

ORDER 33. ROSACEÆ. (ROSE FAMILY.)

Plants with regular flowers, numerous (rarely few) distinct stamens inserted on the calyx, and 1-many pistils, which are quite distinct, or (in the last tribe) united and combined with the calyx-tube. Seeds (anatropous) 1-few in each ovary, almost always without albumen. Embryo straight, with large and thick cotyledons. Leaves alternate, with stipules, these sometimes caducous, rarely obsolete or wanting. — Calyx of 5 or rarely 3-4-8 sepals (the odd one superior), united at the base, often appearing double by a row of bractlets outside. Petals as many as the sepals (rarely wanting), mostly imbricated in the bud, and inserted with the stamens on the edge of a disk that lines the calyx-tube. Trees, shrubs, or herbs. — A large and important order, almost destitute of noxious qualities, and producing the most valuable fruits. Very intimately connected with Leguminosæ on one hand, and with Saxifragaceæ on the other.

I. Ovary superior and not enclosed in the calyx-tube at maturity.

- * Calyx deciduous, without bractlets; pistil solitary, becoming a drupe.

Tribe I. PRUNÆ. Trees or shrubs, with simple mostly serrate leaves. Ovules 2, pendulous, but seed almost always solitary. Style terminal.

1. **Prunus.** Flowers perfect. Lobes of calyx and corolla 5. Stone of the drupe bony.

- ** Calyx mostly persistent; pistils few to many (rarely solitary).

- + Calyx without bractlets; ovules 2-many.

Tribe II. SPIRÆÆ. Pistils mostly 5, becoming 2-several-seeded follicles. Shrubs or perennial herbs.

- a. Calyx short, 5-cleft. Petals obovate, equal.

2. **Spiræa.** Flowers perfect or dioecious. Pods 1-valved. Herbs or shrubs; leaves simple or pinnate.

3. **Physocarpus.** Pods inflated, 2-valved. Shrub; leaves palmately lobed.

- b. Calyx elongated, 5-toothed. Petals slender, unequal.

4. **Gillenia.** Herbs; leaves 3-foliate.

Tribe III. RUBEÆ. Pistils several or numerous, becoming drupelets in fruit. Ovules 2 and pendulous, but seed solitary. Perennials, herbaceous or with biennial soft-woody stems.

5. **Rubus.** Pistils numerous, fleshy in fruit, crowded upon a spongy receptacle.

6. **Dalibarda.** Pistils 5-10, in the bottom of the calyx, nearly dry in fruit.

- + + Calyx-lobes mostly with bractlets; ovule solitary.

✓ **Tribe IV. POTENTILLÆ.** Pistils few-many, 1-ovuled, becoming dry achenes. Herbs

- a. Styles persistent and elongated after anthesis, often plumose or jointed.

7. **Geum.** Calyx-lobes usually with 5 alternating small bractlets. Stamens and carpels numerous, styles becoming plumose or hairy tails, or naked and straight or jointed.

- b. Styles not elongated after anthesis, mostly deciduous.

8. **Waldsteinia.** Petals and calyx-lobes 5; small or no bractlets. Stamens numerous. Achenes 2-6; styles deciduous from the base.

- ✓ 9. **Fragaria.** Flower as in Potentilla. Receptacle much enlarged and pulpy in fruit.

10. **Potentilla.** Petals 5 (rarely 4), conspicuous. Calyx-lobes as many, with an alternating set of bractlets. Stamens and achenes numerous; the latter heaped on a dry receptacle. Styles commonly more or less lateral, deciduous or not enlarging in fruit.

11. **Sibbaldia.** Petals minute; stamens and achenes 5-10; otherwise as Potentilla.

II. Ovaries inferior or enclosed in the calyx-tube.

Tribe V. POTERIEÆ. Pistils 1-4, becoming achenes, completely enclosed in the dry and firm calyx-tube, which is constricted or nearly closed at the throat. Herbs with compound or lobed leaves. Petals often none.

12. **Alchemilla.** Calyx urceolate, bracteolate. Petals none. Stamens 1-4. Flowers minute, clustered.

13. **Agrimonia.** Calyx turbinate, with a margin of hooked prickles. Stamens 5-12. Flowers yellow, in long racemes.

