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The Vascular Flora of Clinton County, Ohio

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THE VASCULAR FLORA OF CLINTON COUNTY, OHIO

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The present investigation summarizes the existing, available knowledge of the occurrence and distribution of vascular plants growing without cultivation in Clinton County, Ohio. No previous floras of this county have been published. Field collections in Clinton County have been made by the writer from 1939 to the present time during vacations and spare time at varying intervals, the longest period of non-collecting having been from 1943 to 1946. Recent collections were made under tenure of a Muellhaupt Scholarship at the Ohio State University (see Acknowledgments). Specimens obtained by other persons have been examined in the herbaria of the Ohio State University and Wilmington College, Wilmington, Ohio. Of the total number of species found in Clinton County, about one-half have been obtained only by the present writer, the remaining one-half having been collected also or solely by other persons. The present annotated list adds many more previously unreported county distribution records to those listed by the writer in Jones (1942, 1943).

In any area new species become established, others are exterminated by man or nature, and some are unavoidably overlooked; hence, no flora is ever really complete. It is thought that this study has been continued long enough to produce a reasonably thorough account of the flora of Clinton County. The annotated list includes a total of 813 species distributed among 108 families, 411 genera, with 21 species of Pteridophytes, 1 Gymnosperm, 189 Monocotyledons, and 602 species of Dicotyledons.

DESCRIPTION OF AREA

Clinton County, in southwestern Ohio, lies within the Till Plains section of the Central Lowland (Fenneman, 1938). Its county seat, Wilmington, is about 50 mi. northeast of Cincinnati and about 60 mi. southwest of Columbus. The area of the county is about 401 sq. mi. Originally a part of the Virginia Military Survey, the county was organized in 1810, although the first settlers arrived several years before that date.

The greater part of the county is within the drainage system of the Little Miami River. The four principal streams are Anderson’s Fork, Todd’s Fork, Cowan’s Creek, and East Fork of the Little Miami River, all of which are tributaries of the Little Miami River. Another large tributary, Caesar’s Creek, crosses the extreme northwest corner of the county. That section northeast of the Reesville moraine drains east through tributaries of Rattlesnake Creek to the Scioto River system. A number of small ponds and reservoirs have been formed artificially, and a state-owned lake of 720 acres, Lake Cowan, was created in 1950-1951 by the damming of Cowan’s Creek.

Topography varies from nearly level to rolling. In the more dissected western portion, local differences in elevation from valleys to adjacent uplands are rarely more than 100 ft. Elevation above sea level ranges from about 785 ft. (Austin, 1930) in the west (near Clarksville) to about 1180 ft. in the east (near New Vienna).

The surface rocks are of Silurian and Ordovician ages. The Niagara dolomite (Silurian) is present in the north and east, covering nearly two-thirds of the county. The remaining one-third is underlain by Richmond limestone (Ordovician). Forming a narrow band between these two formations is the Brassfield limestone (Silurian). These highest strata are generally rather deeply covered by a mantle.
of glacial drift, and usually are visible only along streams where they have been exposed by erosion.

All of Clinton County was glaciated during Pleistocene time by the Illinoian and Wisconsin glaciations. The Illinoian, which covered all of the county, is exposed in the south. The subsequent Wisconsin glaciation extended over the northern three-fourths. The Cuba and Xenia end moraines of the Tazewell (actual substage still in doubt) substage of the Wisconsin cross the southern part of the county, and bound the Illinoian drift. In the northeast lies the Reesville end moraine of the Early Cary substage (fig. 1).

![Figure 1. Map of Clinton County, Ohio. Areas of glacial drift: northeast—Early Cary; central—Tazewell (?); south—Illinoian. Xenia moraine and secondary moraines not shown. Locations of moraines modified from Austin (1930) and other sources.](image)

Predominant soil types, according to a state soil survey in 1940, are: Miami, Crosby, and Brookston silt loams and silty clay loams on the Early Cary drift; Russell and Fincastle silt loams on the Tazewell drift; and Clermont and Rossmoyne silt loams on the Illinoian drift. A detailed soil survey of the county is now underway under the direction of the Division of Lands and Soils of the Ohio Department of Natural Resources.
Judging by present vegetation and by historical accounts, Clinton County before human settlement was covered with forest, except for certain discontinuous areas in and near the valley of Anderson's Fork, where this stream parallels the Reesville moraine. These small areas were grassland of some kind, probably prairie or marsh. None of these places now are undisturbed by agricultural utilization; however, a few species of prairie plants have survived.

Of the original forest there are now no undisturbed remnants, although a few of the original trees, particularly white oaks, are still standing. The soils of the county are so fertile that agriculture on an intensive scale has replaced the forest. The largest areas of woodland now remaining occur along the steep slopes of stream valleys in the dissected western portion of the county and on the poorly-drained flats of the Illinoian till plain in the south.

According to Rothacher (1942), in a forest survey made under W. P. A. by cooperating state and national agencies, only 12,084 acres or 4.7 percent of the land area of Clinton County are forested. This acreage is distributed among 1052 separate woodlands, the average acreage per woodland being 11.5 acres. Only two woods are over 150 acres in size. Of all woodlands 68 percent are grazed by farm animals, this figure being much higher in the more intensively farmed townships, and somewhat lower in those less intensively farmed.

Present major forest types include beech-maple and mixed hardwoods on the Tazewell drift, oak-hickory and swamp forest on the Early Cary drift, and pin oak with white oak and other hardwoods on the poorly-drained Illinoian till plain. These are very general, predominating forest types; there is much local variation and many exceptions. The acreage of the six most abundant forest types is as follows (Rothacher, 1942): beech-maple—3889 acres; pin oak—2043; oak-hickory—1962; elm-ash-hard maple—1533; mixed hardwoods—1327; oak-hard maple—731.

Frequent references in the catalog have been made to the species of the Illinoian till plain. The flora of this drift area is less similar to that of much of central and western Ohio than is the flora of Wisconsin drift areas. The poorly-drained flats of the Illinoian till plain are the habitats of most of the "unusual" species; where drainage is better, the flora is more like that of the Wisconsin drift to the north. Floristic relationships and forest ecology of the Illinoian till plain have been described by Braun (1935, 1936).

COLLECTORS

Those persons, other than the present writer, who have made most of the collections from Clinton County are listed below. Following their names are the dates of their collections and the herbaria where their specimens are filed (either the Ohio State University, "O", or Wilmington College, "W").

E. Lucy Braun (1921, 1923, 1924, 1930—O; also Braun herb. and Univ. of Cincinnati herb.); Frank O. Hazard (1938—W); C. P. Ingold (1901, 1902—O); Eugene Osborn (1938—W); Rendell Rhoades (1935, 1938, 1949—W); Katie M. Roads (1915, 1926—1939—O); J. S. Vandervort (1892, 1894—O).

Others who have collected small numbers of specimens include: R. A. Adams (1949—W); A. H. Allen (1938, 1939—W); Floyd Bartley and Leslie Pontius (1932—O); Delzie Demaree (1935—O); D. L. James (1875—1877—O); Joseph F. James (1871, 1876, 1879—O); W. A. Kellerman (1894—O); C. L. Nolan (1949—W); E. Rhoades (1939—W); Alice M. Smith (1938—W); Stanley B. Stowe (1906—O); H. H. Vannorsdall (1953—O); Clara G. Weishaupt (1933, 1952—O).

EXPLANATION OF THE ANNOTATED LIST

Taxonomy and nomenclature in the annotated list follow for the most part the recent edition of Britton and Brown's *Illustrated Flora* (Gleason, 1952), with
important aid and certain additions from the recent edition of Gray's Manual (Fernald, 1950). Other changes were derived from recent taxonomic studies and from the work of specialists, as noted below. Nomenclature of the grasses is generally that of Hitchcock and Chase (1950). The Flora of Indiana (Deam, 1940) was helpful for general information and identification. The recent edition of Britton and Brown was followed because the broader concepts of species and infraspecific taxa (but not the illustrations) seem to the present writer more realistic than those of Gray's Manual, 8th edition. Synonyms are mostly from the latter work. The sequence of families, genera, and species is that of Gleason (op. cit.), which is a modification of the Engler and Prantl system. Schaffner (1932) was consulted for ranges of Ohio species, but more up-to-date information was available from records in the herbarium of Ohio State University. In the list the abbreviations, B. & B., and, G. M., refer to Gleason (op. cit.) and Fernald (op. cit.), unless other editions of these works are indicated.

Certain taxonomic groups were determined by specialists, in which case their nomenclature was adopted. These groups are: Potamogeton—E. C. Ogden; Juncaceae and Carex—F. J. Hermann; Salix—C. R. Ball; Crataegus—E. J. Palmer; Fraxinus—Gertrude N. Miller. As noted in the text, also, certain species of Botrychium and Najas by R. T. Clausen; certain species of grasses by J. R. Swallen.

