

THE ROSES OF OHIO.

ROSE GORMLEY.

ROSACEÆ—Rose Family.

Herbs, shrubs, or trees with bisporangiate, rarely diecious, actinomorphic, perigynous flowers, and alternate, simple or compound, usually stipulate leaves; perianth usually pentamerous, the calyx often bracteolate; stamens usually numerous, anthers with four microsporangia; carpels one to many, distinct or united with each other and the hypanthium; ovulary unilocular or in cases of united carpels 2-10-locular; style terminal or lateral; ovules one to several, anatropous; fruit usually follicles, achenes, drupes or pomes; endosperm usually none, rarely copious.

Subfamily, ROSATÆ.

Carpels several or numerous or occasionally only one and then the fruit a dry, one-seeded achene; hypanthium free from the carpels, usually membranous, but sometimes becoming dry or fleshy in the fruit, fruit follicles, achenes, aggregates of drupelets, or with fleshy receptacle.

SYNOPSIS.

- I. Carpels not enclosed in the hypanthium; calyx not enclosing the carpels.
 - a. Carpels numerous, ripening into 1-2-seeded achenes or drupelets.
 1. Style persistent; fruit an achene.
 1. Geum. (1).
 2. Style deciduous; fruit an achene.
 2. Dasiphora. (2).
 3. Potentilla. (3).
 4. Argentina. (4).
 5. Comarum. (5).
 6. Drymocallis. (6).
 7. Waldsteinia. (7).
 8. Fragaria. (8).
 3. Style persistent; fruit a drupelet.
 9. Rubus. (9).
 - b. Carpels usually not more than 10, ripening into 1-4-seeded follicles.
 1. Flowers bisporangiate.
 10. Porteranthus. (10).
 11. Schizonotus. (11).
 12. Filipendula. (12).
 13. Opulaster. (13).
 14. Spiraea. (14).
 2. Flowers diecious.
 15. Aruncus. (15).
- II. Carpels at length enclosed in the connivent, zygomorphic calyx segments; styles deciduous; with normal or cleistogamous flowers.
 16. Dalibarda. (16).

- III. Carpels enclosed in the persistent hypanthium; achenes numerous to one.
- a. Achenes numerous, enclosed in a fleshy hypanthium.
 17. *Rosa*. (17).
 - b. Achenes 1-2, enclosed in the dry hypanthium.
 18. *Agrimonia*. (18).
 19. *Sanguisorba*. (19).
 20. *Poterium*. (20).

Genus Key.

1. Carpels not enclosed in the hypanthium. 2.
1. Carpels enclosed in the hypanthium. 17.
2. Carpels numerous, ripening into 1-2-seeded achenes or drupelets. 3.
2. Carpels usually not more than 10. 11.
3. Plants woody, usually prickly, or, if not, with shreddy bark. 4.
3. Plants herbaceous, rarely slightly woody at the base. 5.
4. Flowers white or rose; shrubs usually prickly; fruit an aggregate of drupelets. *Rubus*. (9).
4. Flowers yellow; not prickly or bristly; bark shreddy, achenes pubescent. *Dasiphora*. (2).
5. Leaves trifoliate; flowers corymbose on a scape. 6.
5. Leaves pinnate or lobed or, if trifoliate, then the flowers solitary in the axils or cymose at the end of leafy branches. 7.
6. Flowers yellow; achenes on dry receptacles. *Waldsteinia*. (7).
6. Flowers white; achenes on fleshy edible receptacles. *Fragaria*.
7. Style terminal or nearly so; achenes glabrous or pubescent. 8.
7. Style lateral or nearly basal; achene glabrous. 9.
8. Seed erect; style persistent, jointed near the tip, becoming hooked. *Geum*. (1).
8. Seed pendulous; style deciduous, articulated with the ovulary, not becoming hooked. *Potentilla*. (3).
9. Flowers red or purple. *Comarum*. (5).
9. Flowers yellow or white. 10.
10. Flowers white; style nearly basal. *Dryocallis*. (6).
10. Flowers yellow; style lateral; plant silvery pubescent. *Argentina*. (4).
11. Leaves entire or only slightly lobed. 15.
11. Leaves compound or deeply palmately lobed. 12.
12. Shrubs with odd pinnate leaves, stipules small. *Schizonotus*. (11).
12. Erect perennial herbs. 13.
13. Leaves 2-3 times pinnate; stipules minute or wanting. *Aruncus*. (15).
13. Leaves palmately lobed, 3-foliolate or simply pinnate; stipules large. 14.
14. Leaves 3-parted or 3-foliolate; flowers in loose terminal panicles; follicles dehiscent along both sides. *Porteranthus*. (10).
14. Leaves pinnately 3-9-lobed or foliate; flowers in dense cymose panicles; follicle-like fruit indehiscent. *Filipendula*. (12).
15. Low herbs with orbicular, cordate leaves; hypanthium zygomorphic enclosing the carpels; with normal and cleistogamous flowers. *Dalibarda*. (16).
15. Shrubs; leaves ovate orbicular, ovate or lanceolate; hypanthium enclosing the carpels. 16.
16. Leaves somewhat 3-lobed; follicles dehiscent along both sutures; carpels united below. *Opulaster*. (13).
16. Leaves entire; follicles dehiscent along one suture, carpels distinct. *Spiraea*. (14).
17. Shrubs; stems usually prickly; carpels enclosed in the fleshy hypanthium. *Rosa*. (17).
17. Herbs; stems not prickly; carpels enclosed in a dry hypanthium. 18.