14. **Poterium.** Calyx-lobes petaloid; tube 4-angled, naked. Petals none. Flowers densely capitate or spicate.

Tribe VI. ROSEÆ. Pistils many, becoming bony achenes, enclosed in the globose or urn-shaped fleshy calyx-tube, which resembles a pome. Petals conspicuous. Stamens numerous.

15. **Rosa.** The only genus. Prickly shrubs with pinnate leaves.

Tribe VII. POMEÆ. Carpels 2-5, enclosed in and coalescent with the fleshy or berry-like calyx, in fruit becoming a 2-several-celled pome. Trees or shrubs, with stipules free from the petiole.

- a. Cells of the compound ovary as many as the styles (2-5), each 2- (rarely several-) ovuled.

16. **Pyrus.** Pome containing 2-5 papery or cartilaginous carpels.

17. **Cratægeus.** Pome drupe-like, with 1-5 bony stones or kernels. Usually thorny.

- b. Cells of the compound ovary becoming twice as many as the styles, each 1-ovuled.

18. **Amelanchier.** Pome usually of 5 carpels: each becomes incompletely 2-celled by a projection from its back; otherwise as Pyrus.

1. PRUNUS, Tourn. PLUM, CHERRY, ETC.

Calyx 5-cleft; the tube bell-shaped, urn-shaped or tubular-obconical, deciduous after flowering. Petals 5, spreading. Stamens 15-20. Pistil solitary, with 2 pendulous ovules. Drupe fleshy, with a bony stone. — Small trees or shrubs, with mostly edible fruit. (The ancient Latin name.)

§ 1. PRUNUS proper (and CERASUS). Drupe smooth, and the stone smooth or somewhat rugged; flowers (usually white) from separate lateral scaly buds in early spring, preceding or coetaneous with the leaves; the pedicels few or several in simple umbel-like clusters.

1. **P. Americana**, Marshall. (WILD YELLOW or RED PLUM.) Tree thorny, 8-20° high; leaves ovate or somewhat obovate, conspicuously pointed, coarsely or doubly serrate, very veiny, glabrous when mature; fruit nearly destitute of bloom, roundish-oval, yellow, orange, or red, $\frac{1}{2}$ - $\frac{3}{4}$ in diameter, with the turgid stone more or less acute on both margins, or in cultivated states 1' or more in diameter, the flattened stone with broader margins; pleasant-tasted, but with a tough and acerb skin. — Woodlands and river-banks, common.

2. **P. maritima**, Wang. (BEACH PLUM.) Low and straggling (1-5°); leaves ovate or oval, finely serrate, softly pubescent underneath; pedicels short, pubescent; fruit globular, purple or crimson with a bloom ($\frac{1}{2}$ -1' in diameter); the stone very turgid, acute on one edge, rounded and minutely grooved on the other. — Sea-beaches and the vicinity, N. Brunswick to Va. It varies, when at some distance from the coast (N. J. and southward), with the leaves smoother and thinner and the fruit smaller.

3. **P. Alleghaniensis**, Porter. A low straggling shrub or small tree (3-15° high), seldom thorny; leaves lanceolate to oblong-ovate, often long-acu-

minate, finely and sharply serrate, softly pubescent when young, glabrate with age; fruit globose-ovoid, very dark purple with a bloom (less than $\frac{1}{4}$ in diameter); stone turgid, a shallow groove on one side and a broad flat ridge on the other. — Bluffs of the Alleghany Mts., Penn.

4. *P. Chicāsa*, Michx. (CHICKASAW PLUM.) Stem scarcely thorny (8–15° high); leaves nearly lanceolate, finely serrulate, glabrous; fruit globular, red, nearly destitute of bloom ($\frac{1}{4}$ – $\frac{3}{8}$ in diameter); the ovoid stone almost as thick as wide, rounded at both sutures, one of them minutely grooved. — Md. to Fla., west to S. Ind., Kan., and Tex.