The frequency of occurrence within the county is stated in the catalog according to the following arbitrary scale:

<table>
<thead>
<tr>
<th>Frequency Designation</th>
<th>Number of Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rare</td>
<td>1 station</td>
</tr>
<tr>
<td>Scarce</td>
<td>2-3 stations</td>
</tr>
<tr>
<td>Infrequent</td>
<td>4-5 stations</td>
</tr>
<tr>
<td>Frequent</td>
<td>6-9 stations</td>
</tr>
<tr>
<td>Common</td>
<td>10 or more</td>
</tr>
<tr>
<td>Abundant</td>
<td>Very common, i.e., occurs nearly everywhere in suitable habitats</td>
</tr>
</tbody>
</table>

These designations indicate the number of known localities of occurrence of a species; they have nothing to do with the number of individual plants present at a locality. Sight records and herbarium collections are included in the frequency designations. For those species which are of restricted or local occurrence additional information may be listed: number of localities of occurrence (or stations); indicated by the number after the frequency designation; townships in which found (see accompanying map). As more than one station may exist in a township, the number of stations is not necessarily the same as the number of townships. In the case of certain species or in difficult taxonomic groups, no frequency data are listed. The abbreviation, ITP, refers to the Illinoian till plain. Initials in parentheses are those of collectors, when not the present writer.

All unbracketed species are represented by specimens examined by the present writer. The 9 species and 1 hybrid enclosed in brackets, [ ] , were not examined, but the reports of their occurrence are judged to be reliable.

A number of records from Schaffner (1932) and later additions to that catalog, as well as specimens in the Ohio State University herbarium, have been excluded because of erroneous identifications, or of fragmentary material, or in the case of cultivated species which rarely escape and are doubtfully persistent.

Specimens substantiating the annotated list are located (except for species in brackets) mainly in the Ohio State University herbarium, and secondarily (mostly common species) at Wilmington College. Writer's collections are being deposited at Ohio State University to the extent of one specimen of previously unreported species, while other additional specimens will remain in his possession.

Species introduced or adventive from foreign continents are denoted by an asterisk. All others are species native to this continent, regardless of whether indigenous in the county. This practice follows Gray's Manual, 8th edition.
ANOTATED LIST

PTERIDOPHYTA

Equisetaceae

Equisetum arvense L. Field Horsetail. Common along railroads and in moist places.
Equisetum hiemale L. Scouring Rush. Frequent along stream banks.

Ophioglossaceae

Botrychium dissectum Spreng. Grape Fern.
Var. dissectum. Infrequent in moist woods. Often occurs with following variety but
is less common.
Botrychium virginianum (L.) Sw. subsp. virginianum. Rattlesnake Fern. Frequent in moist,
rich woods. Determined by R. T. Clausen.

Ophioglossum vulgatum L. Adder’s-tongue Fern. Rare: Chester. Moist woods.

Osmundaceae

Osmunda regalis L. var. spectabilis (Willd.) Gray. Royal Fern. Scarce: wet places in pin oak
woods in ITP; near New Antioch (JSV).

Polypodiaceae

Adiantum pedatum L. Maidenhair Fern. Frequent in rich woods.
Scarce: Liberty. On limestone cliffs.
Onoclea sensibilis L. Sensitive Fern. Infrequent in wet places in woods.
Asplenium platyneuron (L.) Oakes. Ebony Spleenwort. Frequent in dry or moist woods.

Infrequent in moist woods, mainly in ITP.
Woodsia obtusa (Spreng.) Torr. Blunt-lobed Woodsia. Rare: Liberty. Limestone cliffs. Per-
haps to be found, also, in Chester and Union Twps.

Cystopteris fragilis (L.) Bernh. var. protrusa Weatherby. Fragile Fern. Frequent in moist woods.

Dryopteris austriaca (Jacq.) Woynar var. spinulosa (O. F. Muell.) Fiori. (D. spinulosa (O. F.
Muell.) Watt.). Spinulose Shield Fern. Rare: near New Antioch in 1894 (JSV).
Polystichum acrostichoides (Michx.) Schott. Christmas Fern. Frequent in woods; the most common
fern in the dissected western part of the county.

SPERMATOPHYTA

GYMNOSPERMAE

Juniperus virginiana L. Red Cedar. Common in dry fields, thin woods, and along fence-rows.

ANGIOSPERMAE

Monocotyledoneae

Typhaceae

Typha latifolia L. Common Cat-tail. Frequent in wet places.
Typha angustifolia L. Narrow-leaved Cat-tail. Rare: Jefferson. Wet area along railroad.

Najadaceae

Polomgeton nodosus Poir. Rare: Washington. Lake Cowan.
Polomgeton folius L. Var. folius. In three streams in north and central parts.
Var. macellus var. folius. Richland. In pond in abandoned quarry at Melvin.
Najas gracilis (A. Br.) Magnus. Rare: Washington. Present in north part of Lake Cowan in
enormous numbers in autumn, 1933. Determined by R. T. Clausen.
Alismaceae

*Alisma subcordatum* Raf. Water Plantain. Frequent in wet places.

*Sagittaria latifolia* Wild. Arrowhead. Common in wet places. Collections include at least two named forms.

Gramineae

*Bromus tectorum* L. Downy Chess. Common in waste places and along roadsides; often very abundant where found.


*Bromus japonicus* Thunb. Apparently, rapidly increasing in abundance in fields and waste places. Two collections det. by J. R. Swallen.

*Poa annua* L. Annual Bluegrass. Frequent in lawns and waste places.

*Poa compressa* L. Canada Bluegrass. Common in a variety of habitats, especially in dry open woods.

*Poa pratensis* L. Kentucky Bluegrass. Abundant in moist and dry woods, pastures, and waste places.


*Eragrostis pectinacea* (Michx.) Nees. Frequent along roadsides and in waste places. Det. by J. R. Swallen.

*Agropyron repens* (L.) Beauv. Quack Grass. Infrequent along roadsides and in waste places.

*Arrhenatherum elatius* (L.) Mert. & Koch. Oat-grass. Rare: “along a road near New Vienna” (KMR).


*Calamagrostis canadensis* (Michx.) Beauv. Blue-joint. Rare: Jefferson. Clay bank along railroad.


*Muhlenbergia sobolifera* (Muhl.) Trin. Rare: Liberty. Dry soil over limestone outcrop.
Muhlenbergia frondosa (Poir.) Fern. Infrequent in moist or wet places. One specimen det. by J. R. Swallen.

*Sporobolus asper* (Michx.) Kunth. Infrequent weed along railroads and roadsides; seen only in southern half of county.


*Sporobolus neglectus* Nash. Rare: Wilson. Moist bank of Anderson's Fork in area which was probably once prairie or marsh.

*Brachyelytrum erectum* (Schreb.) Beauv. Rare: Vernon. Dry oak woods.

*Aristida dichotoma* Michx. At unknown locality (KMR).

*Aristida longespica* Poir. Infrequent in poorly-drained fields and waste places in ITP. Often abundant where found and probably common within ITP.

*Aristida oligantha* Michx. Infrequent in fields and along railroads; seen only in southern half of county.

*Eleusine indica* (L.) Gaertn. Goose Grass. Frequent weed in waste places.


*Hierochloe odorata* (L.) Beauv. Sweet Grass. Rare: near Blanchester in 1921 (ELB).

*Digitaria sanguinalis* (L.) Scop. Crabgrass. Frequent to common in waste places.

*Digitaria Ischaemum* (Schreb.) Muhl. Small Crabgrass. Infrequent to frequent in waste places.

*Paspalum vaginatum* L. Reed Canary Grass. Scarce to infrequent along roadsides. Var. *picta* L. Ribbon Grass. This cultivated variety found along railroad near New Vienna (KMR).

*Leersia oryzoides* (L.) Sw. Rice Cutgrass. Frequent in moist or wet places.

*Paspalum laeve* Michx. Rare: near Blanchester in 1927 (KMR).

*Hierochloe odorata* (L.) Beauv. Sweet Grass. Rare: near Blanchester in 1927 (KMR).


*Panicum miliaceum* L. Broomcorn Millet. Rare: near New Vienna (KMR).

*Panicum flexile* (Gatt.) Scribn. Scarce: collected twice by Katie M. Roads, including once in "low place near Cuba".

*Panicum capillare* L. Witchgrass. Common in corn fields, along roadsides, and in waste places. One specimen det. by J. R. Swallen.


*Panicum clandestinum* L. Infrequent in ditches and along railroads, mainly in ITP. One specimen det. by J. R. Swallen.

*Panicum huachucae* Ashe (incl. var. *fasciculatum* (Torr.) Hubb.). Scarcely infrequent in woods. One collection (Richland Twp.) det. by J. R. Swallen as var. *fasciculatum*.

