose at the end of the annual stem and of its branches; pedicels glabrous, 1-3 cm. long, glabrous; hypanthium globose, glabrous, in fruit 12-15 mm. thick; sepals lanceolate, caudate-acuminate, about 2 cm. long, sparingly glandular on the back, tomentose on the margins and within, in fruit erect and persistent; petals about 2 cm. long, obcordate; styles persistent, distinct, non-exserted; achenes inserted both in the bottom and on the sides of the hypanthium.

Type collected six miles east of Battle River, Saskatchewan, August 15, 1906, *Macoun & Herriot* 70943 (herb. N. Y. Bot. Gard.).

DISTRIBUTION: Saskatchewan (and Iowa?).

### 39. *Rosa arkansana* Porter; Porter & Coult. Syn. Fl. Colo. 38. 1874.

*Rosa blanda arkansana* Best, Bull. Torrey Club 17: 145. 1890.

*Rosa Rydbergii* Greene, Leaflets 2: 133. 1911.

Stem erect, 2-4 dm. high, from a rootstock or short caudex, copiously bristly, mostly simple, killed back to near the root; stipules adnate, dilated, 1-2.5 cm. long, glabrous or nearly so, glandular-toothed and ciliate, sometimes glandular-granuliferous on the back; rachis and petiole glabrous or sparingly pilose, sometimes glandular; leaflets 9 or 11, elliptic, acute at both ends, 1.5-6 cm. long, glabrous and shining above, wholly glabrous beneath or sparingly pilose on the veins, coarsely and sharply serrate; inflorescence corymbose at the end of the stem; peduncles 1-3 cm. long, glabrous; hypanthium subglobose, glabrous, without a neck, in fruit 12-15 mm. broad; sepals lanceolate, caudate-acuminate, 1-1.5 cm. long, somewhat glandular on the back, in fruit ascending or erect, persistent; petals obcordate, 2-2.5 cm. long; styles persistent, distinct, not exserted; achenes inserted on the bottom and sides of the hypanthium.

TYPE LOCALITY: Banks of the Arkansas near Cañon City, Colorado.

DISTRIBUTION: Wisconsin and Minnesota to Kansas and Colorado.

### 40. *Rosa Lunellii* Greene, Leaflets 2: 132. 1911.

Stem erect, simple, 1-3 dm. high, densely bristly, glabrous, terete; sepals adnate, 1-2 cm. long, the lower mostly narrow, the upper broad, glabrous or nearly so, sometimes glandular, entire or gland-toothed on the margins; petioles and rachis glabrous or sparingly puberulent, sometimes glandular; leaflets 7-9, elliptic or oval, serrate, 1-2.5 cm. long, glabrous on both sides or sparingly pubescent on the veins beneath, obtuse at the apex, acute at the base; flowers 1-3; pedicels 1-2 cm. long, glabrous; hypanthium globose, glabrous, in fruit orange-red and 10-12 mm. thick; sepals about 15 mm. long, lanceolate, caudate-acuminate, glandular on the back, tomentose on the margin and within, in fruit erect and persistent; petals rarely 2 cm. long, obcordate; styles persistent, distinct, not exserted; achenes inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Border of Devil's Lake, North Dakota.

DISTRIBUTION: Manitoba and North Dakota to northern Nebraska.

### 41. *Rosa suffulta* Greene, Pittonia 4: 12. 1899.

*Rosa stricta*  $\beta$  Borrer; Hook. Fl. Bor. Am. 1: 200. 1832.

*Rosa blanda setigera* Crépín, Bull. Soc. Bot. Belg. 15: 33, in part. 1876.

*Rosa arkansana* S. Wats. Proc. Am. Acad. 20: 341. 1885. Not *R. arkansana* Porter. 1874.

*Rosa blanda arkansana* Best, Bull. Torrey Club 17: 145, in part. 1890.

*Rosa virginiana arkansana* MacM. Metasp. Minn. Valley 304. 1892.

*Rosa pratincola* Greene, Pittonia 4: 13. 1899. Not *R. pratincola* A. Br. 1888.

*Rosa arkansana suffulta* Cockerell, Bull. Torrey Club 27: 88. 1900.

*Rosa pratincola* f. *alba* Rehder, Mitt. Deuts. Dendr. Ges. 19: 252. 1910.

*Rosa heliophila* Greene, Leaflets 2: 132. 1911.

*Rosa pratincola angustiarum* Cockerell; Daniels, Univ. Missouri Stud. Sci. 2: 148. 1911.

*Rosa pratincola setulosa* Cockerell; Daniels, Univ. Missouri Stud. Sci. 2: 148. 1911.

*Rosa heliophila foliosissima* Lunell, Am. Midl. Nat. 2: 157. 1912.

*Rosa dulcissima* Lunell, Am. Midl. Nat. 2: 287. 1912.

*Rosa arkansanoides* C. K. Schneid. Handb. Laubh. 2: 971. 1912.

*Rosa gratiosa dulcissima* Lunell, Am. Midl. Nat. 3: 137. 1913.

*Rosa angustiarum* Cockerell, Torreya 18: 180. 1918.

Stem erect, 3–5 dm. high, rarely higher, from a rootstock or short caudex, usually simple, dying back to near the ground, densely bristly, green; stipules adnate, usually dilated, 1.5–2 cm. long, densely and finely pubescent, rarely somewhat glandular on the back, but glandular-dentate on the margins; leaflets usually 9 or 11, obovate, acute at the base, usually obtuse or rounded at the apex, 1.5–4 cm. long, light-green, finely and rather densely pubescent on both sides or in age glabrate above, densely serrate; rachis and petioles finely pubescent, rarely glandular or bristly; flowers corymbose at the end of the stem; pedicels 1–2 cm. long, glabrous; hypanthium globose, glabrous or rarely bristly, in fruit about 1 cm. broad; sepals lanceolate, caudate-attenuate, usually entire, 1–1.5 cm. long, tomentose within and on the margin, somewhat glandular on the back, after anthesis ascending and usually persistent or tardily deciduous; styles distinct, persistent, not exserted; achenes inserted in the bottom and on the lower sides of the hypanthium.

TYPE LOCALITY: Las Vegas, New Mexico.

DISTRIBUTION: Illinois to western Texas, New Mexico, Alberta, and Manitoba; also collected in the District of Columbia.

ILLUSTRATIONS: Willm. Gen. Rosa pl. opp. 315; Britt. & Brown, Ill. Fl. f. 1968 (as *R. arkansana*); ed. 2. f. 2310 (as *R. pratincola*).

#### 42. *Rosa alcea* Greene, Leaflets 2: 63. 1910.

Stem low, 1–3 dm. high, terete, densely bristly, even the floral branches; stipules adnate, 1–1.5 cm. long, puberulent, and glandular-hispid and even bristly on the back, glandular-ciliate on the margins, rather broad, the free portion ovate, acute; rachis and petiole puberulent and glandular; leaflets 7–9, elliptic-obovate, rounded at the apex, cuneate at the base, 1–1.5 cm. (rarely 1.5–2 cm.) long, serrate, glabrous above, finely and densely pubescent and strongly veined beneath; flowers solitary or few together; bracts densely glandular, pedicels glabrous or sparsely glandular, 1–2 cm. long; hypanthium globose, usually glandular-bristly; sepals lanceolate, 15 mm. long, caudate-attenuate, glandular-hispid on the back; petals obcordate, 15 mm. long; styles distinct, persistent, not exserted; achenes inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Moose Jaw, Assiniboia [now Saskatchewan].

DISTRIBUTION: Saskatchewan, Manitoba, and North Dakota.

#### 43. *Rosa conjuncta* Rydberg, sp. nov.

Stem erect, simple, about 5 dm. high, glabrous, densely bristly; stipules adnate, about 2 cm. long, finely and densely pubescent, entire or denticulate, the free portion ovate, acute; rachis and petiole densely puberulent; leaflets mostly 9, oblanceolate or elliptical, acute, sharply serrate, short-petioluled, 2–5 cm. long, glabrous and glaucous above, densely puberulent beneath; flowers corymbose at the end of the stem; pedicels 1–3 cm. long, glabrous; hypanthium subglobose, acute at the base, glabrous, about 15 mm. thick in fruit; sepals lanceolate, caudate-acuminate, about 2 cm. long, usually some of them with linear lobes, glandular-hispid on the back, in fruit persistent but reflexed; styles distinct, persistent, not exserted; achenes inserted, both in the bottom and on the sides of the hypanthium.

Type collected in Atchison County, Missouri, August 23, 1893, *Bush 101* (herb. Columbia Univ.).

DISTRIBUTION: Missouri.

#### 44. *Rosa polyanthema* Lunell, Am. Midl. Nat. 3: 138. 1913.

Stem erect, 5–15 dm. high, covered with numerous slender prickles or bristles, otherwise glabrous, the branches from the upper axils usually soon overtopping the inflorescence; stipules adnate to the petioles, very narrow, entire, densely pubescent beneath, glandular on the margins, the free portion lanceolate, short-villous and more or less glandular, often glandular-bristly; leaflets 7–11, mostly 9, oval or obovate, cuneate at the base, obtuse or acutish at the apex, 2.5–5 cm. long, serrate, glabrate or nearly so above, short-pubescent beneath;



flowers corymbose; pedicels 2–4 cm. long; hypanthium globose, glabrous, in fruit 15–20 mm. broad; sepals lanceolate, caudate-attenuate, usually entire, about 1.5 cm. long, tomentose within, glandular and pubescent without, after anthesis ascending, and persistent; styles distinct, persistent, not exserted; achenes inserted in the bottom and on the lower part of the sides of the hypanthium.

TYPE LOCALITY: Banks of the Missouri, not far from Bismarck, Burleigh County, North Dakota.  
DISTRIBUTION: Type locality and vicinity.

#### 45. *Rosa Bushii* Rydberg, sp. nov.

Stem terete, branched, about 1 m. high, densely bristly but not prickly, dark-brown; stipules adnate, entire, narrow or the upper dilated, 1–1.5 cm. long, grayish-pubescent; rachis and petiole pubescent but not glandular; leaflets obovate or elliptic, 1–2.5 cm. long, acute at the base, obtuse or rounded at the apex, finely serrate, dark-green, glabrous or sparingly pubescent above, softly pubescent beneath; flowers corymbose; pedicels 1–2.5 cm. long, glabrous; hypanthium pear-shaped, acute at the base, in fruit 10–12 mm. thick, glabrous; sepals narrowly lanceolate, caudate-acuminate, glandular-hispid on the back, in age erect and persistent; styles not exserted, distinct, persistent; achenes inserted on the side walls as well as in the bottom of the hypanthium.

Type collected at Courtney, Missouri, July 2, 1909, *Bush 5860* (type in herb. N. Y. Bot. Gard.).

#### 46. *Rosa collaris* Rydb. Fl. Rocky Mts. 441. 1917.

Stem bristly but not copiously so, yellowish green, about 1 m. high; branches also somewhat bristly or unarmed; stipules mostly dilated, adnate, glandular-dentate, 1–2 cm. long, slightly puberulent, the free portion ovate or lanceolate, acute; petiole and rachis somewhat puberulent and glandular; leaflets mostly 5, oval, coarsely serrate, 1–3 cm. long, glabrous above, finely puberulent beneath; flowers solitary or 2–4 together; pedicels 1–2 cm. long, glabrous; hypanthium small, ellipsoid, contracted into a rather long neck, glabrous; sepals 8–10 cm. long, lanceolate, attenuate with rather short tips, tomentose along the margin, glabrate on the back, in fruit erect and persistent; achenes rather few, inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Pinchurst, Idaho.  
DISTRIBUTION: Idaho and eastern Washington.

#### 47. *Rosa Butleri* Rydberg, sp. nov.

Stem about 1 m. high, densely bristly, dark-brown, terete, without infrastipular prickles; branches usually also densely bristly; lower stipules narrow, the upper dilated, adnate, glandular-denticulate on the margins, glandular-pruinose on the back, the free portion lanceolate or ovate, ascending; petiole and rachis glandular-pruinose; leaflets 5 or 7, obovate, rounded at the apex, cuneate at the base, 1–4 cm. long, coarsely serrate except towards the base, dark-green and glabrous above, paler, sparingly pubescent and glandular-pruinose beneath; flowers mostly solitary; pedicels 1–3 cm. long, glabrous; hypanthium glabrous, ellipsoid, with a distinct neck; sepals narrowly lanceolate, caudate-attenuate and often with dilated tips, 2–3 cm. long, after anthesis erect and persistent; petals rose-colored, obovate, about 3 cm. long; styles distinct, persistent, not exserted; achenes inserted in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Helena, Montana, June 28, 1908, *B. T. Butler 796* (herb. N. Y. Bot. Gard.).  
DISTRIBUTION: Western Montana and southwestern British Columbia.

#### 48. *Rosa Engelmanni* S. Wats. Garden & Forest 2: 376. 1889.

*Rosa acicularis Engelmanni* Crépín; L. H. Bailey, Cycl. Am. Hort. 1555. 1902.

Stem low, 3–5 dm. high, densely bristly but rarely prickly; floral branches usually also bristly; stipules adnate, rather narrow or the upper more or less dilated, rarely pubescent, but conspicuously glandular-granuliferous and glandular-ciliate, 1–2 cm. long, the free portion usually ovate; petioles and rachis more or less glandular; leaflets 5 or 7, oval, 1–3 cm. long,

usually obtuse at the base and acute at the apex, more or less doubly glandular-serrate, shining above, paler beneath, glabrous on both sides, glandular-granuliferous beneath; flowers usually solitary; pedicels glabrous, 1-2.5 cm. long; hypanthium decidedly ellipsoid or pear-shaped, in fruit 8-10 mm. thick and 12-15 mm. long, with a distinct neck, and tapering at the base; sepals lanceolate, caudate-attenuate, entire, nearly 2 cm. long; tomentose within and on the margins, slightly if at all glandular, in fruit erect and persistent; petals broadly obcordate, about 2.5 cm. long; styles persistent, distinct, not exserted; achenes inserted in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Empire City, Colorado.

DISTRIBUTION: North Dakota and southern Montana to Colorado.

ILLUSTRATIONS: Garden & Forest 2: f. 121; Dippel, Handb. Laubh. 3: f. 245; Stand. Cycl. Hort. f. 3454; Clements, Rocky Mt. Fl. pl. 25, f. 1 (in part, ellipsoid fruit; as *R. acicularis*).

#### 49. *Rosa acicularis* Lindl. Ros. Monog. 44. 1820.

*Rosa Sayi* Schw. in Keating, Narr. Exp. Long 2: 388. 1824.

*Rosa stricta* Macoun & Gibson, Trans. Bot. Soc. Edinb. 12: 324. 1875.

*Rosa Engelmanni* S. Wats. Garden & Forest 2: 376, in part. 1889.

Stem low, about 1 m. high, according to Lindley "about 8 feet high," densely covered with straight bristles or weak prickles; branches bristly or sometimes unarmed; stipules adnate, usually broad, in the American form pubescent, more or less glandular-granuliferous and glandular-ciliate, about 1.5 cm. long; leaflets 3-7, usually 5, elliptic or oval, 1.5-5 cm. long, usually simply and regularly serrate, entire towards the base, usually acute at both ends, dull and glabrous above, pale and finely and usually rather densely pubescent, in the American form sometimes somewhat glandular-granuliferous beneath; flowers usually solitary; pedicels 2-4 cm. long, rarely slightly glandular-hispid; hypanthium glabrous, pear-shaped or elliptic, acute at the base, in fruit 1-1.5 cm. broad and 1.5-2 cm. long, usually with a neck; sepals lanceolate, about 2 cm. long, tomentose on the margins and within, pubescent and more or less glandular on the back, caudate-acuminate, in fruit erect and persistent; petals obcordate, 2-2.5 cm. long; styles distinct, persistent, not exserted; achenes inserted in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Siberia.

DISTRIBUTION: Alaska to Wyoming, Michigan and northern New York; also in Siberia.

ILLUSTRATIONS: Lindl. Ros. Monog. pl. 8; Willm. Gen. Rosa pls. opp. 146; pl. opp. 235 (as *R. Woodsii*); Dippel, Handb. Laubh. 3: f. 244.

*Rosa acicularis* × *blanda*. See under *R. blanda*.

*Rosa acicularis* × *carolina*. See under *R. carolina*.

*Rosa acicularis* × *Fendleri*. This resembles *R. acicularis* in the elongate fruit and soft pubescent lower surface of the leaves, but the stem is less bristly and bears some comparatively stout prickles, and the leaflets are decidedly obovate; the stipules are broad, and glandular as well as pubescent. Golden, British Columbia, J. K. Henry.

*Rosa acicularis* × *muriculata*. This has the fruit of *R. acicularis*, ellipsoid with a distinct neck, and the form of the leaflets of that species, but the leaflets are glandular double-toothed and decidedly glandular-muriculate as in *R. muriculata*. The stem is both bristly and prickly, the prickles being large as in the latter species. Naramantha, on the shores of Lake Okonagon, British Columbia, J. K. Henry.

*Rosa acicularis* × *nutkana*. This hybrid has the bristly stems, the elongate hypanthium, and the narrow, elliptic leaflets of *R. acicularis*, but the bristles are stronger, some of them stout and nearly 1 cm. long, the leaflets are often double-toothed and much less hairy beneath than in *R. acicularis*. Helena, Montana, June 28, 1908, B. T. Butler 819.

#### 50. *Rosa Bourgeauiana* Crépin (Bull. Soc. Bot. Belg. 14: 9, hyponym. 1875); Rydb. Fl. Rocky Mts. 442. 1917.

*Rosa majalis* Borrer; Hook. Fl. Bor. Am. 1: 200. 1832. Not *R. majalis* Herrm. 1762.

*Rosa Sayi* S. Wats. Proc. Am. Acad. 20: 340. 1885. Not *R. Sayi* Schw. 1824.

*Rosa acicularis Bourgeauiana* Crépin, Bull. Soc. Bot. Belg. 15: 30. 1876.

*Rosa acicularis Sayi* Rehder; L. H. Bailey, Cycl. Am. Hort. 1555. 1902.

Stem usually low, 3 or 10 dm. high, densely covered with straight bristles or weak prickles, but without infrastipular prickles; stipules adnate, usually dilated, 15-20 mm. long, slightly, if at all, pubescent, usually glandular-granuliferous beneath, glandular-dentate or glandular-ciliate, the free portion lanceolate or ovate; petioles and rachis somewhat pubescent and glandular; leaflets usually 5 or 7, broadly elliptic, 1.5-5 cm. long, usually rounded or obtuse at both ends,

nearly sessile, more or less double-serrate with glandular teeth, thin, glabrous or nearly so above, paler, slightly pubescent, and glandular-granuliferous beneath; flowers usually solitary, rarely 2 or 3; pedicels 1-3 cm. long, glabrous; hypanthium subglobose or rounded-elliptic, glabrous, in fruit 12-15 mm. broad, with very short neck; sepals lanceolate, caudate-acuminate, about 2 cm. long, tomentose within and on the margin, slightly if at all glandular, after anthesis erect, connivent, and persistent; petals broadly obcordate, 2-2.5 cm. long, rose-colored; styles distinct, persistent, not exserted; achenes inserted in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Basin of Saskatchewan.

DISTRIBUTION: Ontario to Colorado, Montana, and Mackenzie.

ILLUSTRATIONS: Britt. & Brown, Ill. Fl. f. 1967; ed. 2. f. 2309 (as *R. acicularis*); Cycl. Am. Hort. f. 2161; Stand. Cycl. Hort. f. 3453; Clements, Rocky Mt. Fl. pl. 25, f. 1 (in part, round fruit, as *R. acicularis*).

*Rosa Bourgeauiana* × *Fendleri*. See under *R. Fendleri*.

*Rosa Bourgeauiana* × *Macounii*. See under *R. Macounii*.

*Rosa Bourgeauiana* × *melina*. See under *R. melina*.

*Rosa Bourgeauiana* × *nutkana*. This resembles *R. Bourgeauiana* in the numerous bristles or rather weak prickles, but the prickles are stronger than in that species and many of them have broadened bases; the leaves are also firmer and conspicuously double-toothed as in *R. nutkana*. South Judith River, Montana, September 1, 1896, *J. H. Flodman* 613, and elsewhere in Montana

### 51. *Rosa acicularioides* Schuetten, Proc. Am. Assoc. Adv. Sci. 46:

279. 1898.

Stem perhaps 5 dm. high, densely bristly, especially the young shoots; floral branches sparingly so or unarmed; stipules 1.5-2 cm. long, usually broad, especially those of the upper leaves, puberulent and glandular on the back, glandular-ciliate on the margins, the free portion ovate; petiole and rachis puberulent and glandular; leaflets 7-9, elliptic, obtuse or acutish, 1.5-3 cm. long, mostly glandular double-serrate, finely puberulent above, pale and villous beneath; flowers corymbose; bracts conspicuous, ovate, puberulent and glandular; hypanthium subglobose, glabrous, with a short neck, in fruit about 1 cm. in diameter; sepals about 1.5 cm. long, caudate-attenuate, entire, densely glandular on the back, in age erect and persistent; styles distinct, scarcely exserted; achenes inserted on the sides as well as in the bottom of the hypanthium.

TYPE LOCALITY: [According to label in Gray Herbarium, Lily Bay, Door County,] Wisconsin.

DISTRIBUTION: Type locality and vicinity.

*Rosa acicularioides* × *carolina*. Resembles *R. acicularioides* in habit, pubescence, and leaves, but is perhaps more prickly, with glandular-hispid hypanthium and pedicels, and with more deciduous sepals. Lily Bay, Door County, Wisconsin, *Schuetten*.

### 52. *Rosa rugosa* Thunb. Fl. Jap. 213. 1784.

Stem 1-2 m. high, densely covered with bristles and prickles; branches and even bristles and prickles pubescent, often almost tomentose; stipules adnate, usually dilated, densely villous-tomentose and somewhat glandular, the free portion ovate; petioles and rachis tomentose-villous and more or less prickly; leaflets 5-9, oval, 1.5-5 cm. long, thick, rugose, strongly veined and reticulate beneath, shining and dark green above, densely grayish-pubescent beneath, mostly acute at the apex, rounded at the base, serrate with broad, rather blunt teeth; flowers solitary or a few together; sepals lanceolate, gradually caudate-attenuate, 2.5-3 cm. long, in fruit erect; petals purple or white, 2.5-3 cm. long; hypanthium globose or depressed-globose, 2-2.5 cm. in diameter; styles distinct, not exserted; achenes inserted on the inner walls as well as in the bottom of the hypanthium.

TYPE LOCALITY: Japan.

DISTRIBUTION: Cultivated and occasionally escaped; established in Connecticut and on Nantucket Island; native of China and Japan.

ILLUSTRATIONS: Lindl. Ros. Monog. pl. 19; Sieb. & Zucc. Fl. Jap. pl. 28; Bot. Reg. 5: pl. 420; Cycl. Am. Hort. f. 2148a, 2162, 2163, 2164; Gartenflora 30: pl. 1049; 42: f. 108; Gard. Chron. II. 14: f. 72; Garden 55: 434; Am. Gard. 13: 342, f. 1; 344, f. 3; Willm. Gen. Rosa pl. opp. 181; Stand. Cycl. Hort. f. 3447, 3448.



53. *Rosa subblanda* Rydberg.

*Rosa blanda* Jacq. Fragm. *pl.* 107. 1809. Not *R. blanda* Ait. 1789.  
*Rosa fraxinifolia* Lindl. Ros. Monog. 26, in part. 1820. Not *R. fraxinifolia* Borkh. 1790.  
*Rosa blanda glabra* Crépin, Bull. Soc. Bot. Belg. 15: 33. 1876.

Stem 1–2 m. high, unarmed or the young shoots sparingly bristly, purple, often with a bloom; branches usually wholly unarmed; stipules adnate, more or less dilated, glabrous, 1–2 cm. long, glandular-dentate but otherwise rarely glandular, the free portion usually ovate; petiole and rachis glabrous or with some scattered hairs, sometimes a little glandular; leaflets 7 or 9, oval or obovate, mostly acute at both ends, glabrous on both sides, dull green above, pale beneath, sharply serrate with lanceolate ascending teeth, 1.5–5 cm. long; flowers solitary or in few-flowered corymbs; pedicels 1–3 cm. long, glabrous; hypanthium subglobose, glabrous, in fruit 10–12 mm. broad; sepals lanceolate, caudate-acuminate, somewhat glandular on the back, tomentose within, about 1.5 cm. long, after anthesis erect, persistent; petals obcordate, 2.5–3 cm. long; styles distinct, persistent, non-exserted.

TYPE LOCALITY: North America.

DISTRIBUTION: New Hampshire to Michigan; Manitoba; perhaps also Iowa.

ILLUSTRATIONS: Jacq. Fragm. *pl.* 107; Bot. Reg. 6: *pl.* 458; Loud. Arb. *pl.* 480; Willm. Gen. Rosa *pl.* opp. 307; *pl.* opp. 308.

54. *Rosa blanda* Ait. Hort. Kew. 2: 202. 1789.

*Rosa Solandri* Tratt. Ros. Monog. 2: 150. 1823.  
*Rosa blanda pubescens* Crépin, Bull. Soc. Bot. Belg. 15: 33. 1876.  
*Rosa gratiosa* Lunell, Am. Midl. Nat. 2: 154. 1912.

Stem 1–2 m. high, unarmed or when young with scattered bristles, brown, but without bloom; branchlets unarmed; stipules dilated, adnate, 1–2 cm. long, finely pubescent, glandular-dentate, rarely glandular, the free portion ovate; petiole and rachis finely pubescent; leaflets 5 or 7, rarely 9, oval or obovate, coarsely toothed, dull and glabrous above, paler and finely pubescent, usually densely so, beneath, 2–6 cm. long; flowers solitary or in few-flowered corymbs; pedicels 1–3 cm. long, glabrous; hypanthium glabrous, subglobose, without a neck, rounded at the base, in fruit about 12 mm. broad; sepals lanceolate, caudate-acuminate, glandular on their back, tomentose within, about 15 mm. long, after anthesis erect and persistent; styles distinct, persistent, not exserted; achenes inserted in the bottom and on the lower portion of the sides of the hypanthium.

TYPE LOCALITY: Hudson Bay.

DISTRIBUTION: Anticosti to Connecticut, Pennsylvania, Missouri, North Dakota and Manitoba.

ILLUSTRATIONS: Miller & Whiting, Wild Fl. 152; Newhall, Shrubs NE. Am. *f.* 39; Britt. & Brown, Ill. Fl. *f.* 1966; ed. 2. *f.* 2308; G. T. Stevens, Ill. Guide *pl.* 70, *f.* 2.

*Rosa acicularis* × *blanda*. *Rosa blanda glandulosa* Schuette, Proc. Am. Assoc. Adv. Sci. 46: 279. 1898 (a slightly glandular form). This hybrid resembles *R. blanda* in habit and leaf-form, the leaflets being inclined to be obovate and rounded at the apex; but the fruit is more like *R. acicularis*, being ellipsoid or pear-shaped, with a neck; the pubescence of the leaves beneath is longer than in the former and finer than in the latter. Along Lake Michigan, near Chesterton, Indiana, August 22, 1915, C. C. Deam 18002. Indiana to Wisconsin.

*Rosa blanda* × *virginiana*. This resembles *R. blanda* in habit, having the young shoots bristly and the branches unarmed, and the pubescent leaves of that species, but the inflorescence is more corymbose, the pedicels and hypanthium have occasionally glandular hairs and the leaflets are firmer, dark-green and shining above as in *R. virginiana*. It lacks the stout prickles of that species. Point Abino, on Lake Erie, Ontario, August 28, 1896, J. K. Small.

55. *Rosa anacantha* Greene, Leaflets 2: 265. 1912.