18. Leaves pinnate with smaller leaf segments between the larger ones; calyx with hooked prickles; flowers with petals in narrow racemes. *Agrimonia* (18).
18. Leaves pinnate without the smaller leaf segments; calyx without prickles; flowers without petals in heads or spikes. 19.
19. Leaves $\frac{3}{4}$ - $2\frac{1}{2}$ in. long; stamens 4; inflorescence a spike. *Sanguisorba*. (19)
19. Leaves $\frac{1}{4}$ - $\frac{1}{2}$ in. long; stamens numerous; inflorescence a head. *Poterium*. (20).

1. Geum. Avens.

Perennial herbs with pinnate or pinnatifid leaves with stipules; flowers solitary or cymose—corymbose; perianth segments 5 each; stamens numerous; achenes numerous on a dry receptacle, the persistent styles being straight or jointed, naked or plumose; seed erect, testa membranous.

1. Flowers purple; calyx lobes erect or spreading; style plumose below. *G. rivale*. (1).
1. Flowers white or yellow; calyx lobes strongly reflexed in fruit; style not plumose. 2.
2. Calyx without bracts; flowers less than $\frac{1}{4}$ in. broad, yellow; head of fruit long stalked. *G. vernum*. (6).
2. Calyx bracteolate; flowers $\frac{1}{4}$ - $\frac{3}{4}$ in. broad. 3.
3. Petals white. 4.
3. Petals yellow or cream yellow. 5.
4. Plants glabrate or softly pubescent; receptacle bristly. *G. canadense*. (2).
4. Plants rough-pubescent; receptacle glabrous or downy. *G. virginianum*. (4)
5. Stems bristly-hairy, $1\frac{1}{2}$ -3 ft. tall; petals cream-yellow, small, rarely exceeding the sepals. *G. flavum*. (3).
5. Stems pubescent, 2-5 ft. tall; petals yellow, large, much exceeding the sepals. *G. strictum*. (5).

1. **Geum rivale** L. Purple Avens. Erect herbs, $1\frac{1}{2}$ - $2\frac{1}{2}$ ft. high; basal leaves pinnate, the side leaflets being much smaller than the terminal leaflets, irregularly lobed and dentate; stem leaves simple or 3-parted; flowers purple, styles becoming plumose in the fruit. Geauga, Champaign.

2. **Geum canadense** Jacq. White Avens. Erect, softly pubescent or glabrate herbs, branched at the top, $1\frac{3}{4}$ -3 ft. high; leaves 3-parted, ovate or obovate, velvety pubescent or glabrate beneath; flowers, white. General.

3. **Geum flavum** (Port.) Bickn. Cream-colored Avens. Stems erect, $1\frac{1}{2}$ -3 ft. tall, bristly-hairy below; stipules large, foliaceous; leaves usually pinnate, those above sometimes entire; flowers cream-yellow; head of fruit sessile. No specimens.

4. **Geum virginianum** L. Rough Avens. Stems with bristly hairs $1\frac{1}{4}$ -2 ft. high; petals creamy-white, rather inconspicuous, being exceeded by the sepals; receptacle glabrous or downy. Lorain, Wyandot, Highland, Wayne, Fulton, Madison, Mercer, Licking, Richland, Knox, Clinton, Huron, Galion, Defiance, Harrison, Fayette, Morrow, Tuscarawas, Williams.

5. **Geum strictum** Ait. Yellow Avens. Stems hairy, $1\frac{1}{2}$ – $2\frac{3}{4}$ ft. high. Stem leaves pinnate, much incised, leaflets 3–5, rhombic-ovate; stipules large, foliaceous; flowers yellow; petals longer than the sepals, orbicular in shape. Knox, Ashtabula, Summit, Wayne, Lake, Stark, Lorain, Cuyahoga, Fairfield, Geauga, Preble.