*Panicum clandestinum* Schult. Rare: Jefferson. Poorly-drained pin oak woods in ITP.

*Panicum capillare* L. Switchgrass. Infrequent along railroads and roadsides.

*Panicum depauperatum* Muhl. Rare: Liberty. Dry soil over limestone outcrop.

*Panicum implicatum* Scribn. Rare: Liberty. Dry soil on limestone ledges. Det. by J. R. Swallen.

*Panicum implicatum* Scribn. Rare: Liberty. Dry soil on limestone ledges. Det. by J. R. Swallen.

*Panicum huachucae* Ashe (incl. var. *fasciculatum* (Torr.) Hubb.). Scarce to infrequent in woods.


*Panicum microcarpon* Muhl. Scarce: 3. Marion, Jefferson. In swampy, pin oak woods of the ITP. Probably, common and characteristic within the ITP.

*Panicum dichotomum* L. Scarce: Liberty. Dry soil, with oaks or mixed hardwoods.


Andropogon virginicus L. Broomsedge. Abundant in fields, along roadsidess, and in waste places.

*Sorghum halepense* (L.) Pers. Johnson Grass. Frequent in waste places, and along roadsides and railroads, especially in southern part of county.

Sorghastrum nutans (L.) Nash. Indian Grass. Rare; Jefferson. Along railroad.

**Cyperaceae**

*Cyperus* flavescens L. Rare; near Cuba in 1934 (KMR). Specimen det. by H. T. O'Neill.

*Cyperus* virginalis Kunth. Scarce; 2. Vernon, Liberty. Moist, sand bar; open bottomland.

*Cyperus* esculentus L. Frequent in moist places.

Eleocharis obtusa (Wild.) Schult. Frequent in wet places, especially around Lake Cowan and in ITP.


Scirpus fluviatilis (Torr.) Gray. River Bulrush. Rare; Washington. Mud flat on north shore of Lake Cowan.

Scirpus cyperinus (L.) Kunth. (sens. str.). Frequent in wet places.

Scirpus atrovirens Muhl. Frequent in wet places.

Scirpus lineatus Michx. Infrequent in wet places.

Carex cephalophora Muhl. Frequent in moist or dry woods.

Carex rosea Schkuhr. Union. In moist woods.


Carex gracilis Bailey. Union. In open woods.

Carex sparganioides Muhl. Locality unknown (CPI). Also, Vernon. In wooded bottomland.

Carex stipata Muhl. Vernon. In ITP in pin oak woods and adjacent swampy clearing.

Carex conjuncta Boott. Frequent in woods.


Carex dichotoma var. copulans (Bailey) Fern. Vernon. In moist, rich woods.

Carex albursina Sheldon. Frequent, mainly in wooded ravines of beech-maple in western half of county.

Carex bifrons Dewey. In moist woods.

Carex gracilescens Steud. Marion. Pin oak woods.

Carex Haleana Olney. Adams, Chester. Around spring; moist, level woods of elm-ash.

Carex oblonga Schkuhr. Union. Moist, rich woods.


Carex officinalis Steud. var. turgida Fern. Union. Moist, open woods.

Carex gracillima Schwenk. Vernon. In swampy place in ITP.

Carex Davisii Schwenk. & Torr. Frequent in wet or moist woods, including wooded bottomlands.


Carex hirtifolia Mack. Frequent in moist woods.


Carex cristata Schenck. Frequent, mainly in wooded ravines of beech-maple in western half of county.

Carex crinita Lam. Marion. In wet places.

Carex gracilis Steud. Marion. Pin oak woods.


Carex albursina Sheldon. Frequent, mainly in wooded ravines of beech-maple in western half of county.

Carex crispa Lam. Marion. In wet places.

Carex maximus Mack. Frequent in wet places.

Carex squarrosa L. Frquent in poorly-drained woods and wet places, mainly in ITP.

Carex typhina Michx. Jefferson. In poorly-drained woods in ITP.

Carex Stricta Schwenk. Jefferson. In poorly-drained, white oak woods in ITP.

Carex Shortiana Dewey. Frequent in moist places.

Carex viridula Mack. Frequent in poorly-drained, white oak woods in ITP.

Carex trisperma Schwenk. Marion—wet place.

**Araceae**

**Arisaema Dracontium** (L.) Schott. Green Dragon. Infrequent in ravines and moist woods.

**Symlocarpus foetidus** (L.) Nutt. Skunk Cabbage. Rare: Adams. In seepage area around spring at base of "Bunker Hill" (first found by FOH).

**Acorus Calamus** L. Sweetflag, Calamus. Infrequent in wet places and along small streams.

**Lemnaceae**

**Lemna minor** L. Common Duckweed. Infrequent in streams and artificial ponds; Lake Cowan.

**Commelinaceae**


*Commelina communis* L. Dayflower. Frequent in waste places.

**Juncaceae**

**Juncus effusus** L. var. *solutus* Fern. & Wieg. Frequent in wet places.


**Juncus torreyi** Cov. Frequent in wet places, usually along railroads or along small streams.


**Luzula echinata** (Small) Hermann. Wood Rush. Infrequent: dry, wooded hillsides and moist woods in southern and western parts of county.

**Liliaceae**

*Hemerocallis fulva* L. Tawny Day-lily. Common along roadsides.

**Allium tricoccum** Ait. Wild Leek. Common in moist, rich woods.

**Allium vineale** L. Field Garlic. Locally abundant along roadsides and in waste places.

**Allium canadense** L. Wild Garlic. Frequent in moist woods.

**Lilium canadense** L. Canada Lily. Frequent: Chester, Wilson, Richland, Vernon, Jefferson. In moist or wet woods.

**Erythronium americanum** Ker. Yellow Adder’s-tongue, Trout Lily, Dog-tooth Violet. Abundant in moist, rich woods.

**Erythronium albidum** Nutt. var. *albidum*. White Adder’s-tongue. Frequent in moist, rich woods.

**Camassia scilloides** (Raf.) Cory. Wild Hyacinth. Infrequent to frequent in moist, rich woods.


**Asparagus officinalis** L. Common Asparagus. Common along roadsides, open woods, and waste places.

**Smilacina racemosa** (L.) Desf. False Solomon’s Seal. Abundant in moist, rich woods.

**Smilacina stellata** (L.) Desf. Starry False Solomon’s Seal. Rare: Richland. In ditch along railroad.

**Uvularia grandiflora** Sm. Large Bellwort. Frequent in moist, rich woods.

**Polygonatum canaliculatum** (Muhl.) Pursh (sensu B. & B.). Scarce to infrequent in woods.

**Polygonatum biflorum** (Walt.) Ell. (sensu B. & B.). True Solomon’s Seal. Frequent in moist, rich woods.

**Trillium sessile** L. Sessile Trillium. Common in moist woods.

**Trillium grandiflorum** (Michx.) Salisb. Large-flowered Trillium. Common in moist, rich woods.

**Trillium Gleasoni** Fern. (T. *declinatum* (Gray) Gleason; T. *flexipes* Raf.). Rare: Richland. In poorly-drained woods of elm-ash-silver maple-red maple. In this population, flower color varies from white to red-purple.

**Trillium nivale** Riddell. Snow Trillium. Rare: Liberty. Shaded, moist top of cliff of limestone along Anderson’s Fork.

**Smilax herbacea** L. Carrion-flower. Frequent in moist woods. Of three collections, one is of *var. herbacea*, while two are of *var. lasioneuron* (Hook.) A. DC.

**Smilax eicirrhata** (Engelm.) Watts. Collected near New Antioch in 1894 (JSV).


Dioscoreaceae

Dioscorea villosa L. Wild Yam. Infrequent in moist woods.

Amaryllidaceae


Iridaceae


Orchidaceae


Liparis liliifolia (L.) Richard. Lily-leaved Twayblade. Rare: Vernon. Moist, well-drained woods.

Aplectrum hyemale (Muhl.) Torr. Putty-root. Rare: Vernon. Moist hillside. (Mr. and Mrs. Arthur Harper and H. H. Vannorsdall.)

Dicotyledoneae

Saururaceae

Saururus cernuus L. Lizard’s-tail. Infrequent in wet places and along larger streams.

Salicaceae

Populus grandidentata Michx. Large-toothed Aspen. Rare: Vernon. Forming pure stand over small area of moist woods.


Populus deltoides Marsh. Cottonwood. Infrequent, mainly in poorly-drained woods of ITP.


Salix nigra Marsh. Black Willow. Abundant along streams and in other wet places. This and S. interior are the most common willows.

