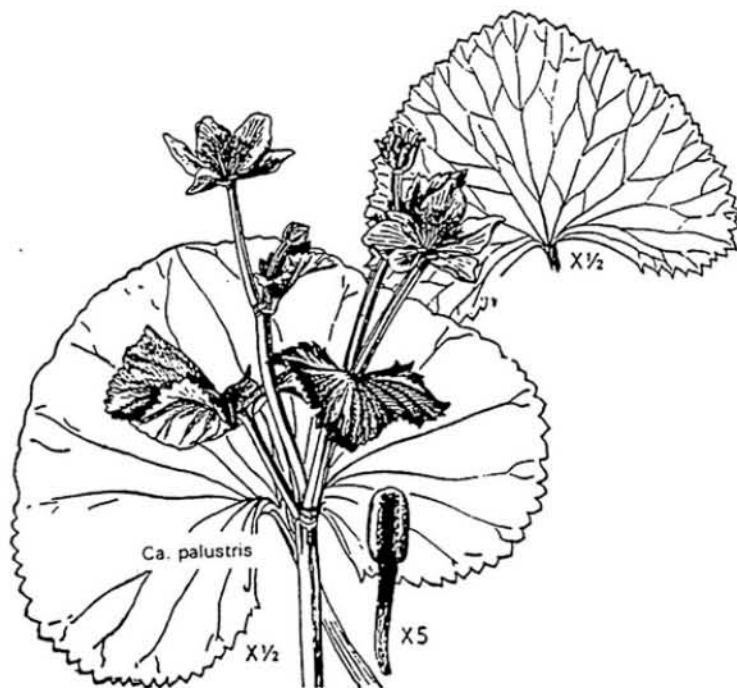
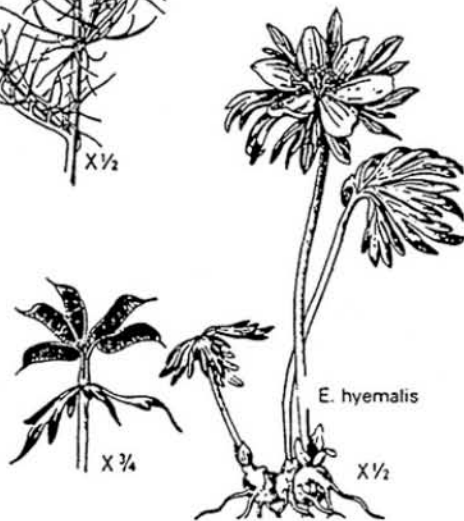
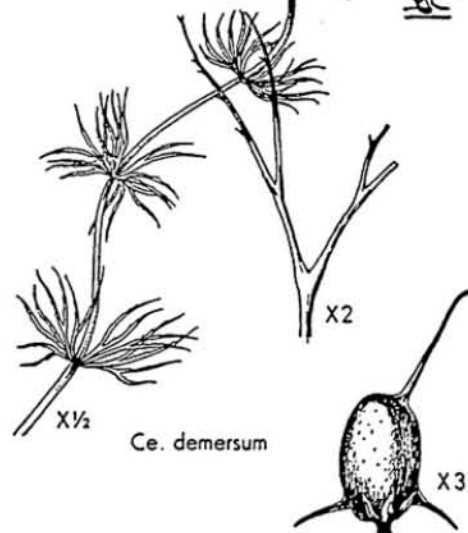
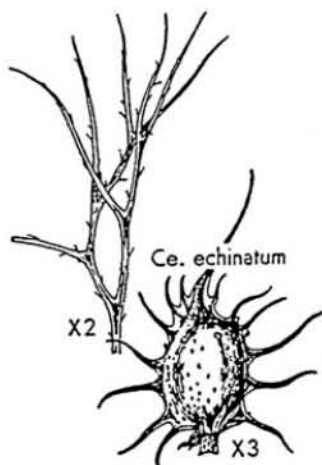
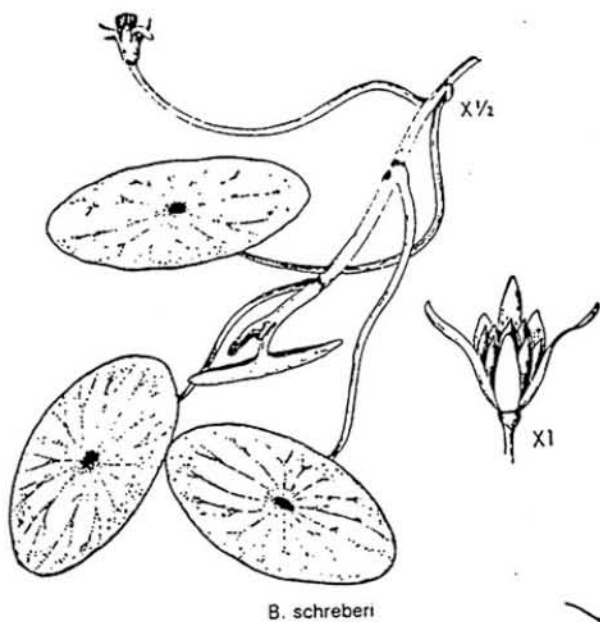


BRASENIA
CERATOPHYLLUM
NIGELLA
ERANTHIS
CALTHA



- l' Flowers 1.5-2 cm wide, solitary, axillary and terminal; carpels about 4-6, becoming follicles. **11. ISOPYRUM**
- k' Leaves palmately parted.
 - o Sepals 3, deciduous at anthesis; petals and staminodes none; fruit an aggregate of dark-red berries. **14. HYDRASTIS**
 - o' Sepals 5 or more, large, not early deciduous; staminodes present; fruit an aggregate of follicles. **2. HELLEBORUS**

1. *CALTHA* L. Marsh-marigold

Succulent perennial herb of wet places; leaves alternate, petioled, blades crenate to entire, round-cordate to reniform; flowers conspicuous; sepals yellow, 5-9, 1-2.5 cm long; stamens many; carpels few to several; follicles several-seeded.

1. *Caltha palustris* L.

Marsh-marigold

Plants succulent; leaf blades crenate to entire, bases round-cordate to reniform; sepals yellow, petal-like; fruit an aggregate of few to several follicles.

REFERENCES: Riddell 1834:116 (marshes); Sullivant 1840:5; Craig 1890:64 (probably extinct, I found three plants during the summer of 1886, growing in a small bog in the pasture field W of the large dormitory; some one dug these up and none have been found there since although careful search has been made, 14 Apr 1882, 27 Apr 1883, 20 Apr 1884, 3 May 1885, 19 Apr 1886, 2 Apr 1887, 18 Apr 1888, 26 Mar 1889); Selby & Craig 1890:7.

HERBARIUM RECORDS: 1840—Cols., *Sullivant*; 14 Apr 1882—Cols., *W. Green*; Apr 1884—Neils Run, bk. Summit & H. St., Cols., *H. Smith* (CINC); Apr 1890—Clintonville, Cols., *Selby* (OS, WOOS); Apr 1892—near Cols., *E. M. Wilcox*; 25 Apr 1899—Blendon, *Helfrich*; 9 Apr 1925—Westerville, marsh, *Camp*; 18 Apr 1980—large population in backwater area along E Bank of Rocky Fork Creek, 100 m S of Warner Rd., about 2 mi. W of New Albany, Plain Twp., *W. Carr 2622*; 23 Apr 1982—Sharon Woods, swamp at center of Thomas Preserve, *Owens*; 24 Apr 1992—Sharon Woods Metro Park, swamp forest, Sharon Twp., *Lowden 4924*; 17 May 1992—Lowell Trace Preserve, W of Avery Rd., N of Post Rd. & Indian Run, swampy area, Washington Twp., *Lowden 4962*.

2. *HELLEBORUS* L. Hellebore

Basal leaves large, palmately parted into 7-11 oblong or oblanceolate toothed segments; cauline leaves smaller; sepals 5, greenish, about 3 cm long; petals none; stamens many; several clavate hollow tubular staminodes present; carpels few to several; follicles transversely veined.

1. **Helleborus viridis* L.

Green Hellebore

Probably cultivated (native of Europe)

Leaves alternate, palmately parted into oblong or oblanceolate toothed segments; flowers regular; sepals 5, greenish; petals none; stamens many, several clavate hollow tubular staminodes present; carpels few to several; follicles transversely veined.

HERBARIUM RECORD: 21 Apr 1899—Cols., *Wiseman*.

3. *CIMICIFUGA* Wernisch. Bugbane

Tall herb; leaves large, ternately and pinnately decomposed, leaflets toothed, incised, or lobed; flowers small, in elongate terminal simple or branched racemes; perianth regular; sepals 4-5, white, petaloid, early deciduous; petals none; staminodes 1-several, clawed, 2-lobed; stamens many; carpels usually 1 (2-3), style short and thick, stigma truncate; follicle transversely-veined.

1. *Cimicifuga racemosa* (L.) Nutt.

Black Cohosh, Black Snake-root

Plants tall; leaves ternately and pinnately decomposed, leaflets incised and toothed; flowers small, in elongate terminal simple or branched racemes; sepals 4-5, white, petaloid; staminodes small, 2-lobed; carpel usually 1.

REFERENCES: Riddell 1834:116 (*Macrotys racemosa*, open woods); Sullivant 1840:5; Selby & Craig 1890:7; Selby 1891a:111a (#8 Re-collected).
HERBARIUM RECORDS: 9 Jul 1891—Central College, near Cols., *Selby* (OS, WOOS); 9 Jul 1891—Big Run, near Central College, *Selby*.

4. *ACTAEA* L. Baneberry

HELLEBORUS
CIMICIFUGA
ACTAEA



Herbs; leaves large, ternately decomposed, leaflets ovate, sharply toothed or incised; flowers small, white, in short dense terminal raceme, axis and pedicels of which elongate in fruit; perianth regular; sepals 3-5, early deciduous; petals few to several; stamens many, filaments long and slender; carpel single; stigma sessile, broad, 2-lobed; fruit a several-seeded berry.

1. *Actaea alba* (L.) Mill.

White Baneberry

Leaves ternately and pinnately decomposed; leaflets sharply incised and toothed; flowers small, white, in short dense terminal raceme; fruiting pedicels about as thick as axis of fruiting raceme; fruit a white berry, with a red stigma.

Syn.: *A. alba* Bigelow, *A. pachypoda* Elliott

REFERENCES: Riddell 1834:116 (open woods); Sullivant 1840:5; Craig 1890:64 (*Actaea spicata* L., a single specimen was found 12 May in the woods near the E stile; this is the only one found on the place since I have been here. It is said that several specimens were found along the river a few years ago, 4 Jun 1882); Kellerman & Werner 1893:225.

HERBARIUM RECORDS: 19 May 1888—woods by Alum Creek, Selby; 28 Aug 1890—Cols., E. V. Wilcox; May 1891—Cols., Selby; 16 May 1891—Cols., Werner (CLM); Jul 1891—Central College, Cols., Selby; 3 Oct 1891—Georgesville, Selby (CLM); May 1892—Cols., Werner (CLM, OS); 6 May 1899—Franklin Co., Fullmer; 7 Jun 1901—Cols., Ball; 4 May 1968—ravine along E side of Alum Creek, S side of Rt. 161 at YWCA Camp approx. 5 mi. E of Worthington, Stuckey 6420; 14 May 1970—University woodlot at corner of Kenny Rd. & Ackerman Rd., damp woods, Boone 143; 10 May 1977—University woods on Kenny Rd., Cols., W. Carr 185; 14 May 1982—Blendon Woods, fairly common, Owens; 25 May 1982—Highbanks Metro Park (Franklin & Delaware Cos.), G. Moore 249; 12 May 1986—Highbanks Metro Park (Delaware Co.), woods, Watts 297 (OS, OWU); 13 May 1989—W side of Big Darby Creek, common on wooded slopes, just S of Rt. 665, Pleasant Twp., Harrisburg Quad., McCormac 555; 14 May 1992—Battelle Darby Creek Metro Park, Cedar Ridge, Pleasant Twp., Lowden 4939; 16 May 1992—Battelle Darby Metro Park, day camp woods, along N bank of Little Darby Creek, Pleasant Twp., Lowden 4958.