5. *P. grācilis*, Engelm. & Gray. Soft-pubescent, 1–4° high; leaves oblong-lanceolate to ovate, acute, sharply serrate, becoming nearly glabrous above, 1–2' long; pedicels and calyx pubescent; fruit less than $\frac{1}{4}$ in diameter; stone rather turgid, suborbicular. — Prairies and sandy places, S. Kan. to Tex. and Tenn.

6. *P. pūmila*, L. (DWARF CHERRY. SAND C.) Smooth, depressed and trailing (6'–6° high); leaves obovate-lanceolate, tapering to the base, somewhat toothed near the apex, pale underneath; flowers 2–4 together; fruit ovoid, dark red or nearly black when ripe, without bloom; stone ovoid, marginless, of the size of a large pea. — Rocks or sandy banks, N. Brunswick to Va., west to Minn. and Kan. Fruit usually sour and astringent.

7. *P. Pennsylvānica*, L. f. (WILD RED CHERRY.) Tree 20–30° high, with light red-brown bark; leaves oblong-lanceolate, pointed, finely and sharply serrate, shining, green and smooth both sides; flowers many in a cluster, on long pedicels; fruit globose, light red, very small, with thin and sour flesh; stone globular. — Rocky woods, Newf. to N. C., west to Minn. and Mo.

P. spinōsa, L. (SLOE. BLACK THORN.) Branches thorny; leaves obovate-oblong or ovate-lanceolate, sharply serrate, at length glabrous; pedicels glabrous; fruit small, globular, black with a bloom, the stone turgid, acute on one edge. — Var. *insitītia* (BULLACE-PLUM), is less spiny, the pedicels and lower side of the leaves pubescent. — Roadsides and waste places, N. Eng. to Penn. and N. J. (Adv. from Eu.)

§ 2. *PADUS*. Drupe small, globose, without bloom; the stone turgid-ovate, marginless; flowers in racemes terminating leafy branches, therefore appearing after the leaves, late in spring.

8. *P. Virginiāna*, L. (CHOKE-CHERRY.) A tall shrub, with grayish bark; leaves oval, oblong, or obovate, abruptly pointed, very sharply (often doubly) serrate with slender teeth, thin; petals roundish; fruit red turning to dark crimson; stone smooth. — River-banks, Newf. to Ga., west to Minn., E. Neb., and Tex. — Fruit very austere and astringent. A variety with very short dense racemes and sweeter yellowish fruit has been found at Dedham, Mass.

9. *P. serōtina*, Ehrh. (WILD BLACK CHERRY.) A large tree, with reddish-brown branches; leaves oblong or lanceolate-oblong, taper-pointed, serrate with incurved short and callous teeth, thickish, shining above; racemes elongated; petals obovate; fruit purplish-black. — Woods, N. Scotia to Fla., west to Minn., E. Neb., and La. — Fruit slightly bitter, but with a pleasant vinous flavor.

10. *P. demissa*, Walp. Low but tree-like in habit, 3–12° high, resembling n. 8 in foliage, but the leaves rather thick and the teeth less slender; racemes often elongated; fruit purplish-black, sweet and but slightly astringent. — Central Kan. and Neb. to New Mex., S. Dak., and westward.

2. SPIRÆA, L. MEADOW-SWEET.

Calyx 5-cleft, short, persistent. Petals 5, obovate, equal, imbricated in the bud. Stamens 10–50. Pods (follicles) 5–8, not inflated, few-several-seeded. Seeds linear, with a thin or loose coat and no albumen. — Shrubs or perennial herbs, with simple or pinnate leaves, and white or rose-colored flowers in corymbs or panicles. (The Greek name, from *σπειράω*, to twist, from the twisting of the pods in the original species.)

§ 1. *SPIRÆA* proper. Erect shrubs, with simple leaves; stipules obsolete; pods mostly 5, several-seeded.

1. *S. betulæfōlia*, Pall., var. *corymbōsa*, Watson. Nearly smooth (1–2° high); leaves oval or ovate, cut-toothed toward the apex; corymbs large, flat, several times compound; flowers white. (*S. corymbosa*, Raf.) — Mountains of Penn. and N. J. to Ga., west to Ky. and Mo.