Stem about 2 m. high, red or purplish, wholly unarmed; leaves 5–7-foliate; stipules short, about 1 cm. long, velvety pubescent, entire; petioles and rachis velvety pubescent, rarely with a few small straight prickles; leaflets rather firm, oval, 1.5–3 cm. long, pale and dull on both sides, minutely puberulent or glabrate above, somewhat paler and densely puberulent beneath; flowers corymbose, leafy-bracted; hypanthium glabrous, subglobose, in fruit 8–10 mm. in diameter; sepals densely puberulent, not glandular, lanceolate, caudate-attenuate, 15–20 mm. long, erect and persistent in fruit; styles distinct, not exserted, persistent; achenes inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Salt marshes near Tacoma, Washington.

DISTRIBUTION: Known only from the type locality.

56. *Rosa Williamsii* Fernald, *Rhodora* 20: 95. 1918.

Stem 3-5 dm. high, unarmed or sparsely setose below, purplish; branchlets unarmed, glabrous; stipules dilated, adnate, 1-2 cm. long, glandular-pulverulent beneath, conspicuously glandular-ciliate, the free portion semi-ovate; petiole and rachis glandular-pulverulent and glandular-setulose; leaflets 5-7, mostly 7, cuneate-obovate, chiefly rounded or subtruncate at summit, coarsely and simply or doubly serrate above the middle, short-pilose on both surfaces, glandular on the nerves beneath, 1-3.5 cm. long; flowers solitary or paired; pedicels 1-1.5 cm. long, glabrous; hypanthium glabrous, ovoid, in anthesis 3.5-4.5 mm. thick, in fruit becoming pyriform, with attenuate base, succulent, 1.1-1.3 cm. long, 7-8 mm. thick; sepals lance-ovate, glabrous or pilose on the back, more or less glandular-ciliate, after anthesis tightly reflexed and persistent, the blade 5-7 mm. long, the foliaceous glandular-ciliate appendage 4-8 mm. long; petals roseate, 1.7-2 cm. long; styles distinct, persistent, not exserted; achenes borne in at the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Bic, Quebec.

DISTRIBUTION: Known only from the type region.

57. *Rosa johannensis* Fernald, *Rhodora* 20: 94. 1918.

Stem 0.3-1 m. high, the adult unarmed or setose at base, reddish, the young more or less setose or rarely with straight broad-based prickles; branchlets unarmed, glabrous, shining, usually purplish; stipules dilated, adnate, 1.5-3 cm. long, glabrous except the ciliate margin, somewhat glandular-dentate, the free portion lance-ovate; petiole and rachis glabrous or glabrate, unarmed; leaflets 5-9, mostly 7, oval or narrowly obovate, coarsely serrate, somewhat shining above, pale beneath, glabrous or sparsely pilose on the veins beneath, 1.5-5.5 cm. long; flowers solitary or corymboid; pedicels 1-3 cm. long, glabrous; hypanthium glabrous, subglobose, without a neck, rounded at base, in anthesis 5-9 mm. in diameter, in fruit 1-1.5 cm. in diameter, orange-red; sepals sparingly glandular, lance-ovate, caudate-appendaged, after anthesis divergent or reflexed, persistent, the blade 0.9-1.4 cm. long, the appendage 1.2-4 cm. long; petals roseate, 2.5-3.5 cm. long; styles distinct, persistent, not exserted; achenes borne in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Van Buren, Maine.

DISTRIBUTION: Banks of the St. John River and tributaries, New Brunswick and Maine.

*Rosa johannensis* × *palustris*. See under *R. palustris*.

58. *Rosa MacDougali* Holz. Bot. Gaz. 21: 36. 1896.

*Rosa nutkana hispida* Fernald, Bot. Gaz. 19: 335. 1894.

*Rosa nutkana MacDougali* Piper, Contr. U. S. Nat. Herb. 11: 335. 1906.

Stem erect, brown, glabrous, terete, 1-2 m. high, armed, usually with paired straight, rather stout infrastipular prickles 7-10 mm. long, occasionally also with scattered weaker prickles; floral branches 1-2 dm. long, with weaker prickles or unarmed; stipules adnate, 1-2 cm. long, the upper usually dilated, puberulent and somewhat glandular beneath, more or less glandular-dentate; petioles and rachis puberulent and slightly glandular; petioles 2-3 cm. long; leaflets usually 7, oval, acutish at both ends, or rounded at the base, 1.5-5 cm. long, coarsely and rather regularly toothed, glabrous or nearly so above, puberulent, but rarely slightly glandular beneath; flowers usually solitary, rarely corymbose; pedicels 1-3 cm. long, usually more or less glandular-bristly; hypanthium subglobose, densely bristly or prickly, without a neck, in fruit 12-18 mm. broad; sepals lanceolate, more or less glandular on the back, villous on the margins, tomentose within, 15-20 mm. long, caudate-attenuate; petals broadly obcordate, 2-3 cm. long, rose-colored; styles numerous, distinct, not exserted.

TYPE LOCALITY: [Not given, but supplied by inference from Contr. U. S. Nat. 3: 223. 1895, as] Farmington Landing, Idaho.

DISTRIBUTION: Northern Utah to British Columbia.

*Rosa MacDougali* × *ultramontana*. See under *R. ultramontana*.

59. *Rosa yainacensis* Greene, *Pittonia* 5: 109. 1903.

Stem low, depressed, armed with straight, long, sometimes numerous prickles; stipules adnate, densely glandular-denticulate on the margins; petiole and rachis with numerous short-

stalked glands and a few slender prickles; leaflets usually 7, rather approximate, oval or obovate, sessile, doubly serrate, glabrous and deep green above, pale and puberulent beneath, rarely 2 cm. long; flowers mostly solitary; pedicels densely glandular-hispid, especially so under the hypanthium; hypanthium globose, glabrous; sepals lance-oblong, caudate-acuminate and often with foliaceous tips, sparingly glandular-hispid and prickly; petals rose-colored, about 15 mm. long; styles distinct, not exerted, persistent.

TYPE LOCALITY: Hills of the Yainax Indian Reservation, Oregon.

DISTRIBUTION: Southern Oregon and northern California.

## 60. *Rosa nutkana* Presl, Epim. Bot. 203. 1851.

*Rosa fraxinifolia* Hook. Fl. Bor. Am. 1: 199. 1832. Not *R. fraxinifolia* Borkh. 1790.

*Rosa caryocarpa* Dougl.; Crépín, Bull. Soc. Bot. Belg. 15: 39, as a synonym. 1876.

*Rosa Lyalliana* Crépín, Bull. Soc. Bot. Belg. 15: 39, as a synonym. 1876.

*Rosa Woodsii* Regel, Acta Hort. Petrop. 5: 299. 1877. Not *R. Woodsii* Lindl. 1820.

Stems stout, erect, usually 1–1.5 m. high, round, usually dark-brown, armed usually with paired, large, straight prickles, which are somewhat flattened below, 6–12 mm. long; young shoots rarely slightly bristly; floral branches glabrous or nearly so, usually with smaller infra-stipular spines; stipules 1–2 cm. long, adnate to the petioles, dilated, especially the uppermost, mostly glabrous, strongly glandular-dentate on the margins, the free portion ovate, acute; petiole and rachis glandular-puberulent and sometimes slightly pubescent; petioles 1 cm. long or less; leaflets 5–9, usually 7, rounded-ovate, rounded at the both ends or acute at the apex, double-serrate with glandular teeth, 1.5–5 cm. long, dark-green and glabrous above, paler and somewhat glandular-puberulent, but rarely slightly pubescent beneath on the veins; flowers most commonly solitary, rarely 2–4 together; pedicels 2–3 cm. long, usually somewhat glandular-hispid; hypanthium glabrous; sepals lanceolate, caudate-acuminate, entire, often with foliaceous appendages at the apex, villous and glandular-ciliate on the margins, glabrous or rarely glandular on the back, tomentose within, 2–3 cm. long; petals rose-colored, rarely white, broadly obcordate, 2.5–3.5 cm. long; styles not exerted; hypanthium in fruit globose, without neck, 15–18 mm. in diameter, rarely acutish at the base; sepals persistent, ascending.

TYPE LOCALITY: Nootka Sound, British Columbia.

DISTRIBUTION: Alaska to Wyoming and Oregon (and northern California?).

ILLUSTRATIONS: Willm. Gen. Rosa pl. opp. 231; Garden & Forest 1: f. 70; Dippel, Handb. Laubh. 3: f. 246; Stand. Cycl. Hort. f. 3452.

*Rosa acicularis* × *nutkana*. See under *R. acicularis*.

*Rosa Bourgeauiana* × *nutkana*. See under *R. Bourgeauiana*.

*Rosa gymnocarpa* × *nutkana*. See under *R. gymnocarpa*.

*Rosa nutkana* × *pisocarpa*. This resembles *Rosa nutkana* in leaf-form, pubescence and the rather large fruit, but the inflorescence is corymbose and it has the large foliaceous bracts of *R. pisocarpa*. Savanaas, British Columbia, August 30, 1892, F. E. Lloyd.

*Rosa nutkana* × *pyrifera*. See under *R. pyrifera*.

## 61. *Rosa muriculata* Greene, Leaflets 2: 263. 1812.

*Rosa nutkana glandulosa* Crépín, in herb.

Stem stout, erect, 1 m. high or more, glabrous, dark-green or brown, armed with paired infrastipular prickles, which are straight, stout, slightly ascending, 8–10 mm. long, flattened below, glabrous; floral branches glabrous, unarmed or with weak prickles, 1–2 dm. long; stipules usually dilated, adnate, densely glandular-muricate, the free portion broadly oval; petioles and rachis strongly glandular and more or less prickly; leaflets 5 or 7, broadly oval or sub-rotund, rounded at the apex; glandular double-toothed, dark-green on both sides, glabrous above, conspicuously glandular-muricate beneath, 1.5–3 cm. (rarely 4 cm.) long; flowers 2 or 3 together or solitary; pedicels 1–3 cm. long, glandular; hypanthium subglobose, glabrous, in fruit 12–15 mm. in diameter, often acutish at the base; sepals ovate-lanceolate, caudate-acuminate, often foliaceously tipped, about 2 cm. long, glandular-hispid on the back; petals obcordate, 2–2.5 cm. long; styles distinct, persistent, not exerted. [Perhaps not distinct from *R. nutkana*.]

TYPE LOCALITY: Woodland, Cowlitz County, Washington.

DISTRIBUTION: British Columbia to Montana and northern California, usually near the coast.

*Rosa acicularis* × *muriculata*. See under *R. acicularis*.



62. *Rosa Brownii* Rydb. Bull. Torrey Club 44: 70. 1917.

Stem slender, terete, glabrous, green or brownish, armed with slender straight prickles, which are 5–8 mm. long, terete except the expanded depressed base; leaves 5–7-foliolate; stipules usually broad, 1–1.5 cm. long, pilose and somewhat glandular, the free portion ovate, acute; petiole and rachis finely pilose and more or less glandular; leaflets thin, 1–3 cm. long, serrate with some of the teeth double, broadly oval, acute at the apex, glabrate above, paler, pilose, and slightly glandular-muricate beneath; flowers mostly solitary; pedicels 1–2 cm. long, glabrous; hypanthium globose, glabrous, in fruit about 12 mm. in diameter; sepals lanceolate, caudate-acuminate, usually with foliaceous tips, about 2 cm. long, glabrate on the back, tomentose and slightly glandular-hispid around the margins, and tomentose within; petals broadly obovate, rose-colored, 1.5–2 cm. long; styles distinct, persistent, not exerted; achenes inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Mount Shasta, California.

DISTRIBUTION: Northern California.

63. *Rosa Spaldingii* Crépin, Bull. Soc. Bot. Belg. 15: 42. 1876.

*Rosa macrocarpa* Raf. Med. Fl. 2: 258. 1830. Not *R. macrocarpa* Mérat, 1812.

*Rosa cinnamomea* Borrer; Hook. Fl. Bor. Am. 1: 200. 1833. Not *R. cinnamomea* L. 1753.

*Rosa megacarpa* Nutt.; T. & G. Fl. N. Am. 1: 460, as a synonym. 1840.

*Rosa nutkana* S. Wats. Proc. Am. Acad. 20: 341, in part. 1885.

Stem erect, terete, brown, about 1 m. high, usually armed with straight paired prickles 5–10 mm. long; young shoots occasionally slightly hispid; floral branches glabrous, usually somewhat prickly; stipules adnate to the petioles, more or less dilated, finely puberulent and somewhat glandular-toothed, 1–2 cm. long, the free portion ovate or lanceolate, usually acute; petioles and rachis grayish-puberulent and sometimes slightly glandular; leaflets 5–7, oval or rounded-oval, coarsely and usually regularly toothed, but the teeth scarcely glandular, 1.5–5 cm. long, light-green and glabrous above, pale and puberulent beneath; flowers solitary or few; pedicels 2–3 cm. long, glabrous; hypanthium glabrous; sepals lanceolate, entire, caudate-attenuate, sometimes with foliaceous tips, about 2 cm. long, glabrous or very rarely glandular on the back, villous-tomentose on the margins and within; petals rose-colored, 2–3 cm. long; hypanthium in fruit globose, without neck, 12–18 mm. thick; sepals persistent, erect.

TYPE LOCALITY: Clear Water, Idaho.

DISTRIBUTION: British Columbia to Wyoming, Utah, and Oregon.

*Rosa pisocarpa* × *Spaldingii*. This most resembles *Rosa Spaldingii* in leaf-form, in pubescence and in the size of the flowers and fruit, but the flowers are corymbose and with the large foliaceous bracts characteristic of *R. pisocarpa*. Eastern Oregon, June 22 and September 25, 1900, *Cusick 2418* (herb. N. Y. Bot. Gard.). Perhaps a hybrid with *R. ultramontana* instead of *R. pisocarpa*.

64. *Rosa Underwoodii* Rydb. Bull. Torrey Club 31: 560. 1904.

Stem 1–2 m. high, dark-brown or purplish, in age gray, round, glabrous, armed with stout, recurved, paired infrastipular prickles, and also often with scattered ones, 5–10 cm. long; floral branches 1–2 dm. long, usually armed; stipules adnate, narrow or the upper ones dilated, 1–2 cm. long, puberulent, glandular-dentate, the free portion lanceolate, acute or acuminate; petiole and rachis puberulent and with sessile glands; leaflets 5–7, obovate or oval, 2–4 cm. long, usually obtuse, somewhat irregularly or doubly serrate, glabrous on both sides or finely puberulent and paler beneath; flowers usually solitary or two together; pedicels often glandular-hispid; hypanthium more or less pear-shaped, sparingly bristly, in fruit about 2–3 cm. long and 1.5–2 cm. broad; sepals lanceolate, caudate-acuminate, about 2 cm. long, erect and persistent in fruit, more or less glandular and pubescent on the back, tomentose within; petals obovate, about 2.5 cm. long and fully as wide; styles numerous, distinct, not exerted.

TYPE LOCALITY: Hills about Box Canyon, west of Ouray, Colorado.

DISTRIBUTION: Mountains of southern Colorado.

65. *Rosa Durandii* Crépin, Bull. Soc. Bot. Fr. 22: 19. 1875.*Rosa kamschatica* A. Gray, Proc. Am. Acad. 8: 382. 1872. Not *R. kamschatica* Vent. 1800.

Stem terete, brown, 2–3 m. high, armed with very stout prickles, which are about 1.5 cm. long, very flat, curved, puberulent; branches pubescent and densely glandular-hispid; stipules 2 cm. long, copiously glandular on the back, densely glandular-ciliate, the upper dilated, the free portions lance-ovate, somewhat falcate; petiole and rachis unarmed, pubescent and very glandular; leaflets 5–9, broadly oval, rounded at the base, acute at the apex, glabrous above, densely glandular-granuliferous beneath, double-toothed with gland-tipped teeth; flowers solitary or 2 or 3 together; pedicels 1–2 cm. long, densely glandular; hypanthium smooth or slightly glandular at the base, globose, in fruit 12–15 mm. broad; sepals entire, broadly-lanceolate, caudate-attenuate, about 1.5 cm. long, glandular on the back, tomentose on the margins and inside, in fruit erect and persistent; styles distinct, persistent, not exserted.

TYPE LOCALITY: Oregon.

DISTRIBUTION: Oregon (and western Idaho?).

66. *Rosa melina* Greene, Pittonia 4: 10. 1899.*Rosa pandorana* Greene; Rydb. Fl. Colo. 191. 1906.

Stem stout, much branched, about 1 m. high, red, terete, glabrous, armed with curved prickles, which are 3–8 mm. long, flattened at the base; floral branches 1–2 dm. long, armed or unarmed; stipules adnate, the lower narrow, the upper dilated, about 2 cm. long, glandular-denticulate on the margins, usually glandular-granuliferous on the back, the free portion lanceolate or ovate, more or less spreading; petioles and rachis more or less glandular; leaflets mostly 7, oval or obovate, coarsely serrate, 1.5–3 cm. long, glabrous or essentially so on both sides, sometimes somewhat glaucous; flowers mostly solitary; pedicels short, 1–2 cm. long, glabrous; hypanthium glabrous, globose, in fruit about 12 mm. thick; sepals lanceolate, caudate-attenuate, about 2 cm. long, sparingly glandular-hispid on the back, villous on the margins, in fruit erect and persistent; petals rose-colored, obcordate, 2–2.5 cm. long; styles distinct, persistent, not exserted; achenes inserted both in the bottom and on the sides of the hypanthium..

TYPE LOCALITY: Cerro Summit above Cimarron, Colorado.

DISTRIBUTION: Mountains of Colorado and Utah.

*Rosa Bourgeauiana* × *melina*. This resembles most *R. melina*, but the stem is erect, strict, densely prickly, the leaflets more coarsely toothed and the stipules and rachis glandular; the prickles are mostly straight or merely slightly curved. City Creek Canyon, near Salt Lake City, Utah, June 9, 1905, Rydberg 6140.

67. *Rosa aciculata* Cockerell, Proc. Acad. Phila. 56: 114. 1904.*Rosa blanda aciculata* Cockerell, Science Gossip 25: 188. 1889.

Stem low, much branched, 1–3 dm. high, at first purple, in age gray and the bark flaky, armed with curved prickles, which are 3–5 mm. long and flattened at the base; branches less than 1 dm. long, usually armed; stipules adnate, 1–2 cm. long, the lower narrow, the upper dilated, densely glandular on the margin and the back; rachis and petiole copiously glandular; leaflets 5 or 7, or on the young shoots 9, oval, acute or obtuse, 1–2 cm. long, more or less doubly-serrate, especially those of the young shoots, with ovate gland-tipped teeth; flowers solitary; pedicels 1–2 cm. long, glabrous or often more or less glandular-hispid; hypanthium globose, glabrous or glandular-hispid; sepals densely glandular-hispid, ovate-lanceolate, 1.5–2.5 cm. long, caudate-attenuate, sometimes slightly lobed; petals rose-colored or white, obcordate, about 2.5 cm. long; pistils persistent, distinct, not exserted; achenes inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Wet Mountain Valley, Colorado.

DISTRIBUTION: Colorado and Utah.

68. *Rosa oreophila* Rydb. Bull. Torrey Club 31: 561. 1904.*Rosa Bakeri* Rydb. Fl. Colo. 190, 191. 1906. Not *R. Bakeri* Déségl. 1864.

Stems 2–3 m. high, reddish, glossy, glabrous, mostly armed with weak curved prickles 5 mm. long, or rarely unarmed; stipules broad, adnate, 1–2 cm. long, finely puberulent and gland-

ular-denticulate on the margin, the free portion ovate, 5–7.5 mm. long; rachis and petiole finely pubescent and with sessile glands; leaflets 5–7, oval or ovate, 2–3.5 cm. long, acute or obtuse, glabrous and dark-green above, sparingly and finely pubescent and paler beneath, coarsely and simply serrate; flowers mostly solitary; pedicels 2–3 cm. long, glabrous and smooth; hypanthium glabrous, obovate, usually acute at the base, without distinct neck, when ripe fully 2 cm. long and 15–18 mm. broad; sepals narrowly lanceolate, acuminate, finely pubescent on the back, tomentose within, glandular on the margins, erect and persistent in fruit; petals obcordate, 2–2.5 cm. long, rose-colored; styles numerous, distinct, not exserted.

TYPE LOCALITY: Four-miles Hill, Routt County, Colorado.

DISTRIBUTION: Mountains of Colorado (and Utah?).

#### 69. *Rosa columbiana* Rydberg, sp. nov.

Stem brown, about 1 m. high, armed with recurved strong prickles 5–10 mm. long and broad at the base; stipules 1–2 cm. long, adnate, dilated, glandular-dentate on the margin and glandular-pruinose on the back; petiole and rachis more or less glandular-pruinose; leaflets 5–7, broadly oval, 1–4 cm. long, occasionally double-toothed, glabrous above, sparingly pubescent and glandular-granuliferous beneath; flowers solitary or in pairs; pedicels 1–2 cm. long, glabrous; hypanthium globose, glabrous, in fruit about 12 mm. thick, without a distinct neck; sepals ovate-lanceolate, caudate-attenuate, about 2 cm. long, rarely if at all sparingly glandular on the back, villous on the margin, in fruit erect and persistent; petals obcordate, about 2.5 cm. long; styles persistent, distinct, not exserted.

Type collected in the valley of Little Potlatch River, Latah County, Idaho, June 13, 1892, Sandberg, MacDougal & Heller 381 (herb. N. Y. Bot. Gard.).

DISTRIBUTION: Oregon, Washington, and western Idaho.

#### 70. *Rosa myriadenia* Greene, Leaflets 2: 263. 1912.

Stems low, with spreading branches, dark-brown, glabrous, armed with paired infra-stipular prickles, which are slender, terete, 5–8 mm. long, distinctly curved; leaves 5-foliolate; stipules broad, about 1 cm. long, adnate, strongly glandular on the margin and the back; petioles and rachis densely glandular and slightly prickly; leaflets oval, 1–2 cm. long, doubly serrulate with gland-tipped teeth, dark-green and glabrous above, paler and rather densely pilose beneath, as well as glandular on the veins; flowers solitary or 2 or 3 together; pedicels glabrous, 1 cm. long or less; hypanthium globose, subglabrous, with a short neck; sepals lanceolate, caudate-attenuate, conspicuously glandular-hispid or even prickly on the back; petals obcordate, about 1.5 cm. long; styles persistent, distinct, not exserted.

TYPE LOCALITY: Huckleberry Mountain, Jackson County, Oregon.

DISTRIBUTION: Known only from the type locality.

#### 71. *Rosa spinosissima* L. Sp. Pl. 491. 1753.

*Rosa cinnamomea* L. Syst. Nat. ed. 10. 1062. 1759. Not *R. cinnamomea* L. 1753.

Stem slender, 1–2 m. high, brown, terete, armed with short curved prickles; floral branches 1–2 dm. long, often unarmed; stipules dilated, more or less convolute, about 2 cm. long, dentate on the margins, finely puberulent; rachis and petiole tomentulose; leaflets 5 or 7, rarely 3, elliptic, simply serrate, dull-green, sparingly puberulent above, densely-pubescent beneath, 1.5–4 cm. long; flowers solitary or few together; pedicels 2–3 cm. long, glabrous; hypanthium globose, glabrous, in fruit 12–15 mm. thick, scarlet; petals dark rose-colored, 2–2.5 cm. long, obcordate; sepals lanceolate, attenuate, 2 cm. long, glabrous on the back, tomentose on the margins, in fruit erect and persistent; styles distinct, persistent, not exserted; achenes inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Europe.

DISTRIBUTION: Europe and northern Asia; cultivated and occasionally escaped in the eastern states and Wisconsin.

ILLUSTRATIONS: Fl. Dan. pl. 1214; Engl. Bot. pl. 2388; Schrank, Fl. Monac. pl. 40; Redouté, Roses 1: 133, pl. 1; pl. opp. 105 (double); Lindl. Ros. Monog. pl. 5; Cycl. Am. Hort. f. 2159, f. 2160; Willm. Gen. Rosa pl. opp. 141; pl. opp. 143.



72. *Rosa Aldersonii* Greene, Pittonia 5: 110.. 1903.

*Rosa californica Petersiana* C. Meyer, Zimmtr. 19. 1847.

*Rosa cinnamomea* var. Benth. Pl. Hartw. 309. 1849.

*Rosa californica glandulosa* Crépín, Bull. Soc. Bot. Belg. 15: 52. 1876.

*Rosa Aschersoniana* Crépín, Bull. Soc. Bot. Belg. 15: 52, as a synonym. 1876.

*Rosa Breweri* Greene, Leaflets 2: 262. 1912.

Stems erect, brown, branched, 1-2 m. high, glabrous, armed with recurved, more or less flattened prickles 5-10 mm. long; stipules adnate, 1-2 cm. long, usually narrow, somewhat pubescent, more or less glandular-puberulent beneath, strongly glandular-dentate on the margins; petiole and rachis usually copiously glandular, somewhat pubescent and prickly; petioles 1-2 cm. long; leaflets 5-7, ovate or oval, 1-4 cm. long, obtuse at the base, acute or obtuse at the apex, double-serrate with gland-tipped teeth, especially the secondary ones, dark-green and more or less appressed-puberulent above, decidedly glandular-puberulent and often pubescent beneath; inflorescence usually corymbiform, leafy-bracted, 1-8-flowered; pedicels short, glabrous or slightly villous or sometimes glandular (*R. Breweri*); hypanthium glabrous, hemispheric, with a distinct neck, in fruit 10-15 mm. broad; sepals lanceolate, caudate-attenuate, 15-20 mm. long, villous and rarely glandular on the margins, glabrous on the back, tomentose within, in fruit erect and persistent or tardily deciduous; petals rose-colored, 1.5-2 cm. long; styles numerous, distinct, sometimes somewhat exserted.

TYPE LOCALITY: Witch Creek, San Diego County, California.

DISTRIBUTION: California, especially in the coast ranges.

73. *Rosa Greenei* Rydb. Bull. Torrey Club 44: 71. 1917.

Stem rather slender, 1 m. or so high, purplish, glabrous, armed with curved infrastipular prickles, which are more or less flattened, 3-6 mm. long; leaves 5-7-foliolate; stipules narrow, 1-1.5 cm. long, densely glandular-puberulent; petiole and rachis glandular-puberulent and somewhat prickly; leaflets elliptic, acute at both ends, 2-4 cm. long, glandular-double-toothed, puberulent above, glandular-puberulent and slightly pilose beneath; inflorescence corymbiform or paniculate; pedicels 1-2 cm. long, glandular-puberulent; hypanthium elongate-ellipsoid, with a distinct neck, in fruit 2 cm. long and 1 cm. in diameter; sepals lanceolate, caudate-acuminate, about 2 cm. long, glandular-hispid on the back, tomentose within, in fruit persistent and erect; petals about 15 mm. long, rose-colored; styles distinct, persistent, not exserted.

TYPE LOCALITY: Island of Santa Cruz, California.

DISTRIBUTION: Santa Cruz Island, and apparently also near San Mateo, California.

74. *Rosa brachycarpa* Rydb. Bull. Torrey Club 44: 71. 1917.

Stem apparently tall, stout, purple, armed with curved, flattened infrastipular prickles, which are about 5 mm. long; leaves mostly 7-foliolate; stipules not strongly dilated, 1-1.5 cm. long, glandular-ciliate on the margins and glandular-puberulent on the back; petioles and rachis glandular-puberulent and slightly prickly; leaflets elliptic or narrowly oval, mostly acute at both ends, rather evenly serrate, with broad, occasionally double and gland-tipped teeth, conspicuously glandular-puberulent and slightly pilose beneath, 2-4 cm. long; inflorescence rather many-flowered, corymbiform; pedicels about 1 cm. long, glabrous or nearly so; hypanthium depressed-globose, without a neck; sepals ovate, caudate-acuminate, about 1.5 cm. long, glabrous on the back, villous on the margins and tomentose within, in fruit erect and persistent; petals about 15 mm. long; styles distinct, persistent, longer than the stamens.

TYPE LOCALITY: Temescal Canon, near Elsinore, California.

DISTRIBUTION: Southern California.

75. *Rosa californica* Cham. & Schlecht. Linnaea 2: 35. 1827.