*Salix fragilis L. Crack Willow. Collected in Liberty Twp. along stream. Undoubtedly elsewhere. Hybrids of this species with S. alba L. were collected twice (Washington, Union). In one collection characters of S. alba predominate; in the other the reverse is true. Hybrids probably are not uncommon. Although typical S. alba has not been collected, it is expected to occur in the county.


Salix rigida Muhl. var. angustata (Pursh) Fern. Heart-leaved Willow. Liberty. Along Anderson’s Fork. Plants were seen along streams at four other generally-distributed localities, but it is not known whether these are typical variety or var. angustata.

Salix discolor Muhl. var. latifolia Andersson. Pussy Willow. Rare: Richland. Along a railroad.


Salix tristis Ait. Dwarf Upland Willow. Collected by Braun in pin oak woods, Westboro, 8–20–23 (specimen determined by C. R. Ball, as are those of present writer).

Juglandaceae

Juglans cinerea L. Butternut. Infrequent in bottomlands.

Juglans nigra L. Black Walnut. Abundant in woods.


Carya laciniosa (Michx. f.) Loud. Big Shellbark Hickory. Union. In a woodlot.


Carya glabra (Mill.) Sweet. Pignut Hickory. Union. In a woodlot. This collection has buds like C. ovata.
Corylaceae

*Corylus americana* Walt. Hazelnut. Frequent in poorly-drained woods, especially in ITP.


*Carpinus caroliniana* Walt. Hornbeam, Blue Beech. Abundant in various types of woods.

Fagaceae

*Fagus grandifolia* Ehrh. Beech. Abundant, but mainly in the western half and southern part of county. Collections are of var. caroliniana (Loud.) Fern. and Rehder.

*Quercus alba* L. White Oak. Abundant in moist or dry woods.

*Quercus stellata* Wang. Post Oak. Rare; Wilson. In poorly-drained, oak-hickory woods.

*Quercus macrocarpa* Michx. Bur Oak. Frequent in moist or dry woods. Usually, only one or a few individuals present at a locality.

*Quercus bicolor* Willd. Swamp White Oak. Frequent in poorly-drained woods of the ITP, but only occasional elsewhere. One collection suggests introgression from *Q. macrocarpa*.

*Quercus prinus* L. Chestnut Oak. Reported in Transeau and Williams (1929).

*Quercus prinoides* Willd. var. *acuminata* (Michx.) Gleason (*Q. Muehlenbergii* Engelm.). Chestnut Oak. Common on dry hillsides, usually along larger streams.


*Quercus marilandica* Muenchh. Blackjack Oak. Rare; Vernon. Crest of wooded ridge.

*Quercus velutina* Lam. Black Oak. Collected in two woodlands in Wilson Twp. in poorly-drained soils.

*Quercus borealis* Michx. f. var. *maxima* (Marsh.) Ashe. Red Oak. Common, usually on slopes, ravines, or uneven topography in rather well-drained sites.

*Quercus palustris* Muenchh. Pin Oak. Abundant in ITP where it is often a dominant species. Infrequent elsewhere.


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Ulmaceae

*Ulmus americana* L. American or White Elm. Abundant in moist woods.


* Celtis occidentalis* L. Hackberry. Common in lowland woods.

Moraceae

*Maclura pomifera* (Raf.) Schneid. Osage-Orange. Common as scattered trees in woods; planted formerly as “living fences”.

*Morus rubra* L. Red Mulberry. Frequent in woods.


Urticaceae


*Boehmeria cylindrica* (L.) Sw. False Nettle. Infrequent in moist soil.


Aristolochiaceae

*Asarum canadense* L. var. *canadense*. Wild Ginger. Scarce to infrequent in moist, rich woods, usually on ravine slopes.


Polygonaceae


*Rumex verticillatus* L. Swamp Dock. Rare: Liberty. Wet border of stream.

* Rumex crispus* L. Curly Dock. Abundant weed in waste places.

*Rumex obtusifolius* L. Bitter Dock. Abundant weed in waste places.

*Polygonum erectum* L. Liberty—along roadside.

*Polygonum aviculare* L. Knotweed. Abundant weed in waste places.

*Polygonum coccineum* Muhl. Rare: Liberty. Wet border of stream.

*Polygonum lapathifolium* L. Rare: Washington. Mud flat on north shore of Lake Cowan.

This collection represents var. *nodosum* (Raf.) Weinm. of B. & B.

*Polygonum persicaria* L. Lady’s Thumb. Frequent in moist places.

*Polygonum hydropiperoides* Michx. Mild Water Pepper. Scarce: 2. Liberty, Jefferson. Swampy lowland along large streams. Typical variety and form were collected.

*Polygonum sagittatum* L. Arrow-leaved Tearthumb. Rare: Vernon. Swamp in ITP.


*Polygonum scandens* L. Climbing False Buckwheat. Frequent along roadsides and in waste places.

**Chenopodiaceae**

*Chenopodium ambrosioides* L. Mexican Tea. Frequent weed in waste places.

*Chenopodium album* L. Lamb’s Quarters. Common weed in waste places.

**Amaranthaceae**


*Amaranthus hybridus* L. Pigweed. Abundant weed in corn fields, gardens, and waste places.


Note: A specimen obtained by J. Š. Vandervort (O.S.U. herb.) in 1894 near New Antioch has been determined by J. D. Sauer as a sterile hybrid, probably of *Acnida tuberculata* × *Amaranthus hybridus*.

**Nyctaginaceae**

*Oxybaphus nucifagineus* (Michx.) Sw. Umbrella-wort. Scarce: near New Vienna (KMR); Union—south of Wilmington; along railroads.

**Phytolaccaceae**

*Phytolacca americana* L. Pokeweed. Common in open woods and waste places.

**Aizoaceae**


**Portulacaceae**

*Portulaca oleracea* L. Purslane. Infrequent to frequent in corn fields, gardens, and waste places.

*Claytonia virginica* L. Spring Beauty. Abundant in moist woods.

**Caryophyllaceae**

*Paronychia canadensis* L. Forked Chickweed. Frequent in dry woods.


*Arenaria serpyllifolia* L. Thyme-leaved Sandwort. Infrequent in sandy places along streams and railroads.

*Arenaria lateriflora* L. Rare: Vernon. In upland woods under beech and red oak.

*Agrostemma Githago* L. Corn Cockle. Occasional weed in pastures and cultivated fields.

*Silene antirrhina* L. Sleepy Catchfly. Frequent along railroads.

*Silene noctiflora* L. Night-flowering Catchfly. Rare: Union. Border of cultivated field.

*Silene stellata* (L.) Art. f. Starry Campion. Infrequent in dry or moist woods. The two collections are intermediate between var. *stellata* and var. *scabrella* (Nieuw.) Palm. & Stey.

*Silene virginica* L. Fire Pink. Frequent on dry, wooded hillsides.

*Saponaria officinalis* L. Bouncing Bet. Abundant along railroads and in waste places.

*Dianthus Armeria* L. Deptford Pink. Frequent in fields and open woods.
**Nymphaeaceae**


**Magnoliaceae**

*Magnolia acuminata* L. Cucumber Tree. Scarce: 2. Chester—in a field adjoining a woods. Reported from Union by F. O. Hazard. This species appears to be dying out.

*Liriodendron tulipifera* L. Tulip Tree, Tulip Poplar. Frequent in moist woods and wooded ravines.

**Anonaceae**


**Magnoliaceae**

*Hydrastis canadensis* L. Golden Seal. Scarce: 3. Chester, Vernon, Richland. Moist, rich woods; beech-maple; mixed hardwoods; elm-ash.


*Actaea alba* (L.) Mill. White Baneberry. Frequent in moist, rich woods.

*Thalictrum dioicum* L. Early Meadow Rue. Infrequent on dry, wooded hillsides.

*Thalictrum dasycarpum* Fisch. & Ave-Lall. Purple Meadow Rue. Frequent in bottomlands and moist places.

*Aquilegia canadensis* L. Columbine. Frequent on rocky ledges and dry hillsides.


*Caltha palustris* L. Marsh Marigold. Rare: Adams. Seepage area around spring at base of “Bunker Hill”. (First found by FOH).


*Ranunculus sceleratus* L. Cursed Crowfoot. Scarce: Washington, Vernon. Mud flat on north shore of Lake Cowan; sandbar along lower Cowan’s Creek.


*Ranunculus septentrionalis* Poir. Swamp Buttercup. Frequent in wet or moist places, usually in woods. Separation of this species from *R. hispidus* was made on the basis of the stipule character mentioned by Benson (1948).

*Ranunculus hispidus* Michx. Bristly Buttercup. Collected by Braun in wet place near Midland in ITP. The specimen is probably var. *hispidus*.

*Anemone virginiana* L. Thimbleweed. Frequent in dry woods.

*Anemone canadensis* L. Canada Anemone. Scarce: 2. Liberty, Richland. Moist or wet ditches along roadside and railroad.