2. *S. salicifōlia*, L. (COMMON MEADOW-SWEET.) Nearly smooth (2–3° high); leaves wedge-lanceolate, simply or doubly serrate; flowers in a crowded panicle, white or flesh-color; pods smooth. — Wet or low grounds, Newf. to the mountains of Ga., west to Minn. and Mo.; also to the far northwest. (Eu.)

3. *S. tomentōsa*, L. (HARDHACK. STEEPLE-BUSH.) Stems and lower surface of the ovate or oblong serrate leaves very woolly; flowers in short racemes crowded in a dense panicle, rose-color, rarely white; pods woolly. — Low grounds, N. Scotia to the mountains of Ga., west to Minn. and Kan.

§ 2. *ULMĀRIA*. Perennial herbs, with pinnate leaves and paniced cymose flowers; stipules kidney-form; pods 5–8, 1–2-seeded.

4. *S. lobāta*, Jacq. (QUEEN OF THE PRAIRIE.) Glabrous (2–8° high); leaves interruptedly pinnate; the terminal leaflet very large, 7–9-parted, the lobes incised and toothed; panicle compound-clustered, on a long naked peduncle; flowers deep peach-blossom color, handsome, the petals and sepals often in fours. — Meadows and prairies, Penn. to Ga., west to Mich., Ky., and Iowa.

§ 3. *ARŪNCUS*. Perennial herbs, with diacious whitish flowers in many slender spikes, disposed in a long compound panicle; leaves thrice pinnate; stipules obsolete; pods 3–5, several-seeded; pedicels reflexed in fruit.

5. *S. Arūncus*, L. (GOAT'S-BEARD.) Smooth, tall; leaflets thin, lanceolate-oblong, or the terminal ones ovate-lanceolate, taper-pointed, sharply cut and serrate. — Rich woods, N. Y. and Penn. to Ga. in the mountains, west to Iowa and Mo.

3. PHYSOCÁRPUS, Maxim. NINE-BARK.

Carpels 1–5, inflated, 2-valved; ovules 2–4. Seeds roundish, with a smooth and shining crustaceous testa and copious albumen. Stamens 30–40. Otherwise as *Spiræa*. — Shrubs, with simple palmately-lobed leaves and umbel-like corymbs of white flowers. (Name from *φύσα*, a bladder, and *καρπός*, fruit.)

1. *P. opulifōlius*, Maxim. Shrub 4–10° high, with long recurved branches, the old bark loose and separating in numerous thin layers; leaves roundish, somewhat 3-lobed and heart-shaped; the purplish membranaceous pods very conspicuous. (*Spiræa opulifolia*, L. *Neillia opulifolia*, Benth. &

Hook.)—Rocky banks of streams, N. Eng. to Fla., west to Mo., and the Pacific northward. Often cultivated.

4. GILLÉNIA, Moench. INDIAN PHYSIC.

Calyx narrow, somewhat constricted at the throat, 5-toothed; teeth erect. Petals 5, rather unequal, linear-lanceolate, inserted in the throat of the calyx, convolute in the bud. Stamens 10–20, included. Pods 5, included, at first lightly cohering with each other, 2–4-seeded. Seeds ascending, with a close coriaceous coat, and some albumen.—Perennial herbs, with almost sessile 3-foliate leaves; the thin leaflets doubly serrate and incised. Flowers loosely paniculate-corymbed, pale rose-color or white. (Dedicated to an obscure German botanist or physician, A. Gille, or Gillenius.)

1. *G. trifoliata*, Moench. (BOWMAN'S ROOT.) Leaflets ovate-oblong, pointed, cut-serrate; stipules small, awl-shaped, entire.—Rich woods, N. Y. to N. J. and Ga., west to Mich., Ind., and Mo.

2. *G. stipulacea*, Nutt. (AMERICAN IPECAC.) Leaflets lanceolate, deeply incised; stipules large and leaf-like, doubly incised.—Western N. Y. and Penn. to S. Ind. and Kan., south to Ala. and La.

5. RŪBUS, Tourn. BRAMBLE.

Calyx 5-parted, without bractlets. Petals 5, deciduous. Stamens numerous. Achenes usually many, collected on a spongy or succulent receptacle, becoming small drupes; styles nearly terminal.—Perennial herbs, or somewhat shrubby plants, with white (rarely reddish) flowers, and edible fruit. (The Roman name, kindred with *ruber*, red.)

