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## The Flora of Washington County, Iowa

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# The Flora of Washington County, Iowa

By BURDETTE L. WAGENKNECHT

## INTRODUCTION

This botanical survey of the vascular plants of Washington County, Iowa was made in an effort to increase our knowledge of the vegetation of southeastern Iowa. Prior to this survey little botanical collecting had been done in Washington County. Sixty-eight specimens from Washington County were found by the writer in looking through the herbarium of the State University of Iowa. These were collected by the late Professor B. Shimek.

The field work was carried on for a period of one growing season. Over 3,500 miles were traveled by the writer in making the survey. The first collections were made April 6, 1953 and the last October 21, 1953. 1600 collections were made, totaling approximately 3,000 specimens. A total of 677 different species of vascular plants are listed, 657 of which were collected by the writer.

## DESCRIPTION OF THE AREA

Washington County is situated in the southeastern part of Iowa in the second tier of counties west of the Mississippi River and in the third tier of counties north of the Missouri State border. The county is bordered on the north by Iowa and Johnson counties, on the east by Johnson and Louisa, on the south by Henry and Jefferson and on the west by Keokuk. The Iowa river forms a portion of the northeastern boundary, but with that exception the county has no natural limiting lines.

The county is approximately twenty-four miles square, and contains fifteen and one-half townships. Total area of the county is 566 square miles or 363,240 acres.

The topography of Washington County ranges from hilly or broken near the large streams, and rolling on the narrower divides, to level on the broad areas between the streams. The most extensive level area extends diagonally southeastward across the county, beginning in the northwest and extending to the southeast. The terraces are wide along the Iowa River in Iowa Township, along the English River in English River and Lime Creek Townships, and along the Skunk River in Brighton Township.

The north and eastern parts of the county are drained by the

English and Iowa Rivers. The southwestern part of the county is drained by the Skunk River and its tributaries.

The elevation of Washington County above sea level ranges from 613 feet on the Skunk River south of Brighton to 823 feet at Dayton in the northwest portion of the county. The county slopes generally toward the south.

#### CLIMATE

The climate is of the extreme midcontinental type. The average annual relative humidity is seventy-two per cent. The mean annual temperature is 49 degrees Fahrenheit. The average growing season, the period between the average date of the earliest killing frost in the fall and the latest killing frost in the spring, is 171 days. The mean annual precipitation is thirty-four and one-half inches.

#### GEOLOGIC HISTORY

The geological formations comprised within the county belong to the Carboniferous, Devonian and Pleistocene. Limestone outcrops of the Devonian are found along the English River near Wellman and along the Skunk at Brighton. The Kansan drift sheet extends over the entire county.

#### SOILS

The soils of Washington County are grouped into four classes on the basis of origin and location. These groups are drift soil, loess soils, terrace soils and swamp and bottom land soils. The occurrence of these groups of soils is as follows; drift soils cover 12 per cent of the total area, loess soils are more extensively developed, covering 68.7 percent of the county, terrace soils cover 6.7 percent and bottomland soil 12.6 percent of the total area.

The soil of approximately ninety-nine percent of the area of the county is classified as silt loam. The remaining one percent is classified as sandy loam. Practically no pure sand is to be found in the county.

#### EXPLANATION OF THE LIST OF VASCULAR PLANTS

In the list of vascular plants, the families are arranged according to the Engler and Prantl system. Genera and species within the families are listed in alphabetical order. Introduced species are indicated by an asterisk. Nomenclature in general follows that of Gray's *Manual of Botany*, Eighth Edition, 1950.

To denote frequency of occurrence, arbitrary terms are used, based upon the following scale:

common .....	7 or more stations,
frequent .....	4-6 stations,
infrequent .....	2-3 stations,
rare .....	1 station.

These terms thus denote the number of stations where each species was collected or observed in the county, and do not indicate abundance in place. Some rare species are locally abundant in their specialized habitat.

The description of habitat is taken from the writer's observations of the plants in the field. The descriptions are brief, and could no doubt be made more accurate and specific in continued studies of the county.

The specimens collected during this survey are deposited in the herbarium of the State University of Iowa.