*Rosa californica chamissoniana* C. Meyer, Zimmtr. 18. 1847.

*Rosa californica pubescens* Crépín, Bull. Soc. Bot. Belg. 15: 52. 1876.

*Rosa Hartwegiana* Crépín, Bull. Soc. Bot. Belg. 15: 52, as a synonym. 1876.

Stem erect, terete, light-brown or yellowish, diffusely branched, 1-3 m. high, usually armed with stout flattened, recurved prickles 5-8 mm. long; young shoots sometimes bristly;

floral branches 1–3 dm. long, usually prickly; stipules adnate, narrow or those of the upper leaves dilated, more or less villous, glandular-dentate; petiole and rachis villous, prickly, and sometimes somewhat glandular; petioles 0.5–2 cm. long; leaflets 5–7, rarely 3 or 9, oval, 1–2 cm. long, usually simply serrate, with triangular-lanceolate, not glandular teeth, dull and more or less appressed-pubescent above, villous, but rarely slightly glandular beneath, usually rounded or obtuse at both ends; inflorescence usually corymbiform, leafy-bracted, 1–10-flowered; pedicels short, glabrous or somewhat villous; hypanthium glabrous, globose or subglobose, with a distinct neck, in fruit 10–15 mm. broad; sepals lanceolate, caudate-attenuate, about 15 mm. long, entire, villous and rarely glandular on the margins, tomentose within; petals obcordate, 1.5–2.5 cm. long, rose-colored; styles free, not exserted.

TYPE LOCALITY: San Francisco, California.

DISTRIBUTION: Oregon to northern Lower California.

ILLUSTRATIONS: Willm. Gen. Rosa *pl.* opp. 223; Armstrong, Field Book W. Wild Fl. 221, *f.*

#### 76. *Rosa palustriformis* Rydberg, sp. nov.

A shrub, 5 dm. high or more, with the habit of *R. palustris*; stem armed with curved prickles 5–10 mm. long and more or less flattened; stipules 2.5–3.5 cm. long, puberulent, more or less dentate, those of the upper leaves broad, the free portion lanceolate; petiole and rachis puberulent and sometimes with a few small prickles; leaflets lanceolate or oblanceolate, acute at each end, 3–5 cm. long, finely serrate, dark-green and glabrous above, finely puberulent and paler beneath; flowers corymbose; bracts conspicuous; hypanthium round-ellipsoid, in fruit about 12 mm. broad and 15 mm. long, glabrous; sepals 2.5–3 cm. long, caudate-attenuate, tomentose within, puberulent without, with a few glands on the margins, in fruit erect and persistent; petals obcordate, about 2 cm. long; styles distinct, scarcely exserted; achenes inserted on the sides as well as in the bottom of the hypanthium.

Type collected at Green Bay, Wisconsin, June, 1895, *Schuette* (in flower); also August, 1899 (in fruit, both in Gray Herb.). Distributed under a manuscript name, which however is preoccupied.

#### 77. *Rosa neomexicana* Cockerell, Entom. News 12: 41. 1901.

Stem 1–2 m. high, light-brown, or the young shoots reddish, terete, armed with usually paired infrastipular prickles, which are 5–10 mm. long, more or less recurved; stipules about 1 cm. long, adnate, rather narrow, or the upper dilated, glabrous or finely pubescent, somewhat glandular-dentate on the margins; rachis puberulent and sometimes glandular; leaflets 5–7, obovate or on the young shoots elliptic, 1–3.5 cm. long, puberulent or nearly glabrous, glandular-pruinose beneath, rather pale beneath, toothed with ovate teeth; flowers solitary or 2 or 3 together; pedicels 1–2 cm. long, glabrous; hypanthium ellipsoid, tapering at the base, glabrous, in fruit 8–10 mm. thick, 15 mm. long, and purple; sepals lanceolate, caudate-attenuate, 10–15 mm. long, glabrous without, except the tomentose margins, in fruit erect and rather persistent; petals 1.5–2 cm. long, obcordate; styles persistent, distinct, not exserted; achenes inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Cloudcroft, New Mexico.

DISTRIBUTION: Arizona, New Mexico, southern Colorado, and Utah.

ILLUSTRATIONS: Armstrong, Field Book W. Wild Fl. 221, *f.* (as *R. Fendleri*).

#### 78. *Rosa arizonica* Rydberg, sp. nov.

Stem low, 1 m. high or less, much branched, armed with small curved prickles 3–5 mm. long, bark in age becoming almost white and peeling off; floral branches 1 dm. long or less, often unarmed; stipules adnate, short, less than 1 cm. long, the upper dilated, finely puberulent; rachis and petioles finely puberulent; leaflets usually 5, rarely 7, broadly oval, coarsely toothed, 2 cm. long or less, light-green, glabrous above, finely puberulent beneath; flowers mostly solitary; pedicels glabrous, about 1 cm. long; hypanthium globose, glabrous, in fruit 7–8 mm. broad; sepals broadly lanceolate, caudate-attenuate, 1–1.5 cm. long, tomentose on the margins, glabrate on the back; petals obovate, dark rose-colored, 2 cm. long or less; styles distinct, persistent, not exserted.

Type collected in the vicinity of Flagstaff, Arizona, June 15, 1898, *D. T. MacDougal* 110 (herb. N. Y. Bot. Gard.)

DISTRIBUTION: New Mexico and Arizona.

79. *Rosa adenosepala* Wooton & Standley, Contr. U. S. Nat.  
Herb. 16: 131. 1913.

Stem 1 m. high or more, chestnut-brown, terete, armed with slender recurved prickles about 5 mm. long; floral branches about 1 dm. long, weakly armed; stipules adnate, 1.5–2 cm. long, usually broadly dilated, puberulent and glandular-pruinose on the back, more or less glandular-dentate on the margins; rachis tinged with red, puberulent and more or less glandular; leaflets usually 7, rather dark-green, glabrous above, puberulent and glandular-pruinose beneath, 2–3 cm. long, broadly obovate, rounded at the apex, sharply serrate above with lanceolate ascending teeth, cuneate and entire at the base, all distinctly petioluled; flowers corymbose, with dilated foliaceous bracts; pedicels 1–3 cm. long, glabrous; hypanthium globose, glabrous; sepals lanceolate, about 1.5 cm. long, caudate-attenuate, glandular-hispid on the back, tomentose on the margins and inside, in age erect and persistent; petals about 2 cm. long, obcordate, dark rose-colored; styles persistent, distinct, not exserted; achenes inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Along Pecos River, eight miles east of Glorieta, New Mexico.

DISTRIBUTION: Known only from the type locality.

80. *Rosa puberulenta* Rydb. Fl. Rocky Mts. 443. 1917.

Stem 1–2 m. high, brown, terete, slender, armed with slender, slightly curved prickles about 5 mm. long; young shoots bristly; floral branches 1–2 dm. long, often unarmed; stipules adnate, the lower narrow, the upper dilated, entire or slightly toothed, finely puberulent; petiole and rachis puberulent, unarmed; leaflets 5–7, or on the new shoots sometimes 9, broadly oval, light-green, glabrous above, finely puberulent beneath, coarsely serrate, not glandular, 2–4 cm. long; flowers in 1–4-flowered corymbs; pedicels glabrous, 1–3 cm. long; hypanthium glabrous, globose, in fruit 12–13 mm. thick; sepals lanceolate, caudate-attenuate, 1.5–2 cm. long, tomentose on the margins, puberulent on the back, in fruit erect and persistent; petals about 2 cm. long, rose-colored; styles persistent, distinct, not exserted; achenes inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Montezuma Canyon, east of Monticello, Utah.

DISTRIBUTION: Utah and Idaho to California and Washington.

81. *Rosa delitescens* Greene, Leaflets 2: 265. 1912.

Stem tall, red, with a slight bloom, armed with rather stout, slightly curved infrastipular prickles 8–10 mm. long; leaves 5–9-foliolate, usually 5-foliolate; stipules short, about 1 cm. long, densely glandular on the margins and slightly so on the back, entire, the free portion lanceolate; petiole and rachis more or less glandular, and with a few prickles; leaflets oval, obtuse, 1.5–3 cm. long, double-serrate with gland-tipped teeth, pallid-green, glabrous above, glandular-muricate beneath; inflorescence corymbose, leafy-bracted; pedicels glabrous; hypanthium rounded-ellipsoid or subglobose, slightly glandular-hispid or glabrous, in fruit 10–12 mm. in diameter; sepals lanceolate, glandular-hispid, caudate-attenuate, about 15 mm. long, in fruit erect and persistent; styles included, distinct, persistent; achenes inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Siskiyou Mountains, Oregon.

DISTRIBUTION: Known only from the type locality.

82. *Rosa granulifera* Rydberg, sp. nov.

Stem about 1 m. high, chestnut-brown, terete, armed with usually slender recurved prickles 4–8 mm. long; floral branches 1 dm. long or less, usually unarmed; stipules adnate, narrow or the upper dilated, about 1 cm. long, puberulent and glandular-pruinose on the back, more or less glandular-dentate; rachis puberulent and glandular-pruinose; leaflets 5–7, oval or elliptic, 1–2.5 cm. long, glabrous above, puberulent and conspicuously glandular-pruinose and slightly paler beneath, double-serrate with gland-tipped teeth; flowers 1–3 together; pedicels glabrous, 1–2 cm. long; hypanthium globose or somewhat ellipsoid, sometimes acutish at the base, in fruit about 8 mm. thick, glabrous; sepals 10–12 mm. long, somewhat glandular on



the back, tomentose on the margins and within, caudate-attenuate, in fruit erect and persistent; petals obcordate, about 1.5 cm. long; styles distinct, persistent, not exserted; achenes inserted both in the bottom and on the sides of the hypanthium.

Type collected west of Holbrook, Arizona, July 10, 1896, *Myrtle Zuck* (in herb. N. Y. Bot. Gard.).  
DISTRIBUTION: Arizona and western New Mexico.

**83. *Rosa manca* Greene, Pittonia 4: 11. 1899.**

Stem low, 2–10 dm. high, reddish-brown, terete, armed with rather few, curved prickles 3–5 mm. long and flattened at the base; stipules adnate, usually narrow, about 1.5 cm. long, glandular-denticulate on the margins; petiole and rachis more or less glandular; leaflets mostly 7, rarely 2 cm. long, oval or obovate, thin, more or less double-toothed with gland-tipped teeth, glabrous on both sides; flowers solitary, 1–3 cm. long, glabrous; hypanthium glabrous, globose, in fruit about 1 cm. thick; sepals ovate-lanceolate, caudate-attenuate, about 1.5 cm. long, glabrous or sparingly glandular, tomentose on the margins, often with lateral lobes, in fruit erect and persistent; petals rose-colored, 1.5–2 cm. long; styles persistent, distinct, not exserted; achenes inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: West Mancos Canyon, Colorado.

DISTRIBUTION: Colorado, eastern Utah, and northeastern Arizona.

**84. *Rosa pinetorum* A. Heller, Muhlenbergia 1: 53. 1904.**

Stems slender, erect, sparingly branched, 6–8 dm. high, usually armed with numerous bristles and weak prickles, especially below, and stouter infrastipular prickles, which are often 1 cm. long, straight, terete or slightly flattened below; floral branches about 1 dm. long, prickly but rarely bristly; stipules short, adnate, about 1 cm. long, mostly dilated, more or less glandular on the back, conspicuously glandular-ciliolate; rachis and petiole glandular-hispid and sometimes prickly, reddish; leaflets 5–7, orbicular or round-oval, 1–3 cm. long, glabrous or nearly so above, slightly pubescent and sparingly glandular on the veins, more or less double-serrate with gland-tipped teeth; flowers commonly solitary; petioles glabrous, about 2 cm. long; hypanthium globose, glabrous; sepals lanceolate, caudate-attenuate, about 2 cm. long, purplish, glabrous or slightly glandular on the back, villous on the margins and tomentose within; petals deep rose-colored, about 2 cm. long, obcordate; styles distinct, persistent, not exserted.

TYPE LOCALITY: Pacific Grove, California.

DISTRIBUTION: Vicinity of Monterey Bay, California.

**85. *Rosa calvaria* Greene, Leaflets 2: 257. 1912.**

Stem rather tall, slender, loosely branched, armed with straight, slender, infrastipular prickles 3–8 mm. long, terete or slightly flattened below; branches purple, with a bloom; leaves usually 7-foliolate; stipules small and narrow, about 1 cm. long, densely glandular, free lobes lanceolate, or subulate, more or less spreading, entire; petioles and rachis glandular-puberulent and with a few weak prickles; leaflets broadly rounded-obovate or suborbicular; double-toothed, with gland-tipped teeth, 1–2.5 cm. long, minutely soft-puberulent and conspicuously glandular-puberulent on both sides, paler beneath; flowers corymbose; hypanthium glabrous, globose; sepals linear-lanceolate, caudate-attenuate, about 15 mm. long, glandular-puberulent without, tomentose within; petals obovate, about 1 cm. long.

TYPE LOCALITY: Calaveras Big Tree Grove, California.

DISTRIBUTION: Southern Sierra Nevada, California.

**86. *Rosa bidenticulata* Rydberg, sp. nov.**

A slender shrub; branches greenish-brown, armed with small weak straight infrastipular prickles 3–4 mm. long, or sometimes unarmed; stipules short, adnate, glandular-pruinose and glandular-ciliate, the free portion ovate; rachis and petiole glandular-pruinose; leaflets mostly 5, rounded-oval, sessile, rounded at the apex, glabrous above, glandular-pruinose, but not pubescent, and paler beneath, glandular double-dentate, the primary teeth very broadly ovate; flowers solitary; hypanthium subglobose, acutish at the base, with a short neck, glabrous, in

fruit nearly 1 cm. broad; sepals lanceolate, caudate-acuminate, puberulent and glandular on the back, about 15 mm. long; styles not exserted, persistent; achenes inserted in the bottom and on the sides of the hypanthium.

Type collected at Castella, Shasta County, California, July 24, 1912, *Alice Eastwood 1389* (herb. Arnold Arboretum).

**57. *Rosa Sanctae-Crucis* Rydb. Bull. Torrey Club 44: 73. 1917.**

Stem 1-2 m. high, dark-reddish-brown glabrous, armed with straight, stout infrastipular prickles about 1 cm. long and more or less flattened; leaves mostly 5-foliolate; stipules 1.5-2 cm. long, pubescent as well as densely glandular-muricate, more or less lobed; free portion ovate, obtuse; petiole and rachis villous and glandular-puberulent; leaflets rounded-oval, 1-3 cm. long, rounded at each end, rather simply serrate, with broad ovate teeth, pilose and glandular-puberulent above, villous and conspicuously glandular-muricate beneath; inflorescence corymbose, many-flowered, leafy-bracted; pedicels short; hypanthium globose, pilose when young, in fruit 12-15 mm. in diameter; sepals lanceolate, caudate-attenuate, 15-20 mm. long, villous and glandular-hispid, erect and persistent in fruit; styles included, distinct, persistent; achenes inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Island of Santa Cruz, California.

DISTRIBUTION: Type locality; apparently also Monterey.

**88. *Rosa corymbiflora* Rydberg, sp. nov.**

A tall shrub; stem glabrous, light-brown, shining, armed with straight infrastipular prickles 8-10 mm. long and somewhat flattened below; stipules narrow, 1-1.5 cm. long, pruinose and more or less glandular on the back, glandular-ciliate on the margins, the free portion lanceolate, spreading; petiole and rachis puberulent and slightly glandular; leaflets 5-7, broadly oval, petioluled, 3-6 cm. long, doubly serrate with gland-tipped teeth, glabrous above, softly puberulent beneath; flowers corymbose at the end of the stem; hypanthium globose, smooth, in age about 1 cm. in diameter; sepals about 2 cm. long, glandular-hispid on the margins and backs, with foliaceous, usually serrate appendages, ascending only in age, persistent; styles scarcely exserted.

Type collected in Shasta County, California, between Pitt and Baird, July 25, 1912, *Alice Eastwood 1404* (herb. Arnold Arboretum).

**89. *Rosa Dudleyi* Rydb. Bull. Torrey Club 44: 73. 1917.**

A low shrub, 3-5 dm. high; branches reddish or greenish, armed with infrastipular straight prickles 5-10 mm. long, somewhat flattened below, and with smaller scattered prickles on the new shoots; leaves usually 5-7-foliolate; stipules narrow, glandular-puberulent and conspicuously glandular-dentate; free portion lanceolate; leaflets rounded-oval or the terminal one rounded-obovate, 1-2 cm. long, conspicuously double-serrate with gland-tipped teeth, pubescent on both sides and glandular-puberulent and somewhat paler beneath; flower corymbose; hypanthium glabrous, subglobose, in fruit about 1 cm. broad; sepals densely puberulent on both sides, grayish within, glandular-ciliate, in age 12-15 mm. long, caudate-acuminate; petals about 1 cm. long.

TYPE LOCALITY: Booles Home, Converse Basin, Fresno County, California.

DISTRIBUTION: Known only from the type locality.

**90. *Rosa Fendleri* Crépin, Bull. Soc. Bot. Belg. 15: 91. 1876.**

*Rosa Woodsii Fendleri* Rydb. Fl. Nebr. 21: 22. 1895.

*Rosa poetica* Lunell, Am. Midl. Nat. 3: 139. 1813.

Stem low, 1 m. high or less, brown or by peeling off the bark gray, terete, armed with a few prickles, which are straight, slender, 5 mm. long or less; floral branches 1-2 dm. long, often unarmed; stipules short, adnate, 1-1.5 cm. long, the lower narrow, the upper dilated, densely glandular-pruinose on the back, more or less glandular-dentate; free portion ovate or lanceolate, more or less spreading; rachis and petiole densely glandular-puberulent, and often

somewhat glandular-hispid or with weak prickles; leaflets 5-7, elliptic, oval, or obovate, 1-3 cm. long, rather thin, green and glabrous above, slightly paler, puberulent, and glandular-pruinose beneath, often double-serrate, with more or less gland-tipped teeth; flowers in few-flowered corymbs or sometimes solitary; pedicels 1-2 cm. long, glabrous; hypanthium globose, glabrous, in fruit 8-10 mm. broad; sepals lanceolate, caudate-attenuate, sparingly glandular on the back, tomentose on the margins and within, erect and persistent in fruit; petals rose-colored, obcordate, about 1.5 cm. long; styles distinct, persistent, not exserted; achenes inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: New Mexico.

DISTRIBUTION: Minnesota to British Columbia, Arizona, and Chihuahua.

ILLUSTRATIONS: Britt. & Brown, Ill. Fl. f. 1969; ed. 2. f. 2311 (both as *R. Woodsii*); Willm.

Gen. Rosa pl. opp. 175; pl. on 177.

*Rosa acicularis* × *Fendleri*. See under *R. acicularis*.

*Rosa Bourgeauiana* × *Fendleri*. This resembles *R. Fendleri* in habit, the corymbose inflorescence and the small flowers and fruit, but the plant is much more prickly, the leaflets firmer and more conspicuously double-toothed. Helena, Montana, F. W. Anderson.

*Rosa Fendleri* × *Macounii*. This has the pubescent leaves of *Rosa Macounii*, but the leaf-rachis and stipules are more or less glandular and the fruit is smaller, resembling that of *R. Fendleri*. Helena, Montana, B. T. Butler 873. Montana and Wyoming.

### 91. *Rosa hypoleuca* Wooton & Standley, Contr. U. S. Nat. Herb. 16: 131. 1913.

Stem low, purplish-brown, 1 m. high or more, armed with rather numerous prickles, which are various in length, slender, terete, 3-8 mm. long, some infrastipular, others scattered; floral branches 1-2 dm. long, usually armed with small prickles; stipules adnate, about 1 cm. long, the lower narrow, the upper dilated, glabrous or glandular-pruinose, but not pubescent on the back, glandular-denticulate on the margins; rachis and petiole glandular-pruinose, and somewhat glandular-hispid and prickly; leaflets oval, thin, dark-green and glabrous above, very pale, slightly glandular-pruinose, but scarcely pubescent beneath, 1-2.5 cm. long, more or less doubly-serrate with gland-tipped teeth; flowers corymbose; pedicels glabrous, 1-2 cm. long; hypanthium globose, glabrous; petals rose-colored, about 2 cm. long; sepals lanceolate, caudate-attenuate, about 1.5 cm. long, glabrous on the back, tomentose on the margins and within, in age erect and persistent; styles persistent, distinct, not exserted.

TYPE LOCALITY: Kingston, New Mexico.

DISTRIBUTION: New Mexico and Arizona.

### 92. *Rosa rivalis* Eastw. Bull. Torrey Club 32: 198. 1905.

Stems about 1 m. high, chestnut-brown, terete, glabrous, with a few slender short straight prickles 1-4 mm. long; stipules adnate, about 2 cm. long, narrow or the upper dilated, glabrous, dentate on the margins, the free portion broad, ovate or broadly semi-lunate, incurved; rachis and petiole glabrous or slightly pubescent; leaflets 5-7, usually round-oval, rarely obovate, 2-5 cm. long, coarsely toothed, thin, wholly glabrous or somewhat pubescent on the veins beneath; flowers corymbose, leafy-bracted; pedicels glabrous, 1-2 cm. long; hypanthium glabrous, globose; sepals lanceolate, caudate-attenuate, usually with dilated tips, 1.5-2 cm. long, sparingly glandular on the back, tomentose on the margins and within; petals obcordate, rose-colored, about 2 cm. long; styles distinct, persistent, not exserted.

TYPE LOCALITY: Laytonville, Mendocino County, California.

DISTRIBUTION: Central California to Oregon.

### 93. *Rosa chrysocarpa* Rydb. Bull. Torrey Club 44: 74. 1917.

Stem tall, 1-3 m. high, terete, at first light-yellowish-green, later grayish-brown, armed with straight prickles, somewhat retrorse, terete, 3-7 mm. long, usually more or less flattened at the very base, some of them infrastipular, others scattered, of various lengths; young shoots copiously armed with bristle-like prickles; floral branches 1-2 dm. long, armed with mostly infrastipular prickles; stipules adnate, glabrous, 1-2 cm. long, the lower narrow, the upper dilated, glandular-dentate or ciliate on the margins; petiole and rachis glabrous, sometimes



with a few prickles; leaflets 5-7, elliptic or oval, thin, glabrous on both sides, yellowish-green, coarsely serrate throughout, petioluled, 1-4 cm. long; flowers corymbose, leafy-bracted; pedicels 1-2 cm. long, glabrous; hypanthium globose, glabrous, at first light-green, in fruit about 1 cm. thick and orange; sepals lanceolate, caudate-attenuate, about 1.5 cm. long, glabrous or nearly so on the back, tomentose on the margins and within, in fruit erect and persistent; styles distinct, persistent, not exserted; achenes inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Allen Canyon, southwest of Abajo Mountains, Utah.

DISTRIBUTION: Utah and Idaho to eastern Washington and California.

#### 94. *Rosa Woodsii* Lindl. Ros. Monogr. 21. 1820.

*Rosa Maximiliani* Nees, in Max. Reise N. Am. 2: 434. 1841.

*Rosa foliolosa leiocarpa* Torrey, in Frém. Rep. 85, as a hyponym. 1843.

*Rosa Macounii* Rydb. Fl. Colo. 191. 1906. Not *R. Macounii* Greene, 1899.

? *Rosa fimbriatula* Greene, Leaflets 2: 135. 1911.

*Rosa Sandbergii* Greene, Leaflets 2: 136. 1911.

*Rosa deserta* Lunell, Am. Midl. Nat. 2: 156. 1912.

Stem reddish-brown, terete, glabrous, 0.5-2 m. high, armed with rather numerous, straight or slightly curved prickles 4-8 mm. long; floral branches 1-2 dm. long, usually somewhat prickly; stipules adnate, narrow or the upper somewhat dilated, 1-1.5 cm. long, glabrous, usually glandless, rarely slightly glandular-pruinose, entire or somewhat toothed, the free portion lanceolate to ovate; rachis and petiole glabrous, occasionally with a few prickles or stalked glands; leaflets 5-7, obovate, cuneate at the base, distinctly petioluled, entire at the base, serrate above, glabrous on both sides, glaucous beneath, 1-2 cm., rarely 3 cm. long; flowers solitary or 2 or 3 together; pedicels 1-2 cm. long, glabrous; hypanthium globose, or rarely ellipsoid, glabrous, in fruit 8-10 mm. thick; sepals lanceolate, caudate-attenuate, about 15 mm. long, glabrous or slightly glandular on the back, tomentose on the margins and within, erect in fruit; styles persistent, distinct, not exserted; achenes inserted in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: On the Missouri River.

DISTRIBUTION: Saskatchewan and North Dakota to Kansas, Utah, and British Columbia.

ILLUSTRATION: Willm. Gen. Rosa pl. opp. 236.

*Rosa gymnocarpa* × *Woodsii*. See under *R. gymnocarpa*.

#### 95. *Rosa mohavensis* Parish, Bull. S. Calif. Acad. 1: 87. 1902.

*Rosa californica glabrata* Parish, Erythea 6: 88. 1898.

Stem slender, 5-10 dm. high, brown, glabrous, terete, armed with scattered prickles, which are 3-5 mm. long, straight or nearly so, slightly flattened below; floral branches short, less than 1 dm. long, more or less prickly; stipules adnate, narrow, glabrous, mostly entire, 1 cm. long or less; petiole and rachis glabrous, occasionally with a few prickles; leaflets usually 5, oval or elliptic, 5-15 mm. long, serrate, short-petioluled, glabrous on both sides, more or less shining above; flowers solitary, rarely 2 or 3; pedicels glabrous, about 1 cm. long; hypanthium globose, glabrous; sepals lanceolate, caudate-attenuate, about 1 cm. long; petals rose-colored, obcordate, about 1.5 cm. long; styles distinct, persistent, not exserted.

TYPE LOCALITY: Cushenberry Springs, at the desert foot of the San Bernardino Mountains, California.

DISTRIBUTION: Borders of Mojave Desert, California.

ILLUSTRATION: Bull. S. Calif. Acad. 1: f. 7.

#### 96. *Rosa Johnstonii* Rydberg, sp. nov.

Stem 1 m. high or more, terete, glabrous, green, armed with few slender nearly straight infrastipular prickles 5-10 mm. long, the young shoots more prickly and bristly; stipules narrow, adnate, 1.5-2 cm. long, finely pubescent, the free portion lanceolate, entire; rachis finely villous; leaflets 3-7, broadly obovate, 3-5 cm. long, cuneate at the base, rather coarsely dentate, sparingly puberulent above, densely short-villous beneath; flowers corymbose; pedicels glabrous or sparingly pilose, 1-2 cm. long; hypanthium glabrous, in fruit globose or rounded-ellipsoid, about 12 mm. thick and 12-14 mm. long, orange or reddish, with a short neck; sepals

lanceolate, caudate-attenuate, about 1.5 cm. long, more or less tomentose on both sides; petals rose-colored, obcordate, 2 cm. long; styles distinct, persistent, not exserted; achenes inserted in the bottom and on the sides of the hypanthium.

Type collected near Upland, San Bernardino County, California, July 4 and August 25, 1918, *J. M. Johnston 2050* (in flower) and *2130* (in fruit; both in herb. N. Y. Bot. Gard.).

97. *Rosa myriantha* Carr. Rev. Hort. 1865: 448. 1865.

*Rosa californica glabra* Crépin, Bull. Soc. Bot. Belg. 15: 52. 1876.

*Rosa californica* Regel, Acta Hort. Petrop. 5: 363. 1877. Not *R. californica* Cham. & Schlecht. 1827.