5. DELPHINIUM L. Larkspur

Leaves palmately divided; flowers in racemes or panicles; perianth zygomorphic; sepals 5, petal-like, upper one spurred; petals 2 or 4, all or the 2 upper prolonged into spur of sepal; stamens many; carpels 1-5, becoming follicles.

a Carpel and follicle 1; petals 2, united; flowers blue, violet, pink, or white; leaves dissected into linear segments; annual. 3. *D. ambiguum*

a' Carpels 3; petals 4, separate; flowers blue, purple, or white; perennial.

b Follicles divergent at maturity; roots thickened; raceme few-flowered, usually not branched; middle portion (between two deepest sinuses) of middle and lower cauline blades cleft into narrow segments with parallel sides. 1. *D. tricorne*

b' Follicles erect at maturity; roots not thickened; flowers many; middle portion of middle and lower cauline blades with triangular broad-based lobes or teeth. 2. *D. exaltatum*

1. *Delphinium tricorne* Michx.

Dwarf Larkspur, Wild Larkspur

Plants with roots thickened; leaves palmately divided into narrow segments with parallel sides; racemes few-flowered; carpels 3; follicles divergent at maturity.

REFERENCES: Riddell 1834:116 (dense & shady woods); Sullivant 1840:5; Craig 1890:64 (this is also rare, I noted a single specimen in the woods in Jun 1887, and this spring found several plants there, so it is spreading slowly, SW corner of woods near the stile, 20 Apr 1882, 9 May 1887, 13 May 1888, 27 Apr 1889); Selby & Craig 1890:7.

HERBARIUM RECORDS: 1840—Cols., Sullivant; 20 Apr 1882—N. Cols., W. Green; May 1882—Cols., W. Green; Apr 1889—Cols., Craig; May 1890—Central College, Cols., Selby; 6 May 1892—Georgesville, Werner; 7 May 1892—Georgesville, Werner (CLM); 20 May 1892—near Cols., E. M. Wilcox; 12 May 1894—Georgesville, W. Kellerman; 4 May 1895—Georgesville, Osburn; May 1896—Cols., E. M. Wilcox (BGSU, CLM); 5 May 1910—bank of Little Walnut Creek, Hedrick; 10 May 1924—Westerville, wooded hillside, Boyer; May 1973—Hoover Dam, Thorp; 6 May 1982—Highbanks Metro Park (Franklin & Delaware Cos.), G. Moore 254; 11 May 1982—Blendon Woods, small patch along Cherry Ridge trail, not far from entrance to Shadblow Picnic Area, Owens; 12 May 1986—Highbanks Metro Park (Delaware Co.), woods & floodplain, Watts 298 (OS, OWU); 14 May 1992—Cedar Ridge, along Big Darby Creek at foot of ridge, damp woods, Battelle Darby Creek Metro Park, Pleasant Twp., Lowden 4937.

2. †*Delphinium exaltatum* Aiton

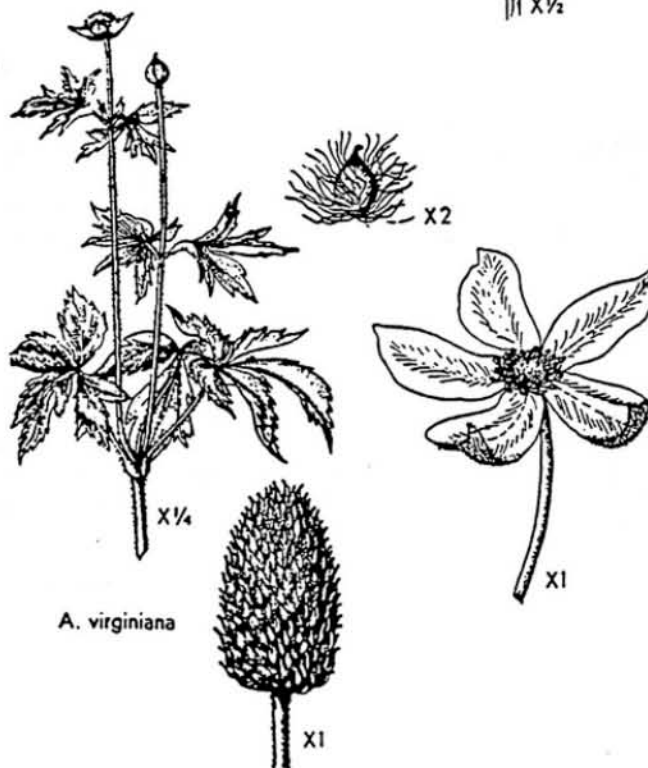
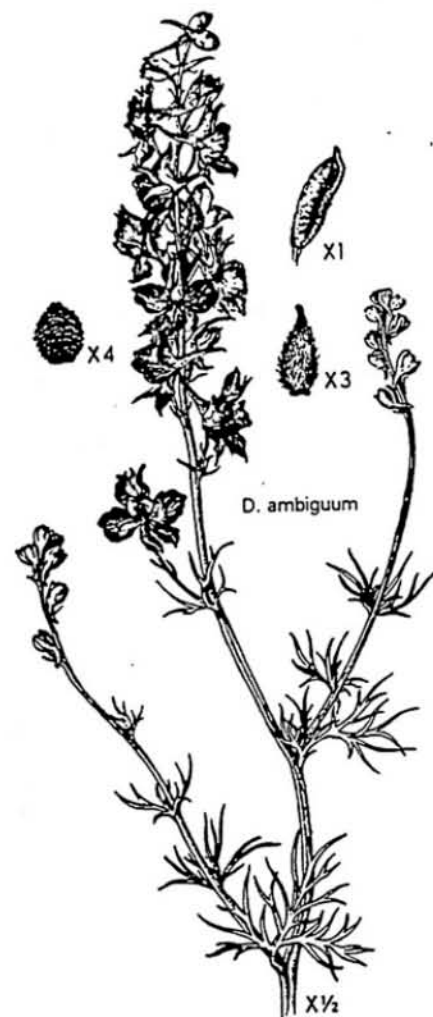
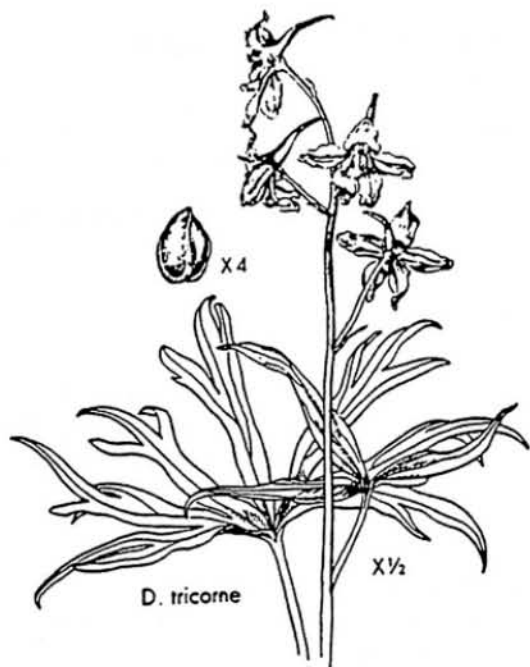
Tall Larkspur

Plants tall; lower cauline blades with triangular broad-based lobes or teeth; flowers many, blue or purple; carpels 3; follicles erect at maturity.

REFERENCES: Riddell 1834:116 (dry prairies); Sullivant 1840:5; Selby & Craig 1890:7; Roberts & Cooperrider 1982:52; McCance 1984:A-192; ODNR-DNAP 1996.

HERBARIUM RECORDS: 1 Jul & 3 Oct 1891—Big Darby, Cols., Selby; 15 Jul 1892—Cols., Bogue; 15 Jul 1892—Georgesville, Bogue (BGSU); 8 Aug 1985—along steep E & N facing slopes of Big Darby Creek, frequent, mesic to dry woods near prairie openings on SW side of river, 3 mi. S of Rt. 665, 1/5 mi. W of Darbydale, Pleasant Twp., Knoop 113 (KE).

DELPHINIUM
ANEMONE



3. **Delphinium ambiguum* L.

Rocket Larkspur

Adventive (native of Europe)

Leaves dissected into linear segments; flowers blue, violet, pink or white; carpel and follicle 1, pubescent. Syn.:

Consolida ambigua (L.) Ball & Heywood, *Delphinium ajacis* L., misapplied

REFERENCES: Riddell 1834:116 (*Delphinium consolida*, naturalized); Selby & Craig 1890:7 (*Delphinium consolida* L., introduced).

HERBARIUM RECORDS: May 1888—N. Cols., Craig; 21 Jun 1892—N. High St., near Cols., E. M. Wilcox; 20 May 1893—Cols., E. M. Wilcox; 7 Jun 1903—Cols., Sands; 17 Jun 1934—N. Cols., J. H. Schaffner; 11 Sep 1937—N. Cols., J. H. Schaffner; 10 Jul 1990—Antrim Park, near field area around the lake, E of Rt. 315 & N of Bethel Rd., Sharon Twp., Lowden 4431.

NOTE: Most likely Riddell's and Selby & Craig's references to *D. consolida* belong here. However, this is a distinct species having glabrous follicles (Britton & Brown, Vol. 2, p. 167).

6. ANEMONE L. Anemone

Leaves palmately compound or divided, the basal ones long-petioled; stem-leaves 2 or more, opposite or whorled in an involucre subtending the one or more peduncles which may bear secondary involucre and peduncles; sepals greenish, white, or pink, several, petaloid; petals none; stamens many; carpels many, separate; achenes pubescent.

a Involucral leaves sessile. 2. *A. canadensis*

a' Involucral leaves petioled.

b Plant 1-2 dm tall, 1-flowered; aggregate fruit not elongate. 1. *A. quinquefolia*

b' Plant taller, usually more than 1-flowered; fruit ellipsoid, length 1.5-2 times width; involucral leaves serrate or doubly serrate to below middle; styles 1 mm long or more. 3. *A. virginiana*

1. *Anemone quinquefolia* L.

Wood Anemone, Windflower

Plant 1-2 dm tall, 1-flowered; involucral leaves petioled; aggregate fruit not elongate.

REFERENCES: Riddell 1834:116 (*Anemone nemorosa*, open woods); Sullivant 1840:5 (*Anemone nemorosa* L. var. *quinquefolia* Pursh); Craig 1890:62 (*Anemone nemorosa* L., not common, grows sparingly in the belt of woods along the river S of the brook; *Anemone nemorosa* L. var. *quinquefolia* Gr., this var. has been found along the fence which runs from the seed barn W to the river, it appears to be gradually dying out as little could be found there this spring, 24 Apr 1882, 16 Apr 1884, 24 Apr 1885, 15 Apr 1886, 8 Apr 1887, 10 Apr 1888, 26 Apr 1889); Selby & Craig 1890:7 (*Anemone nemorosa* L., var. *quinquefolia* Pursh); Kellerman & Werner 1893:227.

HERBARIUM RECORDS: 1840—Cols., Sullivant (OS, a mixed collection, mounted with Sullivant's *Anemone canadensis* specimen); Apr 1890—Neil's Run, Cols., Selby (WOOS); 21 May 1892—Cols., Werner (CLM); 1 May [ca. 1920s]—Minerva Park, open woods, Buchar, 25 Apr 1923—Westerville, rich woods, Flick; 1 May 1924—near Westerville, flourishes on moist hillsides, Lash; 28 Apr 1983—Sharon Woods, not common, Owens.

2. *Anemone canadensis* L.

Canadian Anemone, Windflower

Leaves palmately compound or divided, basal ones long-petioled; involucral leaves sessile.