#### LIST OF VASCULAR PLANTS

##### EQUISETACEAE

- Equisetum arvense* L. Field Horsetail. Common along roadsides and fence rows.  
*Equisetum hyemale* L. Scouring-rush. Frequent in moist, calcareous soil along streams.  
*Equisetum kansanum* Schaffner. Smooth Scouring-rush. Common along roadsides, fencerows, and along ballast of railroads.

##### LYCOPODIACEAE

- Lycopodium complanatum* L. Rock outcrop near Wellman. Collected in December 1954 by Clayton Griffin.

##### OPHIOGLOSSACEAE

- Botrychium dissectum* Spreng. Rare in rich upland woods.  
*Botrychium virginianum* (L.) Sw. Rattlesnake fern. Common in rich upland woods.

##### OSMUNDACEAE

- Osmunda claytoniana* L. Interrupted Fern. Common in rich upland woods.

##### POLYPODIACEAE

- Adiantum pedatum* L. Maiden-hair Fern. Common in moist woods.  
*Athyrium filix-femina* (L.) Roth. Lady fern. Common in rich ravines and moist rich woods.  
*Athyrium pycnocarpon* (Spreng.) Tidestr. Rare in moist alluvial woods.  
*Cystopteris bulbifera* (L.) Bernh. Bulblet fern. Infrequent in calcareous woods.  
*Cystopteris fragilis* (L.) Bernh. Common in upland woods. Most abundant fern in the county.  
*Noctlea sensibilis* L. Frequent in alluvial woods and marshy areas.  
*Polystichum acrostichoides* (Michx.) Schott. Christmas fern. Frequent in rich calcareous ravines.  
*Pteritis pensylvanica* (Willd.) Bern. Rare in wet woods.

##### CUPRESSACEAE

- Juniperus virginiana* L. Eastern red cedar. Common in various habitats.

## TYPHACEAE

*Typha latifolia* L: Common in marshes, margins of ponds and ditches.

## SPARGANIACEAE

*Sparganium eurycarpum* Engelm. Frequent in marshes and sloughs.

## ZOSTERACEAE

*Potamogeton foliosus* Raf. Rare, found only in Lake Darling.

## ALISMATACEAE

*Alisma subcordatum* Raf. Frequent along edges of ponds and sloughs.

*Sagittaria brevirostra* Mack. & Bush. Frequent along edges of marshes and sloughs.

*Sagittaria latifolia* Willd. Frequent in marshes and sloughs.

*Sagittaria montevidensis* Cham. & Schlecht. Infrequent in marshes.

## GRAMINEAE

*Agropyron repens* (L.) Beauv. Quack grass. Common along roadsides and waste places.

\**Agrostis alba* L. Redtop. Common in many and variable habitats.

*Agrostis hymnalis* (Walt.) BSP. Common in roadsides and fields.

*Agrostis perennans* (Walt.) Tuckerm. Common in woods.

*Alopecurus aequalis* Sobol. Frequent in shallow water and wet ground.

*Alopecurus carolinianus* Walt. Rare along edge of ditch.

*Andropogon gerardi* Vitman. Tall Bluestem. Common in prairie soil and along roadsides.

*Andropogon scoparius* Michx. Little Bluestem. Frequent in dry prairie soil.

*Aristida basirames* Engelm. Common in dry soil.

*Aristida obligantha* Michx. Common in dry soil.

\**Avena sativa* L. Oat. Common in fields and along roadsides.

*Bouteloua curtipendula* (Michx.) Torr. Tall Grama Grass. Frequent in dry prairie soil.

*Bromus ciliatus* L. Infrequent in open woods.

\**Bromus inermis* Leyss. Hungarian Brome. Common in fields and along roadsides.

\**Bromus japonicus* Thunb. Collected only once along roadside.

*Bromus latiglumis* (Shear) Hitchc. Frequent in open woods.

\**Bromus tectorum* L. Common along railroads and roadsides.

*Calamagrostis canadensis* (Michx.) Beauv. Common in sloughs and ditches.

*Cenchrus pauciflorus* Benth. Sand Bur. Common in sandy areas and along roadsides.

*Cinna arundinacea* L. Wood reed. Common in upland woods.

*Dactylis glomerata* L. Orchard grass. Infrequent along roadside.

\**Digitaria ischaemum* (Schreb.) Muhl. Smooth crab grass. Speciman in herbarium collected by Prof. B. Shimek.

\**Digitaria sanguinalis* (L.) Scop. Common crab grass. Common in waste places and along roadsides.