6. **Geum vernum** (Raf.) T. & G. Spring Avens. Stem erect, glabrous, or with a few scattered hairs; basal leaves orbicular or cordate, 3–5 lobed, sometimes pinnate; stem leaves narrowly pinnate or pinnatifid; flowers yellow, head of fruit long stalked. Hancock, Montgomery, Clark, Warren, Lucas, Erie, Lorain, Delaware, Greene, Hamilton, Pickaway, Crawford, Hardin, Clermont, Preble, Huron, Licking, Franklin, Pike, Auglaize, Washington, Madison, Morrow.

2. **Dasiphora.**

Stems shrubby, erect, with dry sheathing stipules and pinnate leaves; flowers solitary or in small cymes; petals and sepals 5; stamens about 25 in 5 festoons on the thickened margin of the disk; achenes numerous, densely covered with hairs.

1. **Dasiphora fruticosa** (L.) Rydb. Shrubby Cinquefoil. Shrubs $\frac{1}{2}$ – $2\frac{1}{2}$ ft. high, with shaggy bark; leaflets 5–7, oblong, entire, with long, silky hairs; flowers yellow, $\frac{3}{8}$ – $\frac{1}{2}$ in. broad. Erie, Champaign, Wyandot, Clarke, Montgomery, Summit, Portage, Stark, Logan.

3. **Potentilla.** Cinquefoil, Five-finger.

Herbs or shrubs with digitate or pinnate, compound leaves; flowers cymose or solitary, yellow in ours; calyx 5-lobed (rarely 4-lobed), 5-bracteolate (rarely 4-bracteolate), persistent; petals 5, rarely 4; carpels inserted on a dry, usually pubescent receptacle.

1. Flowers cymose; erect or ascending herbs. 2.
1. Flowers solitary, axillary; prostrate or creeping herbs. 5.
2. Leaves pinnately 3–11-foliolate. *P. paradoxa*. (1).
2. Leaves palmately 3–7-foliolate. 3.
3. Leaflets 3. *P. monspeliensis*. (4).
3. Leaflets 5–7. 4.
4. Leaflets crenate, green beneath; lower stipules leaf-like; petals dark yellow. *P. recta*. (3).
4. Leaflets laciniate or incised, white-pubescent beneath; stipules not leaflike. *P. argentea*. (2).
5. Flowers 4-parted, upper leaves 3-parted. *P. reptans*. (7).
5. Flowers 5-parted; leaves usually all 5-foliolate. 6.
6. Stems long, ascending at first, 5–14 in. high, later decumbent; pubescence of petioles, stems and peduncles spreading. *P. canadensis*. (5).
6. Plants low, not more than 4 in. high with very slender runners; pubescence of petioles, stems and peduncles oppressed. *P. pumila*. (6).

1. **Potentilla paradoxa** Nutt. Bushy Cinquefoil. Plants stout, bushy; stems decumbent or erect; leaves pinnately 5–11-foliolate; leaflets obovate or oval, deeply incised; flowers borne in leafy cymes. Erie County.

2. **Potentilla argentea** L. Silvery Cinquefoil. Stems 3-10 in. high, ascending, rather woody at the base; leaflets usually 5, incised, oblanceolate, or obcordate, green and glabrous above, silvery white beneath, calyx white, wooly. Licking, Erie, Cuyahoga.

3. **Potentilla recta** L. Upright Cinquefoil. Stems erect, 1-1½ ft. high, villous; flowers yellow, about ½ in. broad, leaves 5-7-parted; leaflets oblanceolate or oblong-lanceolate, sparingly pubescent. Hocking, Franklin, Erie, Lake.

4. **Potentilla monspeliensis** L. Rough Cinquefoil. Stems erect, 1-2½ ft. high, often much branched above; leaflets 1½-2 in. long, obovate, obtuse, pubescent; flowers about ⅜ in. broad, yellow; sepals exceeding the petals in length. General in distribution.

5. **Potentilla canadensis** L. Common Five-finger. Plants decumbent, often rooting at the tip; stems 5-14 in. high; leaves usually 5-parted; leaflets oblong, serrate, silky hairy beneath; flowers yellow, ½-⅝ in. broad. General.

6. **Potentilla pumila** Poir. Dwarf Five-finger. Plants very low, with slender prostrate runners; flowering stems upright at first, later producing prostrate runners; leaves 5-parted, silky pubescent; leaflets obovate, lighter beneath, sharply dentate; flowers ⅜-¾ in. broad, yellow. Lawrence, Monroe, Vinton, Lake.

7. **Potentilla reptans** L. European Five-finger. Prostrate herbs with very slender, almost filiform stems; leaves five-parted; leaflets, cuneate-oblanceolate, dentate almost to the base; flowers yellow, petals obcordate, one-half longer than the sepals. Lake County.

4. **Argentina.** Silverweed.

Low perennial herbs with pinnate leaves and producing long runners; flowers yellow, solitary, appearing from the axils of the leaves; bracts, sepals and petals 5 each; stamens numerous; style lateral; mature achenes with a thick, corky pericarp.