REFERENCES: Riddell 1834:116 (*Anemone pennsylvanica* L.); Sullivant 1840:5 (*Anemone pennsylvanica* L.); Craig 1890:62 (*Anemone pennsylvanica* L., Mr. W. S. Devo found this growing along the river in Jun 1882, but I was unable to find it this spring, 1 Jun 1882, 31 May 1884, 23 May 1887, 9 Jun 1888, 1 Jun 1889); Selby & Craig 1890:7 (*Anemone pennsylvanica* L.); King 1981:119 (Battelle Darby Creek Metro Park, bluff prairie; Georgesville RR Site; Graessle Rd. Bluff Site).

HERBARIUM RECORDS: 1840—Cols., Sullivant; 18 Jun 1882—Olentangy R., Cols., Devo; 8 Jun 1888—Woodward Ave., Cols., Selby; 21 May 1892—near Cols., E. M. Wilcox; 1 Aug 1892—near Cols., E. M. Wilcox; May 1896—Cols., McCall; 1 Jun 1899—Blendon, Helfrich; 3 Jul 1924—along RR N of Cols., R. Crane (OWU); 30 May 1990—Ropath Rd., S of Zuber Rd., 1 mi. from Co. Line, wet roadside ditch, Jackson Twp., Lowden 4353.

NOTE: Beyond any doubt, labels indicate that references to *Anemone pennsylvanica* belong here.

3. *Anemone virginiana* L.

Thimbleweed, Virginian Anemone

Plants tall, usually more than 1-flowered; secondary involucre often present; aggregate fruit ellipsoid, length 1.5-2.0 times width; styles 1 mm long or more.

REFERENCES: Riddell 1834:116; Sullivant 1840:5; Craig 1890:62 (rare, occurs in the clover field near the river N of the road where one or two specimens have been found, it prefers a dry soil, 24 Jul 1887); Selby & Craig 1890:7.

HERBARIUM RECORDS: 15 Jul 1892—Georgesville, Bogue; 28 Jul 1979—E bank of Scioto R., about 1 mi. S of Dublin on Rt. 33, W. Carr 1764 (KE); 3 Jul 1982—Sharon Woods, along mowed strip around the preserve fence, Owens; 22 Jul 1992—The Quarry off Rt. 33, E side of Scioto R., W of Riverside Green entrance, approx. ½ mi. S of Rt. 161, Perry Twp., Lowden 4995.

7. HEPATICA Mill. Liverleaf

Leaves basal, 3-lobed, evergreen, new ones of the season appearing after the flowers; flowers several, each solitary on a hairy scape, an involucre of 3 bracts so near base of flower as to appear calyxlike; sepals petaloid, several, blue, purple, pink, or white, about 1 cm long; petals none; stamens many; carpels many; fruit an aggregate of pubescent achenes.

- a Lobes of leaves rounded at tip or very blunt. 1. *H. americana*
a' Lobes of leaves acute at tip. 2. *H. acutiloba*

1. *Hepatica americana* (DC.) Ker Gawl.

Round-lobed Liverleaf

Leaves lobed to near the middle, the lobes blunt or rounded. Syn.: *H. triloba* Chaix

REFERENCES: Riddell 1834:116; Sullivant 1840:5; Craig 1890:62 (woods, rare, has not been found of late years, 9 Apr 1883, 16 Apr 1884, 17 Apr 1885, 27 Mar 1886, 19 Mar 1887, 1 Apr 1888, 20 Mar 1889); Selby & Craig 1890:7.

HERBARIUM RECORDS: May 1888—Neil's Run, Cols., Craig; Spring 1889—Cols., Craig (OS, WOOS); Apr 1890—Wyandotte Grove, Cols., Selby; 12 Apr 1891—Fishing's Mill, Scioto R., Cols., Selby; 5 Apr 1892—Cols., Bogue; [ca. 1925]—Westerville, moist open slopes, Camp; 25 Apr 1925—Big Walnut Creek, Westerville, fairly dry hillside, Camp; 2 Apr 1967—ravine along E side of Big Darby Creek, NW of cemetery at Georgesville, Pleasant Twp., Stuckey 3356; 11 Apr 1970—Flint Ravine near Camp Mary Orton, approx. 2 mi. N of Worthington along Rt. 23, Sharon Twp., Haynes 3261; 13 Apr 1982—Highbanks Metro Park (Franklin & Delaware Cos.), ravine slope, G. Moore 256; 6 Mar 1983—Blendon Woods, Owens; 5 Apr 1986—Highbanks Metro Park (Delaware Co.), orchard bluffs closed forest, Witsberger 874 (OWU).

2. *Hepatica acutiloba* DC.

Sharp-lobed Liverleaf

Leaves lobed to well below the middle, the lobes acute.

REFERENCES: Riddell 1834:116; Selby & Craig 1890:7.

HERBARIUM RECORDS: 1840—Cols., Sullivant; May 1888—Cols., Craig; May 1888—Sullivant Hill, Cols., Craig; Apr 1890—Wyandotte Grove, Cols., Selby; 12 Apr 1891—Wyandotte Grove, near Cols., Selby (OS, WOOS); 23 Apr 1892—Cols., Werner; 25 Mar 1899—Olentangy Park, Cols., Helfrich; 14 Apr 1909—2 mi. N of Cols., Bergin; 13 Apr 1982—Highbanks Metro Park (Franklin & Delaware Cos.), ravine slope, G. Moore 255; 30 Mar 1986—Highbanks Metro Park (Delaware Co.), mound bluffs, forest near Olentangy R., Witsberger 866 (OS, OWU).

8. CLEMATIS L. Clematis

Herbaceous or slightly wood vines with twining petioles or leaf rachises; leaves opposite, compound; flowers monosporangiate or bisporangiate, solitary or in panicles; sepals usually 4; petals none; staminodes sometimes present; stamens many; carpels many, separate, becoming achenes with long plumose persistent styles.

- a Flowers in panicles; sepals white, 6-12 mm long; almost dioecious. 1. *C. virginiana*
a' Flowers solitary on long peduncles; sepals longer; calyx thick, urn-shaped, 15-25 mm long, blue- or purple-tinged.
2. *C. viorna*

1. *Clematis virginiana* L.

Virgin's-bower

Climbing vine; leaves trifoliolate; flowers in panicles; sepals white, 6-12 mm long.

REFERENCES: Riddell 1834:116 (*Clematis virginica*); Sullivant 1840:5; Craig 1890:62 (common along the brook and near the river, growing over bushes and climbing upon trees and fences, 27 Jul 1882, 31 Jul 1889); Selby & Craig 1890:7.

HERBARIUM RECORDS: 26 Jul 1882—Olentangy R., OSU, Cols., W. Green; Jul 1888—Cols., Craig; Aug 1890—Worthington, near Cols., Selby (OS, WOOS); 3 Oct 1896—Clintonville, McCall; 15 Sep 1985—Highbanks Metro Park (Delaware Co.), woods near Olentangy R., Witsberger 850 (OWU); 28 Aug 1989—N embankment of the Little Darby Creek, N of Georgesville, Battelle Darby Creek Metro Park, Pleasant Twp., Lowden 4307; 18 Sep 1989—Highbanks Metro Park, base of bluffs at Franklin/Delaware Co. line, Watts 495 (OS, OWU); 1 Aug 1990—Delawanda Park, along E bank of Olentangy R., Sharon Twp., Lowden 4477.

2. *Clematis viorna* L.

Leatherflower, Clematis

Climbing vine; leaves opposite, simple to variously lobed, often trifoliolate; flowers solitary on long peduncles; calyx thick, urn-shaped, 15-25 mm long.

REFERENCES: Riddell 1834:116 (open woods); Sullivant 1840:5; Selby & Craig 1890:7.

HERBARIUM RECORDS: 1834—Worthington, J. Paddock Collection (ILL); 1840—Cols., Sullivant; 29 Jul 1882—Clintonville, W. Green; 20 Jul 1890—Scioto R. beyond Fishing's Mill, Cols., Selby; 1 Jul 1891—National Rd. near Cols., Selby (OS, WOOS); 1 Jul 1891—Georgesville, Werner (CLM); 8 Jul 1891—Central College, Selby; 8 Jul 1892—Cols., Bogue (BGSU); 3 Sep 1892—Cols., Bogue; 10 Oct 1902—Cols., Sanders.

9. RANUNCULUS L. Buttercup, Crowfoot

HEPATICA
CLEMATIS
RANUNCULUS



Leaves alternate, sometimes all basal, undivided or divided or compound; flowers solitary or in corymbose clusters; sepals 5 or fewer, green or yellow; petals 5 or rarely more or fewer, each bearing a small cup, pit, or scale near base on upper side; stamens many or rarely only 5; carpels many; fruit an aggregate of achenes.

- a Aquatics with submersed leaves dissected into filiform divisions; emerged leaves, if present, with broader segments.
- b Petals yellow; emerged leaves, when present, about 3 times palmately lobed or parted; part of achene-margin corky-thickened. 12. *R. flabellaris*
- b' Petals white; all leaves submersed, sessile or nearly so; achene wrinkled. 14. *R. longirostris*
- a' Plants of dry or wet places, not submersed; leaves not dissected into linear segments.
- c All leaves unlobed.
 - d Blades all ovate to rotund, cordate; stamens many; petals yellow, 1-2 cm long; achenes pubescent; roots thickened. 15. *R. ficaria*
 - d' Cauline blades lanceolate or narrower; basal blades lanceolate; petals 5-10 mm long; achenes glabrous, sometimes roughened, with horizontal beak 1 mm long or more; plants perennial, rooting from nodes. 11. *R. ambigens*
- c' Some or all of the blades lobed.
 - e Basal blades, or some of them, reniform, fan-shaped, or cordate, not lobed; flowers less than 1 cm wide.
 - f Beak of achene 0.7-1 mm long, hooked or curved; stem glabrous. 10. *R. allegheniensis*
 - f' Beak of achene minute or absent.
 - g Roots slender; stem glabrous or minutely pubescent above. 8. *R. abortivus*
 - g' Roots fusiform-thickened; stem villous below. 9. *R. micranthus*
 - e' All blades lobed or compound.
 - h Flowers less than 1 cm broad; petals equaling or shorter than sepals.
 - i Stem glabrous, fleshy, hollow; beak of achene minute; aggregate of achenes cylindric. 13. *R. sceleratus*
 - i' Stem hairy; achene with obvious beak.
 - j Aggregate of achenes globose; beak of achene recurved. 5. *R. recurvatus*
 - j' Aggregate of achenes cylindric; beak of achene straight; leaves ternately compound, leaflets cleft. 4. *R. pennsylvanicus*
 - h' Flowers more than 1 cm broad; petals longer than sepals.
 - k Style relatively short, stigma extending nearly to tip of ovary, persistent on achene; beak of achene usually somewhat curved, 0.5-1.5 mm long.
 - l Base of stem enlarged and bulbous; sepals soon reflexed. 2. *R. bulbosus*
 - l' Base of stem not bulbous; sepals spreading.
 - m Stem erect, tall; principal blades 5-7-sided in general outline, divided not quite to top of petiole, none of divisions stalked, ultimate ones linear. 3. *R. acris*
 - m' Stem often elongate and trailing; at least some of the leaf-segments stalked (blades actually compound); blades often mottled. 1. *R. repens*
 - k' Style relatively long, longer than the stigma, which is deciduous in fruit; beak of achene 1.4-3 mm long, straight or nearly so; some or all segments of blades stalked.
 - n Stem erect; some roots usually thickened.
 - o Leaves mostly basal, blades longer than wide, all divisions deeply divided, at least the terminal one stalked; petals more than twice as long as wide. 7. *R. fascicularis*
 - o' Plants erect (of well drained uplands), neither stoloniferous nor becoming repent; sepals spreading; achenes narrowly margined. 6. *R. hispidus* var. *hispidus*
 - n' Plants lax and rank-growing, stoloniferous or repent (of swampy lowlands).
 - p Achenes narrowly margined; sepals spreading; plants becoming repent. 6. *R. hispidus* var. *caricetorum*
 - p' Achenes very broadly margined; sepals reflexed; plants becoming stoloniferous (*R. septentrionalis*). 6. *R. hispidus* var. *nitidus*

1. **Ranunculus repens* L.
Naturalized (native of Europe)

Creeping Crowfoot, Creeping Buttercup

Plants mostly creeping; leaves lobed or compound, some of the leaf-segments stalked, blades often mottled; flowers more than 1 cm wide, petals longer than sepals; stigma extending near to tip of ovary; styles short; beak of achene usually curved.