Stem 1 m. high, much branched, with reddish, shining bark, armed with straight, stout prickles 6–10 mm. long, more or less flattened; floral branches 1–4 dm. long, more or less armed; stipules adnate, 1–1.5 cm. long, more or less dilated, sparingly pilose or glabrate on the back, sparingly glandular-toothed; leaflets usually 5, broadly oval or sometimes obovate, rounded at both ends, coarsely dentate, glabrous and green above, sparingly pilose or glabrate and glaucescent beneath, 2–4 cm. long; flowers corymbose; pedicels glabrous, 1–2 cm. long; hypanthium glabrous, in fruit red, depressed globose, 10–12 mm. in diameter; sepals lanceolate, caudate-attenuate, 15–20 mm. long, glabrous on the back, tomentose on the margins and within; petals obcordate, about 2 cm. long; styles distinct, persistent, not exserted; achenes inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Described from cultivated specimens, introduced from California.

DISTRIBUTION: Oregon and California.

98. *Rosa Davyi* Rydb. Bull. Torrey Club 44: 76. 1917.

Stem stout, glabrous, armed with numerous stout prickles, flattened below, 5–10 mm. long; leaves 5–7-foliolate; stipules broad, 1–1.5 cm. long, glandular-dentate on the margin, densely villous, the free portion lanceolate to ovate; rachis and petiole villous and sometimes glandular-hispid, usually with a few prickles; leaflets broadly oval, 1–2.5 cm. long, rather firm, rounded at both ends, coarsely and simply serrate, short-pilose above, villous beneath; flowers 2 or 3 together or solitary; pedicels 1–2 cm. long; hypanthium globose, glabrous, in fruit 15 mm. in diameter, purple; sepals lanceolate, caudate-acuminate, 15 mm. long or more, villous on the back, tomentose within; erect and persistent in fruit; petals about 2 cm. long, obcordate; styles persistent, distinct, not exserted.

TYPE LOCALITY: Saratoga, Santa Clara County, California.

DISTRIBUTION: California.

99. *Rosa rotundata* Rydb. Bull. Torrey Club 44: 76. 1917.

A stout shrub, more than 5 dm. high; new canes copiously armed with slender, straight, almost terete prickles 5–10 mm. long; branches red or purplish, with smaller infrastipular and scattered prickles; leaves mostly 5–7-foliolate; stipules large, lance-ovate, puberulent on both sides, conspicuously glandular-denticulate, 1–1.5 cm. long; leaflets rounded, oval or suborbicular, 1–1.5 cm. long and nearly as broad, finely puberulent on both sides, coarsely crenate-serrate with broad teeth; flowers corymbose; hypanthium round-ellipsoid or globose, with a short neck; sepals ovate, caudate-acuminate, about 8 mm. long, villous within and on the margins; petals 8–10 mm. long.

TYPE LOCALITY: Mountains west of Franktown, Nevada.

DISTRIBUTION: Known only from the type locality.

100. *Rosa pisocarpa* A. Gray, Proc. Am. Acad. 8: 382. 1872.

*Rosa nutkana* (?) *microcarpa* Crépin, Bull. Soc. Bot. Belg. 15: 45. 1876.

Stem 1–2 m. high, slender, with dark, chestnut-brown bark, armed with small weak infrastipular prickles, which are terete, 2–5 mm. long, usually ascending; floral branches 1–2 dm. long, armed or unarmed; stipules adnate, the lower narrow, the upper dilated, densely and finely pubescent on the back, slightly glandular-dentate, the free portion semilunar, acuminate;

leaflets mostly 7, oval, 1–4 cm. long, serrate with broad teeth, acutish at the apex, rounded at the base, short-petioluled, glabrous and green above, finely and densely puberulent beneath; flowers corymbose, conspicuously leafy-bracted; pedicels glabrous, slender, 1–2 cm. long; hypanthium glabrous, globose, sometimes with a short neck, in fruit about 8 mm. thick; sepals lanceolate, caudate-attenuate, often with foliaceous tips, about 1.5 cm. long, glandular-hispid on the back, tomentose on the margin and within; petals obcordate, about 15 mm. long; styles distinct, persistent, not exserted; achenes inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Oregon.

DISTRIBUTION: British Columbia to Idaho and California.

ILLUSTRATIONS: Bot. Mag. *pl.* 6857; Willm. Gen. *Rosa pl.* on 227.

*Rosa Eastwoodiae* × *pisocarpa*. Resembles *R. pisocarpa* in habit, but the sepals are broader and the hypanthium has a more distinct neck. Sisson, California, August 26, 1907, *J. G. Jack*.

*Rosa gymnocarpa* × *pisocarpa*. This has the habit of *R. gymnocarpa* and the fruit of *R. pisocarpa*; the leaves resemble those of the former, but are puberulent beneath. Siskiyou Mountains, Oregon, 1904, *Rehder*.

*Rosa nutkana* × *pisocarpa*. See under *R. nutkana*.

*Rosa pisocarpa* × *Spaldingii*. See under *R. Spaldingii*.

### 101. *Rosa salictorum* Rydb. Bull. Torrey Club 44: 77. 1917.

Stem slender, 3–5 m. high or in open places lower, unarmed or nearly so except the new shoots, which are bristly at the base; infrastipular prickles seldom present; leaves 5–7-foliolate; stipules adnate to the petioles, 1.5–2 cm. long, the upper dilated, more or less toothed, finely puberulent; petioles and rachis unarmed, puberulent; leaflets broadly oval, coarsely and evenly serrate, thin, equally green on both sides, glabrous above, finely puberulent beneath, rounded or acute at both ends, 2–4 cm. long; flowers corymbose, conspicuously leafy-bracted; pedicels glabrous; hypanthium glabrous, globose, contracted above, in fruit about 1 cm. broad; sepals lanceolate, caudate-acuminate, about 15 mm. long, glabrous on the back, tomentose within and on the margins, erect and persistent in fruit; petals pink, about 15 mm. long; styles distinct, persistent, not exserted.

TYPE LOCALITY: Among willows, on Gold Creek, Nevada.

DISTRIBUTION: Idaho and Nevada.

### 102. *Rosa ultramontana* (S. Wats.) A. Heller, Muhlenbergia 1: 107. 1904.

*Rosa blanda* S. Wats. Bot. King's Expl. 91, in part. 1871. Not *R. blanda* Ait. 1789.

*Rosa californica ultramontana* S. Wats.; Brewer & Wats. Bot. Calif. 1: 187. 1876.

Stem tall, 1–3 m. high, according to Watson even 5 m. high, chestnut-brown, terete, armed with straight prickles 5–7 mm. long, somewhat flattened at the base; floral branches 1–2 dm. long, often unarmed, often overtopped by long sterile branches; stipules adnate, 1–1.5 cm. long, puberulent and often pruinose on the back, usually denticulate, the lower narrow, the upper dilated, the free portion lanceolate or ovate, somewhat spreading; leaflets usually 7, oval, usually rounded at both ends, serrate with broad teeth, 2–4 cm. long, green and dull on both sides, rather firm, glabrous above, puberulent and often also pruinose beneath; flowers corymbose, usually several; bracts foliaceous; pedicels glabrous, 1–2 cm. long; hypanthium globose, glabrous, in fruit 8–10 mm. thick; sepals lanceolate, caudate-attenuate, about 1.5 cm. long, glabrous or slightly puberulent, but not glandular on the back, tomentose on the margins and inside, erect and persistent in fruit; petals obcordate, 1.5 cm. long or a little more; styles distinct, persistent, not exserted; achenes inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Eastern side of Sierra Nevada.

DISTRIBUTION: Montana to British Columbia, northern California, and Nevada, mostly in the interior.

*Rosa MacDougali* × *ultramontana*. This resembles *R. ultramontana* in inflorescence and leaf-form, but the fruit is bristly and the sepals are glandular-hispid on the back.



103. *Rosa gratissima* Greene, Fl. Fran. 73. 1891.

Stem erect, much branched, 1–2 m. high, dark-brown, densely armed with straight prickles and bristles of various sizes, the largest often infrastipular, often 1 cm. long, terete or nearly so; floral branches 1–2 dm. long, usually less prickly, rarely unarmed; stipules adnate, short, about 1 cm. long, puberulent on the back, but not glandular, entire or dentate, the upper dilated, the free portion ovate, somewhat divergent; petiole and rachis puberulent, or pruinose, sometimes with a few prickles; leaflets 5–7, oval, acutish, 1–3 cm. long, serrate, glabrous above, finely puberulent beneath; flowers corymbose, leafy-bracted; petioles glabrous or pruinose, 1–2 cm. long; hypanthium glabrous, globose, in fruit about 8 mm. thick; sepals lanceolate, caudate-attenuate, 1–1.5 cm. long, glabrous on the back, tomentose on the margins and within; petals 1–1.5 cm. long; styles distinct, persistent, not exserted; achenes inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Mountains of Kern County, California.

DISTRIBUTION: Mountains of southern California (to Nevada?).

104. *Rosa praeincta* Cockerell, Proc. Acad. Phila. 56: 110. 1904.

*Rosa aciculata* Rydb. Fl. Colo. 191, in part. 1906. Not *R. aciculata* Cockerell, 1904.

Stem about 1.5 m. high, dark-brown, armed with rather numerous often bristle-like prickles, on the young stem usually scattered, on the branches often infrastipular, terete, 5–8 mm. long; floral branches about 1 dm. long, somewhat prickly; stipules adnate, slightly puberulent or glabrate, often more or less toothed, 1–1.5 cm. long, the lower narrow, the upper dilated, the free portion lanceolate or semilunar; rachis and petiole finely puberulent, usually with a few bristle-like prickles; leaflets obovate or rarely oval, very thin, 1–3 cm. long, sharply serrate with somewhat incurved teeth, acute or cuneate and short-petiololed at the base, green on both sides, glabrous above, finely puberulent on the veins and pruinose beneath; flowers 1–3 together, often leafy-bracted; pedicels glabrous, 1–2 cm. long; hypanthium glabrous, globose; sepals lanceolate, caudate-acuminate, glabrous on the back, tomentose and with a few bristles on the margins, about 1.5 cm. long, in fruit erect; petals about 2 cm. long, broadly obcordate; styles distinct, persistent, not exserted.

TYPE LOCALITY: [Not given, but by inference] Pecos, New Mexico.

DISTRIBUTION: Colorado and New Mexico.

105. *Rosa terrens* Lunell, Am. Midl. Nat. 2: 155. 1912.

Stems 1–1.5 m. high, mahogany-brown, copiously armed with mostly straight, strong, and more or less flattened prickles, these even better developed on the new shoots (in the related species the new shoots are merely bristly); stipules adnate, dilated, glandular-serrate, otherwise glabrous or glabrate; petiole and rachis tomentulose, occasionally prickly; leaflets 5–11, usually 7, dark-green, obovate or oval, obtuse, cuneate at the base, serrate above, 2–3 cm. long, petiolulate, softly pubescent beneath, glabrous above; flowers solitary, or few, corymbose; pedicels short; sepals lanceolate, entire or somewhat lobed, caudate-attenuate, glandular-hispid on the back and persistent, erect; fruit globose, 1 cm. in diameter; styles not exserted.

TYPE LOCALITY: Plains at Pleasant Lake, Benson County, North Dakota.

DISTRIBUTION: Known only from the type locality.

106. *Rosa pecosensis* Cockerell, Proc. Acad. Phila. 56: 110. 1904.

Stem usually tall, 1–2 m. high, dark-brown, terete, branched, armed with scattered prickles, occasionally infrastipular, 5–8 mm. long; floral branches about 1 dm. long, sparingly prickly; stipules adnate, 1–2 cm. long, pubescent, but not glandular on the back, often glandular-denticulate, the free portion lanceolate or ovate, often spreading; rachis and petioles puberulent; leaflets 5–9, usually 7, broadly obovate, 2–4 cm. long, distinctly petiolulate, coarsely serrate, green on both sides, glabrous above, finely and densely puberulent beneath; flowers solitary or in pairs; pedicels glabrous, about 2 cm. long; hypanthium globose, glabrous, in fruit about

8 mm. thick; sepals about 15 mm. long, lanceolate, caudate-attenuate, glabrous on the back, tomentose on the margins and inside, in fruit erect and persistent; petals about 2 cm. long, dark-rose-colored, white at the base; styles persistent, distinct, not exerted.

TYPE LOCALITY: Kin Kale Range, Pecos Canyon, New Mexico.

DISTRIBUTION: Type locality and vicinity.

### 107. *Rosa Macounii* Greene, Pittonia 4: 10. 1899.

*Rosa Woodsii* Lindl. Bot. Reg. 12: pl. 976. 1826. Not *R. Woodsii* Lindl. 1820.

*Rosa Woodsii* S. Wats. Proc. Am. Acad. 20: 345, mainly. 1885.

*Rosa grosseserrata* E. Nelson, Bot. Gaz. 30: 119. 1900.

*Rosa Maximiliani* Rydb. Fl. Colo. 191. 1906. Not *R. Maximiliani* Nees. 1841.

*Rosa subunda* Lunell, Am. Midl. Nat. 2: 153. 1912. (Depauperate.)

*Rosa naiadum* Lunell, Am. Midl. Nat. 3: 139. 1913.

Stem much branched, chestnut-brown, 0.5–2 m. high, usually armed with straight terete prickles 5–8 mm. long; the new shoots bristly; floral branches about 1 dm. long, often unarmed; stipules adnate, 1–2 cm. long, entire or glandular-denticulate, puberulent on the back, the lower narrow, the upper dilated, the free portion ovate or lanceolate; rachis and petiole finely puberulent, unarmed; leaflets obovate, usually cuneate at the base, serrate, 1–3 cm. long, green and glabrous above, pale or glaucous, finely puberulent and sometimes pruinose beneath; flowers solitary or in few-flowered corymbs; pedicels 1–2 cm. long, glabrous; hypanthium globose, without a neck, glabrous, 8–10 mm. thick, glabrous; sepals lanceolate, caudate-acuminate, glabrous or sparingly pubescent on the back, tomentose on the edges and within, rarely with a few glands near the margin without, in age erect and persistent; petals about 2 cm. long, obcordate, rose-colored; styles distinct, persistent, not exerted; achenes inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Assiniboia [now Saskatchewan].

DISTRIBUTION: Saskatchewan to Nebraska, western Texas, Oregon, and British Columbia.

ILLUSTRATION: Bot. Reg. 12: pl. 976.

*Rosa Bourgeauiana* × *Macounii*. This resembles *Rosa Macounii* in habit and flowers, but the young shoots are exceedingly bristly and the leaflets, especially those of the shoots, are very broad and rounded, with broad occasionally double teeth, and slightly glandular-granuliferous. Spanish Basin, June 23, 1897, Rydberg & Bessey 4420. Alberta and Montana.

*Rosa Fendleri* × *Macounii*. See under *R. Fendleri*.

*Rosa gymnocarpa* × *Macounii*. See under *R. gymnocarpa*.

### 108. *Rosa Covillei* Greene, Leaflets 2: 262. 1912.

Stem low, 1 m. high or less, glaucescent, bristly and with weak straight infrastipular prickles 6–8 mm. long; leaves 7-foliolate; stipules narrow, adnate, about 1 cm. long, glandular-ciliate; petioles and rachis more or less glandular; leaflets oval or obovate, simple-serrate, deep green and glabrous above, paler and puberulent beneath, 1.5–2 cm. long; flowers solitary; pedicels short, about 1 cm. long, glabrate; hypanthium glabrous, round-ovoid, contracted into a neck, in fruit 1.5 cm. in diameter; sepals ovate, short-acuminate, about 1 cm. long, persistent, ascending; styles persistent, distinct, not exerted.

TYPE LOCALITY: Yellow pine forest, south of Naylor, Klamath County, Oregon.

DISTRIBUTION: Known only from the type locality.

### 109. *Rosa Bolanderi* Greene, Leaflets 2: 261. 1912.

Stem low, diffusely branched, strongly armed with bristles as well as stout, spreading infrastipular prickles; leaves 5–7-foliolate; stipules small, adnate, glandular-ciliate, less than 1 cm. long; petiole and rachis with a few prickles and many short-stalked glands; leaflets rounded-obovate, or oval, more or less double-toothed, glabrous on both sides or slightly glandular-granuliferous beneath, 7–15 mm. long; flowers 1–2; pedicels short, sparingly glandular-hispid; hypanthium ellipsoid, glabrous, with a distinct neck, in fruit about 1.5 cm. long and nearly 1 cm. in diameter; sepals ovate, short-acuminate, less than 1 cm. long, in fruit erect and persistent; styles distinct, persistent, not exerted.

TYPE LOCALITY: Oakland Hills, California.

DISTRIBUTION: Central California.

110. *Rosa granulata* Greene, Leaflets 2: 262. 1912.

Stem low, less than 3 dm. high, with scattered, slender, straight or deflexed prickles, which are 5–8 mm. long; leaves 5-foliolate; stipules dilated, short, puberulent as well as glandular; rachis and petiole glandular and puberulent; leaflets oval or obovate, doubly-serrate, green on both sides, puberulent on both sides and glandular-granuliferous beneath, 1–2.5 cm. long; flowers mostly solitary; pedicels and hypanthium glandular-hispid or -prickly, globose; sepals ovate, short-acuminate, persistent, glandular-hispid on the back, tomentose within; petals about 15 mm. long; styles persistent, distinct, not exserted.

TYPE LOCALITY: San Luis Obispo, California.

DISTRIBUTION: Known only from the type locality.

111. *Rosa spithamea* S. Wats. Bot. Calif. 2: 444. 1880.

Stem from creeping rootstocks, glabrous, 1–3 dm. high, usually both bristly and with infrastipular prickles, sometimes unarmed; prickles straight, slender, 5–10 mm. long, terete; stipules adnate, narrow, 1 cm. long or less, puberulent and often glandular-pruinose on the back, glandular-ciliate on the margin; petiole and rachis more or less glandular; leaflets 3–7, usually 5, oval to nearly orbicular, double-serrate with gland-tipped teeth, 1–3.5 cm. long, petioluled, thin, sparingly pubescent or glabrate above, glandular-pruinose beneath; flowers corymbose or sometimes solitary; pedicels 1–2 cm. long, glandular-hispid; hypanthium ellipsoid or subglobose, densely glandular-hispid, in fruit 7–8 mm. thick; sepals lanceolate, caudate-attenuate, 10–12 mm. long, densely glandular-hispid on the back, in age erect and persistent; petals about 15 mm. long; styles persistent, distinct, not exserted.

TYPE LOCALITY: Trinity River, California.

DISTRIBUTION: Oregon and California.

112. *Rosa adenocarpa* Greene, Leaflets 2: 261. 1912.

Stem 1–2 dm. high, diffuse, glabrous, herbaceous, with a few slender straight prickles; leaves 5-foliolate or rarely 7-foliolate; stipules small, rather narrow, about 1 cm. long, glandular-ciliate and slightly glandular on the back; petioles and rachis somewhat glandular and rarely with a few weak prickles; leaflets suborbicular, distinctly petiolulate, coarsely and doubly glandular-serrate, thin, glabrous, slightly glandular-granuliferous, 1–2 cm. long; petiolules of the lateral leaflets 1–3 mm. long, that of the terminal one about 1 cm. long; flowers 1–3; pedicels 5–15 mm. long, glandular-puberulent; hypanthium globose, bristly, without a neck; sepals lanceolate, caudate-acuminate, 12–15 mm. long, more or less glandular-hispid on the back; petals rose-colored, about 15 mm. long, obcordate; styles persistent, distinct, not exserted.

TYPE LOCALITY: Mount Grayback, southwestern Oregon.

DISTRIBUTION: Known only from the type locality.

113. *Rosa sonomensis* Greene, Fl. Fran. 72. 1897.

*Rosa spithamia sonomensis* Jepson, Fl. W. Middle Calif. 279. 1901.

Stem slender, about 3 dm. high, terete, densely armed with slender straight prickles of various sizes, the infrastipular ones 5–10 mm. long, terete; stipules short, adnate, 1 cm. long or less, glandular on the back and glandular-ciliate on the margins, the free portion short and often divergent; rachis and petiole more or less glandular; leaflets 5, broadly oval or orbicular, 0.5–1.5 cm. long, double-serrate with glandular teeth, glabrous on both surfaces and somewhat glaucous, somewhat glandular-pruinose beneath; flowers in terminal corymbs; pedicels about 1 cm. long, glandular-hispid; hypanthium somewhat rounded-pyriform, glandular-hispid, in fruit 7–8 mm. thick; sepals ovate-lanceolate, acuminate, 7–9 mm. long, glandular-hispid on the back; styles distinct, persistent, not exserted.

TYPE LOCALITY: Petrified Forest, Sonoma County, California.

DISTRIBUTION: Central California, near the coast.



114. *Rosa pyrifera* Rydb. Fl. Rocky Mts. 445. 1917.

Stem 1 m. high or more, brown, branched, armed with slender, straight prickles 5–8 mm. long; stipules adnate, about 2 cm. long, the lower narrow, the upper dilated, finely puberulent and usually glandular-granuliferous on the back; petiole and rachis puberulent and often glandular; leaflets about 7, oval, 2–4 cm. long, coarsely serrate, dark-green and glabrous above, finely puberulent and more or less glandular-granuliferous beneath; flowers corymbose; pedicels glabrous, 1–2 cm. long; hypanthium pyriform or ellipsoid, acute at the base, with a distinct neck at the apex, in fruit 10–12 mm. thick and 15–20 mm. long; sepals lanceolate, caudate-attenuate, 1.5–2 cm. long, more or less glandular on the back, tomentose on the margins, in fruit erect and persistent; petals obcordate, about 2 cm. long; styles persistent, distinct, not exserted; achenes inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Shores of Lake Pend d' Oreille, Idaho.

DISTRIBUTION: Montana, Wyoming, and Utah to eastern California; apparently also South Dakota and Nebraska.

*Rosa gymnocarpa* × *pyrifera*. See under *R. gymnocarpa*.

*Rosa nutkana* × *pyrifera*. This hybrid has the habit corymbose inflorescence, simple-toothed leaflets, and ellipsoid hypanthium with a distinct neck, characteristic of *R. pyrifera*, but the flowers are larger, the leaflets larger, less puberulent, somewhat glandular-granuliferous, and coarser toothed; the prickles are large, stout and flattened as in *R. nutkana*. Midvale, Montana, July 23, 1903, Umbach 499.

115. *Rosa Pringlei* Rydb. Bull. Torrey Club 44: 79. 1917.

Stem dark gray, 1 m. high or more, terete, slender, unarmed or sparingly armed with small, straight infrastipular prickles 3–5 mm. long; branches 1–3 dm. long, usually unarmed; stipules adnate, rather narrow, 1 cm. long or less, densely and finely puberulent on the back, the free portions lanceolate, ascending, spreading, slightly glandular-ciliate; petiole and rachis densely puberulent, not at all glandular; leaflets 5 or 7, elliptic, 2–3 cm. long, acutish at both ends, rather firm, finely puberulent on both sides, densely so, almost velvety and paler beneath; flowers corymbose, 2–5 together; pedicels 1–2 cm. long, glabrous; hypanthium ellipsoid, acute at the base, above produced into a distinct neck, glabrous, in fruit 9–10 mm. thick, 12–14 mm. long, dark purple; sepals lanceolate, caudate-attenuate, 12–15 mm. long, finely puberulent, in fruit erect and persistent; achenes inserted both in the bottom and on the sides of the hypanthium.

TYPE LOCALITY: Siskiyou County, California.

DISTRIBUTION: British Columbia to northern California, near the coast.

116. *Rosa Eastwoodiae* Rydberg, sp. nov.

A slender shrub; branches chestnut-brown, armed with slender straight prickles 4–6 mm. long; stipules adnate, puberulent, the lower often narrow and entire, the upper very broad and slightly glandular-denticulate, the free portion broadly ovate; petiole and rachis puberulent, not glandular; leaflets mostly 5, oval, 1–2 cm. long, serrate with broadly ovate teeth, glabrous above, puberulent and slightly pruinose beneath; flowers corymbose, subtended by broad bracts; hypanthium ellipsoid, acute at the base, with a distinct neck, in age 6–8 mm. thick, 10–12 mm. long; sepals broadly ovate, caudate-acuminate, 10–15 mm. long, puberulent and glandular-ciliate on the margins and the back, erect in fruit; achenes inserted in the bottom and on the sides of the hypanthium.

Type collected at Sisson, Siskiyou County, California, September 4, 1912, Alice Eastwood 2100, mainly (herb. Arnold Arboretum).

DISTRIBUTION: Southern Oregon and northern California.

*Rosa Copelandi* × *Eastwoodiae*. See under *R. Copelandi*.

*Rosa Eastwoodiae* × *pisocarpa*. See under *R. pisocarpa*.

117. *Rosa Standleyi* Rydberg, sp. nov.

Stem brown or grayish-brown, about 1 m. high, terete, branched, armed with straight, weak, usually paired infrastipular prickles; floral branches seldom 1 dm. long, often unarmed; stipules adnate, short and broad, about 1 cm. long, puberulent and glandular-pruinose on the

back, glandular-ciliolate on the margins; petiole and rachis puberulent, and glandular-puberulent; leaflets 5-7, oval, 1-2.5 cm. long, glabrous above, pale, finely puberulent, and glandular-granuliferous beneath, finely serrate; flowers mostly solitary; pedicels short, 1-2 cm. long, glabrous; hypanthium glabrous, ellipsoid, in fruit 8 mm. thick and 12 mm. long, dark-purple; sepals lanceolate, caudate-attenuate, puberulent but scarcely glandular, in fruit erect, persistent; achenes inserted both in the bottom and on the sides of the hypanthium.

Type collected near Pecos, New Mexico, August 8, 1908, *Paul C. Standley 5043* (herb. N. Y. Bot. Gard.).

DISTRIBUTION: New Mexico (and Arizona?).

# 118. *Rosa Copelandi* Greene, Leaflets 2: 264. 1912.

Stem dark-purple, terete, shining, sparingly armed with straight infrastipular prickles, which are about 5 mm. long, rather stout and somewhat flattened below; floral branches 1-2 dm. long, purple, more or less armed; stipules 1-2 cm. long, adnate, glabrous, more or less dilated, thin, often tinged with purple, the free portion semi-lunate, acuminate; petiole and rachis glabrous, often slightly prickly, purplish; leaflets 5 or 7, oval or elliptic, thin, perfectly glabrous on both sides, finely serrate, 1-3 cm. long; flowers corymbose; pedicels glabrous, short, 1-1.5 cm. long; hypanthium glabrous, urn-shaped, rounded at the base, above produced into a distinct neck, in fruit 9-10 mm. thick, 10-12 mm. long; sepals lanceolate, about 15 mm. long, caudate-attenuate, glabrous on the back, tomentose on the margins, in fruit erect and persistent; achenes inserted in and near the bottom of the hypanthium.

TYPE LOCALITY: Mt. Eddy, Siskiyou County, California.

DISTRIBUTION: Northern California.

*Rosa Copelandi* × *Eastwoodiae*. In the slender habit, the small fruit and the broader sepals resembling *R. Eastwoodiae*, but the leaves are perfectly glabrous and the hypanthium is more inclined to be urn-shaped as in *R. Copelandi*. Siskiyou County, California.

# 119. *Rosa pilifera* Rydb. Bull. Torrey Club 44: 80. 1917.

Stem 1 m. high or more, at first yellowish, in age dark-gray, terete, armed with straight infrastipular and scattered prickles 3-5 mm. long, somewhat flattened below; floral branches 1-3 dm. long, usually sparingly armed; young shoots densely prickly; stipules adnate, the lower narrow, the upper dilated, 1-1.5 cm. long, pilose and glandular on the back, glandular-ciliolate, on the margins, the free portion linear-lanceolate to ovate, ascending; petiole and rachis pilose, glandular and sometimes with a few weak prickles; leaflets 5-7, thin, oval, 2-3.5 cm. long, sparingly pilose above, more densely so and somewhat glandular-pruinose beneath, usually more or less double-toothed, the teeth often gland-tipped; flowers corymbose; pedicels 1-3 cm. long, more or less pilose; hypanthium ellipsoid, with a neck, pilose at least when young, in fruit 8-10 mm. thick, 12-15 mm. long; sepals lanceolate, caudate-attenuate, 1.5 cm. long, more or less pilose, in fruit erect; petals about 1.5 cm. long; styles distinct, persistent, not exerted.