§ 1. *Fruit, or collective mass of drupes, falling off whole from the dry receptacle when ripe, or of few grains which fall separately.*—RASPBERRY.

* *Leaves simple; flowers large; prickles none; fruit and receptacle flat and broad.*

1. *R. odoratus*, L. (PURPLE FLOWERING-RASPBERRY.) Stem shrubby (3–5° high); branches, stalks, and calyx bristly with glandular clammy hairs; leaves 3–5-lobed, the lobes pointed and minutely toothed, the middle one prolonged; peduncles many-flowered; flowers showy (2' broad); calyx-lobes tipped with a long narrow appendage; petals rounded, purple rose-color; fruit reddish.—N. Scotia to N. J. and Ga., west to Mich.

2. *R. Nutkanus*, Moçino. (SALMON-BERRY.) Glandular, scarcely bristly; leaves almost equally 5-lobed, coarsely toothed; peduncles few-flowered; petals oval, white.—Upper Mich., Minn., and westward.

3. *R. Chamæmorus*, L. (CLOUD-BERRY. BAKED-APPLE BERRY.) Herbaceous, low, diacious; stem simple, 2–3-leaved, 1-flowered; leaves roundish-kidney-form, somewhat 5-lobed, serrate, wrinkled; calyx-lobes pointless; petals obovate, white; fruit of few grains, amber-color.—In sphagnous swamps, highest peaks of White Mts., coast of E. Maine, and north and west to the Arctic regions. (Eu.)

* * *Leaflets (pinnately or pedately) 3–5; petals small, erect, white.*

+ *Stems annual, herbaceous, not prickly; fruit of few separate grains.*

4. *R. triflorus*, Richardson. (DWARF RASPBERRY.) Stems ascending (6–12' high) or trailing; leaflets 3 (or pedately 5), rhombic-ovate or ovate-

lanceolate, acute at both ends, coarsely doubly serrate, thin, smooth; peduncle 1–3-flowered.—Wooded hillsides, Lab. to N. J., west to Minn. and Iowa. Sepals and petals often 6 or 7. This appears to be more properly a blackberry.

+ + *Stems biennial and woody, prickly; receptacle oblong; fruit hemispherical.*

5. *R. strigosus*, Michx. (WILD RED RASPBERRY.) Stems upright, and with the stalks, etc., beset with stiff straight bristles (or a few becoming weak hooked prickles), glandular when young, somewhat glaucous; leaflets 3–5, oblong-ovate, pointed, cut-serrate, whitish-downy underneath, the lateral ones sessile; petals as long as the sepals; fruit light red.—Thickets and hills, Lab. to N. J., and south in the mountains to N. C., west to Minn. and Mo.

6. *R. occidentalis*, L. (BLACK RASPBERRY. THIMBLEBERRY.) Glauous all over; stems recurved, armed like the stalks, etc., with hooked prickles, not bristly; leaflets 3 (rarely 5), ovate, pointed, coarsely doubly serrate, whitened-downy underneath, the lateral ones somewhat stalked; petals shorter than the sepals; fruit purple-black (rarely a whitish variety), ripe early in July.—Common, especially northward.—An apparent hybrid (*R. neglectus*, Peck) between this and the last species occurs, with characters intermediate between the two, and growing with them.

§ 2. *Fruit, or collective drupes, not separating from the juicy prolonged receptacle, mostly ovate or oblong, blackish; stems prickly and flowers white.*—BLACKBERRY.

7. *R. villosus*, Ait. (COMMON OR HIGH BLACKBERRY.) Shrubby (1–6° high), furrowed, upright or reclining, armed with stout curved prickles; branchlets, stalks, and lower surface of the leaves hairy and glandular; leaflets 3 (or pedately 5), ovate, pointed, unequally serrate, the terminal ones somewhat heart-shaped, conspicuously stalked; flowers racemed, numerous; bracts short; sepals linear-pointed, much shorter than the obovate-oblong spreading petals.—Borders of thickets, etc., common, and very variable in size, aspect, and shape of fruit.—Var. *FRONDOSUS*, Torr., is smoother and much less glandular, with flowers more corymbose, leafy bracts and roundish petals. With the type, more common at the north.—Var. *HUMIFUSUS*, Torr. & Gray, is smaller and trailing, with peduncles few-flowered. More common southward, and connecting with the next species.