REFERENCES: Riddell 1834:116 (*Ranunculus lanuginosus*); Riddell 1835:9 (*Ranunculus lanuginosus* Willd., Worthington); Sullivant 1840:6 (naturalized plants); Craig 1890:63 (very common in moist shady places, in the woods and along the river, especially around the island swamps, 10 May 1884, 21 Apr 1886, 20 Apr 1887, 2 May 1888); Kellerman & Werner 1893:224.

HERBARIUM RECORDS: 27 Jun 1916—Cols., lawn, *Detmers*; 1931—Cols., in lawn, *E. Thomas*; 10 May 1969—along old parking lot at 88 E. Chittenden Ave., approx. ½ blk. E of the OSU Law Bldg., Cols., *W. Wentz 104*; 2 Jun 1980—shaded lawn at S edge of small cemetery on S side of Walnut St., 0.2 mi. W of Cabbage Rd., NE ¼ Blendon Twp., NE ¼ NE Cols. Quad., *W. Carr 2868*; 1 Jun 1986—N of St. Michaels Church on Selby & High St., along stream, *Benkowski 73*; 23 May 1989—Overbrook Drive Ravine, just E or N. High St. & S of E. Cooke Rd., Cols., Clinton Twp., *Lowden 4086*; 11 May 1991—Hoover Dam Park, open woods W of Cabbage Rd., Blendon Twp., *Lowden 4607*; 23 May 1992—SW corner of Cleveland Ave. & Ferris Rd., weedy ground, NE Cols. Quad., *Cusick 30270*.

2. **Ranunculus bulbosus* L.

Bulbous Crowfoot

Naturalized (native of Europe)

Base of stem enlarged, bulbous; stigma extends to tip of ovary; sepals reflexed (not spreading).

REFERENCES: Craig 1890:63 (Prof. W. R. Lazenby has seen specimens of this growing within our limits, but it is quite rare, and I have been unable to find it); Selby & Craig 1890:7 (introduced).

HERBARIUM RECORD: 23 May 1991—N side of Hayden Run, uncommon & scattered on sandy stream terrace in low woods, just W of Scioto R., S side of Hayden Run Rd., Norwich Twp., NW Cols. Quad., *McCormac 3572*.

3. **Ranunculus acris* L.

Buttercup, Tall Crowfoot

Naturalized (native of Europe)

Stem tall; all leaf blades lobed, divided not quite to top of petiole, none of the divisions stalked, ultimate ones linear; flowers more than 1 cm wide; style short; stigma extending nearly to tip of ovary; beak of achene somewhat curved.

REFERENCES: Riddell 1836:3 (Alum Creek, *Paddock*); Craig 1890:63 (this species likes rather dry places, it was found on the campus several years ago by Mr. W. S. Devol, when it was rather common, it has not been noticed lately and probably does not now occur in our limits, 12 Jun 1882, 2 May 1883, 26 May 1884, 10 May 1885, 27 Apr 1887); Selby & Craig 1890:7.

HERBARIUM RECORDS: 16 Jun 1882—OSU campus, Cols., *Devol*; 14 Jun 1892—OSU campus, *W. McCormick*; 20 Jun 1924—along RR, Franklin Co., *R. Crane* (OWU).

4. *Ranunculus pensylvanicus* L.f.

Bristly Crowfoot

REFERENCE: Riddell 1834:116 (*Ranunculus pensylvanicus*, bed of small rivulets).

NOTE: No specimens seen from Franklin Co.

5. *Ranunculus recurvatus* Poir.

Hooked Crowfoot, Small-flowered Buttercup

Stem hairy; all leaf blades lobed, 3-cleft to below the middle; flowers less than 1 cm wide; aggregate of achenes globose; beak of achene recurved.

REFERENCES: Riddell 1834:116 (open woods); Riddell 1835:9 (Worthington, open woods); Sullivant 1840:6; Craig 1890:63 (abundant in the woods where it grows vigorously, but is not found elsewhere, 25 Jun 1888, 12 May 1889); Selby & Craig 1890:7.

HERBARIUM RECORDS: 1840—Cols., *Sullivant*; 19 May 1888—woods beyond Alum Creek, *Selby*; 7 May 1892—Georgesville, *Detmers*; 14 May 1892—Cols., *Werner*; 21 May 1892—Cols., *Werner* (CLM); 21 May 1924—Westerville, open woodland, *Snively*; 3 May 1970—lowland along Scioto R., approx. ½ mi. S of Dublin along Scioto River Rd., floodplain, uncommon, Perry Twp., *Roberts 194*; 12 May 1973—Dublin Quarry, approx. 1 mi. S of Dublin, E side of Scioto R., floodplain woods, *Bourdo & Roberts 3442A*; 24 Jun 1982—Highbanks Metro Park (Franklin & Delaware Cos.), infrequent, *G. Moore 264*; 23 May 1991—S side of Indian Run, limestone cliffs, just W of Rt. 745, Washington Twp., NW Cols. Quad., *McCormac 3576*.

6. *Ranunculus hispidus* Michx.

Hispid Buttercup

Three varieties are recognized:

var. *hispidus*

Plants erect, neither stoloniferous nor becoming repent; aerial shoot length at time of fruiting 14-45 cm; leaves usually simple and ovate or trifoliate with ovate leaflets; nectary scales flabellate at base of petals; receptacle strongly clavate; achenes narrowly margined.

HERBARIUM RECORD: 30 Apr 1909—Big Darby, *L. Foster*.

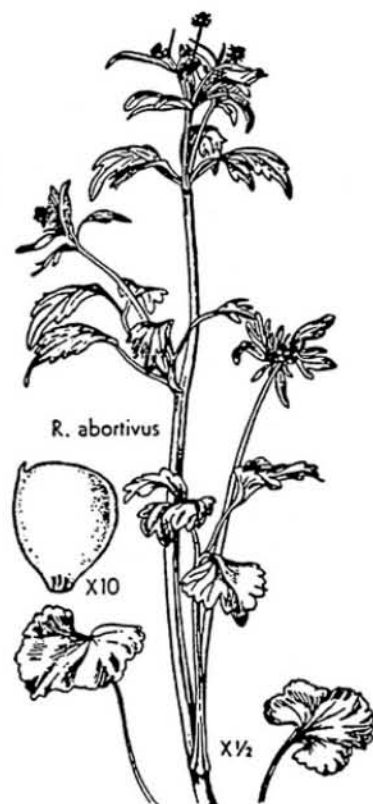
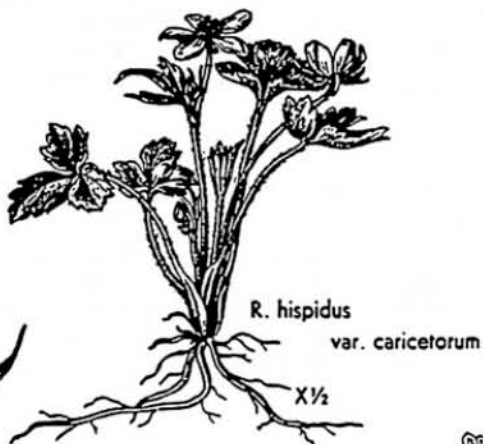
NOTE: The Big Darby locality is somewhat in question, since the label does not indicate Franklin Co.

var. *caricetorum* (Greene) T.Duncan

Plants becoming repent, some stems eventually arched back to the ground and rooting at the nodes; aerial shoot length at time of fruiting 50-80 cm; achenes narrowly margined. Syn.: *R. septentrionalis* Poir., misapplied

REFERENCE: Selby & Craig 1890:7 (*Ranunculus septentrionalis* Poir.).

RANUNCULUS



HERBARIUM RECORDS: 22 May 1899—Big Darby, *Selby*; 5 Jun 1901—Franklin Twp., *W. Kellerman*; 24 May 1990—Quarry Place, E bank of Scioto R., just S of Rt. 161 & Rt. 33 intersection, Perry Twp., *Lowden 4344*.

var. *nitidus* (Elliott) T. Duncan

Plants usually stoloniferous at time of fruiting, but not repent; achenes very broadly margined. Syn.: *R. septentrionalis* Poir.

REFERENCES: *Selby & Craig 1890:7 (Ranunculus septentrionalis Poir.)*; *Kellerman & Werner 1893:224*.

HERBARIUM RECORDS: 1840—Cols., *Sullivant*; May 1888—Cols., *Craig*; 12 May 1891—near Cols., *Werner (CLM)*; May 1892—near Columbus, *Davies*; 15 May 1893—Cols., University farm, *Kerr*; 2 May 1895—N Cols., *Osburn*; May 1909—OSU, *Mayferth*; 19 May 1969—Park of Roses, Cols., *Wiley 14*; 3 May 1970—Scioto R. floodplain, approx. ½ mi. S of Dublin along Scioto River Rd., Perry Twp., *Roberts 195*; 1 May 1987—W bank of Olentangy R., N of Dodridge St. bridge & E of Union Cemetery, mesic forest in floodplain, *T. Lammers 6089*; 8 May 1989—Overbrook Drive Ravine, just E of N. High St., Clinton Twp., *Lowden 4028*.

7. †*Ranunculus fascicularis* Muhl.

Early Crowfoot, Early Buttercup

Roots usually thickened; leaves mostly basal; blade ovate in outline, longer than wide, terminal segment stalked, all segments deeply lobed; flowers more than 1 cm wide, long-pedicellate; beak of achene nearly straight, reaching 3-4 mm long.

REFERENCES: *Riddell 1834:116*; *Craig 1890:63* (grows in wet rich soil NE of the island, but is not as common as *Ranunculus recurvatus*, 14 Apr 1882, 25 Apr 1883, 20 Apr 1884, 29 Apr 1888); *Selby & Craig 1890:7*; *Kellerman & Werner 1893:227*; *McCance 1984:A-193*.

HERBARIUM RECORDS: 7 May 1892—Georgesville, in a dry pasture, Cols., *Selby (OS, WOOS)*; 7 May 1892—Georgesville, *Selby*; 7 May 1892—Georgesville, *Werner (CLM, OS)*; 17 May 1892—Georgesville, *Werner (CLM)*.

8. *Ranunculus abortivus* L.

Kidney-leaf Crowfoot, Small-flowered Crowfoot

Stems glabrous or sometimes minutely pubescent above; roots slender; leaves lobed, except some basal leaves reniform to somewhat cordate-based; flowers less than 1 cm wide; beaks of achenes minute.

REFERENCES: *Riddell 1834:116* (bed of small rivulets); *Sullivant 1840:6*; *Craig 1890:63* (common on the campus and in pastures, growing best in damp rich soil where it often attains a large size, it is generally distributed, is quite variable in form and has a weedy tendency, 11 Apr 1882, 16 Apr 1883, 23 Apr 1884, 6 May 1885, 16 Apr 1886, 11 Apr 1887, 18 Apr 1888, 7 Apr 1889); *Selby & Craig 1890:7*.