*Hepatica acutiloba* DC. Hepatica. Frequent in wooded ravines in western half of county.

*Anemonella thalictroides* (L.) Spach. Rue Anemone. Frequent in well-drained soil in rich woods or dry woods.

*Clematis virginiana* L. Virgin’s Bower. Infrequent in wooded or cleared bottomland.


**Berberidaceae**

*Podophyllum peltatum* L. May Apple. Common in moist woods.

*Jeffersonia diphylla* (L.) Pers. Twinleaf. Frequent on wooded hillsides; not seen in eastern part of county.

*Caulophyllum thalictroides* (L.) Michx. Blue Cohosh. Frequent in moist, rich woods.

**Menispermaceae**

*Menispermum canadense* L. Moonseed. Common in thickets and woods.

**Lauraceae**


**Papaveraceae**

*Sanguinaria canadensis* L. Bloodroot. Abundant in moist woods.

*Papaver Rhoesas* L. Field Poppy. Collected by KMR in 1937 along a roadside.

**Fumariaceae**

*Dicentra Cucullana* (L.) Bernh. Dutchman’s Breeches. Frequent in moist, rich woods and in bottomlands.

*Dicentra canadensis* (Goldie) Walp. Squirrel-corn. Scarce: 2. “Cowan’s Creek” (RR); Washington—north of Lake Cowan in moist, rich woods.

*Corydalis flavula* (Raf.) DC. Pale Corydalis. Frequent in moist woods.

**Cruceiferae**


*Erucastrum gallicum* (Willd.) 0. E. Schulz. Rare: Liberty. Gravel bar along Anderson’s Fork.

*Corynogon orientalis* (L.) Andr. Hare’s-ear Mustard. Rare: along railroad near New Vienna (KMR).

*Lepidium canescens* (L.) R. Br. Field Peppergrass. Frequent in fields and waste places.

*Lepidium virginicum* (L.) R. Br. Peppergrass. Frequent in waste places and fields.

*Lepidium densiflorum* Schrader. Rare: Adams. Roadside.

*Thlaspi arvense* L. Field Penny-cress. Rare: Green. Snow Hill golf course.


*Alyssum Alyssoides* L. Rare: along railroad in New Vienna (KMR).

*Draba verna* L. Whitlow-grass. Frequent in fields, along railroads, and in waste places. Usually very abundant where found.

*Cardamine bulbosa* (Schreb.) BSP. Bulbous Bitter-cress. Common in wet places.

*Cardamine Douglasii* (Torr.) Britt. Purple Bitter-cress. Abundant in moist or dry woods of various types.

*Cardamine pensylvanica* Muhl. Infrequent in wet places.


*Dentaria heterophylla* Nutt. Rare: Vernon. Moist, rich, wooded ravine, under beech and other hardwoods.

*Draba hirsuta* (L.) Scop. var. adpressipilis (Hopkins) Rollins. Rare: Liberty. On limestone cliffs.

*Arabis canadensis* L. Sickle Pod. Scarce: Liberty, Vernon. Moist or dry open woods.

*Arabis laevigata* (Muhl.) Poir. Smooth Rockcress. Frequent in moist woods, often around rocks.

*Arabis Shortii* (Fern.) Gleason. (A. dentata (Torr.) T. & G.). Rare: Chester. Wooded hillside along Caesar’s Creek.


*Rorippa sylvestris* (L.) Besser. Creeping Yellow-cress. Locally common in Wilson and Liberty Twp.s. in pastures and wet places in valley of Anderson’s Fork.

*Rorippa islandica* (Oeder) Borbas var. Fernaldiana Butters & Abbe (var. microcarpa (Regel) (Fern.). Infrequent in ditches and wet places.

*Barbarea vulgaris* R. Br. Yellow Mustard. Abundant in fields and waste places.


*Brysmum cheiranthoides* L. Rare: along railroad near New Vienna (KMR).

*Allaria officinalis* Andr. Garlic Mustard. Locally abundant in valley of Todd’s Fork from near Wilmington to Clarksville; also at Sugar Grove Cemetery, Wilmington.

*Sisymbrium officinale* (L.) Scop. Hedge Mustard. Frequent in barnyards and waste places.


**Capparidaceae**


*Descurainia pinnata* (Walt.) Britt. var. brachycarpa (Richardson) Fern. Scarce: 2. Green; Adams. Roadside; along railroad.

**Crassulaceae**


Saxifragaceae

Heuchera americana L. var. brevipedala R. B. & L. Alum-root. Frequent on rocky hillsides and in woods.

Hydrangea arborescens L. Wild Hydrangea. Frequent at base of wooded hillsides in northwestern half of county.

Ribes Cynosbati L. Wild Gooseberry. Frequent in moist woods.

Ribes americanum Mill. Wild Black Currant. Rare: Liberty. Moist bank of stream.

Hamamelidaceae

Liquidambar Styraciflua L. Sweet Gum. Rare; Jefferson. In poorly-drained woods in ITP with pin oak and other hardwoods. Only three young trees present at this locality.

Platanaceae

Platanus occidentalis L. Sycamore. Abundant along streams and on hillsides.

Rosaceae


Spiraea alba DuRoi. Meadow-sweet. Frequent in swampy clearings and open woods of the ITP. Also, near New Antioch (JSV).

Spiraea tomentosa L. Hardhack. Scarce in swampy clearings and open woods of the ITP.

Gallonia stipulata (Muhl.) Trel. Indian Physic. Rare: near Wilmington in 1876 by J. F. James.

Fragaria virginiana Duchesne. Wild Strawberry. Frequent in waste places.


*Potentilla recta L. Upright Cinquefoil. Frequent in waste places.

Geum virginianum L. (G. flavum (Porter) Bickn.). Rare: Chester. Moist woods.


Geum laciniatum Murr. Infrequent in north and east in wet places along streams. Two collections are of var. trichocarpum Fern., one of var. laciniatum. At one locality both varieties were present.

Rubus hispidus L. Swamp Dewberry. Scarce: Jefferson. Swampy clearings in ITP.


Rubus occidentalis L. Black Raspberry. Frequent in woods and thickets.

Agrimonia gryposepala Wallr. Chester—wooded hillside.

Agrimonia rostellata Wallr. Woodland Agrimony. Vernon—on dry hillside under oaks.

Agrimonia parviflora Ait. Small-flowered Agrimony. Frequent in swampy clearings and woods, especially in flats of ITP.

Agrimonia puheniensis Wallr. Frequent in moist woods.

Rosa setigera Michx. Prairie Rose. Union—wooded hillsides; Liberty—swampy area.


Prunus serotina Ehrh. Wild Black Cherry. Abundant in woods and thickets.

Prunus virginiana L. Choke Cherry. Rare: Liberty. Top of limestone cliff.


Prunus tomentosa Bailey. Wild Plum. Rare: Marion. In woods with mixed hardwoods.

Identification tentative.

Pyrus coronaria L. Wild Crab Apple. Rare: Jefferson. Border of poorly-drained woodland in ITP.


Pyrus melanocarpa (Michx.) Willd. Black Chokeberry. Scarce in wet places in ITP.

Crataegus Phaenopyrum (L. f.) Medic. Washington Thorn. Scarce: 2. Chester. In thin woods. It is not known whether this is native or planted.

Crataegus crus-galli L. Cockspur Thorn. Frequent in woods and marginal land.

Crataegus pinnatifida Jacq. Dotted Hawthorn. Frequent along streams and on wooded hillsides.

One collection represents var. aurea Ait.

Crataegus macroserpens Ashe. Vernon. Dry, rocky, wooded hillside. Both the typical variety and var. roanensis (Ashe) Palmer were obtained at this locality.

Crataegus pennsylvaniae Ashe. Chester. In moist woods.

Crataegus Calpodendron (Ehrh.) Medic. Richland—in moist woods; Jefferson (Braun herb.).
Amelanchier arborea (Michx. f.) Fern. Shadbush. Infrequent: Vernon, Union, Liberty. On wooded slopes and banks along streams. (First found by FOH).

Caesalpiniaeae
Cercis canadensis L. Redbud. Common in woods.
[Cassia hebecarpa (C. marylandica of auth.). Wild Senna. Frequent in moist places.]