8. *R. Canadensis*, L. (LOW BLACKBERRY. DEWBERRY.) Shrubby, extensively trailing, slightly prickly; leaflets 3 (or pedately 5–7), oval or ovate-lanceolate, mostly pointed, thin, nearly smooth, sharply cut-serrate; flowers racemed, with leaf-like bracts.—Dry fields, common; Newf. to Va., west to central Minn. and E. Kan.

9. *R. hispidus*, L. (RUNNING SWAMP-BLACKBERRY.) Stems slender, scarcely woody, extensively procumbent, beset with small reflexed prickles; leaflets 3 (or rarely pedately 5), smooth, thickish, mostly persistent, obovate, obtuse, coarsely serrate, entire toward the base; peduncles leafless, several-flowered, often bristly; flowers small; fruit of few grains, black.—In low woods or swampy grassy ground, N. Scotia to Ga., west to Minn. and E. Kan.

10. *R. cuneifolius*, Pursh. (SAND BLACKBERRY.) Shrubby (1–3° high), upright, armed with stout recurved prickles; branchlets and lower side of the leaves whitish-woolly; leaflets 3–5, wedge-obovate, thickish, serrate above;

peduncles 2-4-flowered; *petals large*.—Sandy woods, southern N. Y. and Penn. to Fla., west to Mo. and La.

11. *R. trivialis*, Michx. (LOW BUSH-BLACKBERRY.) Shrubby, procumbent, bristly and prickly; *leaves evergreen, coriaceous, nearly glabrous*; leaflets 3 (or pedately 5), ovate-oblong or lanceolate, sharply serrate; peduncles 1-3-flowered; *petals large*.—Sandy soil, Va. to Fla., west to Mo. and Tex.

6. DALIBÁRDA, L.

Calyx deeply 5-6-parted, 3 of the divisions larger and toothed. Petals 5, sessile, deciduous. Stamens many. Ovaries 5-10, becoming nearly dry seed-like drupes; styles terminal, deciduous.—Low perennials, with creeping and densely tufted stems or rootstocks, and roundish-heart-shaped crenate leaves on slender petioles. Flowers 1 or 2, white, on scape-like peduncles. (Named in honor of Thomas Dalibard, a French botanist of the time of Linnaeus.)

1. *D. repens*, L. Downy; sepals spreading in the flower, converging and enclosing the fruit.—Wooded banks; common northward. June-Aug.—In aspect and foliage resembling a stemless Violet.

7. GEUM, L. AVENS.

Calyx bell-shaped or flattish, deeply 5-cleft, usually with 5 small bractlets at the sinuses. Petals 5. Stamens many. Achenes numerous, heaped on a conical or cylindrical dry receptacle, the long persistent styles forming hairy or naked and straight or jointed tails. Seed erect; radicle inferior.—Perennial herbs, with pinnate or lyrate leaves. (A name used by Pliny, of unknown meaning.)

§ 1. *GEUM* proper. *Styles jointed and bent near the middle, the upper part deciduous and mostly hairy, the lower naked and hooked, becoming elongated; head of fruit sessile in the calyx; calyx-lobes reflexed.*

* *Petals white or pale greenish-yellow, small, spatulate or oblong; stipules small.*

1. *G. album*, Gmelin. Smoothish or softly pubescent; stem slender (2° high); root-leaves of 3-5 leaflets, or simple and rounded, with a few minute leaflets on the petiole below; those of the stem 3-divided or lobed, or only toothed; hairs upon the long slender peduncles ascending or spreading; *receptacle of the fruit densely bristly-hirsute*.—Borders of woods, etc.; common. May-Aug.

2. *G. Virginianum*, L. Bristly-hairy, especially the stout stem; lower and root-leaves pinnate, very various, the upper mostly 3-parted or divided, incised; petals inconspicuous, shorter than the calyx; heads of fruit larger, on short stout peduncles hirsute with reflexed hairs; *receptacle glabrous or nearly so*.—Borders of woods and low grounds; common. June-Aug.