HERBARIUM RECORDS: 1840—Cols., *Sullivant*; 18 Apr 1888—OSU grounds, Cols., *Selby*; May 1888—Cols., *Craig*; 20 May 1888—OSU garden, Cols., *Lazenby*; Spring 1889—Cols., *Craig*; May 1891—Cols., *Selby (OS, WOOS)*; 4 May 1904—Cols., *Stern*; 3 May 1911—Westerville, waste ground, *Hanawalt*; Spring 1912—Cols., *J. H. Schaffner*; 16 May 1923—Westerville, waste places, *Carlson*; [ca. 1925]—Westerville, roadside, *Camp*; 20 Apr 1973—floodplain of Scioto R. ½ mi. S of Dublin on E side at end of Martin Rd., Perry Twp., *Roberts 3305 & 3306*; 26 Apr 1973—Don Scott Airfield, wet woods on NW side, Perry Twp., *Roberts 3357*; 19 May 1974—OSU Bot. Garden, Cols., *D. Johnson*; 6 May 1982—Highbanks Metro Park (Franklin & Delaware Cos.), ravine, *G. Moore 262 & 263*; 4 May 1983—Blendon Woods, *Owens*; 20 Apr 1986—along 12th Ave., next to B&Z Bldg., OSU campus, Cols., *Taylor-Lehman 32*; 16 Apr 1987—OSU campus, S side of Postle Hall, Cols., *T. Lammers 6073*; 16 Apr 1988—3 mi. N of Rt. 161 & Rt. 33, floodplain of stream, *Kelly 6*; 8 May 1989—Overbrook Drive Ravine, between N. High St. & E. Cooke Rd., Clinton Twp., *Lowden 4027*; 18 Apr 1991—Overbrook Dr., between High St. & Canyon Dr., Cols., *Gara 8*; 16 Apr 1992—Whetstone Park, woody ravine behind Blenheim Rd. bus turn around, Clinton Twp., *Lowden 4912*.

9. *Ranunculus micranthus* Nutt.

Small-flowered Crowfoot

Roots conspicuously thickened; stems villous below; some basal leaves reniform, fan-shaped or cordate, unlobed; flowers less than 1 cm wide, beaks of achenes minute.

HERBARIUM RECORDS: 1840—Cols., *Sullivant* (mixed with *R. abortivus*); 1 Jun 1923—Westerville, damp ground, *Sowers*; 11 May 1956—Sinclair Woods, *Weishaupt*; 30 Apr 1969—E bank of Scioto R., approx. ¼ mi. S of Dublin, *Stuckey 8050*; 3 May 1970—½ mi. S of Dublin along Scioto River Rd. near Scioto R., floodplain & hillside, Perry Twp., *Roberts 193*; 20 Apr 1973—Scioto R., ½ mi. S of Dublin, E side at end of Martin Rd., floodplain, *Bourdo & Roberts 3304, 3307 & 3308*; 19 May 1975—Gahanna Woods Nature Preserve, 1.5 mi. SE of Gahanna on W side of Taylor's Station Rd., *Roberts 4479*; 28 Apr 1987—Tuttle Park, E bank of Olentangy R., between Lane Ave. & Dodridge St. bridges, mesic woods on floodplain, Cols., *T. Lammers 6079*.

10. †*Ranunculus allegheniensis* Britton

Allegheny Crowfoot

Stem glabrous; basal leaves reniform to variously lobed; cauline leaves 3-5 parted, lobes linear; flowers less than 1 cm wide; achene in globose heads; beak firm, strongly curved or hooked, 0.7-1.0 mm long.

HERBARIUM RECORD: May 1891—towards Central College, Cols., *Selby*.

11. †*Ranunculus ambigens* S. Watson

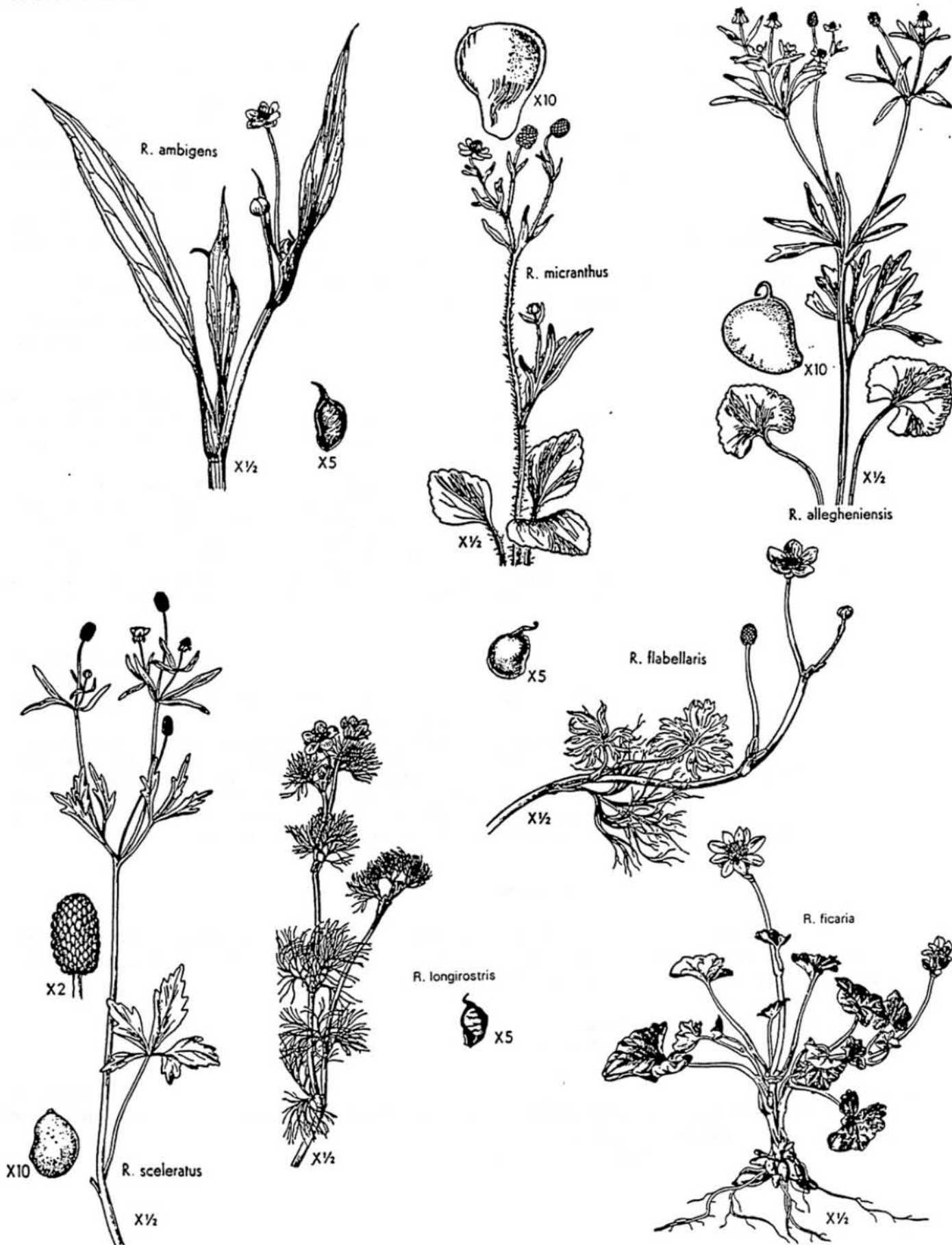
Water-plantain Spearwort

Stems rooting from lower nodes; cauline leaves differentiated into an enlarged sheathed petiole and well defined blade; principal blades lanceolate, minutely denticulate, reaching more than 1 cm wide; beak of achene, horizontal, 1 mm or more long.

REFERENCES: *Riddell 1834:116 (Ranunculus flammulus, wet prairies)*; *Sullivant 1840:6 (Ranunculus flammula L., Spear-wort)*; *Selby & Craig 1890:7 (Ranunculus flammula L.)*.

HERBARIUM RECORD: 6 Aug 1897—Hamilton Twp., *W. Kellerman*.

RANUNCULUS



12. *Ranunculus flabellaris* Raf.

Yellow Water Crowfoot

Aquatic; submersed leaves ternately decomposed, with linear segments; emersed leaves if present with broader segments; petals yellow; achenes plump, sides rugose, the margin corky-thickened; beak 2.0 mm long.

REFERENCES: Riddell 1834:116 (*Ranunculus multifidus*, standing pools); Sullivant 1840:6 (*Ranunculus purshii* Richardson, Water Butter Cup); Selby & Craig 1890:7 (*Ranunculus multifidus* Pursh).

HERBARIUM RECORDS: [ca. 1834]—Cols., Lapham (CINC); 1840—Cols., Sullivant; 31 May 1884—N of Cols., H. Smith (CINC); 1889—3 mi. N of Cols., Craig; Jun 1889—pike out from E. Broad St., Cols., Selby; May 1890—swamp 3 mi. N of Cols., Craig; Jun 1890—Worthington, Craig (WOOS); Jun 1890—SE of Worthington, Craig; 7 Jun 1901—Cols., Ball; 12 May 1924—Westerville, ponds & swamps, Plummer; 1925—Westerville, ponds, head of Sleepy Hollow & old tile mill, Camp; 19 May 1975—Gahanna Woods Nature Preserve, 1.5 mi. SE of Gahanna on W side of Taylor's Station Rd., abundant in outlet stream of small woodland stream, Jefferson Twp., Roberts 4478; 3 Nov 1984—Gahanna Woods State Nature Preserve, in swampy area along woodland pond trail (II), Tyrrell; 3 Jun 1992—Gahanna Woods State Nature Preserve, locally common in shallow water of buttonbush pools, SW corner of Havens Corner Rd. & Taylor Station Rd., Jefferson Twp., Reynoldsburg Quad., McCormac 4662.

13. *Ranunculus sceleratus* L.

Cursed Crowfoot

Stem glabrous, hollow, many-flowered; leaves smaller above, cauline leaves deeply 3-parted, segments linear-oblong; flowers less than 1 cm wide; aggregate of achenes cylindrical; beak of achene minute.

REFERENCES: Selby & Craig 1890:7; Kellerman & Werner 1893:228 (in a ditch near W line fence of the University farm, Jun 1891).

HERBARIUM RECORDS: 9 Jun 1988—Greenlawn Cemetery, muddy shore of pond, locally common, W of Greenlawn Ave., SW Cols. Quad. Cusick 27478; 7 Jun 1991—Boyer Park, end of Park St., E of Rt. 3, Westerville, Blendon Twp., Lowden 4677; 23 Sep 1991—gravel bars in Scioto R., just N of I-270, occasional, Hamilton Twp., SW Cols. Quad., McCormac 4351; 12 Jun 1992—Pickerington Pond, along shores of kettle lake, Madison Twp., Reynoldsburg Quad., McCormac 4711.

14. *Ranunculus longirostris* Godr.

White Water-crowfoot

Aquatic with submersed leaves dissected into filiform segments, relatively firm; free petiole none or much shorter than the expanded, somewhat pubescent stipular part; flowers white; achenes 7-25 with a straight beak, approx. 1.0-1.5 mm long.

REFERENCES: Sullivant 1840:6 (*Ranunculus aquatilis* L. var. *capillaceus* DC.); Craig 1890:63 (*Ranunculus aquatilis* L. var. *trychophyllus* Gr.; in the island swamp and pond where the water flows slowly, the whole plant is submerged except the small white flowers which are so thickly crowded together as to render the surface of the water white, abundant in this locality but not found elsewhere in our limits); Selby & Craig 1890:7.

HERBARIUM RECORDS: Jun 1889—pike out from E. Broad St., Selby; 30 May 1901—Franklin Co., J. H. Schaffner; 9 Apr 1933—Baumgardner's Pond, Jackson Twp., Chapman; 6 May 1933—Baumgardner's Pond, Chapman; 17 May 1933—Baumgardner's Pond, Chapman & Gordon; 30 May 1938—W side, W of Brick Church, J. H. Schaffner; 31 May 1990—Pickerington Ponds, E of Bower Rd. & S of Wright Rd., Madison Twp., Lowden 4364; 30 Sep 1991—N side of Rodebaugh Rd., 3/4 mi. E of Reynoldsburg-New Albany Rd., locally abundant, Truro Twp., Reynoldsburg Quad., McCormac 4409.