Fabaceae
Baptisia leucantha T. & G. White False Indigo. Rare: near Cuba at edge of woods in 1937 (KMR).
*Trifolium pratense L. Red Clover. Frequent escape from cultivation.
*Trifolium repens L. White Clover. Abundant in lawns and waste places.
*Trifolium hybridum L. Alsike Clover. Common in waste places and fields.
Trifolium soloniferum Muhl. Buffalo Clover. Rare: near Wilmington in 1876 (D. L. James).
*Trifolium dubium Sibth. Little Hop Clover. Rare: Union. In field.
*Melilotus officinalis (L.) Lam. Yellow Sweet Clover. Common in same habitats as preceding species.
*Medicago sativa L. Alfalfa. Occasional along roadsides and waste places.
Psoralea Oxybrychis Nutt. Rare: near New Antioch in 1892 (JSV).
Desmodium nudiflorum (L.) DC. Scarce: near New Antioch (JSV); Vernon: dry hillside; moist woods.
Desmodium pauciflorum (Nutt.) DC. Wilson (W. C. herb.).
Desmodium rotundifolium DC. Prostrate Tick-trefoil. Rare: Vernon. Dry, wooded ridge.
Desmodium canescens (L.) DC. Chester. Bottomland field.
Desmodium rigidum (Ell.) DC. Rare: Liberty. Dry thicket.
Desmodium paniculatum (L.) DC. Panicled Tick-trefoil. Frequent in woods and waste places.
Desmodium Dillenii Darl. Vernon (WC herb.). Other specimens are immature and identification uncertain. Probably elsewhere in county.
Desmodium cuspidatum (Muhl.) Loud. var. cuspidatum (D. bracteosum (Michx.) DC.). Vernon—wooded bottomland.
Lespedeza procumbens Michx. Trailing Bush Clover. Rare: Vernon. Dry, wooded ridge.

Lespedeza intermedia (Wats.) Brit. Rare: Vernon. Dry, wooded ridge.
Aptos americana Medic. Groundnut. Infrequent along streams and in wet places.
Amphicarpa bracteata (L.) Fern. Hog Peanut. Common in woods. Collections are variously intermediate between var. bracteata and var. comosa (L.) Fern.

Oxalidaceae
Oxalis europaea Jord. var. europaea. Yellow Wood Sorrel. Abundant in fields, woods, and waste places. The number of collections of certain forms follows: forma cymosa (Small) Wieg.—1; f. europaea—2; f. villosa (Wieg.—2.
Oxalis violacea L. Violet Wood Sorrel. Frequent in rich woods. Collections include both typical variety and var. irichophora Fassett.

Geraniaceae
Geranium carolinianum L. var. confertiflorum Fern. Scarce in waste places.

Linaceae
Rutaceae

Zanthoxylum americanum Mill. Prickly Ash. Frequent in moist or dry woods.

Ptelea trifoliata L. Hop Tree. Scarce in woods.

Simarubaceae


Polygalaceae

*Polygala sanguinea* L. Field Milkwort. Scarce: 3. Jefferson. In poorly-drained fields in ITP.

Euphorbiaceae

*Phyllanthus caroliniensis* Walt. Scarce: 2. Marion, Jefferson. In fallow fields and swampy clearings in ITP.


*Acalypha virginica* L. Jefferson. In pasture.


*Euphorbia corollata* L. Flowering Spurge. Rare: Vernon. Dry, wooded hillside.

*Euphorbia dentata* Michx. Scarce weed along railroads.

*Euphorbia Cyparissias* L. Cypress Spurge. Scarce: 2. Green (CPI); Union (HHV). Spreading in cemeteries.

Limnanthaceae


Anacardiaceae

*Rhus radicans* L. Poison Ivy. Abundant in woods and all kinds of waste places. One woodland collection is var. *vulgaris* (Michx.) DC. forma *Negundo* (Greene) Fern.

*Rhus glabra* L. Snooth Sumac. Frequent in waste land.

Aquifoliaceae

*Ilex verticillata* (L.) Gray. Winterberry. Infrequent: Jefferson, Marion. Roadsides and open woods in flats of ITP. Collections are of var. *padifolia* (Willd.) T. & G.

Celastraceae

*Celastrus scandens* L. Bittersweet. Common in woods, thickets, and along roadsides.

*Euonymus atropurpureus* Jacq. Wahoo. Frequent in woods, often bottomland.


Staphyleaceae

*Staphylea trifolia* L. Bladdernut. Scarce in woods.

Aceraceae


Subsp. *saccharum*. Sugar Maple. Abundant in woods; often a dominant species.

Subsp. *nigrum* (Michx. f.) Desmarais. Black Maple. Infrequent in moist woods and bottomlands; in more mesic habitats than Sugar Maple. Many trees are intermediate and suggest hybridization between the subspecies.


*Acer saccharinum* L. Silver Maple. Infrequent along streams and in poorly-drained woods.

*Acer Negundo* L. Box-Elder. Abundant in bottomlands and in poorly-drained woods. The single collection is of var. *Negundo*.

Hippocastanaceae


Balsaminaceae


Vitaceae

_Vitis Labrusca_ L. Fox Grape. Infrequent in ITP in moist woods and along roadsides.

_Vitis aestivalis_ Michx. Summer Grape. Infrequent: dry, wooded hillsides; moist, poorly-drained woods.

_Vitis vulpina_ L. (_V. cordifolia_ Michx.). Frost Grape. Frequent in woods and thickets, especially along streams. Intermediates with _V. riparia_ are more abundant than plants of _V. vulpina_, but most intermediates are nearer _V. vulpina_ in morphology than to _V. riparia._


Tiliaceae

_Tilia americana_ L. Basswood. Common in moist woods, but rarely present in much abundance.

Malvaceae


*Sida spinosa* L. Common weed in waste places.


Hypericaceae

_Hypericum prolificum_ L. Shrubby St. John’s-wort. Infrequent in moist or wet places.

_Hypericum sphaerocarpum_ Michx. Scarce: 2. Liberty, Wilson. Stream bank; roadside. In land which was formerly prairie or marsh.


_Hypericum mutilum_ L. Scarce; Jefferson. Moist fields. Perhaps not uncommon in ITP.


Violaceae


_Viola cucullata_ Ait. Marsh Blue Violet. Infrequent in wet places in ITP.

_Viola triloba_ Schwein. Scarce; 3. Chester, Union. Moist woods.

_Viola pallens_ (Banks) Brain. Rare: near Westboro in “wet moss, pin oak swamp forest” in 1930 (Braun).

[Viola lanceolata] L. Lance-leaved Violet. Meadow at Klock’s Crossing, Jefferson Twp. (reported by Braun).

_Viola eriocarpa_ Schw. (_V. pensylvanica_ Michx.). Smooth Yellow Violet. Common in moist, rich woods. Plants nearest this species but with certain characters of _V. pubescens_ Ait. are of frequent occurrence.

_Viola striata_ Ait. Cream Violet. Frequent in bottomlands.

*Viola Rafinesquii* Greene. Field Pansy. Rare; vacant lot in Wilmington in 1938 (RR).

Note: Hybrid—[_V. hirsutula_ Brain. x _V. papilionacea_ Pursh] Wet meadows, Blanchester, 4-22-1913. (Braun herb.; det. by Ezra Brainerd).

_Cubelium concolor_ (Forst.) Raf. Green Violet. Rare; Vernon. Wooded hillside.

Thymeleaceae

_Dirca palustris_ L. Leatherwood. Infrequent in moist or dry woods.

Lythraceae

_Cuphea petiolata_ (L.) Koehne. Blue Waxweed. Frequent in open woods and fields.

_Lythrum alatum_ Pursh. Winged Loosestrife. Scarce in eastern part of county in moist places along railroads.

Melastomaceae


Onagraceae

_Ludwigia palustris_ (L.) Ell. Water Purslane. Frequent in wet places.

_Ludwigia alternifolia_ L. Seedbox. Infrequent in wet places in ITP.

_Epilobium coloratum_ Biehler. Willow-herb. Frequent in wet places.

Oenothera parviflora L. Evening-Primrose. Rare: Jefferson. Moist field in ITP.

Oenothera laciniata Hill var. laciniata. Rare: near New Vienna in 1935, along railroad (KMR).

Oenothera fruticosa L. Sundrops. Rare: near Midland in 1923 (BLB).

Gaura biennis L. Frequent in moist, open places, usually along streams.

Circaea quadriradiata (Maxim.) Franch. & Sav. var. canadensis (L.) Hara. (C. latifolia Hill).

Enchanter's Nightshade. Frequent in moist, rich woods.

**Araliaceae**

Aralia racemosa L. Spikenard. Infrequent in moist, rich woods.


**Umbelliferae**


Sanicula canadensis L. Sanicle. Frequent in woods.


Erigenia bulbosa (Michx.) Nutt. Harbinger-of-Spring. Frequent in moist, rich, well-drained woods.

Cryptotaenia canadensis (L.) DC. Honewort. Frequent in woods.

Torilis japonica (Houtt.) DC. (T. Anthriscus (L.) Gmel.). Rare: near New Vienna along railroad in 1939 (KMR).

Osmorrhiza Claytonii (Michx.) Clarke. Sweet Cicely. Scarce to infrequent in moist woods.