* * *Petals golden-yellow, conspicuous, broadly-obovate, exceeding the calyx; stipules larger and all deeply cut.*

3. *G. macrophyllum*, Willd. Bristly-hairy, stout (1-3° high); root-leaves lyrate and interruptedly pinnate, with the *terminal leaflet very large and round-heart-shaped*; lateral leaflets of the stem-leaves 2-4, minute, the terminal roundish, 3-cleft, the lobes *wedge-form and rounded*; *receptacle nearly naked*.—N. Scotia and N. Eng. to Minn., Mo., and westward. June. (Eu.)

4. *G. strictum*, Ait. Somewhat hairy (3-5° high); root-leaves interruptedly pinnate, the leaflets wedge-obovate; *leaflets of the stem-leaves 3-5, rhombic-ovate or oblong, acute; receptacle downy*.—Moist meadows, Newf. to N. J., west to Minn., Kan., and westward. July, Aug. (Eu.)

§ 2. *STYLIPUS*. *Styles smooth; head of fruit conspicuously stalked in the calyx; bractlets of the calyx none; otherwise nearly as § 1.*

5. *G. vernum*, Torr. & Gray. Somewhat pubescent; stems ascending, few-leaved, slender; root-leaves roundish-heart-shaped, 3-5-lobed, or some of them pinnate, with the lobes cut; petals yellow, about the length of the calyx, receptacle smooth.—Thickets, Penn. to Ill., south to Ky. and Tex. April-June.

§ 3. *CARYOPHYLLATA*. *Style jointed and bent in the middle, the upper joint plumose; flowers large; calyx erect or spreading; petals erect.*

6. *G. rivale*, L. (WATER, OR PURPLE AVENS.)—Stems nearly simple, several-flowered (2° high); root-leaves lyrate and interruptedly pinnate, those of the stem few, 3-foliate or 3-lobed; petals dilated-obovate, retuse, contracted into a claw, purplish-orange; head of fruit stalked in the brown-purple calyx.—Bogs and wet meadows, Newf. to N. J., west to Minn. and Mo.—Flowers nodding; pedicels erect in fruit. (Eu.)

§ 4. *SIEVÉRSIA*. *Style not jointed, wholly persistent and straight; head of fruit sessile; flowers large; calyx erect or spreading. (Flowering stems simple, and bearing only bracts or small leaves.)*

7. *G. triflorum*, Pursh. Low, softly-hairy; root-leaves interruptedly pinnate; leaflets very numerous and crowded, oblong-wedge-form, deeply cut-toothed; flowers 3 or more on long peduncles; *bractlets linear, longer than the purple calyx, as long as the oblong purplish erect petals; styles very long (2°), strongly plumose in fruit*.—Rocks, Lab. and northern N. Eng., to Minn. and Mo.; rare. April-June.

8. *G. radiatum*, Michx. Hirsutely hairy or smoothish; root-leaves rounded-kidney-shaped, radiate-veined (2-5' broad), doubly or irregularly cut-toothed and obscurely 5-7-lobed, also a set of minute leaflets down the long petiole; stems (8-18' high) 1-5-flowered; *bractlets minute; petals yellow, round-obovate and more or less obcordate, exceeding the calyx (½ long), spreading; styles naked except the base*. (High mountains of N. C.)

Var. *Péckii*, Gray. Nearly glabrous, or the stalks and veins of the leaves sparsely hirsute.—Alpine tops of the White Mts.

DRYAS OCTOPETALA, L., a dwarf matted slightly shrubby plant, with simple toothed leaves and large white solitary flowers, has the characters of this section excepting its 8-9-parted calyx and 8 or 9 petals. It was said by Pursh to have been found on the White Mountains, N. H., ninety years ago, but it is not known to have been seen there since.

8. WALDSTEINIA, Willd.

Calyx-tube inversely conical; the limb 5-cleft, with 5 often minute and deciduous bractlets. Petals 5. Stamens many, inserted into the throat of the calyx. Achenes 2-6, minutely hairy; the terminal slender styles deciduous from the base by a joint. Seed erect; radicle inferior.—Low perennial herbs, with