15. **Ranunculus ficaria* L.

Lesser Celandine

Naturalized (native of Eurasia)

Plants of dry or wet places, not submersed; roots thickened; leaves all unlobed, long petiolate; blades ovate to rotund; sepals 3-4 green; petals 8-12, yellow; achenes beakless, pubescent.

HERBARIUM RECORDS: 17 Apr 1977—Olentangy R. floodplain, wet woods just N of Dodridge Ave. bridge, W. Carr 68; 27 Apr 1980—woods on E bank of Olentangy R. floodplain, 0.5 mi. S of N. Broadway bridge, Clinton Park, SE 1/4 NW Cols. Quad., W. Carr 2645; 5 Apr 1986—Tuttle Park, wet area along Olentangy R., Cols., Cooperband 5; 29 Mar 1987—treelawn area of Piedmont Rd. & Torrence Rd., NW Cols., Quad., Cusick 26207 (MU); 10 Apr 1987—Whetstone Park, Adena Brook floodplain, tributary of the Olentangy R., Cols., T. Lammers 6069; 28 Apr 1987—W bank floodplain of Olentangy R., N of Dodridge St. bridge & E of Union Cemetery, Cols., T. Lammers 6084; 12 Apr 1992—Whetstone Park, just W of N. High St., Condit; 16 Apr 1992—Northmoor Park, along E Bank of Olentangy R., Clintonville, Clinton Twp., Lowden 4908.

10. AQUILEGIA L. Columbine

Herbs; lower leaves ternately decomposed, leaflets lobed; flowers showy, solitary at ends of branches; perianth regular; sepals 5, same color as petals; petals 5, spurred, spurs projecting backward between sepals; stamens many; carpels usually 5, styles slender; fruit an aggregate of follicles.

a Perianth red and yellow. 1. *A. canadensis*

a' Perianth blue, purple, pink, or white. 2. *A. vulgaris*

1. *Aquilegia canadensis* L.

Wild Columbine

Lower leaves ternately decomposed, leaflets lobed; flowers showy, solitary at ends of branches; perianth red and yellow; petals spurred, projecting backward between sepals.

REFERENCES: Riddell 1834:116 (rocky situations); Sullivant 1840:5; Selby & Craig 1890:7.

HERBARIUM RECORDS: 1840—Cols., *Sullivant*; 23 May 1882—N of Cols., *W. Green*; 11 May 1890—Scioto R. near Cols., *Selby*; May 1891—Scioto R. on rocks, Cols., *Selby* (OS, WOOS); 18 May 1892—Cols., *Werner*; 13 May 1893—Cols., *Werner* (CLM); 10 May 1899—Olentangy P., Cols., *Helfrich*; 29 May 1922—Westerville, woods, *Christopher*; 24 May 1927—Westerville, roadside, *G. Hedges*; 25 Apr 1977—common on limestone cliffs, at Hayden Run on Scioto R., *W. Carr 120*; 25 Apr 1985—quarry allotment, Scioto R., Rt. 33, ½ mi. S of Rt. 161, *Rutter 101*; 10 May 1987—Highbanks Metro Park (Franklin Co.), woods on steep shale bank, *Witsberger 937*; 3 May 1991—E bank of the Scioto R. off Rt. 257 just N of Rt. 161, limestone cliffs, Perry Twp., *Lowden 4601*; 14 May 1992—along Graessle Rd., bluff area, Battelle Darby Creek Metro Park, Pleasant Twp., *Lowden 4949*.

2. **Aquilegia vulgaris* L.

Garden Columbine, European Columbine

Adventive (native of Eurasia)

Flowers pink, purple or white.

HERBARIUM RECORDS: 30 May [ca. 1920s]—Westerville, garden, *E. Hoffman*; 30 May 1927—Westerville, *Swanner*; 31 May 1927—Westerville, cult. in lawns & gardens, *G. Hedges*.

11. ISOPYRUM L. False Rue-anemone

Slender glabrous herb; leaves alternate, ternately compound or decomposed, leaflets 3-lobed; flowers solitary, axillary and terminal; sepals 5, about 1 cm long, white, petaloid; petals none; stamens 10-many; carpels usually 3-6; follicles spreading, 2-3-seeded.

1. *Isopyrum biternatum* (Raf.) Torr. & A. Gray

False Rue-anemone, False Anemone

Slender herb; leaves alternate, ternately compound or decomposed; flowers solitary, axillary and terminal; sepals 5, white; petals none; stamens many, carpels 3 or more; styles conspicuous and curved at maturity; follicles spreading. Syn.: *Enemion biternatum* Raf.

REFERENCES: Riddell 1834:116 (*Isopyrum thalictroides* L., open woods); *Sullivant* 1840:5; Craig 1890:63 (common on the bottomlands along the river S of the brook, and around the island, 18 Apr 1882, 25 Apr 1883, 17 Apr 1884, 25 Apr 1885, 15 Apr 1886, 10 Apr 1887, 15 Apr 1888, 13 Apr 1889); *Selby & Craig* 1890:7.

HERBARIUM RECORDS: 1840—Cols., *Sullivant*; 19 May 1883—Olentangy R., University farm, *Devol*; 1 Jun 1884—OSU farm, Cols., *H. Smith* (CINC); Apr 1891—Cols., *Selby* (OS, WOOS); 1 May 1891—Cols., *Werner* (CLM); 11 Apr 1892—Cols., *Bogue*; May 1892—Cols., *Werner* (CLM); 6 May 1892—Georgesville, *Werner*; 7 May 1892—Georgesville, *Werner*; 27 Apr 1895—Scioto R., *Osburn*; 25 May 1923—Westerville, damp woods, *D. Blauser*; 9 May 1924—Westerville, along Alum Creek, damp woods, *F. Snyder*; [ca. 1925]—Westerville, moist bottomland, *Camp*; 24 May 1927—Westerville, rich woods, *G. Hedges*; 10 May 1933—Red Hills, *Hicks*; 15 Apr 1961—woods on Olentangy R. bank, N of Big Bear Supermarket, Cols., *Cusick*; 14 Apr 1963—E bank of Olentangy R., S of Weber Rd., Cols., *Cusick*; 1 Apr 1967—approx. ½ mi. S of Dublin on E bank of Scioto R., floodplain, Perry Twp., *Stuckey 3349*; 2 Apr 1967—along E floodplain bank of Big Darby Creek, NW of cemetery at Georgesville, Pleasant Twp., *Stuckey 3355*; 14 Apr 1967—E bank of Scioto R., floodplain, approx. ¼ mi. S of Dublin, Perry Twp., *Stuckey 3422*; 4 May 1968—common on E floodplain bank of Alum Creek, S side of Rt. 161, at YWCA Camp, approx. 5 mi. E of Worthington, *Stuckey 6415*; 18 Apr 1970—E edge of Scioto R., ¼ mi. S of Dublin bike path, floodplain, *Boone 17*; 19 Apr 1970—Scioto R., ½ mi. S of Dublin, E side along River Rd., floodplain & hillside, Perry Twp., *Roberts 146*; 20 Apr 1973—floodplain of Scioto R., ½ mi. S of Dublin on E side at end of Martin Rd., *Bourdo & Roberts 3302*; 23 Apr 1977—quarry on E side of Olentangy River Rd., 3 mi. S of Rt. 161, Cols., *Ficek 4*; 21 Apr 1979—abundant on floodplain of Scioto R., below quarry on E side of river along Rt. 33, Cols., *Nesom R700*; 22 Apr & 6 May 1982—Highbanks Metro Park (Franklin & Delaware Cos.), ravine slope & floodplain, *G. Moore 260 & 261*; 5 Apr 1986—Highbanks Metro Park (Delaware Co.), forest near Olentangy R., *Witsberger 875* (OS, OWU); 6 Apr 1986—Highbanks Metro Park (Delaware Co.), closed forest, *Witsberger 879* (OWU); 22 Apr 1987—Tuttle Park, E bank of Olentangy R., between the Lane Ave. & Dodridge St. bridges, mesic woods on floodplain, *T. Lammers 6076*; 20 Apr 1988—3/5 mi. N of Henderson Rd., W bank Olentangy R., General Teeter Bike Path, *Chinery 09*; 9 Apr 1991—Antrim Park, woods along W bank of Olentangy R., Sharon Twp., *Lowden 4574*; 15 Apr 1992—Camp Mary Orton (Godman Guild), woods near E bank of Olentangy R., Sharon Twp., *Lowden 4907*; 16 Apr 1992—Whetstone Park, S end close to the E bank of the Olentangy R. on walkpath towards Northmoor Park, Clintonville, Clinton Twp., *Lowden 4911*.

12. ANEMONELLA Spach Rue-anemone

Small slender glabrous herb with fusiform-thickened tubers; basal leaves ternately decomposed; stem-leaves 2-3, opposite or whorled, usually ternately compound, subtending a single flower or a few-flowered umbel; sepals 5-10, petaloid, white or pink, 1-1.5 cm long; petals none; stamens many; carpels few to several, becoming ribbed achenes.