TYPE LOCALITY: San Francisco, California.

DISTRIBUTION: Middle California.

IX. *Pimpinellifoliae*. Upright shrubs, densely armed with scattered rather weak prickles, mixed with bristles; leaflets 7-9, small, sharply serrate; stipules adnate, narrow with spreading auricles; flowers solitary without bracts; sepals erect, persistent; styles not exerted, persistent.

# 120. *Rosa pimpinellifolia* L. Syst. Nat. ed. 10. 1063. 1759.

*Rosa spinosissima* L. Sp. Pl. 491, in part. 1753.

*Rosa lutescens* Pursh, Fl. Am. Sept. 735. 1814.

*Rosa illinoensis* Baker; Willm. Gen. Rosa 1: 243. 1910.

Stem 1-4 dm. high, erect, from a rootstock, branched with spreading branches, terete, densely armed with straight terete prickles and numerous bristles, which are usually somewhat reflexed; stipules glabrous, not glandular, rarely glandular-denticulate; petiole and rachis

glabrous or rarely slightly pubescent, sometimes sparingly glandular, often prickly; leaflets 5–11, small, nearly orbicular to broadly elliptic, sharply serrate with divergent short, simple or glandular-dentate teeth, glabrous on both sides, dark-green above, light-green beneath, 1–2 cm. long; flowers solitary without bracts; pedicels glandular-hispid or naked; hypanthium globose, rarely slightly elongate; sepals narrowly lanceolate, glandular on the back and the margins, acuminate, in fruit erect and persistent; petals white, usually yellowish at the base, 15–20 mm. long; styles not exserted, woolly, distinct.

TYPE LOCALITY: [Not given, but supplied in Sp. Pl. ed. 2, as] Europe.

DISTRIBUTION: New Hampshire to Ontario and Illinois; sparingly naturalized from Europe and Asia.

ILLUSTRATIONS: Pallas, Fl. Ross. *pl.* 75; Redouté, *Roses* 1: *pl.* opp. 83; *pl.* opp. 85; *pl.* opp. 119; 3: *pl.* opp. 23; A. Dietr. Fl. Boruss. 12: *pl.* 864; Fl. Dan. *pl.* 398; Sv. Bot. *pl.* 559; Engl. Bot. *pl.* 187; Bot. Reg. 5: *pl.* 431; Nouv. Duham. 7: *pl.* 16; Gartenflora 11: *pl.* 352 (double varieties); Belg. Hort. 12: opp. 194 (double varieties); Willm. Gen. *Rosa* *pl.* opp. 247; *pl.* opp. 249.

**X. Minutifoliae.** Low shrubs with scattered prickles; leaflets small, few, incised-serrate; stipules adnate, with divergent broad auricles; flowers solitary, without bracts; sepals erect, persistent, the outer lobed; achenes few, borne only in the bottom of the hypanthium; styles not exserted, persistent.

121. *Rosa minutifolia* Engelm. in Parry, Bull. Torrey Club 9: 97.  
1882.

Stem 0.5–1.5 m. high, much branched, finely pilose when young, in age glabrate, densely armed with slender, straight or slightly curved prickles, which are reddish-brown, terete, 5–10 mm. long and at first pubescent; leaves 5–7-foliolate; stipules adnate, 5 mm. long or less, pilose, often glandular-denticulate or glandular-ciliate, the free portion short and spreading; petiole and rachis finely pilose, and sometimes with few glandular bristles; leaflets 2–6 mm. long, oval or suborbicular, incisedly double-serrate, finely pilose on both sides, sometimes with gland-tipped teeth; flowers solitary; peduncles densely pilose, very short; hypanthium globose, densely bristly, with pubescent slender prickles, and tomentose; sepals ovate, abruptly caudate, 1 cm. long or less, tomentose on both sides, the outer often with foliaceous toothed lobes; in fruit persistent and erect; petals suborbicular, deeply rose-purple to white, 10–15 mm. long; styles persistent, distinct, not exserted; achenes borne in the bottom of the hypanthium.

TYPE LOCALITY: All Saints' (Todos Santos) Bay, Lower California.

DISTRIBUTION: Lower California.

ILLUSTRATION: Stand. Cycl. Hort. *f.* 3457.

122. *Rosa stellata* Wooton, Bull. Torrey Club 25: 152. 1898.

*Rosa Vernonii* Greene, Leaflets 2: 63. 1910.

Stems 4–6 dm. high, much branched, armed with numerous straight or slightly curved prickles, which are 2–8 mm. long, also bristly and, especially when young, closely covered with stellate trichomes; leaves small, 1–1.5 cm. long, 3-foliolate; stipules oblong, 5–7 mm. long, adnate half their length, entire or with 1 or 2 rounded teeth, pubescent, the free portion more or less spreading; petioles finely pilose; leaflets cuneate, or obovate-cuneate, 5–8 mm. long and almost as broad, rounded or usually truncate at the apex, and with 5–8 teeth at the apex, finely pilose on both sides, or glabrate, rarely glandular on the margin; flowers solitary, terminal; pedicels short, 1 cm. or less, long, stout; hypanthium globose, in fruit about 1 cm. in diameter, glabrate or finely pubescent and covered with numerous straight prickles; sepals lanceolate, about 1.5 cm. long, caudate-acuminate, often with some foliaceous, entire or serrulate, glandular-ciliate lobes, tomentose within and on the margins, prickly on the back, in fruit persistent and erect; petals broadly obovate, deeply rose-purple, 2–2.5 cm. long; pistils rather few; styles distinct, not exserted, persistent; achenes inserted mostly in the bottom of the hypanthium.

TYPE LOCALITY: Cueva in the Organ Mountains, New Mexico.

DISTRIBUTION: Western Texas to Arizona.

ILLUSTRATION: Bull. Torrey Club 25: *pl.* 335, *f.* 1–5, 9.



123. *Rosa mirifica* Greene, Leaflets 2: 62. 1910.

Stem 4–6 dm. high, much branched, armed with numerous straight or somewhat curved prickles and bristles, which are 2–10 mm. long, sometimes slightly glandular-hispid, but not stellate; leaves 3-foliolate or on the shoots and the more vigorous branches 5-foliolate; stipules adnate, 6–10 mm. long, often glandular-dentate, the free portion oblong and spreading; petiole and rachis mostly glabrate; leaflets cuneate-obovate, rounded at the apex, with 7–10 rounded teeth above the middle, pilose or glabrate, 8–15 mm. long; flowers solitary, terminal; pedicels about 1 cm. long; hypanthium globose, in fruit about 15 mm. in diameter, covered with numerous prickles; sepals lanceolate, about 2 cm. long, caudate-acuminate, usually with foliaceous tips, the outer more or less lobed, prickly on the backs, ciliate on the margins and tomentose within, in fruit persistent and erect; petals deeply rose-purple, 2.5–3 cm. long; pistils numerous; styles not exserted, distinct, persistent; achenes in the bottom of the hypanthium.

TYPE LOCALITY: Sierra Blanca (White Mountains), New Mexico.

DISTRIBUTION: White and Sacramento Mountains, New Mexico.

ILLUSTRATION: Bull. Torrey Club 25: pl. 335, f. 6–8.

XI. *Gymnocarpae*. Slender shrubs more or less bristly and with infrastipular spines scarcely stronger than the bristles; stipules adnate, the upper ones dilated; leaflets 5–7, usually double-serrate; flowers solitary or few together; sepals short, falling off together with the upper part of the hypanthium and the styles; achenes very few; styles scarcely exserted.

124. *Rosa dasypoda* Greene, Leaflets 2: 260. 1912.

Stem green or purplish, rather stout for the group, more or less bristly and with bristle-like infrastipular prickles 5–8 mm. long; leaves 5–9-foliolate; stipules adnate, mostly broad, the upper ones conspicuously dilated, glandular-ciliate as well as glandular on the back; petioles and rachis glandular-hispid and somewhat bristly; leaflets broadly oval to suborbicular, rounded at both ends or acute at the apex, glandular double-toothed, with broadly ovate teeth, the upper 2–4 cm., the lower 1–2 cm. long, glabrous on both sides or slightly glandular on the ribs beneath, dark-green above, paler beneath, indistinctly reticulate; flowers 2–4 together, subtended by leaves or enlarged stipule-like bracts; pedicels 2–3 cm. long, conspicuously glandular-hispid; hypanthium at first broadly ellipsoid, in fruit almost globular, 6–8 mm. in diameter, glabrous; sepals ovate, abruptly acuminate, about 1 cm. long, glabrous on the back, tomentose within and on the margins, deciduous together with the upper part of the hypanthium; petals 12–14 mm. long, broadly obcordate; styles few, distinct, deciduous; achenes large.

TYPE LOCALITY: Bear Creek, Wallowa County, Oregon.

DISTRIBUTION: British Columbia to California, near the coast.

125. *Rosa leucopsis* Greene, Leaflets 2: 258. 1912.

*Rosa Helleri* Greene, Leaflets 2: 259. 1912.

Stem 1 m. high or more, stoutish, pale-green or brownish, usually sparingly bristly, with ascending bristles; branches often unarmed; leaves 5–7-foliolate; stipules short, 1 cm. long, narrow or the upper somewhat dilated, glandular-ciliate and glandular on the back; petioles and rachis glandular-hispid and somewhat bristly; leaflets oval or obovate in outline, often rounded at both ends, deeply double-serrate with glandular ovate-lanceolate teeth, glabrous on both sides, somewhat pale-green above, still paler, indistinctly reticulate, and slightly glandular on the ribs beneath; flowers solitary; pedicels sparingly glandular-hispid; hypanthium glabrous, at first ellipsoid, often becoming subglobose or pear-shaped in fruit, then 4–6 mm. in diameter; sepals ovate or lance-ovate, abruptly acuminate, glabrous on the back, tomentose on the margins and within, scarcely 1 cm. long; petals obcordate, 10–12 mm. long; deciduous together with the upper part of the hypanthium; achenes few; styles distinct, deciduous. [Perhaps not distinct from *R. gymnocarpa*.]

TYPE LOCALITY: Sage plains of southeastern Oregon, in Lake County.

DISTRIBUTION: Montana to Oregon and British Columbia.

126. *Rosa gymnocarpa* Nutt.; T. & G. Fl. N. Am. 1: 461. 1840.*Rosa spithamea subinermis* Engelm. Bot. Gaz. 6: 236. 1881.*Rosa glaucodermis* Greene, Leaflets 2: 255. 1912.*Rosa abietorum* Greene, Leaflets 2: 257. 1912.? *Rosa amplifolia* Greene, Leaflets 2: 258. 1912.

Stem slender, 1-3 m. high, terete, brown or purplish, often very bristly and with infrastipular prickles, which are very slender, terete, sometimes not larger than the scattered bristles, sometimes 1 cm. long; floral branches 1-2 dm. long, prickly or unarmed; stipules adnate, 5-15 mm. long, the lower narrow, the upper dilated, glabrous on the back, glandular-ciliate and dentate on the margin; rachis and petiole usually more or less glandular-hispid; leaflets 5-7 (rarely 9), from suborbicular to elliptic, 1-3.5 cm. long, thin, shining above, dull but not pale beneath, glabrous on both sides, doubly-serrate with gland-tipped teeth and sometimes glandular on the veins, reticulate with subpellucid veins; flowers usually solitary; pedicels 1-3 cm. long, slender, glabrous or more or less glandular-hispid; hypanthium ellipsoid, in fruit 4-6 mm. thick, 6-8 mm. long, sometimes becoming almost spherical; sepals ovate, acuminate, rarely caudate, 5-8 mm., sometimes 10 mm. long, purplish, glabrous on the back, tomentose on the margins and within, deciduous together with the upper part of the hypanthium and the styles; petals 10-15 mm. long, obcordate; styles few, distinct and deciduous.

TYPE LOCALITY: Oregon, in shady woods.

DISTRIBUTION: British Columbia to Montana and California.

ILLUSTRATIONS: Bot. Mex. Bound. pl. 21; Willm. Gen. Rosa pl. opp. 221; Armstrong, Field Book W. Wild Fl. 223, f.

*Rosa gymnocarpa* × *Macounii*. This has the slender stem and slender prickles of *R. gymnocarpa*, but the leaves are mostly simple-toothed, scarcely glandular-dentate, and slightly puberulent and paler beneath; the carpels are more numerous; the fruit is larger, about 1 cm. in diameter, the styles slightly exerted, and the sepals more persistent. Mac Abee's Ranch, Priest River Valley, Montana, July 23, 1900, *MacDougal* 80.

*Rosa gymnocarpa* × *nutkana*. This resembles most *R. gymnocarpa*, but is a more robust and taller plant, with somewhat larger petals, more elongate-caudate and apparently persistent sepals. The prickles are much larger and stouter and more or less flattened; the young shoots are bristly as in *R. gymnocarpa*; the carpels are much more numerous. Crescent, British Columbia, May 30, 1915, *J. K. Henry*.

*Rosa gymnocarpa* × *pisocarpa*. See under *R. pisocarpa*.

*Rosa gymnocarpa* × *pyrifera*. This resembles most *R. pyrifera* in habit and pubescence, the leaves being finely puberulent beneath and the inflorescence corymbose. It approaches *R. gymnocarpa* in the broader leaflets, which are more or less double-toothed, in the short, broad, and purple-tinged sepals, the few carpels, and exerted styles. The hypanthium has a distinct neck. Big Fork, Montana, July 8, 1901, *MacDougal* 579.

*Rosa gymnocarpa* × *Woodsii*. This resembles *R. gymnocarpa* in habit, leaf-form, leaf-texture and prickles, but the leaves are mostly simple-toothed and glabrous, the sepals narrowly lanceolate, gradually attenuate, 1.5 cm. long and apparently persistent. The carpels are more numerous than in *R. gymnocarpa*, the hypanthium subglobose, and the styles but slightly exerted. Tobacco Mountains, Montana, July 14, 1909, *B. T. Butler* 4238.

127. *Rosa prionota* Greene, Leaflets 2: 256. 1912.*Rosa piscatoria* Greene, Leaflets 2: 256. 1912.*Rosa apiculata* Greene, Leaflets 2: 259. 1912.

Stem 1-2 m. high or more, slender, red or green, glabrous, more or less densely bristly and armed with slender, straight infrastipular prickles 5-10 mm. long; bristles and prickles ascending or spreading; leaves 7-9-foliolate; stipules short, less than 1 cm. long, rather broad, glandular-ciliate, the free portion lanceolate or ovate; rachis and petiole strongly glandular-hispid; leaflets oval, obtuse at the apex, at least the terminal one acute at the base, doubly glandular-serrate, with lanceolate teeth, bright green on both sides, glabrous, glandular only on the midrib beneath, usually less than 1 cm. long, rarely 1.5 cm. long, reticulate beneath with semi-pellucid veinlets; flowers solitary; pedicels 1-2 cm. long, more or less glandular-hispid; hypanthium glabrous, ellipsoid or in fruit often becoming subglobose, often more or less apiculate (*R. apiculata*), 4-5 mm. in diameter; sepals ovate, caudate, acuminate, 1 cm. long or less, glabrous on the back, tomentose within and on the margins, rarely with a few scattered glands along the margins (*R. piscatoria*), in age deciduous together with the upper part of the hypanthium; achenes few and large; styles distinct, deciduous.

TYPE LOCALITY: Lake County, California.

DISTRIBUTION: Vancouver Island to Central California.

128. *Rosa Bridgesii* Crépin, Bull. Soc. Bot. Belg. 15: 54. 1876.

*Rosa gymnocarpa pubescens* S. Wats.; Brewer & Wats. Bot. Calif. 1: 187. 1876.  
*Rosa crenulata* Greene, Leaflets 2: 255. 1912.

Stem slender, 2–10 dm. high, terete, grayish-brown, glabrous, armed with straight or slightly curved infrastipular prickles, which are 5–7 mm. long and slender or moderately stout; floral branches usually short, often armed; stipules adnate, short, 5–10 mm. long, glandular-ciliate on the margins, the free portion broadly semilunar or ovate, more or less spreading; rachis and petiole puberulent and glandular; leaflets suborbicular or oval, rounded at both ends, 8–20 mm. long, doubly-serrate with gland-tipped teeth, finely pilose on both sides, especially on the lower side; flowers mostly solitary; pedicels glabrous or somewhat glandular-hispid, 1–2 cm. long; hypanthium glabrous, globose 6–7 mm. thick; sepals ovate, acuminate, about 8 mm. long, often somewhat glandular on the back, tomentose on the margins and within, deciduous together with the upper portion of the hypanthium and the styles; petals about 1 cm. long, obo cordate.

TYPE LOCALITY: California.

DISTRIBUTION: Oregon and California.

129. *Rosa oligocarpa* Rydberg, sp. nov.

A slender shrub; older stems chestnut-colored, armed with slender, straight, infrastipular prickles about 5 mm. long; young twigs yellowish-green; stipules adnate, rather broad, puberulent, entire or glandular-dentate, the free portion broadly lanceolate; leaflets mostly 5, oblanceolate, 2–3.5 cm. long, serrate with lanceolate teeth, entire at the cuneate base, puberulent on both sides or glabrate above; flowers mostly solitary; pedicels glandular-hispid; hypanthium smooth, ellipsoid, in fruit about 8 mm. long and 4 mm. broad; sepals lanceolate, caudate-attenuate, tomentose within, puberulent and somewhat glandular without; styles few, slightly exerted.

Type collected in Goose Valley, Shasta County, California, 1912, *Alice Eastwood* 945 (herb. Arnold Arboretum).

## DOUBTFUL AND EXCLUDED SPECIES

*Rosa acuminata* Raf. Ann. Gén. Sci. Phys. 5: 216. 1820. This might be *R. dasistema* or *R. Bicknellii*, from the obovate fruit. It was described as having 3–5 leaflets, which agrees with the former, but the sepals were described as lobed, which is rarely the case in *R. dasistema*. *R. Bicknellii* has usually lobed sepals, but the leaflets are mostly 7.

*Rosa americana* Breiter (Hort. Breit. 416; name. 1817); Link, Enum. 2: 56. 1822. This seems from Link's description to be *R. blanda*; but Crépin who had seen an authentic specimen claimed that it is a form of *R. pimpinellifolia*.

*Rosa Evratina* Bosc, Nouv. Cours. Agr. 11: 256. 1809. Said to be from "Carolina," but described from cultivated plants; probably not North American.

*Rosa floribunda* Andr. Roses pl. 106. 1828. A rose said to have been received from America. Andrews regards it (probably correctly) as *R. moschata* × *indica*. Hence it should be excluded.

*Rosa globosa* Raf. Ann. Gén. Sci. Phys. 5: 215. 1820. This is described as having straight geminate prickles, curved prickles on the petioles, 3–5-foliolate leaves, pubescent beneath, paniculate inflorescence, and large glabrous fruit. This suggests *R. palustris*, except the glabrous fruit and the straight prickles. It can not be *R. carolina* as suggested by Watson.

*Rosa nivea* Raf. Ann. Gén. Sci. Phys. 5: 218. 1820. *R. Rafinesquii* Seringe, in DC. Prodr. 2: 611. 1825. Unknown.

*Rosa pendulina* L. has often been credited to America. It is the same as the European *R. alpina*.

*Rosa riparia* Raf. Ann. Gén. Sci. Phys. 5: 215. 1820. This is described as having 5, double-serrate leaflets, hispid and prickly stems, straight prickles, turbinate, nearly glabrous fruit and lobed sepals. It might be the same as *R. serrulata* Raf., if the hypanthium had not been turbinate.



*Rosa ruficaulis* Ehrh. Beitr. 7: 138. 1792. This was based on *R. portlandia*, is probably *R. nitida*, but the hypanthium is described as glabrous.

*Rosa turgida* Pers. Syn. Pl. 2: 49. 1806. This has often been given as a synonym of *R. blanda*, but it is described as having hispid fruit and other characters that do not fit that species. The type locality was given as "Scotia?".

*Rosa undulaeflora* Andr. Roses pl. 108. 1828. A double garden rose, imported into England from France. Andrews remarks: "We think it has been raised from some of the Carolina Roses." Perhaps *R. virginiana*.



## ADDITIONS AND CORRECTIONS

Self-evident errors, and such as may readily be discovered by reference to the bibliography or index, are not listed here.

### PODOSTEMONACEÆ

BY GEORGE VALENTINE NASH

#### 3. *TRISTICHA*.

The second synonym should be: *Philocrena* Bong. Mém. Acad. St.-Pétersb. VI. 3<sup>2</sup>: 80. 1834.

#### 6. *Podostemon Ceratophyllum*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2130.

### CRASSULACEÆ

BY JOSEPH NELSON ROSE

#### 8. *Bryophyllum pinnatum*.

Add to the illustrations: Britton, Fl. Bermuda f. 184.

#### 8. Insert:

##### 1a. *KALANCHOË* Adans. Fam. Pl. 2: 248. 1763.

Erect herbs, sometimes a little woody, with opposite leaves and paniced flowers, often showy. Calyx 4-parted, shorter than the corolla. Corolla salverform, with a swollen tube and a spreading, 4-parted limb. Stamens usually 8, in 2 series on the corolla-tube, the filaments very short. Carpels 4, lanceolate, adnate to the base of the corolla-tube; ovules many. Follicles many-seeded.

Type species, *Cotyledon laciniata* L.

##### 1. *Kalanchoë brasiliensis* Camb. in St. Hil. Fl. Bras. Mer. 2: 196. 1829.

Herbaceous, perennial, 3–10 dm. high, glandular-pubescent above. Leaves ovate to obovate, short-petioled, 5–10 cm. long, faintly pinnately veined, crenate-dentate, or the upper pairs lanceolate, much smaller and entire; inflorescence 1–3 dm. long, cymose-paniculate, its branches nearly erect, the bracts very small; flowers yellow, 12–16 mm. long; sepals lanceolate, glandular-pubescent, acute; corolla-tube 2–3 times as long as the calyx, the limb spreading; stamens borne on the corolla-tube a little above the middle, not exserted; follicles about 6 mm. long, the brown seeds oblong.

TYPE LOCALITY: Near Sebastianopolis, Brazil.

DISTRIBUTION: Naturalized in Bermuda, Cuba, and St. Thomas.

ILLUSTRATIONS: Fl. Bras. 14<sup>2</sup>: pl. 89, f. 2; Britton, Fl. Bermuda f. 185.

#### 9. *Tillaeastrum aquaticum*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2, f. 2131; G.T. Stevens, Ill. Guide pl. 59, f. 5.

#### 10. Insert:

##### 4a. *Tillaeastrum longipes* Rose, Contr. U. S. Nat. Herb. 13: 301. 1911.

Stems simple, erect, about 2 cm. high. Leaves linear, acute, 1 mm. broad or less; peduncles slender, filiform, weak, 2–4 mm. long, sometimes much longer than the leaves; sepals green, about half as long as the petals; seeds several, oblong in outline, smooth.

TYPE LOCALITY: Near Trinidad, Hidalgo.

DISTRIBUTION: Known only from the type locality.

#### 10. *Tillaeastrum Vaillantii*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2132.

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## 10. Insert:

5a. *Tillaeastrum latifolium* Rose, Contr. U. S. Nat. Herb. 13: 301. 1911.

Delicate annual, 2–3 cm. high. Leaves opposite, somewhat connate at base, 1 or 2 pairs below the flowers, the upper ones congested, lanceolate, acute or even apiculate, the margin serrulate; flowers axillary and solitary but often appearing as if in an umbel of 10 or more; pedicels filiform, 10–15 mm. long; sepals 3 or 4, filiform, 2.5 mm. long; petals broadly oval to orbicular, 1 mm. long, shorter than the carpels; stamens 3 or 4; carpels 3 or 4, purplish, each with 10 or more seeds.

TYPE LOCALITY: Nevada de Toluca, Mexico.

DISTRIBUTION: Known only from the type locality.

10. *Sempervivum tectorum*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2, f. 2143.

12. *Pachyphytum bracteosum*.

Add to the illustrations: Addisonia pl. 67.

12. *Pachyphytum longifolium*.

Add: ILLUSTRATION: Addisonia pl. 4.

## 12. Insert:

5a. *Pachyphytum compactum* Rose, Contr. U. S. Nat. Herb. 13: 301. 1911.

Caulescent, 10 cm. or more high. Leaves closely set at right angles to the stem, very fleshy but somewhat flattened, purplish, a little glaucous, acute, 2–2.5 cm. long; flowering stem 4 dm. long; leaves on flowering stem minute; flowers 7–10, racemose; corolla 8 mm. long; petals broad, reddish except the green tips, acute.

TYPE LOCALITY: Ixmiquilpan, Hidalgo.

DISTRIBUTION: Known only from the type locality.

ILLUSTRATION: Contr. U. S. Nat. Herb. 13: pl. 61.

## 15. Insert:

4a. *Echeveria Pittieri* Rose, Contr. U. S. Nat. Herb. 13: 296. 1911.

Caulescent, 10 cm. or more high, crowned at the apex by a loose rosette of leaves, glabrous throughout. Leaves 6–8 cm. long, oblanceolate, tapering into a distinct petiole, acute, greenish or somewhat purplish, sometimes a little glaucous; flowering stem about 20 cm. long, leafy, the leaves similar to the stem-leaves; inflorescence a dense spike 4–5 cm. long; flowers subtended by small linear rose-colored bracts and two inner bractlets; calyx cleft nearly to the base into linear, acute lobes about two thirds the length of the corolla, rose-colored; corolla when in bud somewhat 5-angled; corolla about 12 mm. long, deeply cleft, the lobes stiff, erect or slightly spreading, acute, rose-colored, with a pronounced pocket near the base within; stamens 10, the 5 opposite the petals inserted just above this pocket, the other 5 attached to the corolla but lower down; ovaries erect tipped by the long, slender styles.

TYPE LOCALITY: On the volcano Ipala, Guatemala.

DISTRIBUTION: Known only from the type locality.

## 16. Insert:

6a. *Echeveria leucotricha* A. Purpus, Monats. Kakt. 24: 65. 1914.

Cespitose. Basal rosettes densely leafy, the leaves oblong to spatulate, obtuse, thick, 6–8 mm. long, covered with dense soft white pubescence; flowering stem 3–4 dm. long, leafy below, pubescent; inflorescence spicate; flowers in the axils of large bracts; sepals 5, 1 cm. long, free to the base, tomentose; petals free nearly to the base, linear-lanceolate, acuminate, 2 cm. long.

TYPE LOCALITY: San Luis Tultitlanapa, Puebla.

DISTRIBUTION: Known only from the type locality.

ILLUSTRATION: Monats. Kakt. 24: 67.

16. *Echeveria multicaulis*.

Add: ILLUSTRATION: Addisonia pl. 52.

17. *Echeveria australis*.Add: ILLUSTRATION: Addisonia *pl.* 40.

## 17. Insert:

12a. *Echeveria Maxonii* Rose, Contr. U. S. Nat. Herb. 12: 395. 1909.

Stems glabrous, frutescent, at first erect, becoming decumbent, 6–8 dm. long, naked below. Leaves numerous, near the end of the branches, spatulate, 3–10 cm. long; inflorescence an equilateral raceme, sometimes becoming paniculate; peduncle 2–3 dm. long; sepals distinct, acute, unequal; petals distinct nearly to the base, erect, salmon-pink; stamens 10.

TYPE LOCALITY: Chuacús, Guatemala.

DISTRIBUTION: Guatemala.

ILLUSTRATION: Contr. U. S. Nat. Herb. 12: *pl.* 48.17. *Echeveria nodulosa*.Add to the illustrations: Addisonia *pl.* 92.

## 17. Insert:

13a. *Echeveria guatemalensis* Rose, Contr. U. S. Nat. Herb. 12: 395. 1909.

Erect, 10–15 cm. high. Leaves closely set, alternate, spreading, rather thin, 2–4 cm. long, spatulate, rounded at apex, mucronate; inflorescence an equilateral raceme; flowers 20 or more; pedicels 3–4 mm. long; sepals linear, acute, widely spreading; corolla 10 mm. long.