Osmorrhiza longistylis (Torr.) DC. Long-styled Sweet Cicely. Frequent in moist woods.

Daucus Carota L. Wild Carrot, Queen Anne's Lace. Abundant along roadsides, in fields, and waste places.

Chaerophyllum procumbens (L.) Crantz. Chervil. Frequent in moist places.

Taenidia integerrima (L.) Drude. Infrequent in western and northern parts, on dry, wooded hillside.


Zizia apicera (Gray) Fern. Vernon. On wooded hillside.


Cicuta maculata L. Water Hemlock. Frequent in swampy places, mainly in ITP.


*Pastinaca sativa* L. Wild Parsnip. Abundant along roadsides, in fields, and waste places.

**Cornaceae**

Cornus florida L. Flowering Dogwood. Common in woods.

Cornus Purpursi Koehne. Collected in Liberty Twp. along Anderson’s Fork. Six other generally-distributed collections are variously intermediate between this species and *C. Amomum Mill.*


Cornus racemosa Lam. Gray Dogwood. Frequent in ITP in wet places; not seen elsewhere.

Nyssa sylvatica Marsh. var. caroliniana (Poir.) Fern. Sour Gum, Black Gum, Tupelo. Frequent in moist woods; mainly in ITP.

**Ericaceae**

Monotropa uniflora L. Indian Pipe. Occasional in moist, rich woods.


Vaccinium vacillans Torr. Low Blueberry. Rare: pin oak forest near Westboro in 1924 (Braun).

Determined in 1939 by W. H. Camp as V. Torreyanum Camp.

**Primulaceae**

Samolus floribundus HBK. Water Pimpernel. Frequent in wet places.

*Lysimachia Nummularia* L. Moneywort. Frequent in fields and along streams.

Steironema ciliatum (L.) Raf. Fringed Loosestrife. Frequent in wet places.

Steironema lanceolatum (Walt.) Gray. Frequent in moist fields and wet places. Two collections intergrade with *S. hybridum* (Michx.) Raf.

**Oleaceae**

Fraxinus americana L. White Ash. Abundant in moist woods.


Glabrous form: Union—bottomland pasture.

Fraxinus quadrangularis Michx. Blue Ash. Frequent on wooded slopes.

Fraxinus nigra Marsh. Black Ash. Rare: Chester. Moist, level woods.
Gentianaceae


**Swertia carolinensis** (Walt.) Kuntze. American Columbo. Rare: Vernon. Dry wooded slope.

Apocynaceae

*Vinca minor* L. Periwinkle. Scarce in waste places.

*Apocynum cannabinum* L. Indian Hemp. Frequent in open woods and fields.

Asclepiadaceae


**Asclepias syriaca** L. Common Milkweed. Abundant in fields and waste places.

**Ampelamus albidus** (Nutt.) Britt. Bluevine. Frequent: climbing on fences; garden weed in Wilmington.

Convolvulaceae


*Cuscuta Gronovii* Willd. Common Dodder. Frequent in wet places, usually along streams.

Polemoniaceae


**Phlox paniculata** L. Garden Phlox. Frequent in wooded bottomlands.

**Phlox maculata** L. Spotted Phlox. Scarce: Jefferson, Vernon. Swampy places in ITP.

**Polemonium reptans** L. Jacob's Ladder, Greek Valerian. Common in moist woods.

Hydrophyllaceae

**Phacelia Purshii** Buckley. Miami Mist. Infrequent in bottomlands, on wooded hillsides, and along road-sides; seen only in western part.

**Hydrophyllum macrophyllum** Nutt. Large-leaved Waterleaf. Abundant in moist woods.

**Hydrophyllum virginianum** L. Virginia Waterleaf. Rare: Richland. Elm-ash woods.

**Hydrophyllum canadense** L. Canada Waterleaf. Infrequent in moist, rich woods, usually at bases of hillsides, in western half of county.

**Hydrophyllum appendiculatum** Michx. Appendaged Waterleaf. Scarce in moist, rich woods.

Boraginaceae

*Echium vulgare* L. Viper's Bugloss, Blueweed. Rare: near New Antioch in 1892 (JSV).

*Lithospermum arvense* Engel. (M. virginica (L.) BSP. var *macrosperma* (Engelm.) Fern.) Infrequent in moist woods.


**Hackelia virginiana** (L.) Johnston. (Lappula virginiana (L.) Greene). Stickseed. Frequent in woods.

**Mertensia virginica** (L.) Pers. Virginia Bluebells. Rare: Union. Moist, rich woods.

Verbenaceae

**Verbena urticifolia** L. White Vervain. Common in open woods and along streams. Both var. *urticifolia* and var. *leioarpa* Perry & Fern. have been collected.

**Verbena hastata** L. Blue Vervain. Common in open woods and along streams.

**Phyla lanceolata** (Michx.) Greene. Fog-fruit. Frequent in bottomland and along streams.
Labiatae

Teucrium canadense L. American Germander. Frequent in open woods and fields. Two collections are of var. virginicum (L.) Eaton; one collection is intermediate between this and var. occidentale (Gray) McClintock & Epling.

Isanthus brachatus (L.) BSP. Pale Pennyroyal. Infrequent in fields, open woods, and along railroads.

Scutellaria ovata Hill var. versicolor (Nutt.) Fern. Skullcap. Rare: Chester; Moist, rich woods along stream.

Scutellaria incana Biehler var. incana. Skullcap. Infrequent in dry woods and fields.

Scutellaria lateriflora L. Skullcap. Frequent along streams.

Scutellaria parvula var. occidentale (Gray) McClintock & Epling. Skullcap. Rare in dry woods.

Scutellaria lateriflora var. virgata (L.) Ktze. Giant Hyssop. Infrequent in woods.

*Nepeta Cataria L. Catnip. Frequent to common in fields and waste places.

*Glecoma hederacea L. Ground Ivy, Gill-over-the-ground. Rare: Wayne. In hickory woods.

*Prunella vulgaris L. Self-heal. Common weed in waste places. Collections are of var. lanceolata (Bart.) Fern.

Dracocephalum virginianum L. Dragon-head. Rare: near Midland in wet ditch along roadside.

Scrophulariaceae

Gratiola neglecta Torr. Frequent in ITP in wet places.
Leucospora multifida (Michx.) Nutt. Frequent in wet places by streams.

Mimulus ringens L. Monkey Flower. Frequent in wet places.

Mimulus alatus Ait. Winged Monkey Flower. Frequent to common in wet places.


Var. riparia (Raf.) Fern. Rare: Washington. Shore of Lake Cowan.

*Verbascum Thapsus L. Mullein. Abundant weed in fields and waste places.

*Verbascum Blattaria L. Moth Mullein. Common weed in fields and waste places.


Penstemon Digitalis Nutt. Foxglove Beard-Tongue. Infrequent to frequent on roadsides and in fields. Collection from northeast Wilmington closer to P. alluviorum Pennell, but this species probably should be united with P. Digitalis.


Penstemon paludius Small. Rare: Adams. Wooded hillside.

Scrophularia marilandica L. Figwort. Frequent in woods.

Collinsia verna Nutt. Blue-eyed Mary. Rare: Chester. In open woods.


*Chaenorrhinum minus (L.) Lange. Infrequent along railroads.


*Veronica serpyllifolia L. Thyme-leaved Speedwell. Infrequent in fields.


Veronica officinalis L. Common Speedwell. Frequent in fields and woods.

Veronica salina Schur. (V. comosa Richter, of G. M.) Rare: Liberty. Muddy bed of stream.

Aureolaria flavo (L.) Farw. var. macrantha Pennell. False Foxglove. Rare: near Westboro in openings of pin oak woods, 1924 (Braun).


Pedicularis canadensis L. Wood Betony, Lousewort. Rare: Jefferson. Moist clearing in pin oak forest.

Bignoniaceae


Orobanchaceae

Conopholis americana (L.) Wallr. Squaw-root. Rare: Vernon. In moist, rich woods, under beech and sour gum.

Epifagus virginiana (L.) Bart. Beech-drops. Frequent in woods, under beech.

Acanthaceae

Ruellia strepens L. Smooth Ruellia. Frequent in woods.

Ruellia humilis Nutt. var. frondosa Fern. Scarce: Liberty, Richland. Dry, open place; on railroad embankment.

Justicia americana (L.) Vahl. (Dianthera americana L.). Water Willow. Abundant on bars and in shallow water in all large streams.

Phrymaceae

Phryma Leptostachya L. Lopseed. Frequent in woods.

Plantaginaceae

Plantago Rugelii Dcne. Rugel's Plantain. Abundant along roadsides, in lawns and fields, and in all kinds of waste places.

*Plantago lanceolata L. English Plantain. Abundant in same and similar habitats as preceding species.