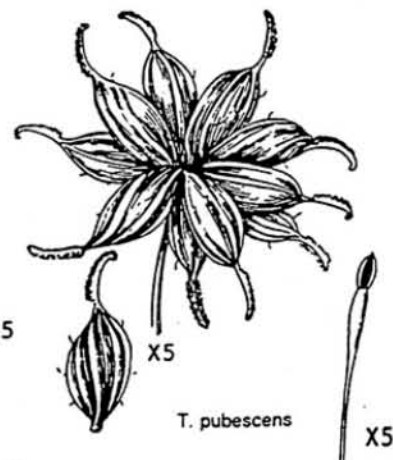
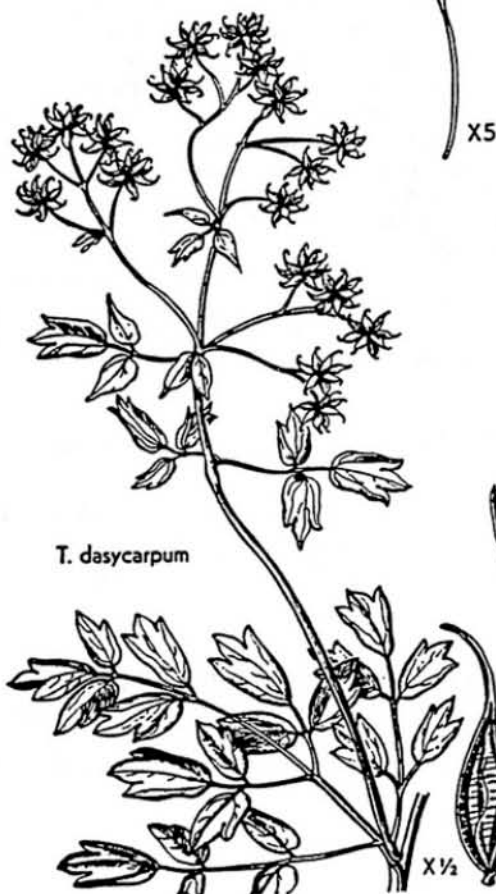
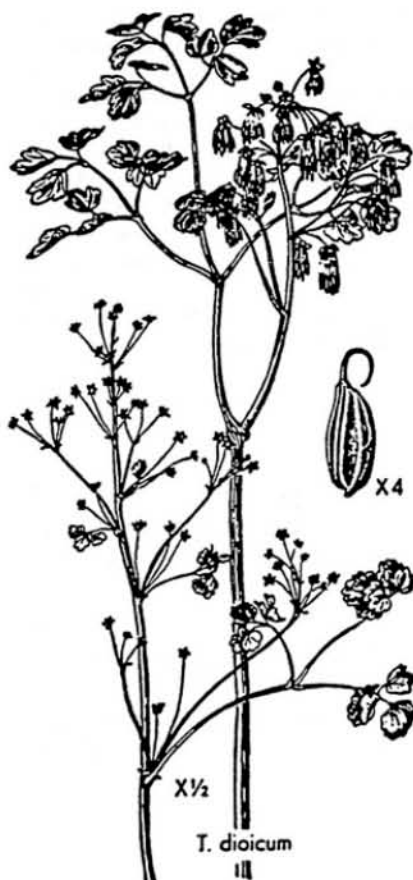
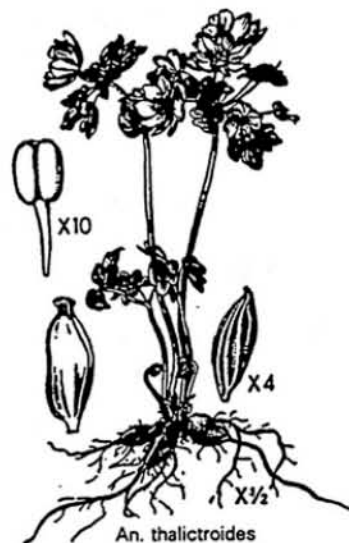
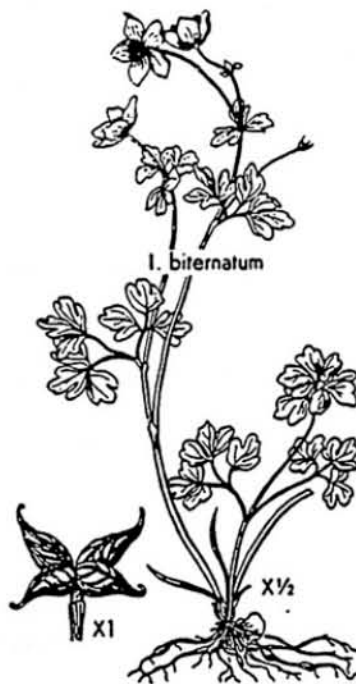
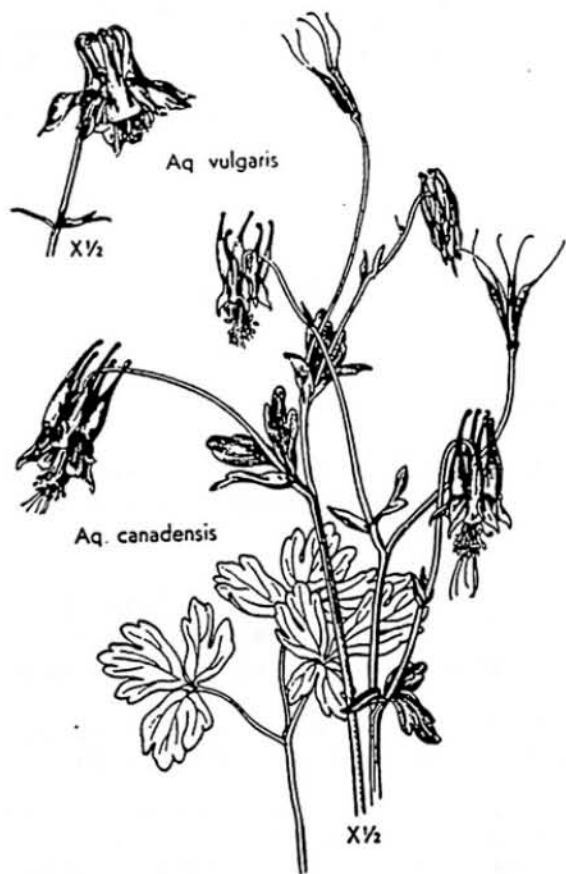
1. *Anemonella thalictroides* (L.) Spach

Rue-anemone

Leaves of stem opposite or whorled, subtending the peduncle or peduncles; basal leaves ternately decomposed; sepals 5-10, petaloid, white or pink; carpels few to several, becoming ribbed achenes.

REFERENCES: Riddell 1834:116 (*Thalictrum anemonoides* DC., open woods); *Sullivant* 1840:6 (*Thalictrum anemonoides* Michx.); Craig 1890:62 (common along the river bank and along the fence from the seed barn to the river, 7 Apr 1882, 16 Apr 1883, 17 Apr 1884, 24 Apr 1885, 20 Apr 1888, 29 Mar 1889); *Selby & Craig* 1890:7.

AQUILEGIA
ISOPYRUM
ANEMONELLA
THALICTRUM



HERBARIUM RECORDS: 1840—Cols., *Sullivant*; 12 Apr 1882—Olentangy R., *W. Green*; 2 May 1888—Neil's Woods, *Selby*; Spring 1889—Cols., *Craig*; 1890—Cols., *Selby* (OS, WOOS); 11 Apr 1892—Cols., *Bogue*; 23 Apr 1892—Cols., *Werner*; 27 Apr 1892—Neil's Run, near Cols., *E. M. Wilcox*; 12 May 1903—Cols., *Morse*; 5 May 1922—Big Walnut Valley, 3 mi. E of Westerville, open woods, *Camp*; 27 May 1922—Westerville, creek bottom, *Hayman*; 10 May 1924—near Westerville, *Nafziger*; [ca. 1925]—Westerville, dry banks, *Camp*; 16 Apr 1925—Big Walnut Creek, dry & sometimes bare slopes, *Camp*; 15 Apr 1927—Big Walnut, *Swamer*; May 1927—Julian's Cabin, woods, *Kuss*; 24 May 1927—Westerville, damp woods, *G. Hedges*; 14 Apr 1967—broken limestone rocky slope, E bank of Scioto R., approx. ¼ mi. S of Dublin, Perry Twp., *Stuckey 3427*; 18 Apr 1970—Blendon Woods, S of Rt. 161, wooded stream banks and hillsides, common, Blendon Twp., *Roberts 138*; 18 Apr 1970—University woodlot at corner of Kenny & Ackerman, damp woods, *Boone 9*; 13 Apr 1982—Highbanks Metro Park (Franklin & Delaware Cos.), *G. Moore 250*; 22 Apr 1982—Highbanks Metro Park (Franklin & Delaware Cos.), common, *G. Moore 251, 252 & 253*; 5 Apr 1983—Blendon Woods, *Owens*; 19 Apr 1986—Highbanks Metro Park (Delaware Co.), damp woods, shale creek woods area, *Morawetz*; 18 Apr 1991—woods W of Cabbage Rd. entrance to Hoover Dam Park, Blendon Twp., *Lowden 4590*; 13 Apr 1992—Camp Mary Orton (Godman Guild), woods near Olentangy R., N of Worthington & W of Rt. 23, Sharon Twp., *Lowden 4903*; 21 Apr 1992—woods W of Cabbage Rd. entrance to Hoover Dam Park, Blendon Twp., *Lowden 4921*; 14 May 1992—Battelle Darby Creek Metro Park, Cedar Ridge, Pleasant Twp., *Lowden 4933*.

13. THALICTRUM L. Meadow-rue

Herbs, usually tall; leaves alternate, ternately decompose, leaflets often lobed; flowers small, monosporangiate or sometimes bisporangiate, in usually large panicles; sepals 4-5, white, green, or purplish, early deciduous; petals none; stamens many, filaments elongate; carpels several, separate, becoming achenes.

- a Stem-leaves petioled, scarcely expanded at anthesis; flowering in early spring; filaments slender, drooping.
 - 1. *T. dioicum*
- a' Stem-leaves sessile; flowering in late spring or in summer.
 - b Filaments widened upward, constricted below anthers; anthers to 1.5 mm long; stigma 1-2 mm long; achenes with short stipe, the lower deflexed, aggregate globose; carpellate plants usually with some bisporangiate flowers. 3. *T. pubescens*
 - b' Filaments slender or only slightly enlarged upward, drooping; anthers more than 2 mm long; stigma 2 mm long or more.
 - c Blades with sessile or stalked glands beneath; anthers blunt or apiculate. 2. *T. revolutum*
 - c' Blades pubescent or glabrous beneath but not glandular; anthers apiculate; lower achenes somewhat deflexed. 4. *T. dasycarpum*

1. *Thalictrum dioicum* L.

Early Meadow-rue

Flowering early spring; leaves predominantly with 4 or more teeth or lobes, usually distinguished as 3 lobes with 1-3 teeth, cauline leaves long-petioled; flowers mostly unisexual; filaments slender, drooping.

REFERENCES: Riddell 1834:116 (slaty ravines); *Sullivant* 1840:6; *Craig* 1890:63 (grows on the dike and in the strip of woods lying along the river near the island, a small clump also occurs in the SW corner of the farm on the river bank, it is not so common as *Thalictrum pubescens*, 14 Apr 1882, 12 May 1885, 17 Apr 1887, 29 Apr 1888, 20 Apr 1889); *Selby & Craig* 1890:7.

HERBARIUM RECORDS: 1840—Cols., *Sullivant*; Spring 1889—Cols., *Craig*; 21 Apr 1890—Neils Run, Cols., *H. Richardson*; May 1890—N Cols., *Selby* (WOOS); 7 May 1892—Georgesville, *Detmers*; 30 May 1896—Reservoir Park, *M. Wright*; 20 Apr 1921—Cols., *J. H. Schaffner*; 15 May 1924—Westerville, rocky places, *M. Hall*; 16 Apr 1925—Big Walnut Creek, Westerville, open woods, *Camp*; 29 Apr 1961—Flint Ravine, woods, *Cusick*; 13 Apr 1988—2 mi. S of Rt. 161, 1/8 mi. E of Rt. 23, banks of Rush Creek, fairly abundant in shade, *M. Hoffman 16*; 8 May 1989—Overbrook Drive Ravine, E of N. High St. & S of E. Cooke Rd., Clinton Twp., *Lowden 4024*; 13 May 1989—common in woods along W bank of Big Darby Creek, approx. ¼ mi. S of Rt. 665, Pleasant Twp., Harrisburg Quad., *McCormac 559*.

2. †*Thalictrum revolutum* DC.

Skunk Meadow-rue

Similar to *Thalictrum dasycarpum* except for the small stalked glands beneath the leaf blades.

REFERENCE: Riddell 1834:116 (dry prairies).

HERBARIUM RECORDS: [ca. 1830s]—Worthington, *J. Paddock* (URB); 1 Jul 1891—Georgesville, *Werner*; 20 Jun 1892—Cols., *Bogue*; 10 Jun 1919—Cols., *J. H. Schaffner*.

3. *Thalictrum pubescens* Pursh

Tall Meadow-rue

Carpellate plant with some bisporangiate flowers; stigma 1.0-1.5 mm long; filaments widened upward, constricted below anthers; anthers 1 mm long, blunt. Syn.: *T. polygamum* Muhl.

REFERENCES: Riddell 1834:116 (*Thalictrum cornuti*, dry prairies); *Sullivant* 1840:6 (*Thalictrum cornuti* L.); *Craig* 1890:63 (both the staminate and pistillate forms grow in the damp rich soil of the woods around the island, 6 Jun 1882, 2 Jun 1883, 26 May 1884, 29 May 1889); *Selby & Craig* 1890:7.

HERBARIUM RECORD: May 1890—N Cols., *Selby*.

4. *Thalictrum dasycarpum* Fisch. & Avé-Lall.

Purple Meadow Rue

Leaves with 2 or 3 entire lobes, seldom with a few additional teeth, glabrous or merely puberulent beneath, not glandular; anthers 1.5-3.5 mm long, apiculate; filaments slightly enlarged above.

REFERENCES: Riddell 1834:116 (*Thalictrum corynellum*); Craig 1890:63 (*Thalictrum purpurascens* L., this occurs on the S side of the dike and in the woods NW of the island); Selby & Craig 1890:7 (*Thalictrum purpurascens* L.).