TYPE LOCALITY: On the Volcan de Agua, Guatemala.

DISTRIBUTION: High mountains of Guatemala.

ILLUSTRATION: Contr. U. S. Nat. Herb. 12: *pl.* 47.18. *Echeveria carnicolor*.Add to the illustrations: Addisonia *pl.* 13; Contr. U. S. Nat. Herb. 12: *pl.* 46.

## 19. Insert:

21a. *Echeveria bifurcata* Rose, Contr. U. S. Nat. Herb. 12: 439. 1909.

Short-caulescent, usually crowned by a simple rosette of leaves. Basal leaves lanceolate, acuminate, deeply concave on the face; flowering stem 2 dm. long, bright-green, 5–7 cm. long, leafy to the base; stem-leaves semiterete, acute, 3–5 cm. long; inflorescence 2-branched, each branch a secund raceme, 8–12 cm. long; pedicels almost wanting; sepals spreading at right angles to the corolla, very unequal; corolla 10–12 mm. long, bright-red above, paler below.

TYPE LOCALITY: Near Ixmiquilpan, Hidalgo.

DISTRIBUTION: Known only from the type locality.

ILLUSTRATION: Contr. U. S. Nat. Herb. 12: *pl.* 77.

## 19. Insert:

22a. *Echeveria trianthina* Rose, Contr. U. S. Nat. Herb. 12: 439. 1909.

Acaulescent, giving off rosettes freely. Basal leaves numerous, deep-purple when young, becoming greenish in age, oblanceolate, 6–12 cm. long, thick; flowering stem 3–4 dm. long, naked below; stem-leaves narrow, terete or somewhat flattened, acute, 2–8 cm. long; inflorescence simple or 2- or 3-branched, at first strongly reflexed; pedicels very short, 2–3 mm. long; sepals unequal, terete, acute; flower-buds ovate; corolla pinkish; carpels distinct.

TYPE LOCALITY: Rio de Tolantango, Hidalgo.

DISTRIBUTION: Hidalgo.

ILLUSTRATION: Contr. U. S. Nat. Herb. 12: *pl.* 78.

## 19. Insert:

23a. *Echeveria lutea* Rose, Jour. Wash. Acad. Sci. 1: 268. 1911.

Basal leaves numerous, ascending, thickish, 8–10 cm. long, acuminate; flowering stems 2–3 dm. long; stem-leaves linear, semiterete, 4–5 cm. long; inflorescence a secund raceme, at first strongly reflexed, but as the flowers open becoming erect; flower-buds strongly 5-angled; corolla lemon-yellow, 15 mm. long.

TYPE LOCALITY: San Rafael, San Luis Potosí.

DISTRIBUTION: Mountains of San Luis Potosí.

ILLUSTRATION: Jour. Wash. Acad. Sci. 1: 269, *f.* 1.

## 20. Insert:

- 27a.
- Echeveria turgida*
- Rose; A. Purpus, Monats. Kakt. 17: 148. 1907.

Acaulescent, the leaf-rosettes very dense, sometimes 12 cm. in diameter. Leaves oblong, 2.5–5 cm. long, convex on the under side, apiculate; flowering stems sometimes four from a single plant, 1–2 dm. long; inflorescence a secund raceme; sepals ovate, appressed to corolla; corolla 11–12 mm. long, yellowish-rose without.

TYPE LOCALITY: Near Viesca Coahuila, Mexico.

DISTRIBUTION: On limestone rocks, Coahuila.

ILLUSTRATION: Monats. Kakt. 17: 149.

21. *Echeveria cuspidata*.

Add: ILLUSTRATION: Monats. Kakt. 17: 185.

## 22. Insert:

- 36a.
- Echeveria subalpina*
- Rose & Purpus, Contr. U. S. Nat. Herb. 13: 45. 1910.

Acaulescent. Basal leaves arranged in open rosettes, linear-oblong, with reddish attenuate tips, 7–10 cm. long, glaucous; flowering stem usually simple; inflorescence a secund raceme, 8–10 flowered; pedicels very short; sepals ascending; corolla 12 mm. long, red without, yellowish within; petals blunt.

TYPE LOCALITY: Subalpine regions of Orizaba, Mexico.

DISTRIBUTION: Known only from the type locality.

ILLUSTRATION: Contr. U. S. Nat. Herb. 13: pl. 11.

## 22. Insert:

- 38a.
- Echeveria setosa*
- Rose & Purpus, Contr. U. S. Nat. Herb. 13: 45. 1910.

Acaulescent, freely giving off offsets from the base. Leaves numerous, sometimes 100 or more, forming dense globular rosettes, spatulate to oblanceolate, setose on both sides, 4–5 cm. long; flowering stems setose, 2–3 dm. long, usually simple but sometimes 2-branched; inflorescence a secund raceme, 8–10-flowered; lower pedicels 1–3 cm. long, the upper ones much shorter; sepals linear-oblong, spreading, green, setose; corolla 10–16 mm. long, red below, yellow above.

TYPE LOCALITY: Near San Luis Tultitlanapa, Puebla.

DISTRIBUTION: Known only from the type locality.

ILLUSTRATIONS: Contr. U. S. Nat. Herb. 13: pl. 10; Addisonia pl. 6; Bot. Mag. pl. 8748.

22. *Echeveria minutiflora*.

See *Thompsonella minutiflora*, page 540.

24. *Echeveria Palmeri*.

Insert the synonym: *Echeveria Rosei* Nelson & Macbr. Bot. Gaz. 56: 477. 1913.

## 25. Insert:

- 52a.
- Echeveria gloriosa*
- Rose, Contr. U. S. Nat. Herb. 13: 295. 1911.

Stems about 30 cm. tall, crowned with a compact cluster of highly colored leaves, from which arise several erect or spreading flowering stems sometimes a meter long. Leaves 10–15 cm. long, 7–10 cm. broad, rounded at apex, deep-purple, thickish; flowering stem stout, glaucous; inflorescence an open panicle; lateral branches bearing numerous sessile flowers; sepals ascending; corolla 12 mm. long, dark-red, in bud broadly ovate, but when fully open showing a wide mouth.

TYPE LOCALITY: On the Cerro de Santa Lucia, Puebla.

DISTRIBUTION: Known only from the type locality.

ILLUSTRATIONS: Contr. U. S. Nat. Herb. 13: pl. 50, 51.

- 52b.
- Echeveria fimbriata*
- C. H. Thompson, Trans. Acad. St. Louis 20:

20. 1911.

Stems 4.5 cm. high, crowned by an open rosette of leaves. Leaves oblanceolate, 12 cm. long, obtuse, tapering into a thick base, concave above; inflorescence usually 2-branched, each branch a secund raceme with 6–8 flowers; sepals widely spreading; corolla



5-angled, 1.5 cm. long; petals lanceolate, acute, somewhat gibbous at base, rose-pink, glaucous.

TYPE LOCALITY: El Parque, Morelos.

DISTRIBUTION: High mountains of central Mexico.

ILLUSTRATION: Trans. Acad. St. Louis 20: pl. 8, 9.

25. Insert:

53a. *Echeveria Holwayi* Rose, Contr. U. S. Nat. Herb. 13: 295. 1911.

Caulescent, the stem in cultivated specimens short and stout. Leaves forming a dense rosette at the top of the stem, pale-green, slightly glaucous, sometimes purplish, obovate, obtuse, mucronate, narrowed at base into a stout short petiole, the margin somewhat wavy, 10-12 cm. long; flowering stem 90-120 cm. long, often deep-red and glaucous, its leaves scattered; inflorescence a much-branched panicle; main branches axillary, 5-15-flowered; flowers arranged in a second raceme; pedicels short, often only 1-2 mm. long; sepals erect or ascending, linear, acute, very unequal; corolla 12 mm. long, rose-colored when fully open, its lobes acute, with spreading tips.

TYPE LOCALITY: Near Oaxaca, Mexico.

DISTRIBUTION: Oaxaca.

25. Insert:

54a. *Echeveria crenulata* Rose, Contr. U. S. Nat. Herb. 13: 295. 1911.

Caulescent, the stem in cultivated specimens short but in wild specimens much elongated and enlarged. Basal leaves in the wild plant broadly obovate, more than 30 cm. long, 15 cm. broad, rounded at apex, tapering at base into a very distinct petiole; stem-leaves pale-green, a little glaucous, the margin wavy and purplish red; leaves on flowering stems acute, ovate to spatulate, tapering into a stout, thick petiole; inflorescence a short panicle, the lateral branches short, few-flowered, the bract instead of subtending the branch usually carried up for some distance on the peduncle; sepals widely spreading, very unequal, acute; corolla 15 mm. long, strongly angled, yellowish-red, its lobes acute.

TYPE LOCALITY: Near Cuernavaca, Morelos.

DISTRIBUTION: Morelos.

54b. *Echeveria gigantea* Rose & Purpus, Contr. U. S. Nat. Herb. 13: 46.

1910.

Stem short and stocky, 2-3 dm. long, crowned by a rosette of leaves. Leaves oblanceolate, up to 2.5 dm. long, 1.5 dm. broad at widest point, tapering at base into a thick fleshy petiole, bordered by a bright-red margin; flowering stem erect, sometimes nearly 2 meters long; inflorescence paniculate; pedicels short, 2-3 mm. long; sepals unequal, spreading; corolla 12-14 mm. long, pinkish.

TYPE LOCALITY: Near San Luis Tultitlanapa, Mexico.

DISTRIBUTION: Known only from the type locality.

ILLUSTRATION: Contr. U. S. Nat. Herb. 13: pl. 12-14.

26. *Echeveria Purpusi*.

Substitute for this name: *Echeveria microcalyx* Britton & Rose; Rose, Contr. U. S. Nat. Herb. 13: 295. 1911. *Echeveria Purpusi* Britton; Britton & Rose, N. Am. Flora 22: 26. 1905. Not *E. Purpusi* K. Schumann, 1896. This species was again collected in 1907 and flowered in Washington in 1909 and 1910.

26. Insert:

7a. *THOMPSONELLA* Britton & Rose, Contr. U. S. Nat. Herb. 12: 391. 1909.

Acaulescent. Basal leaves few, spreading, oblong. Inflorescence a narrow panicle or loose simple spike. Sepals 5, erect, clavate. Corolla rotate, with a very short tube. Stamens 10, erect. Carpels 5, erect, the styles slender.

Type species, *Echeveria minutiflora* Rose.

Inflorescence spicate, open.

Inflorescence paniculate, dense.

1. *T. minutiflora*.

2. *T. platyphylla*.

1. *Thompsonella minutiflora* (Rose) Britton & Rose, Contr. U. S. Nat. Herb. 12: 392. 1909.

*Echeveria minutiflora* Rose; Britton & Rose, Bull. N. Y. Bot. Gard. 3: 9. 1903.

Described on page 22, as *Echeveria minutiflora*.

ILLUSTRATION: Contr. U. S. Nat. Herb. 12: pl. 44.

2. *Thompsonella platyphylla* Rose; Britton & Rose, Contr. U. S. Nat. Herb. 12: 392. 1909.

Basal leaves oblanceolate, 8–12 cm. long, narrowed at base into a long thick petiole, glaucous, with purple margins; flowering stem 20 cm. long, naked below; inflorescence a narrow panicle; sepals glaucous, thick; petals 6 mm. long, acute.

TYPE LOCALITY: Iguala Cañon, Guerrero.

DISTRIBUTION: Known only from the type locality.

ILLUSTRATION: Contr. U. S. Nat. Herb. 12: pl. 45.

#### 7b. *GRAPTOPETALUM* Rose, Contr. U. S. Nat. Herb. 13: 296. 1911.

Acaulescent or in time becoming shortly caulescent. Leaves forming a rather compact rosette, thickish, acute. Inflorescence a few-flowered, open cyme. Sepals 5, erect, green, nearly distinct. Corolla short-tubular, its lobes widely spreading horizontally or even reflexed, more or less banded with red. Stamens 10, in age recurved back of the petals. Carpels 5, erect even when mature, abruptly contracted into a short style; scales small.

Type species, *Graptopetalum pusillum* Rose.

1. *Graptopetalum pusillum* Rose, Contr. U. S. Nat. Herb. 13: 296. 1911.

Rosettes 3–4 cm. in diameter; leaves spatulate, 2–4 cm. long, acute, glabrous, pale and slightly glaucous; stems about 10 cm. long, weak but erect or often falling over; stem-leaves alternate, linear; inflorescence somewhat cymose; pedicels 4–8 mm. long; sepals linear, acute, distinct nearly or quite to the base, 2–3 mm. long, slightly glaucous; corolla-tube 2–3 mm. long; lobes 6–7 mm. long, spreading or recurved, acute, yellowish to cream-colored, slightly blotched or banded with red; stamens slender, in age recurved upon the tube of the corolla; carpels erect at least when young.

TYPE LOCALITY: In the State of Durango.

DISTRIBUTION: Known only from the type locality.

ILLUSTRATION: Contr. U. S. Nat. Herb. 13: f. 55; pl. 52.

#### 29. *Clementsia rhodantha*.

Add: ILLUSTRATION: Clements, Rocky Mt. Fl. pl. 30, f. 1.

#### 32. Insert:

- 11a. *Villadia diffusa* Rose, Contr. U. S. Nat. Herb. 13: 302. 1911.

Caulescent, much branched, somewhat woody at base, glabrous, purplish; leaves alternate, ovate, obtuse, 6 mm. long, glabrous; inflorescence an open spike, 2–12 cm. long; flowers subtended by a leaf-like bract; sepals 2–3 mm. long, ovate, obtuse, green; corolla about 6 mm. long, pinkish, the lobes acute, the tube about one-fourth the whole length; styles slender.

TYPE LOCALITY: On Sierra Blanca, Chiapas.

DISTRIBUTION: Known only from the type locality.

- 11b. *Villadia guatemalensis* Rose, Contr. U. S. Nat. Herb. 12: 396. 1909.

Very much branched, spreading; flowering branches erect or ascending; leaves closely set, standing nearly at right angles to the stem, terete, 1.5–2 cm. long, pointed; flowers sessile, terminal or axillary; sepals ovate, green, nearly distinct; corolla lemon-yellow; styles slender; carpels erect, even in age.

TYPE LOCALITY: Chuacús, Guatemala.

DISTRIBUTION: Known only from the type locality.

11c. *Villadia levis* Rose, Contr. U. S. Nat. Herb. 12: 440. 1909.

Caulесcent, 3-5 dm. high, more or less branched; leaves narrow, nearly terete, acute, 2-3 cm. long, spreading, often forming small rosettes along the lower part of the stem, and there somewhat angled; inflorescence an elongate leafy spike; sepals thick, ovate; corolla spreading, yellowish-brown, the lobes ovate; scales large, orange-colored; style-branches slender.

TYPE LOCALITY: Near Santa Catarina, Oaxaca.

DISTRIBUTION: Known only from the type locality.

ILLUSTRATION: Contr. U. S. Nat. Herb. 12: pl. 81.

## 32. Insert:

3a. *Urbinia lurida* Rose, Contr. U. S. Nat. Herb. 13: 301. 1911.

Leaves clustered in a dense rosette, ovate, acuminate, glabrous, purple or lurid, 3-4 cm. long, 1.5-2.5 cm. broad at widest point; flowering stem 25 cm. long; stem-leaves small, bract-like, alternate; sepals small, ovate, acute; corolla 6-7 mm. long; petals acute, erect except at the small out-turned tips.

TYPE LOCALITY: Near Tobar, Durango.

DISTRIBUTION: Known only from the type locality.

3b. *Urbinia Purpusii* Rose, Contr. U. S. Nat. Herb. 13: 302. 1911.

Leaves clustered in a compact rosette, resembling certain species of *Haworthia*, broadly ovate, acuminate, 3 cm. long, nearly as broad at base, glabrous, the surface mottled with brown; flowering stem reddish, 3 cm. long, slender; stem-leaves small, ovate, acute, appressed; raceme few-flowered; sepals small, ovate, acute, green; corolla pale-yellow.

TYPE LOCALITY: Southern Mexico.

DISTRIBUTION: Known only from the type locality.

35. *Dudleya Rusbyi*.

Add the synonym: *Echeveria Rusbyi* Nelson & Macbr. Bot. Gaz. 56: 476. 1913.

37. *Dudleya saxosa*.

Add the synonym: *Echeveria saxosa* Nelson & Macbr. Bot. Gaz. 56: 476. 1913.

37. *Dudleya Setchellii*.

Add the synonym: *Echeveria Setchellii* Nelson & Macbr. Bot. Gaz. 56: 477. 1913.

38. *Dudleya Hallii*.

Insert the synonym: *Echeveria Hallii* Nelson & Macbr. Bot. Gaz. 56: 476. 1913.

40. *Dudleya nevadensis*.

Add the synonym: *Echeveria nevadensis* Nelson & Macbr. Bot. Gaz. 56: 477. 1913.

40. *Dudleya Plattiana*.

Add the synonym: *Echeveria Plattiana* Nelson & Macbr. Bot. Gaz. 56: 477. 1913.

Add: ILLUSTRATIONS: Meehan, Nat. Fl. II. 2: pl. 27; Armstrong, Field Book W. Wild Fl. 195.

42. *Dudleya Brandegei*.

Add: ILLUSTRATION: Addisonia pl. 48.

44. *Dudleya Palmeri*.

Add the synonym: *Echeveria Palmeri* Nelson & Macbr. Bot. Gaz. 56: 477. 1913.  
Nat. E. Palmeri Rose, 1903.

45. *Dudleya Lingula*.

Add the synonym: *Echeveria Lingula* Nelson & Macbr. Bot. Gaz. 56: 477. 1913.

45. *Dudleya paniculata*.

Add the synonym: *Echeveria Jepsonii* Nelson & Macbr. Bot. Gaz. 56: 477. 1913.

46. *Dudleya Cotyledon*.

Add the synonym: *Echeveria Cotyledon* Nelson & Macbr. Bot. Gaz. 56: 477. 1913.

47. *Gormaniana Watsoni*.

Add the synonym: *Echeveria Watsoni* Nelson & Macbr. Bot. Gaz. 56: 476. 1913.

47. *Gormaniana obtusata*.

Add the synonym: *Echeveria obtusata* Nelson & Macbr. Bot. Gaz. 56: 476. 1913.



48. *Gormania Hallii*.

Insert the synonym: *Echeveria Brittonii* Nelson & Macbr. Bot. Gaz. 56: 476. 1913.

48. *Gormania debilis*.

Add the synonym: *Echeveria debilis* Nelson & Macbr. Bot. Gaz. 56: 476. 1913.

48. *Gormania oregana*.

Add the synonym: *Echeveria oregana* Nelson & Macbr. Bot. Gaz. 56: 476. 1913.

48. *Gormania laxa*.

Insert the synonym: *Echeveria Gormanii* Nelson & Macbr. Bot. Gaz. 56: 476. 1913.

56. *Cremnophila nutans*.

Add: ILLUSTRATION: Addisonia pl. 25.

57. *Rhodiola rosea*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2, f. 2133; Clements, Rocky Mt. Fl. pl. 30, f. 3; G. T. Stevens, Ill. Guide pl. 59, f. 7.

57. *Rhodiola integrifolia*.

Add the synonym: *Sedum integrifolium* A. Nelson; Coult. & Nels. Man. 233. 1909.

58. *Sedastrum Hemsleyanum*.

Add: ILLUSTRATION: Trans. Acad. St. Louis 20: pl. 11.

## 58. Insert:

2a. *Sedastrum pachucense* C. H. Thompson, Trans. Acad. St. Louis 20: 21. 1911.

Stems annual, numerous from a root crown, erect or afterwards declined, 12–18 cm. long; basal rosettes depressed-globose, containing many leaves; stem-leaves linear-oblong, only slightly compressed, standing at right angles to the stem, 1.5–2 cm. long; sepals unequal; corolla white, 8 mm. broad, rotate.

TYPE LOCALITY: Pachuca. Hidalgo.

DISTRIBUTION: Mountains of Hidalgo.

ILLUSTRATION: Trans. Acad. St. Louis 20: pl. 10.

62. *Sedum acre*.

Insert the synonym: *Sedum minimum* Nieuwl. Am. Midl. Nat. 4: 56. 1915.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2, f. 2136; G. T. Stevens, Ill. Guide pl. 58, f. 6.

## 62. Insert:

2a. *Sedum potosinum* Rose, Contr. U. S. Nat. Herb. 13: 300. 1911.

Stems low and weak, at first erect, but soon prostrate or at most ascending. Leaves closely set, ascending, nearly terete, obtuse, 6–8 mm. long, pale-green, glabrous, slightly glaucous; inflorescence (usually?) an equilateral raceme; pedicels short, 1–2 mm. long; sepals linear, distinct nearly to the base, 3 mm. long; petals white or slightly tinged with pink, widely spreading, 6–7 mm. long.

TYPE LOCALITY: Near San Luis Potosí, San Luis Potosí.

DISTRIBUTION: San Luis Potosí.

## 62. Insert:

4a. *Sedum mellitulum* Rose, Contr. U. S. Nat. Herb. 13: 299. 1911.

Small, compact, much branched at base, the individual stems at first erect and nearly simple or in age becoming decumbent, very slender, pinkish, glabrous but slightly roughened; leaves scattered, standing nearly at right angles to the stem, terete, blunt, glabrous, 6–8 mm. long, bright-green; inflorescence an open spreading cyme of 2 or 3 branches, each branch bearing 3–8 flowers; pedicels short (about 2 mm. long); sepals nearly or quite distinct, linear, 3–4 mm. long; petals a little longer than the sepals, widely spreading, white; filaments white; anthers brownish; pistils white, erect; mature carpels erect.

TYPE LOCALITY: In the Sierra Madre, west of Colonia Juarez, Chihuahua.

DISTRIBUTION: Chihuahua.

ILLUSTRATION: Contr. U. S. Nat. Herb. 13: pl. 37.

4b. *Sedum semiteres* Rose, Contr. U. S. Nat. Herb. 13: 300. 1911.

Perennial. Sterile branches 3–4 cm. long, very leafy, the leaves appearing imbricate, in cultivated specimens 10 cm. long, the leaves standing nearly at right angles to the stem or somewhat drooping; leaves 1–2 cm. long, narrow, fleshy, nearly semiterete in section, obtuse, strongly papillose, the papillae appearing more pronounced in dry specimens; flowering stems ascending or erect, apparently very leafy, 10–20 cm. long; inflorescence a widely spreading cyme more or less papillose; pedicels slender, 2–3 mm. long; calyx deeply cleft, the lobes ovate, 2 mm. long, obtuse; petals 5, white, lanceolate, acuminate, 5 mm. long; anthers dark-colored; carpels spreading, papillose-roughened, tipped by long, slender styles.

Stouter than *S. alamosanum*, and with more flattened, papillose leaves, and white flowers.

TYPE LOCALITY: San Ramón, Durango.

DISTRIBUTION: Known only from the type locality.

63. *Sedum moranense*.

Omit the synonym.

Add the variety: *Sedum moranense arboreum* (Masters) Praeger, Jour. Bot. 55: 211. 1917. *Sedum arboreum* Masters, Gard. Chron. II. 10: 717. 1878. Stems low but erect, 15–20 cm. high; otherwise similar to the type.

## 63. Insert:

7a. *Sedum Liebmannianum* Hemsl. Diag. Pl. Nov. 12. 1878.

Perennial, procumbent and creeping, freely rooting at the joints, with ascending or erect branches. Branches when young fleshy, green, when old completely hidden by the white bases of the dead leaves; leaves fleshy, narrow, bright-green, 4–6 mm. long, generally obtuse, broad at the base; flowers few, in small cymes; pedicels subsessile; sepals linear, leaf-like; petals white, spreading; anthers purplish, oblong; scales short, retuse; ovaries oblong, erect, longer than the styles.

TYPE LOCALITY: Yavesia, Oaxaca.

DISTRIBUTION: Oaxaca.

ILLUSTRATION: Contr. U. S. Nat. Herb. 13: pl. 56.

63. *Sedum pulchellum*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2140; Lounsbury, S. Wild Fl. 63.

63. *Sedum Nuttallianum*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2137.

## 64. Insert:

13a. *Sedum flaccidum* Rose, Contr. U. S. Nat. Herb. 13: 298. 1911.

Roots thickened and probably perennial. Stems annual, weak, much branched, 8–10 cm. long, glabrous, green or purplish; leaves alternate, turgid, ovate to linear-ovate in outline, 5–10 mm. long; flowers 2–5, rather scattered, forming an open secund raceme; pedicels often slender, 5–10 mm. long; sepals nearly distinct, green and leaf-like, nearly equal, 2–3 mm. long; corolla widely spreading; petals with a broad flat blade, spoon-shaped above and pointed at the apex, white but more or less banded, especially below, with red; stamens 10, five borne on the base of the petals, the other five distinct, curved outward; scales small, black; carpels at first erect, but in age spreading; styles short.

TYPE LOCALITY: Tejamón, Durango.

DISTRIBUTION: Durango.

64. *Sedum Bourgaei*.

Add to the illustrations: Addisonia pl. 57.

65. *Sedum stenopetalum*.

Add the synonym: *Sedum subalpinum* Blankinship, Mont. Agr. Coll. Stud. 1: 61. 1905.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2138; Clements, Rocky Mt. Fl. pl. 30, f. 8.

66. *Sedum reflexum*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. *f.* 2139; G. T. Stevens, Ill. Guide *pl.* 59, *f.* 6.

## 66. Insert:

24a. *Sedum versadense* C. H. Thompson, Trans. Acad. St. Louis 20: 23. 1911.

Low, much branched, sometimes 2 dm. high. Basal leaves in rosettes; stem-leaves alternate, closely set, especially below, sessile, obovate-cuneate to obcordate-cuneate, 1.3–2.5 cm. long, fleshy, flattened, pubescent; inflorescence divided into 2 or 3 nodding secund racemes; pedicels 3 mm. long; sepals distinct, lanceolate, unequal, a little shorter than the petals, spreading; petals spreading, later becoming recurved, light purplish-pink to nearly white, lanceolate, 5–6 mm. long; carpels erect, distinct.

TYPE LOCALITY: Versada, Oaxaca.

DISTRIBUTION: Known only from the type locality.

ILLUSTRATION: Trans. Acad. St. Louis 20: *pl.* 12.

## 67. Insert:

28a. *Sedum delicatum* Rose, Contr. U. S. Nat. Herb. 13: 297. 1911.

Stems from small fleshy, fusiform tubers, 1–2 cm., or in cultivated specimens as much as 4 cm. high, usually simple below. Leaves club-shaped, nearly terete in section, obtuse, alternate; inflorescence a few-flowered (2- to 5-flowered) cyme; pedicels slender, sometimes 15 mm. long; sepals 4 or 5, very unequal, similar to the leaves, the longer ones much exceeding the petals; petals white, 2 mm. long, obtuse, ascending; stamens 8 or 10; anthers purplish; carpels 5, widely spreading in age.

TYPE LOCALITY: Above timber line on Ixtacihuatl, Mexico (state).

DISTRIBUTION: Known only from the type locality.

## 67. Insert:

29a. *Sedum oaxacanum* Rose, Contr. U. S. Nat. Herb. 13: 299. 1911.

Stem creeping, rooting at the joints, reddish, somewhat roughened. Leaves rather closely set but not imbricate, usually standing nearly at right angles to the stem, thick but not terete, rounded on the back, flat on the face, obtuse, with broad base, glabrous, 5–6 mm. long; flowers solitary, terminal, sessile, or sometimes as many as 4 in a small terminal cyme; sepals linear, 3 mm. long, distinct nearly to the base; petals yellow, distinct, longer than the sepals; stamens 10; carpels 5, widely spreading, with long styles.

TYPE LOCALITY: Cerro San Felipe, Oaxaca.

DISTRIBUTION: Oaxaca.

67. *Sedum Douglasii*.

Add the synonyms: *Sedum Douglasii uniflorum* M. E. Jones, Bull. Univ. Mont. 61: 30. 1910. ?*Sedum Elrodi* M. E. Jones, Bull. Univ. Mont. 61: 30. *pl.* 4. 1910.