1. **Argentina anserina** (L.) Rydb. Silverweed. Leaves 2-9 in. long; leaflets ⅜-1 in. long, oblong or oblanceolate, obtuse, under surface white, silky pubescent; flowers yellow, ½-1 in. broad. Lorain, Lucas, Ottawa, Hamilton, Erie, Cuyahoga.

5. **Comarum.** Marshlocks.

Herbs with alternate, pinnate leaves and large purple, solitary or cymose flowers, either terminal or axillary; calyx 5-lobed with 5 bracts; petals 5, shorter than the calyx lobes, stamens numerous, inserted on a pubescent receptacle which is spongy in fruit.

1. **Comarum palustre** L. Purple Marshlocks. Plants 1-1½ ft. high; leaves pinnate, 5-7-foliate; leaflets oblong or oblanceolate, sharply serrate above the middle, narrowing at the base ¾-3 in. long; stipules large, usually membranous; flowers large, ½-¾ in. broad, purple. Lorain, Summit, Ashland, Portage, Licking, Stark, Ashtabula.

6. **Drymocallis.**

Erect herbs with more or less glandular or viscid stems and pinnate leaves; calyx 5-practeolate; sepals and petals 5; stamens 20-30 in number in 5 festoons on a thick glandular disk; style nearly basal.

1. **Drymocallis agrimonioides** (Pursh) Rydb. Tall Cinquefoil. Erect, stout herb, 1-3 ft. high; leaflets oval or ovate, sharply incised-serrate, terminal one cuneate, the others rounded at the base; flowers white, cymose. Cuyahoga, Erie, Lake.

7. **Waldsteinia.**

Perennial herbs resembling strawberries, with 3-parted leaves and yellow corymbose flowers; sepals, petals and bractlets 5; stamens many, inserted on the throat of the hypanthium; carpels usually 2-6 on a short, villous receptacle, style deciduous, terminal.

1. **Waldsteinia fragarioides** (Mx.) Tratt. Dry Strawberry. Low herb with creeping rootstalk; leaflets obovate, broadly cuneate, crenate, sometimes incised, ½-1¼ in. long; flowers yellow, ⅜-⅝ in. broad. Cuyahoga, Clarke, Franklin, Ashtabula, Greene, Medina, Portage.

8. **Fragaria.** Strawberry.

Perennial herbs with runners, three-parted leaves, and membranous sheathing stipules; flowers white, corymbose or racemose, pedicels often recurved; calyx 5-bracteolate; petals 5; stamens many; carpels indefinite; leaflets obovate, cuneate, serrate; fruit consisting of a fleshy receptacle in which are inserted the achenes, seed ascending, amphitropous.

1. Achenes in pits of the pulpy receptacle; inflorescence umbelliform or a flattish topped cyme, with subequal primary branches; sepals lanceolate, appressed about the fruit; hairs spreading or sub-appressed on scape and petiole. *F. virginiana*. (3).
1. Achenes superficial; inflorescence irregular, the primary branches of the cyme being distinctly unequal; sepals loosely spreading or reflexed, shorter than the early exposed fruit; hairs appressed on the petiole, spreading on the scape. 2.
2. Plants slender; fruit conical or subcylindric-ovoid, red. *F. americana*. (1).
2. Plants stoutish; fruit ovoid-conic or subglobose, white in our form. *F. vesca*. (2).

1. **Fragaria americana** (Porter) Britt. American Wood Strawberry. Leaves thin, light green, pubescence usually closely appressed and silky or sparse; inflorescence irregular and somewhat raceme-like primary branches of the cyme distinctly unequal; fruit ovoid to conic. Butler, Greene, Cuyahoga, Ottawa, Auglaize, Crawford, Summit.

2. **Fragaria vesca** L. European Wood Strawberry. The white-fruited variety. Low herbs, with the pubescence of the petioles wide-spreading, that of the pedicels closely appressed; inflorescence, a cyme; fruit ovoid or hemispherical, white. Hocking, Belmont.

3. **Fragaria virginiana** Duch. Virginia Strawberry. Taller than the above species, rather stout, villous pubescent; leaves 5-12 in. tall; leaflets thick, ovate, light gray-green below, 1-3½ in. long; inflorescence a flat-topped cyme; achenes in pits in the receptacle. General in distribution.

9. **Rubus.** Blackberry, Raspberry, Dewberry.

Perennial shrubs with erect or trailing stems, usually prickly; leaves alternate, simple or 3-7-parted, with stipules adnate to the petiole; flowers terminal or axillary, solitary, racemose or paniced; calyx 5-parted, without bracts; petals 5; stamens many; carpels many, inserted on a convex or elongated receptacle, ripening into drupelets, usually edible; styles nearly terminal.