HERBARIUM RECORDS: 25 Jun 1892—Cols., *Bogue*; 22 Aug 1899—S Cols., *Selby*; 10 Jun 1919—Cols., *J. H. Schaffner*; Summer 1938—OSU Botanical Garden, *C. Jones*; 16 Jun 1938—OSU Botany Garden, *J. H. Schaffner*; 17 Jun 1939—Franklin Co., roadside, *Fullerton*; 24 May 1986—Worthington, trail E of Olentangy R., about 50 m S of grassy field just S of Rt. 161, *Hollander 051*; 25 May 1988—W side of Olentangy R., floodplain, abundant, ¼ mi. N of Lane Ave., Cols., abundant, *Kelly 30*.

14. HYDRASTIS L. Golden Seal

Herb with yellow rhizome; leaves 3, 1 basal, 2 near summit of stem, alternate, rounded, cordate at base, palmately 5-7-lobed, lobes serrate or incised; flowers solitary, terminal; calyx regular, of 3 greenish-white early-deciduous sepals; petals none; stamens several to many; carpels several to many, 2-ovuled; fruit an aggregate of dark-red 1-2 seeded berries.

1. *Hydrastis canadensis* L.

Golden Seal, Yellow-root, Turmeric Root

Herb with yellow rhizome; leaves 3, 1 basal, 2 near summit of stem, alternate, palmately parted; flowers solitary, terminal; calyx regular, of 3 greenish-white early-deciduous sepals; petals none; stamens usually many; fruit an aggregate of dark-red berries.

REFERENCES: Riddell 1834:116 (dense and shady woods); Sullivant 1840:5; Craig 1890:64 (rare, one or two specimens were found in the woods this spring. I have looked carefully for it other place without success, 1 May 1882, 11 May 1883, 10 May 1884, 19 May 1885, 14 May 1887, 5 May 1888, 24 May 1889); Selby & Craig 1890:7.

HERBARIUM RECORDS: 1840—Cols., *Sullivant*; 1 & 10 May 1882—Neils Run, *W. Green*; May 1888—Cols., *Craig*; 5 May 1888—woods about Cols., *Selby*; 16 May 1891—Cols., *Werner* (CLM); 29 Apr 1892—Worthington, *Werner*; 29 Apr 1892—Cols., *Werner* (CLM); 5 May 1892—Cols., *Werner*; 10 May 1892—near Cols., *E. M. Wilcox*; Jun 1892—Cols., *Werner* (CLM, OS); 2 Jun 1892—Cols., *Werner* (CLM); 27 Apr 1894—Cols., *W. Kellerman*; 4 May 1895—Georgesville, *Osburn*; 18 May 1904—Franklin Co., *Spease*; 16 May 1909—Big Darby, *L. Foster*; 1925—Westerville, woods, head of Sleepy Hollow, *Camp*; 10 Jun 1980—mesic woods along Brookside Trail, 0.2 mi. S of parking lot, Blendon Wood Metro Park, Blendon Twp., NE Cols. Quad., *Cusick 20115*; 6 May 1982—Highbanks Metro Park (Franklin & Delaware Cos.), ravine, infrequent, *W. Reed 257*; 6 May 1982—Highbanks Metro Park (Franklin & Delaware Cos.), floodplain & beech-maple habitat, infrequent, *G. Moore 258 & 259*; 8 May 1982—Blendon Woods, spreading, intersection of Brookside & Cherry Ridge trails, *Owens*; 16 Jul 1986—Highbanks Metro Park (Delaware Co.), woods, *Watts 326*; 9 May 1988—Highbanks Metro Park (Delaware Co.), mound bluff woods, *Watts 416* (OS, OWU); 3 Jun 1992—Gahanna Woods State Nature Preserve, common in beech-maple woods, SW corner of Havens Corner Rd. & Taylor Station Rd., Jefferson Twp., Reynoldsburg Quad., *McCormac 4656*.

BERBERIDACEAE, Barberry Family

Herbs and shrubs; leaves alternate, sometimes basal; flowers hypogynous, bisporangiate; perianth (or each of its whorls) regular; sepals 4-6 or more, often early deciduous; petals 6-9, separate, sometimes glandlike; except in *Podophyllum*, stamens as many as petals and opposite them and anthers opening by uplifted lids; ovary 1-loculed, placenta 1, parietal, or ovules basal; fruit a berry or capsule.

The evergreen shrub *Mahonia* is cultivated as a garden ornamental.

a Herbs.

b Leaves all basal, leaflets 2; flowers on leafless scapes. **2. JEFFERSONIA**

b' Flowering stem with 2 palmately divided leaves. **1. PODOPHYLLUM** (See b".)

b" Leaves 2, ternately compound or decomposed. **3. CAULOPHYLLUM**

a' Shrubs; flowers yellow.

c Leaves pinnately compound. **MAHONIA** Nutt.

c' Leaves simple; branches with spines. **4. BERBERIS**

1. PODOPHYLLUM L. May-apple

Flowering stem with 2 leaves deeply palmately parted; flowerless plants with one peltate, radially parted, leaf; flowers solitary, waxy white, 3-5 cm wide; sepals 6, early deciduous; petals 6-9; stamens more than petals, often twice as many; stigma sessile, large and thick; fruit a fleshy berry 4-5 cm long.

1. *Podophyllum peltatum* L.

May-apple, Mandrake

Flowering stem with 2 leaves deeply palmately parted; flowerless plants with one peltate radially parted leaf; flowers solitary, waxy white (pink); fruit a large ovoid, fleshy, many-seeded berry; seeds and herbage poisonous. Open woods.

REFERENCES: Riddell 1834:117; Sullivant 1840:6; Craig 1890:65 (not very common, in the W part of the woods, also along the river in the SW corner of the farm in rich moist soil, and on the river bank E of the island, the plants bloom freely but produce scarcely any fruit, 14 May 1882, 11 May 1883, 10 May 1884, 22 May 1885, 15 May 1887, 10 May 1888); Selby & Craig 1890:7.

HERBARIUM RECORDS: 1834—Worthington, *J. Paddock Collection* (ILL); 1840—Cols., *Sullivant*; May 1884—OSU Grove, Cols., *H. Smith* (CINC); May 1888—Cols., *Craig*; May 1891—Cols., *Selby* (OS, WOOS); 20 May 1892—near Cols., *E. M. Wilcox*; 13 May 1893—N of OSU, Olentangy R., *Odebrecht* (CLM); 1896—Cols., *E. M. Wilcox*; 30 May 1896—Reservoir Park, *M. Wright*; 31 May 1896—Cols., *E. M. Wilcox*; 16 May 1909—Flint, *Pike*; 22 May 1911—3/4 mi. N of Westerville, woods, *Hanawalt*; 15 May 1923—Westerville, rich woods, *L. Snyder*; 21 May 1924—Westerville, woodlands, *Greenwald*; 4 May 1986—1 mi. NW of jct. of Kenny Rd. & W. Lane Ave., woodland, *Yang 115*; 22 May 1988—Highbanks Metro Park (Delaware Co.), mixed woods, *Morawetz 66* (OS, OWU); 8 May 1989—Overbrook Drive Ravine, just E of N. High St., Cols., Clinton Twp., *Lowden 4018*; 19 May 1990—just S of the Plain/Jefferson Twps. line, where Blacklick Creek intersects with Morse Rd., Jefferson Twp., *Lowden 4318*.

2. *JEFFERSONIA* Barton Twinleaf

Glabrous; leaves all basal, immature at anthesis, long-petioled, with 2 half-ovate leaflets; flowers 2-3 cm wide; perianth early deciduous; sepals 4; petals 8, white; stigma 2-lobed; capsule obovoid, half-circumscissile, the top a lid; seeds many, in several rows on placenta, ariled.

1. *Jeffersonia diphylla* (L.) Pers.

Twinleaf

Plants glabrous, roots coarse; leaves all basal, immature at anthesis, long-petioled, with 2 half-ovate leaflets; perianth early deciduous; sepals 4; petals 8, white; capsule obovoid, half-circumscissile, the top a lid; seeds many.

REFERENCES: Riddell 1834:117 (dense & shady woods); Sullivant 1840:6; Selby & Craig 1890:7.

HERBARIUM RECORDS: 1840—Cols., *Sullivant*; 8 May 1882—Cols., *Devol*; 28 Apr 1888—Insane Asylum Grounds, *Selby*; May 1888—Sullivant Hill, Cols., *Craig*; 20 Apr 1889—Sullivant Hill, Cols., *Craig*; May 1890—Cols., *Selby* (OS, WOOS); 23 Apr 1925—Westerville, open moist slopes, *Camp*; 12 Apr [yr.?]—Clinton Twp., *Geil*; 14 Apr 1967—E bank of Scioto R., approx. 1/4 mi. S of Dublin, common on broken limestone rocky slope, Perry Twp., *Stuckey 3423*; 18 Apr 1970—E Edge of Scioto R., 1/2 mi. S of the Dublin bridge, *Boone 19*; 19 Apr 1970—Scioto R., 1/2 mi. S of Dublin, E side along River Rd. in floodplain & on hillside, *Roberts 143*; 23 Apr 1983—Spring Hollow, *Owens*; 10 Apr 1988—Highbanks Metro Park (Delaware Co.), wooded ravine, *Higgins 26* (OS, OWU); 20 Apr 1991—SE corner of jct. of Rt. 665 & Graessle Rd., mesic wooded slopes, common, Pleasant Twp., Harrisburg Quad., *McCormac 3468*; 13 Apr 1992—Camp Mary Orton (Godman Guild), N of Worthington & W of Rt. 23, woods near Olentangy R., W of caretaker's house, Sharon Twp., *Lowden 4998*; 24 Apr 1992—Sharon Woods Metro Park, in woods S of Spring Hollow Education Center, Sharon Twp., *Lowden 4925*; 14 May 1992—N of dead end of Harrisburg Georgesville Rd., Battelle Darby Creek Metro Park, Pleasant Twp., *Lowden 4951*; 18 Apr 1996—W side of Griggs Reservoir, 0.7 mi. S of Fishinger Rd. bridge, wooded slope, NW Cols. Quad., *Cusick 32921*.

3. *CAULOPHYLLUM* Michx. Blue Cohosh

Glabrous, with thick rhizome; stem simple; leaves 2, sessile, ternate, the lower large, decomposed, a smaller one subtending the short raceme; flower 1 cm wide or less, yellow, green, or purple; sepals 6, bracts 3 or 4; petals 6, glandlike, smaller than sepals; stamens 6; ovary soon bursting, the 2 drupelike blue seeds, maturing uncovered.

1. *Caulophyllum thalictroides* (L.) Michx. var. *thalictroides*

Blue Cohosh, Pappoose Root

Plants erect, glaucous when young; leaves 2, ternately compound or decomposed; flowers in a short raceme; sepals 6, 4-5 mm long, petaloid, yellow, purple or green, subtended by 3 or 4 bracts; petals 6, smaller than sepals, gland-like.

REFERENCES: Riddell 1834:117 (*Leontice thalictroides* L.); Sullivant 1840:9 (*Leontice thalictroides* L.); Craig 1890:65 (I found, last summer, several specimens of this rare plant along the river W of the Catalpa Grove, this spring I found a fine large specimen in the woods not far from Woodruff Ave., 1 May 1882); Selby & Craig 1890:7.

HERBARIUM RECORDS: 1840—Cols., *Sullivant*; May 1891—Central College, Cols., *Selby* (OS, WOOS); 7 May 1892—Georgesville, *Detmers*; Jun 1892—Georgesville, *E. M. Wilcox*; 24 May 1927—Westerville, *G. Hedges*; 15 Apr 1992—Camp Mary Orton (Godman Guild), N of Worthington, W of Rt. 23, woods near Flint Ravine & the Olentangy R., Sharon Twp., *Lowden 4906*; 20 Apr 1992—Camp Mary Orton (Godman Guild), N of Worthington, W of Rt. 23, woods near Flint Ravine & the Olentangy R., Sharon Twp. *Lowden 4920*.

HYDRASTIS
PODOPHYLLUM
JEFFERSONIA
CAULOPHYLLUM
BERBERIS
MENISPERMUM