Add: ILLUSTRATION: Armstrong, Field Book W. Wild Fl. 193.

## 69. Insert:

40a. *Sedum frutescens* Rose, Contr. U. S. Nat. Herb. 13: 298. 1911.

Leaves linear, flattened, 2–6 cm. long, bright-green, acute, closely set upon the branches, rounded and free at base; inflorescence a small, few-branched cyme; peduncle 1 cm. or less long; branches 3–4 cm. long; petals white, 5–6 mm. long, acuminate; carpels widely spreading.

TYPE LOCALITY: Above Cuernavaca, Morelos.

DISTRIBUTION: High mountains of the state of Morelos.

40b. *Sedum Quevae* Hamet, Bot. Jahrb. 50: Beibl. 114: 25. 1914.

Perennial, 2–4 dm. high, glabrous, tuberous. Leaves alternate, sessile, 5–23 mm. long, obtuse; inflorescence paniculate, open; flowers subsessile; sepals 5, obtuse, nearly linear; petals longer than the tube, deltoid, acute and mucronate, 5–6 mm. long.

TYPE LOCALITY: Aseseca, Puebla.

DISTRIBUTION: Central Mexico.



## 69. Insert:

43a. *Sedum compressum* Rose, Contr. U. S. Nat. Herb. 12: 440. 1909.

Perennial, more or less prostrate and rooting at the nodes. Leaves closely set, spreading at right angles to the stem, glabrous, glaucous, flat, spatulate, oblanceolate, 2.5–3 cm. long, acute; inflorescence cymose, consisting of 2 or 3 secund racemes; calyx cleft nearly or quite to the base; corolla bright-yellow; petals 7–8 mm. long, lanceolate, acute; carpels at first erect, with long acuminate tips.

TYPE LOCALITY: Near Victoria, Tamaulipas.

DISTRIBUTION: Tamaulipas.

ILLUSTRATION: Contr. U. S. Nat. Herb. 12: pl. 80.

70. *Sedum ternatum*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2141; G. T. Stevens, Ill. Guide pl. 58, f. 8.

## 70. Insert:

50a. *Sedum clavifolium* Rose, Contr. U. S. Nat. Herb. 13: 297. 1911.

Perennial, branching at base and forming dense mats. Basal leaves and lower stem-leaves 1–3 cm. long, thickened but flattened above, tapering below into long, slender, nearly terete pedicels, obtuse; stem 1–3 cm. high (in cultivated specimens 8 cm.); stem-leaves similar to the basal but smaller, alternate; inflorescence a few-flowered cyme; pedicels 5–8 mm. long; sepals 5, distinct, green, unequal, spreading, thick and club-shaped, rounded at the apex, all longer than the petals; petals widely spreading, or even reflexed between the sepals, somewhat cup-shaped beyond the sepals, obtuse, pale greenish-yellow, about 3 mm. long; stamens 10, the five opposite the petals borne upon them, the other five distinct; scales 5, large, deep-red, erect, more or less lobed and toothed at the apex; carpels 5, ovate, erect even in fruit, tipped by very short styles; seeds oblong, several in each cell.

TYPE LOCALITY: Above timber line on Ixtaccihuatl, Mexico (state).

DISTRIBUTION: Known only from the type locality.

## 71. Insert:

51a. *Sedum farinosum* Rose, Contr. U. S. Nat. Herb. 13: 297. 1911.

Perennial, at first forming dense, elongate rosettes. Flowering stems weak, ascending or spreading, about 10 cm. long, glabrous, whitish by a bloom especially noticeable in dried specimens; leaves flat but thickish, translucent, spatulate, broadest just below the rounded tip, 3–3.5 cm. long, glabrous; inflorescence a broad open cyme; pedicels 2–3 mm. long; sepals green, 2–3 mm. long, oblong, obtuse, distinct to or nearly to the base; petals white, spreading, lanceolate, 6–7 mm. long; stamens 10; carpels widely spreading, tipped by the slender styles.

TYPE LOCALITY: San Ramon, Durango.

DISTRIBUTION: Durango.

ILLUSTRATION: Contr. U. S. Nat. Herb. 13: pl. 54.

72. *Sedum Nevii*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2142; Lounsberry, Guide Wild Fl. pl. 90.

Add the variety: *Sedum Nevii Beyrichianum* (Masters) Praeger, Jour. Bot. 55: 212. 1917. *Sedum Beyrichianum* Masters, Gard. Chron. II. 10: 376. 1878. Described as more diffuse and greener than the species, with longer barren shoots, and more distinct, narrower leaves. Known only in cultivation, but doubtless from the eastern United States.

73. *Sedum yosemitense*.

Add: ILLUSTRATION: Armstrong, Field Book W. Wild Fl. 193.

73. *Sedum diversifolium*.

Add: ILLUSTRATION: Addisonia pl. 31 A.

74. *Sedum Fabaria*.

Substitute for this name: *Sedum triphyllum* (Haw.) S. F. Gray, Nat. Arr. Brit. Pl. 2: 510. 1821. *Anacampseros triphylla* Haw. Syn. Pl. Succ. 111. 1812. *Sedum purpureum* Link, Enum. 1: 437. 1821. *Sedum Fabaria* Koch, Syn. Fl. Germ. 258. 1836. *Sedum Telephium* Torr. Fl. N. Y. 1: 253. 1843. Not *S. Telephium* L. 1753.

TYPE LOCALITY: Portugal.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2134; G. T. Stevens, Ill. Guide pl. 59, f. 2; Miller & Whiting, Wild Fl. 189; Mathews, Field Book 181.

74. *Sedum telephioides*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2135; Lounsbury, Guide Wild Fl. pl. 91.

## 74. Add these species of uncertain relationship:

71. *Sedum allantoides* Rose, Contr. U. S. Nat. Herb. 12: 440. 1909.

Perennial, branching below, 2-3 dm. high, weak. Leaves closely set, but more scattered above, standing almost at right angles to the stem, alternate, turgid, nearly terete, clavate, 2-4.5 cm. long, rounded at apex, narrowed toward the base, glaucous; flowers in small cymes; sepals nearly equal, ovate, acute, spreading; petals lanceolate, spreading, 7-8 mm. long, greenish-white.

TYPE LOCALITY: Near San Luis, Oaxaca.

DISTRIBUTION: Hills of Oaxaca.

ILLUSTRATION: Contr. U. S. Nat. Herb. 12: pl. 79.

72. *Sedum Adolphi* Hamet, Notizbl. Bot. Gart. Berlin 5: 277. 1912.

Perennial, the flowering stems erect, glabrous. Leaves sessile, alternate, acute, longer than broad, 18 mm. long; pedicels longer than the calyx; corolla 6 mm. long; petals longer than the tubes, ovate-lanceolate; carpels 5.

TYPE LOCALITY: Grown from Mexican seed.

DISTRIBUTION: Mexico.

Nearest *S. Treleasei* and *S. allantoides*.

73. *Sedum compactum* Rose, Contr. U. S. Nat. Herb. 13: 297. 1911.

Plants creeping, forming a dense, moss-like carpet, the sterile branches small, bearing a compact rosette of leaves. Leaves closely imbricate, narrowly oblong, 3-5 mm. long, obtuse, flattened but fleshy, glabrous; flowering branches ascending or erect, 3-4 cm. high, their leaves alternate, similar to those on sterile branches; flowers solitary, terminal, sessile; sepals similar to the leaves and about half the length of the petals; petals white, broadly ovate, 4 mm. long, cup-shaped within.

TYPE LOCALITY: Cerro de Sentile, Oaxaca.

DISTRIBUTION: Known only from the type locality.

ILLUSTRATION: Contr. U. S. Nat. Herb. 13: pl. 53.

74. *Sedum humifusum* Rose, Contr. U. S. Nat. Herb. 13: 298. 1911.

Plants creeping, forming a dense moss-like carpet, sending off hundreds of small branches 1 cm. or less long bearing a compact rosette of leaves. Leaves closely imbricate, nearly orbicular, about 4 mm. in diameter, flattened but fleshy, ciliate; flowers solitary, terminal, the peduncle proper 1 cm. or less long, bearing a few leaves; sepals distinct or nearly so, leaf-like, very thick, ciliate, 2 mm. long; corolla about 10 mm. broad; petals yellow, distinct, widely spreading; stamens 10, erect; scales minute, orange-colored; carpels, in flower at least, erect.

TYPE LOCALITY: Near San Juan del Rio, Querétaro.

DISTRIBUTION: Querétaro.

ILLUSTRATION: Contr. U. S. Nat. Herb. 13: pl. 55; Addisonia pl. 31 B.

75. *Sedum Lahovarianum* Hamet, Repert. Sp. Nov. 12: 409. 1913.

Plant perennial with fibrous roots, 11 cm. long. Leaves alternate, sessile, obovate, 5.5 cm. long; inflorescence corymbose, 12 cm. long; pedicels much shorter than the calyx; sepals glabrous, linear, 4 mm. long; corolla longer than the calyx, 10 mm. long; petals obovate-spatulate, obtuse.

TYPE LOCALITY: Villa Garcia, Nuevo León.

DISTRIBUTION: Known only from the type locality.

76. *Sedum lenophylloides* Rose, Contr. U. S. Nat. Herb. 13: 298. 1911.

Perennial, woody at base, 5–30 cm. high, somewhat branched, the branches strict. Leaves at right angles to the stem, closely set, usually alternate, but the lower ones either opposite or subopposite, 10–15 mm. long, very turgid, rarely subterete, rounded below, somewhat trough-shaped above, acutish, often purplish; inflorescence a short terminal panicle; sepals green, ovate; petals greenish-white, lanceolate; stamens 10, the five opposite the petals borne on these, the other five distinct; scales large, orange-colored; styles elongate, slender; carpels erect at first, afterwards more or less spreading.

TYPE LOCALITY: Mountains of Monterey, Mexico.

DISTRIBUTION: Known only from the type locality.

77. *Sedum Longuetae* Hamet, Repert. Sp. Nov. 12: 410. 1913.

Plants perennial with thickened roots, 6.5–7.5 cm. long, slender, glabrous. Leaves alternate, sessile, linear, 6–9 mm. long; inflorescence few-flowered, spike-like; pedicels very short; corolla white, longer than the calyx; petals oblong-lanceolate, keeled on the back, acute and mucronate.

TYPE LOCALITY: Between San Martin and Haxiaco, Oaxaca.

DISTRIBUTION: Known only from the type locality.

We do not know this species, but it suggests a *Villadia* rather than a *Sedum*.

78. *Sedum Millspaughii* Hamet, Field Mus. Publ. Bot. 2: 378. 1913.

Probably perennial, erect, 11–13 cm. long, glabrous. Leaves alternate, sessile, glabrous, 25 mm. long, obovate, acutish; inflorescence lax, cymose; pedicels 4 mm. long; calyx glabrous, 5–6 mm. long; corolla about the length of the calyx; petals obovate, alternate below, acute and aristate at apex; carpels 5, glabrous.

TYPE LOCALITY: Near Lake Amatitlan, Guatemala.

DISTRIBUTION: Known only from the type locality

79. *Sedum pachyphyllum* Rose, Contr. U. S. Nat. Herb. 13: 299. 1911.

Perennial, the stems woody at base, much branched, spreading or erect, glabrous throughout, 10–30 cm. high. Leaves closely set, standing almost at right angles to the stem, terete in section, somewhat smaller below, obtuse, a little glaucous, 3–4 cm. long, 8–10 mm. in cross-section; flowering stem weak, about 2 cm. long; inflorescence sessile, cymose; flowers short-pedicel or subsessile; sepals 5, widely spreading, clavate, green, obtuse, somewhat unequal, the longest one 6 mm. long; petals yellow, widely spreading, or even bent backward, 7 mm. long, somewhat keeled on the back, spoon-shaped above; stamens 10, yellow; carpels at first erect, yellow.

Resembling *Sedum allantoides*, but leaves much less glaucous and flowers yellow instead of white.

TYPE LOCALITY: Near San Luis, Oaxaca.

DISTRIBUTION: Known only from the type locality.

ILLUSTRATION: Contr. U. S. Nat. Herb. 13: pl. 58.

80. *Sedum rhodocarpum* Rose, Contr. U. S. Nat. Herb. 13: 300. 1911.

Perennial, 10–20 cm. high, the stems flaccid, glabrous, somewhat 3-angled, bearing 3–6 whorls of leaves. Leaves in 3's, flattened, rather thin, orbicular to spatulate, 2–4 cm. long, rounded at apex or sometimes retuse, narrowed at base into a short petiole;



inflorescence cymose, few-flowered or sometimes reduced to one flower; pedicels 2–10 mm. long, often bearing a single bract near the middle; calyx green, deeply 5-parted; lobes often a little longer than the petals, obtuse, spreading, fleshy, 6–7 mm. long; petals distinct, broadly ovate, acute, reddish, in anthesis reflexed; stamens red, 10, the five alternating with the petals distinct, the other five borne on the base of the petals; carpels red, at first erect but in age widely spreading.

TYPE LOCALITY: In the Sierra Madre, near Monterey, Nuevo Leon.

DISTRIBUTION: Known only from the type locality.

ILLUSTRATION: Contr. U. S. Nat. Herb. 13: *pl.* 59.

81. *Sedum Topsenti* Hamet, Bot. Jahrb. 50: Beibl. 114: 26. 1914.

Probably perennial, glabrous, slender. Leaves alternate, sessile, 5–8 mm. long; inflorescence corymbose; flowers sessile or nearly so; sepals linear obtuse; corolla longer than the calyx; stamens 10; carpels 5, terminated by short attenuate styles.

TYPE LOCALITY: Chiricahua Mountains, Arizona.

DISTRIBUTION: Known only from the type locality

82. *Sedum Treleasei* Rose, Contr. U. S. Nat. Herb. 13: 300. 1911.

Perennial, the stems woody at base, numerous, at first erect but finally procumbent and even pendulous in its native haunts, glaucous. Leaves closely set, especially toward the ends of the branches, standing nearly at right angles to the stems, very glaucous, thick but decidedly flattened, 2.5–3.5 cm. long, obtuse, rounded below with the tip slightly turned up, the upper face slightly concave; flowering branches weak, slender, ascending or drooping, arising from the axils of upper stem-leaves, pinkish, the leaves narrow, obtuse; cymes sessile, small, about 3 cm. broad, compact; pedicels very short; sepals 5, linear, acute, terete, 3 mm. long; petals yellow, 6 mm. long, lanceolate, acute, widely spreading or sometimes turned backward; stamens 10, erect, yellow; carpels 5, long-attenuate, yellow, at first erect; scales yellow, broad.

TYPE LOCALITY: Near Tehuacan, Mexico.

DISTRIBUTION: South Mexico.

ILLUSTRATION: Contr. U. S. Nat. Herb. 13: *pl.* 60.

83. *Sedum Triteli* Hamet, Field Mus. Publ. Bot. 2: 379. 1913.

Perennial, 3–5 cm. long, from fibrous roots. Leaves alternate, sessile, obovate to linear, 4.5–7 mm. long; inflorescence 2-flowered; pedicels 6 mm. long; calyx glabrous; sepals longer than the tube, linear to deltoid, 4.5–5.5 mm. long; corolla yellow, longer than the calyx; petals 5.5–6 mm. long, obtuse; carpels few-seeded; scales 5, nearly linear.

TYPE LOCALITY: In the Sierra Madre, Guatemala.

DISTRIBUTION: Known only from the type locality.

## PENTHORACEAE

BY PER AXEL RYDBERG

75. *Penthorum sedoides*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. *f.* 2144; G. T. Stevens, Ill. Guide *pl.* 58, *f.* 9.

## PARNASSIACEAE

BY PER AXEL RYDBERG

78. *Parnassia fimbriata*.

Add to the illustrations: Armstrong, Field Book W. Wild Fl. 197, *f.*

78. Insert:

- 4a. *Parnassia Townsendii* B. L. Robinson, Proc. Bost. Soc. Nat. Hist. 31: 266. 1904.

*Parnassia mexicana* Rose, Proc. U. S. Nat. Mus. 29: 438. 1905.

Rootstock short, with many fibrous roots; petioles 4–6 cm. long, dilated; blades oblong-ob lanceolate, 4–6 cm. long, 14–16 mm. wide, 5–7-ribbed, minutely fulvous-

punctate beneath; scape about 3.5 dm. high; bracts inserted near the middle, ovate, sessile, 1.5 cm. long, obtuse; sepals oblong, 5-nerved, 9 mm. long, 3-5 mm. wide, pale-green; petals 12-15 mm. long, 8 mm. wide, ochroleucous, 5-7-nerved, fimbriate-ciliate on the margins near the middle, but entire at the cuneate-unguiculate base and the obtuse apex; staminodial scales with about 6 filiform gland-tipped filaments.

TYPE LOCALITY: Sierra Madre, near Chuichupa, Chihuahua.

79. *Parnassia palustris*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2148.

79. *Parnassia montanensis*.

Add: ILLUSTRATION: Brown & Schäffer, Alp. Fl. Can. pl. 34, f. 1.

79. *Parnassia parviflora*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2149; Clements, Rocky Mt. Fl. pl. 31, f. 8.

79. *Parnassia Kotzebuei*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2147.

79. *Parnassia grandiflora*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2146.

80. *Parnassia caroliniana*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2145; Miller & Whiting, Wild Fl. 187, f.; Dana, Wild Fl. pl. 34; ed. 1900. pl. 47; C. A. Reed, Wild Fl. 148, f. A.; Mathews, Field Book 187, f.; G. T. Stevens, Ill. Guide pl. 59, f. 10.

80. *Parnassia asarifolia*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2150; Lounsberry, S. Wild Fl. 220, f.

## SAXIFRAGACEAE

BY JOHN KUNKEL SMALL AND PER AXEL RYDBERG

83. *Chrysosplenium iowense*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2186.

84. *Chrysosplenium americanum*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2185; G. T. Stevens, Ill. Guide pl. 59, f. 9.

86. *Lithophragma australis*.

Add the synonym: *Tellima australis* Fedde, Bot. Jahresb. 33<sup>1</sup>: 614. 1906.

86. *Lithophragma breviloba*.

Insert the synonym: *Tellima breviloba* Fedde, Bot. Jahresb. 33<sup>1</sup>: 614. 1906.

86. *Lithophragma bulbifera*.

Add the synonyms: *Lithophragma tenella florida* Suksd. W. Am. Sci. 15: 61. 1906. *Lithophragma tenella ramulosa* Suksd. W. Am. Sci. 15: 61. 1906. *Tellima bulbifera* Fedde, Bot. Jahresb. 33<sup>1</sup>: 614. 1906.

Add: ILLUSTRATION: Clements, Rocky Mt. Fl. pl. 31, f. 4 (as *L. parviflora*).

87. *Lithophragma laciniata*.

Insert the synonym: *Tellima laciniata* Fedde, Bot. Jahresb. 33<sup>1</sup>: 614. 1906.

87. *Lithophragma heterophylla*.

Add: ILLUSTRATION: Armstrong, Field Book W. Wild Fl. 199, f.

87. *Lithophragma triloba*.

Add the synonym: *Tellima triloba* Fedde, Bot. Jahresb. 33<sup>1</sup>: 614. 1906.

88. *Lithophragma intermedia*.

Insert the synonym: *Tellima intermedia* Fedde, Bot. Jahresb. 33<sup>1</sup>: 614. 1906.

88. *Lithophragma Catalinae*.

Insert the synonym: *Tellima Catalinae* Fedde, Bot. Jahresb. 33<sup>1</sup>: 614. 1906.

89. *Lithophragma trifida*.

Insert the synonym: *Tellima trifida* Fedde, Bot. Jahresb. 33<sup>1</sup>: 614. 1906.

89. *Lithophragma parviflora*.  
Add the synonyms: *Lithophragma austromontana* Heller, *Muhlenbergia* 2: 53. 1905.  
*Lithophragma anemonoides* Greene, *Leaflets* 2: 87. 1910.  
Add to the illustrations: Brown & Schäffer, *Alp. Fl. Can. pl.* 30, f. b.
90. *Leptaxis Menziesii*.  
Add to the illustrations: Armstrong, *Field Book W. Wild Fl.* 201, f.
91. *Mitella diphylla*.  
Add to the illustrations: Britt. & Brown, *Ill. Fl. ed. 2. f.* 2183; C. A. Reed, *Wild Fl.* 150, f. A.; G. T. Stevens, *Ill. Guide pl.* 60, f. 4; Miller & Whiting, *Wild. Fl.* 181, *pl.*; Dana, *Wild Fl. ed. 1900. pl.* 8.
92. *Mitella nuda*.  
Add to the illustrations: Britt. & Brown, *Ill. Fl. ed. 2, f.* 2184; G. T. Stevens, *Ill. Guide pl.* 60, f. 3; Brown & Schäffer, *Alp. Fl. Can. pl.* 35, f. 1; Mathews, *Field Book* 185, f. 2.
93. *Pectiantia pentandra*.  
Add to the illustrations: Clements, *Rocky Mt. Fl. pl.* 31, f. 5; Brown & Schäffer, *Alp. Fl. Can. pl.* 35, f. 2.
93. *Pectiantia latiflora*.  
Insert the synonym: *Mitella latiflora* Fedde, *Bot. Jahresb.* 33<sup>1</sup>: 611. 1906.
94. *Pectiantia ovalis*.  
Add: ILLUSTRATION: Armstrong, *Field Book W. Wild Fl.* 205, f.
95. *Ozomelis pacifica*.  
Add the synonym: *Mitella pacifica* Fedde, *Bot. Jahresb.* 33<sup>1</sup>: 611. 1906.
95. *Ozomelis violacea*.  
Add the synonym: *Mitella trifida integripetala* Rose; A. Nelson, *First Rep. Fl. Wyo.* 107. 1896.
96. *Ozomelis Parryi*.  
Add the synonym: *Mitella Parryi* Fedde, *Bot. Jahresb.* 33<sup>1</sup>: 611. 1906.
97. *Conimitella Williamsii*.  
Add the synonyms: *Tellima pentandra* Canby, *Bot. Gaz.* 16: 237. 1891. *Tellima Williamsii* Canby, *Bot. Gaz.* 16: 237. 1891.
100. In the key.  
For " 64. *H. cylindrica* " and " 66. *H. columbiana* " read " 64. *H. chlorantha* " and " 66. *H. cylindrica* " respectively.
101. *Heuchera macrorhiza*.  
Add: ILLUSTRATION: Britt. & Brown, *Ill. Fl. ed. 2. f.* 2176.
101. *Heuchera villosa*.  
Add to the illustrations: Britt. & Brown, *Ill. Fl. ed. 2. f.* 2175; Lounsberry, *S. Wild Fl. pl.* 65.
103. *Heuchera micrantha*.  
Add to the illustrations: M. E. Parsons, *Wild Fl. Calif.* 59, f.; Armstrong, *Field Book W. Wild Fl.* 201, f.
103. *Heuchera parviflora*.  
Add: ILLUSTRATION: Britt. & Brown, *Ill. Fl. ed. 2. f.* 2173.
103. *Heuchera puberula*.  
Add: ILLUSTRATION: Britt. & Brown, *Ill. Fl. ed. 2. f.* 2174.
104. *Heuchera hirsuticaulis*.  
Add: ILLUSTRATION: Britt. & Brown, *Ill. Fl. ed. 2. f.* 2179.
104. *Heuchera americana*.  
Add to the illustrations: Britt. & Brown, *Ill. Fl. ed. 2. f.* 2177; G. T. Stevens, *Ill. Guide pl.* 60, f. 5.
105. *Heuchera Curtisii*.  
Add: ILLUSTRATION: Britt. & Brown, *Ill. Fl. ed. 2. f.* 2178.
106. *Heuchera pubescens*.  
Add: ILLUSTRATION: Britt. & Brown, *Ill. Fl. ed. 2. f.* 2182.



106. *Heuchera longiflora*.  
Add: ILLUSTRATION: Britt. & Brown, Ill. Fl. ed. 2. f. 2181.
107. *Heuchera hispida*.  
Add: ILLUSTRATION: Britt. & Brown, Ill. Fl. ed. 2. f. 2180.
110. *Heuchera versicolor*.  
Insert the synonym: *Heuchera pulchella* Wooton & Standley, Contr. U. S. Nat. Herb. 16: 130. 1913. (A small form with narrow rather simple inflorescence.)
114. *Heuchera Hallii*.  
Add: ILLUSTRATION: Clements, Rocky Mt. Fl. pl. 31, f. 6.
114. *Heuchera grossulariifolia*.  
Insert the synonym: *Heuchera Hallii grossulariifolia* M. E. Jones, Bull. Univ. Mont. 61: 33. 1910.
115. *Heuchera parvifolia*.  
Add: ILLUSTRATION: Clements, Rocky Mt. Fl. pl. 31, f. 7.
115. *Heuchera flabellifolia*.  
Insert the synonym: *Heuchera parvifolia dissecta* M. E. Jones, Bull. Univ. Mont. 61: 32. 1910.
115. *Heuchera cylindrica*.  
Substitute for this the name: *Heuchera chlorantha* Piper, Contr. U. S. Nat. Herb. 16: 206. 1913. Transfer the synonyms to no. 66 on the following page. TYPE LOCALITY: Falcon valley, Klickitat County, Washington.
116. *Heuchera columbiana*.  
Reduce this to synonymy and substitute for it as the accepted name: *Heuchera cylindrica* Dougl.; Hook. Fl. Bor. Am. 1: 236. 1832. Transfer here the synonyms and type locality from no. 64 on the preceding page.
118. *Tiarella cordifolia*.  
Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2173; C. A. Reed, Wild Fl. 150, f. B.; G. T. Stevens, Ill. Guide pl. 60, f. 1; Mathews, Field Book, 185, f. 1; Miller & Whiting, Wild Fl. 183, pl.; Dana, Wild. Fl. pl. 7.
118. *Tiarella unifoliata*.  
Add to the illustrations: Brown & Schäffer, Alp. Fl. Can. pl. 40, f. 1.
119. *Bolandra oreğana*.  
Extend the given distribution to western Idaho.
122. *Sullivantia Sullivantii*.  
Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2171.
122. *Sullivantia halmicola*.  
Insert the synonym: *Saxifraga halmicola* Fedde, Bot. Jahresb. 33: 613. 1906.
123. *Therophon majus*.  
The citation should be: *Therophon majus* (A. Gray) Kuntze, Rev. Gen. 227. 1891.
124. *Therophon turbinatum*.  
Insert the synonym: *Boykinia turbinata* Fedde, Bot. Jahresb. 33<sup>1</sup>: 607. 1906.
124. *Therophon aconitifolium*.  
Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2170.
124. *Therophon cincinnatum*.  
Insert the synonym: *Boykinia occidentalis cincinnata* Rosend. Bot. Jahrb. 37: Beibl. 83: 61. 1905.
124. *Therophon occidentale*.  
The citation should be: *Therophon occidentale* (T. & G.) Kuntze, Rev. Gen. 227. 1891.
125. *Therophon vancouverense*.  
Insert the synonym: *Boykinia vancouverensis* Fedde, Bot. Jahresb. 33<sup>1</sup>: 607. 1906.
125. *Therophon Richardsoni*.  
The citation should be: *Therophon Richardsoni* (Hook.) Kuntze, Rev. Gen. 227. 1891.
126. *Telesonix Jamesii*.  
Add to the illustrations: Clements, Rocky Mt. Fl. pl. 30, f. 9.

126. *Telesonix heucheriformis*.

Add the synonyms: *Boykinia heucheriformis* Rosend. Bot. Jahrb. **37**: Beibl. **83**: 62. 1905. *Saxifraga heucheriformis* M. E. Jones, Bull. Univ. Mont. **61**: 32. 1910.

127. *Saxifraga rivularis*.

Add the synonym: *Saxifraga rivularis stricta* Engler; Rosend. Bot. Jahrb. **37**: Beibl. **83**: 64; hyponym. 1905.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2167; G. T. Stevens, Ill. Guide pl. 59, f. 8; Brown & Schäffer, Alp. Fl. Can. pl. 36, f. 2.