1. Flowers purplish, rose or light pink; stems bristly. 2.
1. Flowers white, or if not, then not bristly. 3.
2. Leaves simple, 3-5-lobed or angled, not white beneath; stems not prickly; petals purple-rose. *R. odoratus*. (10).
2. Leaves usually 3-parted; white-downy beneath; petals pale pink; fruit enclosed in a bur. *R. phoenicolasius*. (9).
3. Leaves white-downy beneath; stems more or less glaucous; fruit easily separated from the dry receptacle. 4.
3. Leaves sometimes lighter green below, not white-downy; stems not glaucous; fruit persistent on the receptacle or not easily separated from it. 6.
4. Stems very glaucous all over, with rather stout recurved prickles, not bristly; fruit purple-black. *R. occidentalis*. (5).
4. Stems slightly glaucous; bristly; fruit red. 5.
5. Stems bristly, not prickly; fruit light red. *R. strigosus*. (7).
5. Stems both bristly and prickly; fruit a dark red. *R. neglectus*. (6).
6. Canes erect or arched ascending; inflorescence elongated, many-flowered. 7.
6. Canes trailing or with a tendency to be prostrate toward the end; inflorescence loose, few-flowered, racemose, or flowers solitary. 8.
7. Inflorescence with few (4-6) or several unifoliate leaves. *R. frondosus*. (1).
7. Inflorescence not leafy. *R. alleghaniensis*. (2).
8. Stems herbaceous, usually unarmed, but sometimes with occasional prickles; fruit red purple. *R. triflorus*. (8).
8. Stems shrubby; with prickles or bristles; fruit black or nearly black when ripe. 9.
9. Stems with few prickles; leaves dull above; fruit black. *R. procumbens*. (3).
9. Stems slender, densely set with weak bristles; leaves shining; fruit reddish-black. *R. hispida*. (4).

1. **Rubus frondosus** Bigel. Leafy-flowered Blackberry. Erect, about 3 feet high, villous when young; leaves 3-parted, lighter beneath; prickles slender and straight; inflorescence dense, usually with unifoliate leaves; flower about 1 in. broad. Coshocton, Gallia, Hancock, Lake, Columbiana.

2. **Rubus alleghaniensis** Port. High Blackberry. Plants shrubby, branched, glandular-pubescent, 3-10 ft. high, leaves 3-5-parted, inflorescence terminal, racemose-paniculate; flowers 1-1¼ in. broad. General.

3. **Rubus procumbens** Muhl. Common Dewberry. Trailing shrubs with few or no prickles; branches erect, 3-9 in. tall; leaves 3-7-foliolate; leaflets oval, rounded or narrowed at the base, rather finely and sharply dentate, sometimes serrate. General.

4. **Rubus hispida** L. Hispid Dewberry. Stems slender, densely set with weak bristles; branches slender, 3-9 in. long; leaves 3-foliolate; leaflets ovate or obovate, sharply serrate; flowers corymbose, small, about ¼ in. broad; fruit red, small, about ¼ in. long. Ashtabula, Lucas, Cuyahoga, Portage, Geauga, Logan, Summit, Lake.

5. **Rubus occidentalis** L. Black Raspberry. Stems recurved, very glaucous, sometimes 12 ft. long, armed with stout recurved prickles, which are usually in pairs; leaves 3-5-parted; leaflets ovate, acuminate, serrate, inflorescence corymbose; fruit black, hemispheric. General.

6. **Rubus neglectus** Peck. Purple Raspberry. Stems 1-3 ft. long, glaucous, sparingly bristly and prickly; leaflets ovate, sharply serrate, very white beneath; inflorescence corymbose, terminal; flowers, white; fruit dark-red or purple. Williams, Stark, Defiance, Ashtabula.

7. **Rubus strigosus** Mx. Wild Red Raspberry. Branched biennial shrub, 3-6 ft. high with many weak glandular bristles, leaves 3-5-foliolate, white, velvety-pubescent beneath leaflets, ovate to ovate oblong, acuminate, rounded at the base; inflorescence racemose; flowers ¼-⅜ in. broad; fruit red. Summit, Erie, Clarke.

8. **Rubus triflorus** Richards. Dwarf Raspberry. Stems trailing or ascending; leaves 3-5-foliolate; leaflets ovate-lanceolate, acute, rather coarsely serrate; flowers 1-3 on a peduncle, pink or white; fruit red-purple, rather large, acid. Sandusky, Stark, Lorain, Brown, Wyandot, Crawford, Vinton, Wood, Champaign, Lake, Lucas, Fairfield.

9. **Rubus phoenicolasius** Max. Wineberry. Stems densely covered with reddish-brown prickles and gland-tipped hairs; leaves 3-5-parted, white pubescent beneath; leaflets broadly ovate; fruit red, enclosed in the bur-like calyx. Lake County.