Plantago aristata Michx. Large-bracted Plantain. Infrequent in eroded fields and waste places, particularly in southern part of county.
Rubiaceae

Houstonia purpurea L. Large Houstonia. Frequent: 8. Union, Chester, Liberty, Vernon, Washington. Moist or dry woods of various types; crevices of limestone cliff; abandoned field; dry, open slope.

Cephalanthus occidentalis L. Buttonbush. Infrequent in wet places and along streams.

Caprifoliaceae

Viburnum acerifolium L. Maple-leaved Viburnum. Scarce in moist woods.
Viburnum teniago L. Nannyberry. Infrequent in swampy woods.
Viburnum prunifolium L. Black Haw. Frequent in woods.
Sambucus canadensis L. Elderberry. Common in moist places.

Dipsacaceae

*Galium verum L. Yellow Bedstraw. Rare: Union. In field.
Galium obtusum Bigel. Scarce to infrequent in wet places.

Lonicera prolifera (Kirchn.) Rehder. (L. Sullivantii Gray). Grape Honeysuckle. Rare: Richland. Elm-ash woods.

Triosteum perfoliatum L. (sensu lat.). Horse-gentian. Scarce: Wilson, Richland. Present taxonomic treatments of its varieties are inadequate.

Valerianaceae

Valerianella radiata (L.) Dufr. Corn Salad.
Var. radiata. Common in moist places.
Var. intermedia (Dyal) Gleason was collected in 1902 by C. P. Ingold, whose specimen was determined by Sarah C. Dyal.

Dipsacaceae

Sicyos angulatus L. Bur Cucumber. Scarce in bottomlands.

Campanulaceae

Campanula americana L. Tall Bellflower. Common in woods.

Specularia perfoliata (L.) A. DC. Venus' Looking Glass. Scarce in moist places.

Compositae

Heliopsis hirsutus Raf. Rare: Clark. Along railroad.
Heliopsis decapetalas L. Wild Sunflower. Rare: near Farmer's Station in 1901 (CPI).
Heliopsis tuberosus L. Jerusalem Artichoke. Abundant along roadsides and in bottomlands.
Heliopsis grosseserratus Martens. Sawtooth Sunflower. Rare: Union. Dry soil along railroad.

Eclipta alba (L.) Hassk. Verba de Tajo. Infrequent along streams and in wet places. In bottomlands; often with Helianthus tuberosus.


Rudbeckia fulgida Ait.
Var. fulgida. Rare: near Blanchester in fields (ELB).

Rudbeckia triloba L. Brown-eyed Susan. Frequent in open woods and moist places.

Rudbeckia laciniata L.
Var. laciniata. Coneflower. Frequent in bottomlands.

*Bidens cernua L. Nodding Bur Marigold. Frequent in wet places.


*Bidens frondosa L. Beggar's Ticks. Frequent in moist places.

*Bidens polylepis Blake. Infrequent in ITP in fields.


Coreopsis tripteris L. Tall Coreopsis. Infrequent: Jefferson. Moist places in woods and in open ITP.


Polywna canadensis L. Leafcup. Rare: Vernon. Bottomland woods.

Silphium perfoliatum L. Cup-plant. Frequent in bottomlands along larger streams.


(Silphium terebinthinaceum Jacq.) Prairie Dock. Reported in Transeau and Williams (1929).


Ambrosia artemisifolia L. Common Ragweed. Abundant weed in fields and waste places.


*Athensia Cotula L. Dog Fennel. Common weed around barns and in waste places.

*Achillea Millefolium L. Yarrow. Common weed along roadsides, in fields and waste places.

*Chrysanthemum Leucanthemum L. var. pinnatifidum Lecoq & Lamotte. Oxeye Daisy. Common along roadsides and in fields.

*Tanacetum vulgare L. Tansy. Infrequent along roadsides and railroads.

Artemisia ludoviciana Nutt. Western Mugwort. Rare: near Farmer's Station along road, 1934 (KMR).

*Artemisia annua L. Wormwood. Common weed around barns and in waste places.


Senecio aureus L. Golden Ragwort. Frequent in wet places, often in woods.

Erechtites hieracifolia (L.) Raf. Fireweed. Infrequent in moist places.

Cacalia atriplicifolia L. Indian Plantain. Frequent in woods and thickets, mainly in western part of county.


Solidago caesia L. Wreath Goldenrod. Frequent in woods.

Solidago nemoralis Ait. Old-field Goldenrod. Frequent in abandoned and eroded fields.

Solidago pathula Muhl. var. pathula. Rough-leaved Goldenrod. Rare: Adams. In wet seepage area around spring at base of "Bunker Hill".

Solidago ulmifolia Muhl. Elm-leaved Goldenrod. Infrequent in dry woods.

Solidago rugosa Mill. Infrequent: wet places in ITP. Collections include subsp. rugosa var. rugosa and subsp. aspera (Ait.) Cron.

Solidago gigantea Ait. var. gigantea. Frequent in wet places, especially in ITP.

Solidago canadensis L.

Var. seabra (Muhl.) T. & G. (S. altissima L.) Tall Goldenrod. Abundant along roadsides, in fields, and waste places. This is the commonest goldenrod in county.

Solidago graminifolia (L.) Salisb. var. Nuttalii (Greene) Fern. Infrequent in moist places, mainly in ITP.

Aster cordifolius L. Heart-leaved Aster. Frequent in woods.

Aster sagittifolius Ait. Scarcely in woods.


Aster prenanthoides Muell. Frequent in moist or wet places.

Aster umbellatus Mill. Flat-topped Aster. Infrequent in clearings and open woods on flats of ITP.


Aster lateriflorus (L.) Britt. Common in woods and thickets.


Aster prenanthoides Muhl. Frequent in moist or wet places.

Aster umbellatus Mill. Flat-topped Aster. Infrequent in clearings and open woods on flats of ITP.

Erigeron philadelphicus L. Fleabane. Frequent in moist or wet places.

Erigeron strigosus Muhl. var. strigosus. Vernon—in moist field in ITP.


Antennaria neglecta Greene var. neglecta. Pussy's Toes. Chester—in field. (Because of taxonomic difficulties in Antennaria, no frequency ratings are given).


Var. arnoglossa (Greene) Cron. Vernon—on wooded ridge.

Var. ambigens (Greene) Cron. (A. fallax Greene). Chester, Vernon. In field; on wooded hillside.


Gnaphalium obtusifolium L. Sweet Everlasting. Infrequent in fields.

*Inula Helenium L. Elecampane. Infrequent in open woods.

Eupatorium purpureum L. Joe-Pye Weed. Frequent in dry or moist woods.


Eupatorium perfoliatum L. Boneset. Common in moist or wet places.

Eupatorium serotinum Michx. Infrequent in ITP in poorly-drained clearings and open woods.


Vernonia altissima Nutt. Ironweed. Abundant in fields and bottomlands. Plants from two localities have one character of V. missurica Raf. A specimen collected by Vandervort (OSU herb.) from near New Antioch in 1892 was identified previously (Schaffner, 1932) as var. taeniotricha Blake; it appears intergradient between V. altissima and V. missurica.


*Cirsium vulgare (Savi) Airy-Shaw. Bull Thistle. Frequent to common in fields, along streams, and in waste land.

Cirsium discolor (Muhl.) Spreng. Field Thistle. Abundant weed in fields and in a variety of other habitats.


*Centarea repens L. Rare: Near New Vienna along railroad, 1939 (KMR).


*Centarea cyanus L. Cornflower, Batchelor's Button. Rare: near New Vienna along railroad, 1939 (KMR).

*Centarea jacae L. Rare: Union. In field.

Preanthes alta L. Rattlesnake-root. Rare: Vernon. Dry hillside.

Preanthes altissima L. Rattlesnake-root. Infrequent to frequent in woods.


Hieracium Gronovii L. Rare: Jefferson. Open woods.

Hieracium scarborum Michx. Rough Hawkweed. Rare: Liberty. Dry open place.


*Sonchus asper (L.) Hill. Spiny Sow Thistle. Infrequent weed in waste places.

Lactuca canadensis L. Wild Lettuce. Infrequent in woods. Collections include var. latifolia Ktze. and var. obtata Wieg.


*Lactuca salicina L. Willow-leaved Lettuce. Frequent weed along roadsides and in waste places.

Lactuca floridana (L.) Gaertn. Wild Lettuce. Frequent in moist woods and thickets. Both var. floridana and var. villosa (Jacq.) Cron. have been collected.

*Cichorium intybus L. Chicory. Common weed along roadsides and in fields.

Krigia biflora (Walt.) Blake. (*Cynthia virginica (L.) D. Don.). Frequent in moist woods and in moist, open places.

*Tragopogon pratensis L. Goat's-beard. Frequent weed along railroads and roadsides.

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