127. *Saxifraga debilis*.

Add: ILLUSTRATION: Clements, Rocky Mt. Fl. pl. 31, f. 2.

128. *Saxifraga cernua*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2166; Brown & Schäffer, Alp. Fl. Can. pl. 36, f. 1.

129. *Muscaria adscendens*.

Add the synonyms: *Saxifraga oregonensis* A. Nelson, Bot. Gaz. **42**: 52. 1906. *Muscaria oregonensis* Cockerell, Am. Nat. **40**: 863. 1906.

129. *Muscaria micropetala*.

Insert the synonym: *Saxifraga micropetala* Fedde, Bot. Jahresb. **33**: 613. 1906.

129. *Muscaria delicatula*.

Insert the synonym: *Saxifraga delicatula* Fedde, Bot. Jahresb. **33**: 613. 1906.

130. *Muscaria monticola*.

Add the synonym: *Saxifraga monticola* Fedde, Bot. Jahresb. **33**: 613. 1906.

130. *Muscaria caespitosa*.

Add the synonyms: *Saxifraga groenlandica uniflora* Simmons, Vasc. Pl. Ellesmereland **71**. 1906. *Saxifraga groenlandica exaratoidea* Simmons, Vasc. Pl. Ellesmereland **73**. 1906. *Dactyloides caespitosa* Nieuwl. Am. Midl. Nat. **4**: 91. 1915.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2168; Clements, Rocky M. Fl. pl. 31, f. 3; Armstrong, Field Book W. Wild Fl. 199; Brown & Schäffer, Alp. Fl. Cant. pl. 38, f. 1.

130. *Muscaria emarginata*.

Insert the synonyms: *Saxifraga caespitosa emarginata* Rosend. Bot. Jahrb. **37**: Beibl. **83**: 72. 1905. *Saxifraga emarginata* Fedde, Bot. Jahresb. **33**: 613. 1906.

131. *Chondrosea Aizoon*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2169; G. T. Stevens, Ill. Guide pl. 59, f. 3.

134. *Micranthes hieracifolia*.

Add the synonym: *Saxifraga plantaginifolia* Hook. in W. E. Parry, Jour. Second Voy. App. 394. 1825.

134. *Micranthes crenatifolia*.

Insert the synonym: *Saxifraga crenatifolia* Fedde, Bot. Jahresb. **33**: 613. 1906.

135. *Micranthes apetala*.

Add the synonym: *Saxifraga integrifolia apetala* M. E. Jones, Bull. Univ. Mont. **61**: 32. 1910.

136. *Micranthes rhomboidea*.

Add the synonym: *Saxifraga integrifolia rhomboidea* M. E. Jones, Bull. Univ. Mont. **61**: 32. 1910.

Add: ILLUSTRATIONS: Clements, Rocky Mt. Fl. pl. 31, f. 1; Armstrong, Field Book W. Wild Fl. 203.

136. *Micranthes nivalis*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2156.

## 136. Insert:

10a. *Micranthes gaspensis* (Fernald) Small.

*Saxifraga gaspensis* Fernald, Rhodora **19**: 141. 1917.

Leaves spreading, 1.5–3 cm. long, or rarely longer, the blades narrowly cuneate-obovate, dentate above the cuneate base, the teeth acute, the petiole-like bases broad; scape soli-

tary, 1-7 cm. tall, minutely glandular-pubescent, terminating in a narrow raceme; peduncles or branches of the cymes pubescent, subtended by ovate or elliptic bracts; cymules few-flowered, short-stalked; sepals elliptic to ovate, 1.8-2 mm. long, reflexed in fruit; petals white, lanceolate to narrowly elliptic, 1.5-2 mm. long, acute or acutish; filaments subulate, very slender; follicles about 4 mm. long, greenish and pale-brown, the tips spreading.

TYPE LOCALITY: Table-top Mountain, Gaspé County, Quebec.

DISTRIBUTION: Known only from the type locality.

136. **Micranthes tenuis.**

Add the synonym: *Saxifraga nivalis labradorica* Fernald, *Rhodora* 19: 142. 1917.

136. **Micranthes texana.**

Add: ILLUSTRATION: Britt. & Brown, Ill. Fl. ed. 2. f. 2157.

137. **Micranthes fragosa.**

Add the synonyms: *Saxifraga integrifolia fragosa* Rosend. Bot. Jahrb. 37: Beibl. 83: 68. 1905. *Saxifraga fragosa leucandra* Suksd. W. Am. Sci. 15: 60. 1906.

137. **Micranthes Greenei.**

The citation should be: (Blankinship) Small; with the synonym: *Saxifraga Greenei* Blankinship, Mont. Agr. Coll. Sci. Stud. 1: 65. 1905.

137. **Micranthes bidens.**

Insert the synonym: *Saxifraga bidens* Fedde, Bot. Jahresb. 33: 613. 1906.

137. Insert:

15a. **Micranthes interrupta** Small, sp. nov.

Leaves spreading or arching, 5-11 cm. long, the blades elliptic to narrowly oblong, 2-5 cm. long, obtuse or actuish, shallowly toothed especially near the apex, sparingly pubescent, narrowed into slender petiole-like bases, which are often longer than the blades; scapes erect, typically solitary, mostly 3-4 dm. tall, finely glandular-pubescent, more closely so above than below, interruptedly racemose-paniculate above, the lower branches slightly elongating in fruit; cymules few-flowered, the flowers clustered at the ends of the slender branches of the inflorescence; sepals triangular, often deltoid, 1.5-2 mm. long, eciliate; petals white or pinkish, about 2.5 mm. long, the blades elliptic, acute, short-clawed; filaments subulate; follicles 4.5 mm. high, green, the tips spreading.

Type collected at Gold Run Creek, Yukon, August 14, 1902, *John Macoun* 58489.

138. **Micranthes montana.**

Insert the synonym: *Saxifraga montana* Fedde, Bot. Jahresb. 33: 613. 1906.

138. **Micranthes arnoglossa.**

Insert the synonyms: *Saxifraga arnoglossa* Fedde, Bot. Jahresb. 33: 613. 1906. *Saxifraga subapetala normalis* A. Nelson, Bot. Gaz. 42: 53. 1906.

138. **Micranthes oregana.**

Add: ILLUSTRATION: Armstrong, Field Book W. Wild Fl. 203.

139. **Micranthes brachypus.**

Insert the synonym: *Saxifraga brachypus* Fedde, Bot. Jahresb. 33: 613. 1906.

139. **Micranthes pennsylvanica.**

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2159.

140. **Micranthes californica.**

Add: ILLUSTRATION: M. E. Parsons, Wild Fl. Calif. 25.

140. **Micranthes rufidula.**

Insert the synonym: *Saxifraga rufidula* J. M. Macoun, Ottawa Nat. 20: 162. 1906.

141. **Micranthes virginensis.**

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2158; G. T. Stevens, Ill. Guide pl. 60, f. 2; Dana, Wild Fl. ed. 1900. pl. 7; Meehan, Nat. Fl. pl. 19; Lounsberry, Guide Fl. pl. 4; Mathews, Field Book 183.

141. **Micranthes claytoniaefolia.**

Add the synonym: *Saxifraga integrifolia claytoniaefolia* Rosend. Bot. Jahrb. 37: Beibl. 83: 67. 1905.



of loose stellate hairs, some of the hairs sessile and some stipitate, the margins of the blades finely and unequally dentate; corymbs many-flowered, 2.5–5 cm. wide; petals 3–4 mm. long; stamens 12–15, the filaments slender, entire.

TYPE LOCALITY: Barranca del Oro, Puebla.

DISTRIBUTION: Puebla and Oaxaca.

164. *Philadelphus californicus*.

Add: ILLUSTRATION: Armstrong, Field Book W. Wild Fl. 209, f.

165. *Philadelphus coronarius*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2191.

168. *Philadelphus inodorus*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2189.

168. *Philadelphus grandiflorus*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2190.

169. *Philadelphus hirsutus*.

Add to the illustrations: Lounsberry, S. Wild Fl. pl. 67.

172. *Philadelphus microphyllus*.

Add to the illustrations: Armstrong, Field Book W. Wild Fl. 209, f.; Clements, Rocky Mt. Fl. pl. 31, f. 10.

173. *Philadelphus minutus*.

Insert the synonym: *Philadelphus nitidus* A. Nelson, Bot. Gaz. 42: 54. 1906.

173. *Philadelphus Palmeri*.

Insert the synonym: *Philadelphus Purpusi* Brand. Univ. Calif. Publ. Bot. 4: 270. 1912.

174. DOUBTFUL SPECIES.

Insert:

*Philadelphus intermedius* A. Nelson, Bot. Gaz. 42: 53. 1906. This was described without giving type or type locality, presumably from the Rocky Mountain Region. It was omitted, however, in Coulter and Nelson's Manual. Perhaps it is a form of *P. Lewisii*.

*Philadelphus madrensis* Hemsl. Kew Bull. 1908: 251. 1908. It was said to be related to *P. microphyllus*, but according to the description it seems to be most nearly related to *P. Palmeri*. The type was from the Sierra Madre in Durango.

175. *Decumaria barbara*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2192; Lounsberry, S. Wild Fl. 223.

175. *Edwinia americana*.

Add to the illustrations: Clements, Rocky Mt. Fl. pl. 31, f. 9.

176. *Edwinia californica*.

Insert the synonym: *Jamesia californica* Fedde, Bot. Jahresb. 33: 609. 1906.

176. *Edwinia macrocalyx*.

Insert the synonym: *Jamesia macrocalyx* Fedde, Bot. Jahresb. 33: 609. 1906.

176. *Fendlerella utahensis*.

Add the synonym: *Fendlerella cymosa* Greene; Wooton & Standley, Contr. U. S. Nat. Herb. 16: 129. 1913.

176. Insert:

2. *Fendlerella mexicana* Brand. Zoe 5: 246. 1908.

A copiously branched shrub, with gray stem and branches, the branches apparently copiously pubescent on account of the hairy persistent leaf-bases; leaves numerous, the blades elliptic-ovate, more or less revolute, 6–14 mm. long, strigose, pale above, the hairs with pustulate bases, white beneath, rather early deciduous, sessile; cymes several-flowered, short-peduncled; hypanthium sparingly pubescent; sepals ovate to oblong-ovate, about 1 mm. long, eciliate; petals spatulate, 2–2.5 mm. long, the blades elliptic, ovate, or deltoid, undulate; filaments subulate; capsule not seen.

TYPE LOCALITY: Cerro de Baxtle, Puebla.

DISTRIBUTION: Known only from the type locality.

177. *Fendlera rupicola*.

Add the synonym: *Fendlera falcata* Thornber; Wooton & Standley, Contr. U. S. Nat. Herb. 16: 129. 1913.

Add to the illustrations: Armstrong, Field Book W. Wild Fl. 207; Clements, Rocky Mt. Fl. *pl.* 31, *f.* 11.

## 177. Insert:

1a. *Fendlera tomentella* Thornber; Wooton & Standley, Contr. U. S. Nat. Herb.

16: 129. 1913.

A much-branched shrub, mostly 1-1.5 m. tall, with gray ridged branches, the twigs finely pubescent; leaves mostly approximate or crowded on short spur-like branchlets; blades lanceolate to ovate, 1-3 cm. long, obtuse or acutish, loosely pubescent above, hoary-strigose beneath, more or less revolute; flowers on short densely strigose pedicels; sepals lanceolate or deltoid-lanceolate, 3-5 mm. long, acute or slightly acuminate; petals 11-19 mm. long, the blades mostly 8-12 mm. wide, ovate to deltoid-ovate, crose and ciliate, broadly curvate at the base; capsule-body 9-11 mm. long.

TYPE LOCALITY: Cañon of the Blue River near Coopers Ranch, Graham County, Arizona.  
DISTRIBUTION: Southern Colorado, New Mexico, and Arizona.

178. *Whipplea modesta*.

Add to the illustrations: Armstrong, Field Book W. Wild Fl. 205.

## CUNONIACEAE

BY NATHANIEL LORD BRITTON

180. *Lyonothamnus floribundus*.

Add to the illustrations: Eastw. Handb. Trees Calif. *pl.* 38.

## ITEACEAE

BY NATHANIEL LORD BRITTON

181. *Itea virginica*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. *f.* 2193; G. T. Stevens, Ill. Guide *pl.* 61, *f.* 1; Newhall, Shrubs N.E. Am. *f.* 49.

## 183. Insert:

## Family 9a. ESCALLONIACEAE

BY JOHN KUNKEL SMALL

Shrubs or small trees with much branched stems, the branches alternate. Leaves alternate, without stipules; blades dilated, usually toothed, often leathery, sessile or petioled. Flowers perfect, in racemes or panicles, or solitary. Hypanthium hemispheric, turbinate, or flattish. Calyx of 5 broad or narrow, persistent sepals. Corolla of 5 erect-spreading imbricate petals. Androecium of 5 stamens inserted under the margin of a disk, with slender filaments. Gynoecium of 2 or 3 united carpels. Ovary inferior, 2- or 3-celled; styles united; stigma slightly 2- or 3-lobed. Ovules numerous in each ovary-cavity. Fruit capsular.

1. *ESCALLONIA* L. f. Suppl. 21, 156. 1781.

Evergreen shrubs or trees. Leaves rather numerous; blades various, broadened upward or narrowed upward, often coarsely toothed. Flowers mostly pedicelled. Sepals subulate to ovate. Petals of a spatulate type, the claws erect, the blades spreading. Stamens erect; filaments subulate or filiform; anthers rather narrow, ellipsoid to oval or ovate. Ovary abruptly narrowed into the style. Stigma often depressed. Capsule crowned with the calyx and often tipped with the style.

Type species, *Escallonia myrtilloides* L. f.

1. *Escallonia poasana* Donn. Smith, Bot. Gaz. 23: 243. 1897.

Shrub or small tree (?) with gray branches; leaves numerous, approximate or crowded on short branchlets, the blades cuneate-obovate to broadly spatulate, 1–2.5 cm. long, crenate, especially near the dilated apex, sparingly pubescent on both sides, especially when young, pale and veiny beneath, deep-green above, the short petioles dilated and pubescent at the base; flowers solitary on glandular-pubescent pedicels; hypanthium glandular at the base, finely pubescent above; sepals triangular, sometimes deltoid, acute or somewhat acuminate, glandular-toothed, persistent; petals about 1 cm. long, the blade suborbicular, slightly wider than the claw; capsule depressed, broadly rounded, 6–8 mm. in diameter.

TYPE LOCALITY: Volcan Poas, Costa Rica.

DISTRIBUTION: Costa Rica to Panama.

## HAMAMELIDACEAE

BY NATHANIEL LORD BRITTON

185. *Fothergilla Gardeni*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2194.

186. *Fothergilla major*.

Add to the illustrations: Lounsberry, S. Wild Fl. pl. 69.

186. *Hamamelis virginiana*.

Add the synonyms: *Hamamelis vernalis* Sarg. Trees & Shrubs 2: 137. 1911. *Hamamelis virginiana angustifolia* Nieuwl. Am. Midl. Nat. 3: 63. 1913. *Hamamelis virginiana orbiculata* Nieuwl. Am. Midl. Nat. 3: 64. 1913. *Trilopus virginiana angustifolia* Nieuwl. Am. Midl. Nat. 4: 59. 1915. *Trilopus virginiana orbiculata* Nieuwl. Am. Midl. Nat. 4: 59. 1915.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2195; G. T. Stevens, Ill. Guide pl. 61, f. 10; Miller & Whiting, Wild Fl. 193; Newhall, Shrubs NE. Am. f. 53; Dana, Wild Fl. ed. 1900. pl. 84; Meehan's Mo. 11: pl. 10; Sarg. Trees & Shrubs pl. 156.

## ALTINGIACEAE

BY PERCY WILSON

189. *Liquidambar styraciflua*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2196; G. T. Stevens, Ill. Guide, pl. 61, f. 9; Lounsberry, S. Wild Fl. pl. 70.

## GROSSULARIACEAE

BY FREDERICK VERNON COVILLE AND NATHANIEL LORD BRITTON

193. *RIBES*.

Add the synonym: *Limnobotrya* Rydb. Fl. Rocky Mts. 396. 1917.

196. *Ribes lacustre*.

Add the synonyms: *Limnobotrya lacustris* Rydb. Fl. Rocky Mts. 396. 1917. *Limnobotrya echinata* Rydb. Fl. Rocky Mts. 396. 1917. *Limnobotrya parvula* Rydb. Fl. Rocky Mts. 397. 1917.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2 f. 2197; G. T. Stevens, Ill. Guide pl. 61, f. 7; Newhall, Shrubs NE. Am. f. 51; Clements, Rocky Mt. Fl. pl. 30, f. 4; Brown & Schäffer, Alp. Fl. Can. pl. 34, f. 2.

196. *Ribes montigenum*.

Add the synonym: *Limnobotrya montigena* Rydb. Fl. Rocky Mts. 397. 1917.

197. *Ribes hudsonianum*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2198; Armstrong, Field Book W. Wild Fl. 213.

198. *Ribes vulgare*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2199; G. T. Stevens, Ill. Guide pl. 61, f. 5.



198. *Ribes triste*.

Add the synonym: *Coreosma tristis* Lunell, Am. Midl. Nat. 4: 415. 1916.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2200; Newhall, Shrubs NE. Am. f. 52.

199. *Ribes glandulosum*.

The authority should read Weber instead of Grauer.

Add the synonym: *Coreosma prostrata* Lunell, Am. Midl. Nat. 4: 414. 1916.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2201; G. T. Stevens, Ill. Guide pl. 61, f. 4.

200. *Ribes cereum*.

Add to the illustrations: Clements, Rocky Mt. Fl. pl. 31, f. 12.

201. *Ribes inebrians*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2202.

204. *Ribes aureum*.

Add the synonyms: *Ribes intermedium* Jancz. Bull. Acad. Cracovie 1910: 86. 1910. *Chrysobotrya aurea* Rydb. Fl. Rocky Mts. 399. 1917.

Add to the illustrations: Clements, Rocky Mt. Fl. pl. 13, f. 13; Armstrong, Field Book W. Wild Fl. 215.

205. *Ribes odoratum*.

Add the synonyms: *Ribes aureum longiflorum* Jancz. Bull. Acad. Cracovie 1910: 91. 1910. *Coreosma odorata* Nieuwl. Am. Midl. Nat. 4: 60. 1915. *Coreosma longiflora* Lunell, Am. Midl. Nat. 4: 415. 1916. *Chrysobotrya odorata* Rydb. Fl. Rocky Mts. 399. 1917.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2204.

206. *Ribes americanum*.

Add the synonym: *Coreosma americana* Nieuwl. Am. Midl. Nat. 4: 60. 1915.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2203; G. T. Stevens, Ill. Guide pl. 61, f. 6; Miller & Whiting, Wild Fl. 185.

207. *Ribes nevadense*.

Add to the illustrations: Armstrong, Field Book W. Wild Fl. 213.

208. *Ribes glutinosum*.

Add to the illustrations: M. E. Parsons, Wild Fl. Calif. 215; A. M. Davidson, Calif. Pl. f. 24.

212. *Grossularia speciosa*.

Add to the illustrations: Armstrong, Field Book W. Wild Fl. 211; M. E. Parsons, Wild Fl. Calif. 339.

214. *Grossularia leptosma*.

Insert the synonym: *Ribes leptosma* Fedde, Bot. Jahresb. 36<sup>2</sup>: 519. 1910.

214. *Grossularia senilis*.

Insert the synonym: *Ribes senile* Fedde, Bot. Jahresb. 36<sup>2</sup>: 519. 1910.

215. *Grossularia cruenta*.

The second synonym should be: *Ribes amictum cruentum* Jancz.; C. K. Schneid, Handb. Laubh. 1: 410. 1905.

Add the synonym: *Ribes Roezlii cruentum* Rehder, Stand. Cycl. Hort. 2962. 1916.

215. *Grossularia Roezli*.

Add to the illustrations: Armstrong, Field Book W. Wild Fl. 211.

216. *Grossularia amara*.

Add the synonym: *Ribes hesperium amarum* Parish, Pl. World 20: 217. 1917.

Add: ILLUSTRATION: A. M. Davidson, Calif. Pl. f. 24.

218. *Grossularia tularensis*.

Insert the synonym: *Ribes tularense* Fedde, Bot. Jahresb. 36<sup>2</sup>: 519. 1910.

219. *Grossularia leptantha*.

Add to the illustrations: Clements, Rocky Mt. Fl. pl. 30, f. 6.

220. *Grossularia Cynosbati*.

Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2205; G. T. Stevens, Ill. Guide pl. 61, f. 2; Newhall, Shrubs NE. Am. f. 50.

221. *Grossularia missouriensis*.  
Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2206.
221. *Grossularia curvata*.  
Add the synonym: *Grossularia campestris* Small, Fl. SE. U. S. ed. 2. 510, 1375. 1903.  
Add to the illustrations: Lounsbury, S. Wild Fl. pl. 68.
222. *Grossularia setosa*.  
Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2207.
223. *Grossularia oxyacanthoides*.  
Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2208; G. T. Stevens, Ill. Guide pl. 61, f. 3.
223. *Grossularia reclinata*.  
Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2209.
223. *Grossularia rotundifolia*.  
Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2210.
224. *Grossularia inermis*.  
Add the synonym: *Grossularia Purpusi* Rydb. Fl. Rocky Mts. 396. 1917.
225. *Grossularia klamathensis*.  
Insert the synonym: *Ribes klamathense* Fedde, Bot. Jahresb. 36<sup>2</sup>: 519. 1910.
225. *Grossularia hirtella*.  
Add the synonyms: *Ribes hirtellum calcicola* Fernald, Rhodora 13: 76. 1911. *Ribes hirtellum saxosum* Fernald, Rhodora 13: 76. 1911. *Grossularia saxosa* Lunell, Am. Midl. Nat. 4: 414. 1916.  
Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2211.

## PLATANACEAE

BY HENRY ALLAN GLEASON

227. *Platanus racemosa*.  
Add to the illustrations: Eastw. Handb. Trees Calif. pl. 32; Mem. Univ. Calif. 2: pl. 77, 78; Bull. Soc. Dendr. Fr. 1908: 63.
228. *Platanus Wrightii*.  
Add to the illustrations; Bull. Soc. Dendr. Fr. 1908: 61.
228. *Platanus mexicana*.  
Add to the illustrations: Bull. Soc. Dendr. Fr. 1908: 64.
229. *Platanus occidentalis*.  
Add the synonym: *Platanus densicoma* Dode, Bull. Soc. Dendr. Fr. 1908: 67. 1908.  
Add to the illustrations: Britt. & Brown, Ill. Fl. ed. 2. f. 2212; G. T. Stevens, Ill. Guide pl. 61, f. 8; Bull. Soc. Dendr. Fr. 1908: 66, 68.

## CONNARACEAE

BY NATHANIEL LORD BRITTON

233. *Rourea glabra*.  
Add the synonyms: *Santalodes glabrum* Kuntze, Rev. Gen. 155. 1891. *Rourea cubensis* Urban, Symb. Ant. 5: 356. 1908. *Rourea sympetala* Urban, Symb. Ant. 5: 357. 1908.
236. Insert:

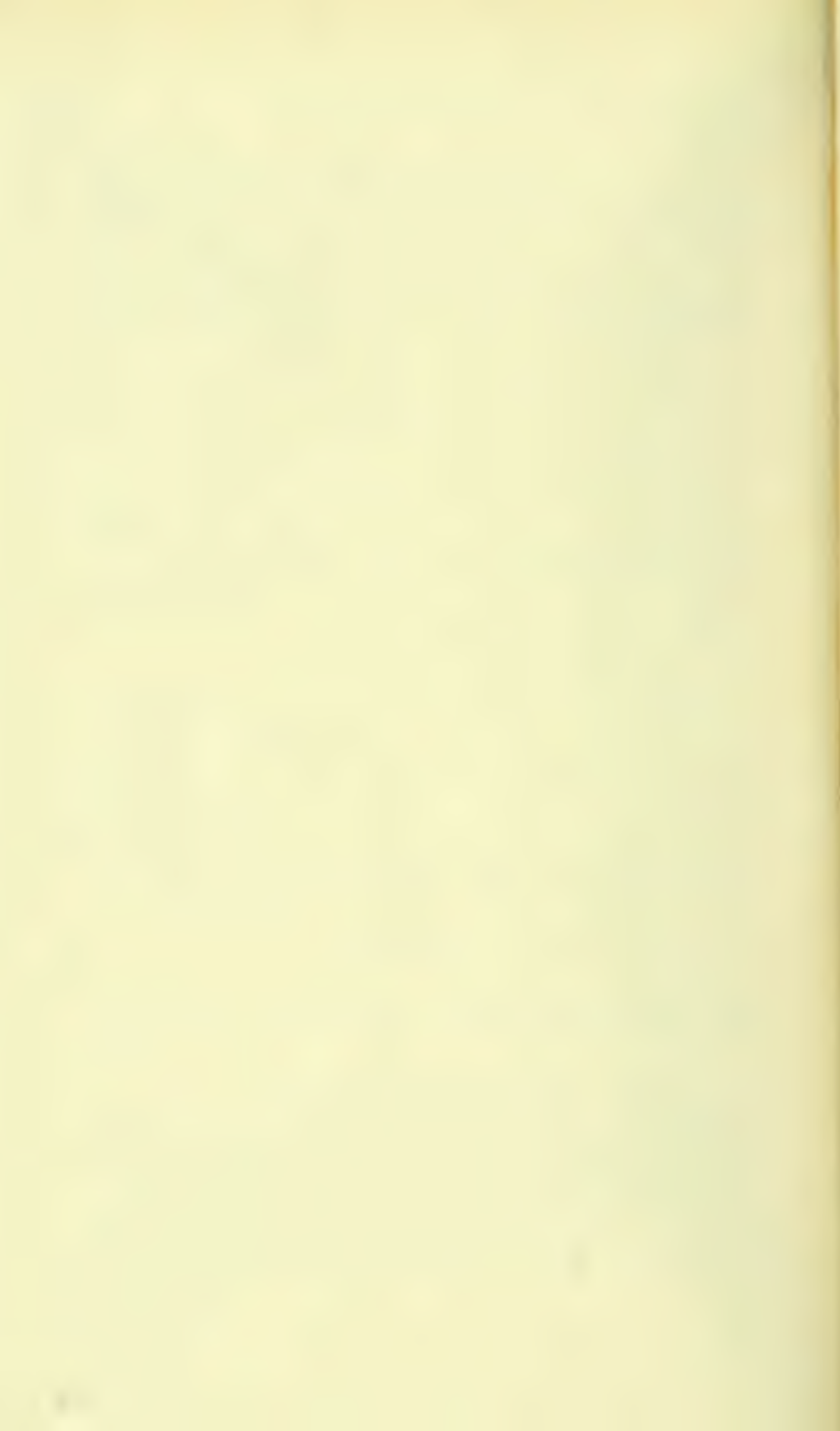
6. *Connarus Williamsii* Britton, sp. nov.

Stem about 5 m. long and 7.5 cm. thick, the twigs glabrous or merely puberulent. Petioles 7 cm. long or less, glabrous; leaflets 3, chartaceous, pinnately veined, acuminate, very short-stalked, glabrous, the terminal one oblanceolate, 8–21 cm. long, long-cuneate at the base, the lateral ones oblong, narrowed at the base, somewhat smaller; peduncles very short; fruiting racemes 3–5 cm. long, the rachis puberulent; fruiting pedicels stout, 1–2 mm. long; follicle smooth, obliquely obovate, short-stipitate, minutely tipped, 1.5–1.7 cm. long, nearly as wide as long, about 1 cm. thick, the persistent calyx about as long as the stipe; seed black, shining, about 13 mm. long.

Type collected near Marraganti, Panama, April 3–9, 1908, R. S. Williams 1006 (herb. N. Y. Bot. Gard.).













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