10. **Rubus odoratus** L. Rose-flowered Raspberry. Shrubby covered with glandular hairs; leaves simple, 3-5-lobed; peduncles many-flowered; flowers purple-red; fruit red, not edible. Ashtabula, Summit, Jefferson, Belmont, Cuyahoga, Monroe, Muskingum, Lake.

10. **Porteranthus.**

Perennial herbs; leaves nearly sessile, stipulate, 3-foliolate; flowers white or pink, in loose terminal panicles; calyx cylindrical, 5-toothed; petals 5, lance-linear; stamens 10-20; carpels 5, opposite the calyx lobes; follicles 2-4-seeded.

1. Stipules narrow, usually entire. *P. trifoliatus*. (1).
1. Stipules broad, foliaceous, incised. *P. stipulatus*. (2).

1. **Porteranthus trifoliatus** (L.) Britt. Indian-physic. Erect, branching herbs, 2-4 ft. high, usually glabrous though sometimes pubescent; leaves with narrow entire stipules; leaflets ovate or lanceolate, acuminate, serrate, 2-3 in. long; flowers few, in panicles, pink or white; follicles pubescent. No specimens.

2. **Porteranthus stipulatus** (Muhl.) Britt. American Ipecac. Less pubescent than the above species; stipules broad, foliaceous, sharply serrate; leaves usually narrower than in the above; follicles usually glabrous. Ross, Gallia, Pike, Clinton, Muskingum Adams, Guernsey, Belmont.

11. **Schizonotus.**

Shrubs with pinnately divided leaves; flowers in terminal panicles; calyx campanulate, 5-parted; petals 5, white; stamens numerous, carpels 5, united at the base.

1. **Schizonotus sorbifolius** (L.) Lindl. Mountain-ash Spiraea. An erect shrub, pubescent when young; leaves 3-12 in. long, 13-21-parted; leaflets lanceolate acuminate, doubly serrate; panicle large, white. Harrison, Lake.

12. **Filipendula.**

Tall perennial herbs with pinnately divided leaves; flowers small, borne in large cymose panicles; sepals and petals 5; stamens numerous on a flat or slightly concave receptacle; carpels 5-15; fruit resembling a follicle, indehiscent.

1. **Filipendula rubra** (Hill.) Rob. Queen-of-the-prairie. Stem tall, often more than 8 feet, branched, leaves pinnately 3-7 foliate; leaflets lighter green beneath, irregularly serrate; terminal leaflet palmately 7-9-parted; flower $\frac{3}{4}$ in. broad. Champaign, Madison, Erie, Cuyahoga, Holmes.

13. **Opulaster.** Ninebark.

Branched shrubs, with simple lobed leaves; calyx campanulate, 5-parted; petals 5, in the throat of calyx; stamens 20-40; carpels 1-5; pods 1-5, dehiscent longitudinally.

1. **Opulaster opulifolius** (L.) Ktz. Ninebark. Shrub 3-10 ft. high, the bark peeling off in strips; leaves ovate-orbicular, 3-lobed, coarsely dentate; flowers white or purplish, in terminal corymbs; follicles dehiscent along two sides. General.

14. **Spiraea.**

Shrubs with bisporangiate, pink or white flowers, borne in panicles, racemes, cymes or corymbs; sepals and petals 4 or 5; stamens 20-60, distinct; carpels usually 5, alternate with the sepals; follicles 5; seed pendulous, testa dull.

1. Leaves finely serrate, not tomentose; flowers borne in tomentulose panicles. *S. alba*. (1).

1. Leaves unequally and coarsely serrate, tomentose; flowers borne in narrow, dense, brownish tomentose panicles. *S. tomentosa*. (2).

1. **Spiraea alba** DuR. Narrow-leaf Spiraea. Tall shrub, sometimes 6 ft.; leaves narrowly lanceolate, sharply and finely serrate; flowers white, borne in narrow panicles; fruit glabrous. General.

2. **Spiraea tomentosa** L. Steeple-bush (*Spiraea*). Erect, shrubby, usually tomentose; leaves ovate, 1-2 in. long, unequally serrate, glabrous and dark green above, wooly pubescent below; flowers pink or purple, in dense terminal panicles. Stark, Hocking, Cuyahoga, Summit, Portage, Lucas, Gallia, Wayne, Fairfield, Jackson.

15. **Aruncus.**

Perennial herbs, leaves usually 2-pinnate, flowers diecious, almost sessile in paniced spikes; calyx usually 5-lobed; petals white, as many as the lobes of the calyx; carpels usually 3; style persistent; follicles reflexed, splitting on the ventral suture.

1. **Aruncus aruncus** (L.) Karst. Aruncus. Herb, erect, glabrous, 3-6 ft. high; leaflets ovate, lanceolate, acuminate, rounded or cordate at the base; sharply and doubly serrate. Monroe, Columbiana, Tuscarawas, Gallia, Licking, Fairfield, Lawrence, Hocking, Jackson, Belmont, Vinton, Scioto.

16. **Dalibarda.**

Low perennial herb with creeping stems and simple, orbicular, cordate, crenate leaves, flowers 1 or 2, borne on a scape-like petiole, of two kinds, a few upright sterile ones, the others fertile, cleistogamous and without petals.

1. **Dalibarda repens** L. Dalibarda. Low downy herbs; sepals of the sterile flowers spreading, those of the cleistogamous flowers converging and enclosing the fruit. Ashtabula County.

17. **Rosa.** Rose.

Erect or climbing shrubs, usually with prickly stems; leaves odd-pinnate; stipules adnate to the leaves; flowers showy, bisporangiate; hypanthium urn-shaped, becoming fleshy in the fruit; ovaries hairy, ripening into bony achenes.

1. Leaflets mostly 3; styles united in a slender exerted column; prickles very stout, almost as broad at the base as long. *R. setigera.* (6).
1. Leaflets 5-9; styles distinct; prickles recurved or straight and slender, not nearly so broad as long. 2.
2. Leaflets small, $\frac{1}{2}$ - $\frac{3}{4}$ in. long, orbicular to ovate, pale beneath and very glandular. *R. rubiginosa.* (4).
2. Leaflets larger, $\frac{3}{4}$ -2 in. long, ovate to narrowly oblong, not glandular. 4.
3. Leaflets ovate, rounded at the base, doubly and glandular serrate; flowers deep pink to crimson, 2-3 in. broad. *R. gallica.* (5).
3. Leaflets oblong, acute at the base, not prominently glandular, serrate; flowers pink, 1-2 in. broad. 4.
4. Stems smooth or with very few weak prickles; flowers on smooth peduncles; sepals erect on the fruit, not deciduous. *R. blanda.* (1).
4. Stems with straight prickles, usually in pairs; sepals spreading, deciduous. 5.
5. Prickles stout and recurved; leaflets finely serrate; stipules convolute; hypanthium bristly. *R. carolina.* (2).
5. Prickles slender and straight; leaflets coarsely dentate; stipules flat. *R. virginiana.* (3).

1. **Rosa blanda** Ait. Smooth Rose. Stems 1-5 ft. high, usually without prickles; leaflets 5-7, ovate or oblong-lanceolate, thin; flowers pink, about 2 in. broad. Lorain, Mercer, Clermont, Erie, Clinton, Williams, Lake.

2. **Rosa carolina** L. Swamp Rose. Stems 1-8 $\frac{1}{2}$ ft. tall with stout, straight or curved prickles; leaflets 5-9, usually 7, dark green, narrowly oblong, finely serrate, usually pubescent beneath; flowers pink, 1 $\frac{1}{2}$ in. broad, corymbose or rarely solitary. Franklin, Holmes, Trumbull, Hocking, Stark, Logan. Defiance, Gallia, Crawford, Shelby, Monroe, Ottawa, Huron, Lake, Ashtabula, Auglaize, Cuyahoga, Tuscarawas, Fairfield, Geauga, Clarke, Medina, Licking, Miami, Knox, Fulton, Williams, Lorain, Summit, Brown.

3. **Rosa virginiana** Mill. Virginia Rose. Stems $\frac{1}{2}$ -6 ft. high, densely set with long, straight prickles; leaflets 5-7, small, obovate, sharply serrate; flowers pink. General.

4. **Rosa rubiginosa** L. Sweetbrier (Rose). Stems 3-6 $\frac{1}{2}$ ft. high, with stout, recurved prickles; leaflets 5-7, ovate or oval, doubly serrate, very glandular beneath; fruit oval, glandular. Ottawa, Lorain, Highland, Ashtabula, Madison, Hancock, Brown, Preble, Jefferson, Morrow, Monroe, Morgan, Licking, Miami, Greene, Wayne, Ross, Montgomery, Williams, Warren, Coshoc-ton, Noble, Guernsey, Knox.

5. **Rosa gallica** L. French Rose. Stem with straight slender prickles; leaflets usually 5, elliptic, cordate at the base, doubly glandular-serrate; flowers double, red and large. Lake County.

6. **Rosa setigera** Mx. Prairie Rose. Stems climbing, with stout, rather straight prickles; leaflets 3-5, usually 3, ovate, sharply serrate; petals rose-colored, sometimes white. Clarke, Fayette, Jefferson, Greene, Williams, Hocking, Erie, Perry, Clermont, Muskingum, Montgomery, Lucas, Madison, Tuscarawas, Harrison, Butler, Lorain, Highland, Auglaize, Defiance, Gallia, Logan, Shelby, Miami.

18. **Agrimonia.** Agrimony.

Erect perennial herbs, leaves with large stipules, odd pinnate, with smaller leaf segments between the larger ones; flowers yellow, borne in narrow racemes; sepals 5; petals 5; stamens 5-15; carpels 2; fruit with 1-2 dry achenes.

1. Leaflets 11-17, lanceolate to narrowly lanceolate, bristles radiate. *A. parviflora.* (1).
1. Leaflets 5-11, ovate to obovate or elliptic-oblong. 2.
2. Fruit with few erect, ascending or comitant bristles. 3.
2. Fruit with many radiating bristles. *A. gryposepala.* (2).
3. Under surface of leaves usually glabrous or with few scattered hairs, minutely glandular. *A. rostellata.* (3).
3. Under surface of leaves closely and softly pubescent. 4.
4. Leaves glandular-dotted beneath; leaflets 5-11; fruit with slender ascending bristles nearly in a single row; roots tuberous. *A. mollis.* (4).
4. Leaves not glandular-dotted beneath; leaflets 7-9; fruit with short comitant or inflexed bristles; roots not tuberous. *A. striata.* (5).

1. **Agrimonia parviflora** Sol. Small-flowered Agrimony. Erect herb, 1-4 ft. high; stems brownish, hirsute; flowers small, in long, slender racemes; leaflets 11-17, lanceolate to narrowly lance-linear, acuminate, sharply serrate; flowers $\frac{1}{8}$ - $\frac{1}{4}$ in. broad; fruit top-shaped, ridged, with reflexed radiate bristles. Auglaize, Belmont, Cuyahoga, Putnam, Montgomery, Huron, Franklin, Scioto, Trumbull, Carroll, Ottawa, Logan, Wood, Union, Wyandot.

2. **Agrimonia gryposepala** Wallr. Hairy Agrimony. Plants 1-6 ft. tall with few bristly hairs, minutely glandular; leaves usually 7-foliate, leaflets large, $1\frac{1}{2}$ -5 in. long, elliptic or oblong, coarsely serrate; flowers less than $\frac{1}{4}$ in. broad, yellow; fruit top-shaped, deeply ridged. Stark, Logan, Belmont, Madison, Summit, Fayette, Erie, Ashtabula, Wayne, Harrison, Highland, Defiance.

3. **Agrimonia rostellata** Wallr. Woodland Agrimony. Stems about 1-5 ft. tall, minutely glandular; leaflets mostly 5, ovate-oblong, crenate or dentate; flowers $\frac{1}{4}$ - $\frac{3}{8}$ in. broad; bristles erect

or ascending, short and weak. Madison, Cuyahoga, Lake, Montgomery, Miami, Wayne.

4. **Agrimonia striata** Mx. Striate Agrimony. Plants 2-6 ft. tall; leaflets thick, dull green, softly pubescent below, glabrate above; flowers $\frac{1}{4}$ - $\frac{1}{2}$ in. broad; fruit with short, often purplish bristles which are inflexed or connivant. Huron, Clinton.

5. **Agrimonia mollis** (T. & G.) Britt. Soft Agrimony. Stem pubescent or villous; leaves thick, dark green above, pubescent below; leaflets obovate cuneate; flowers $\frac{1}{4}$ - $\frac{3}{8}$ in. broad; fruit top-shaped, deeply furrowed. Morgan, Highland, Williams, Erie, Huron, Tuscarawas, Meigs, Clermont, Licking, Scioto.

19. **Sanguisorba.**

Erect perennial herbs with odd-pinnate leaves; flowers borne in a dense terminal spike; calyx 4-parted, stamens 4, inserted on the hypanthium; carpels enclosed in the hypanthium.

1. **Sanguisorba canadensis** L. American Burnet. Stems slender, glabrous, 1-6 ft. high, with leaflike stipules; leaflets $\frac{3}{4}$ - $2\frac{1}{2}$ in. long, oblong, cordate, coarsely serrate; flowers greenish-yellow, borne in a dense spike. Lake, Champaign, Cuyahoga, Clarke, Franklin, Miami, Stark.

20. **Poterium.**

Erect, slender, perennial herbs with odd-pinnate, stipulate leaves; flowers borne in dense heads, bisporangiate or monosporangiate; calyx 4-angled; petals 4; stamens numerous; carpels 2; achene enclosed in the hypanthium.

1. **Poterium sanguisorba** L. Garden Burnet. Herbs 10-20 in. high; leaves pinnate; leaflets 7-19, ovate, deeply incised, $\frac{1}{4}$ - $\frac{1}{2}$ in. long; flowers greenish, borne in a head. Lake County.