*Echinochloa crusgalli* (L.) Beauv. Barnyard grass. Common in waste places and along roadsides.

*Elymus canadensis* L. Wild-rye. Common along roadsides and railroads.

*Elymus villosus* Mey. Common along roadsides and railroads.

*Elymus virginicus* L. Virginia Wild Rye. Common along railroads and in waste places.

*Eragrostis frankii* C. A. Mey. Infrequent along roadsides.

*Eragrostis hypnoides* (Lam.) BSP. Common in moist lowlands and on muddy pond and stream banks.

\**Eragrostis megastachya* (Koel.) Link. Common in fields and waste places.

*Eragrostis pectinacea* (Michx.) Nees. Common in barnyards and along roads and railroads.

\**Eragrostis poaeoides* (L.) Beauv. Rare in waste ground of railroad yard.

- Eragrostis spectabilis* (Pursh) Steud. Infrequent along sandy roadsides and in railroad yards.
- Festuca obtusa* Biehler. Common in woods.
- Glyceria striata* (Lam.) Hitchc. Common along streams and in moist lowlands.
- Hordeum jubatum* L. Squirrel-tail grass. Common along roadsides and in fields.
- Hystrix patula* Moench. Bottlebrush grass. Common in dry upland woods.
- Koeleria cristata* (L.) Pers. Infrequent in dry prairie.
- Leersia lenticularis* Michx. Rare in moist alluvial woods.
- Leersia oryzoides* (L.) Sw. Cutgrass. Common in marshes.
- Leersia virginica* Willd. White grass. Common in alluvial woods and along streams.
- Melica nitens* Nutt. Rare in sandy soil at edge of woods.
- Muhlenbergia frondosa* (Poir.) Fern. Frequent in alluvial bottoms.
- Muhlenbergia racemosa* (Michx.) BSP. Common in wet ground and along streams.
- Muhlenbergia schreberi* J. F. Gmel. Nimble Will. Frequent along roadsides.
- Muhlenbergia sobolifera* (Muhl.) Trin. Rare in rocky woods.
- Panicum capillare* L. Witch Grass. Common in waste ground and along roadsides.
- Panicum clandestinum* L. Deer-tongue grass. Rare in sandy soil.
- Panicum dichitomisiflorum* Michx. Common along roadsides and in waste places.
- Panicum implicatum* Scribn. Common in moist soil.
- Panicum latifolium* L. Common in woods.
- Panicum leibergii* (Vasey.) Scribn. Common in dry soil.
- Panicum oligosanthos* var. *scribnerianum* (Nash.) Fern. Common in dry soil.
- Panicum virgatum* L. Switch grass. Common along roadsides and in waste places.
- Paspalum ciliatifolium* Michx. Rare in dry sandy soil.
- Phalaris arundinacea* L. Reed Canary Grass. Common in marshes.
- \**Phleum pratense* L. Timothy. Common along roadsides and in fields.
- Phragmites communis* Trin. Common Reed. Rare in marshy ground.
- \**Poa compressa* L. Canada bluegrass. Common in upland woods.
- \**Poa pratensis* L. Kentucky bluegrass. Common along roadsides, in fields and in waste places.
- \**Setaria faberii* Hermm. Frequent weed in cornfields and along roadsides.
- \**Setaria lutescens* (Weigel) F. T. Hubbard. Yellow Foxtail. Common along roadsides and in waste places.
- \**Setaria viridis* (L.) Beauv. Green Foxtail. Common along roadsides and in waste places.
- Sorghastrum nutans* (L.) Nash. Indian grass. Common along roadsides.
- Spartina pectinata* Link. Slough-grass. Common in marshy lowlands and ditches.
- Sporobolus asper* (Michx.) Infrequent in dry sandy soil.
- Sporobolus vaginiflorus* (Torr.) Wood. Frequent in dry soil.
- Stipa spartea* Trin. Porcupine-grass. Frequent in prairie soil.
- Triodia flava* (L.) Smyth. Purpletop. Frequent in moist sandy soil along roadsides.
- \**Triticum aestivum* L. Frequent escape from cultivation.

## CYPERACEAE

- Carex albursina* Sheldon. Frequent in rich upland woods.
- Carex bebbii* Olney. Infrequent along edges of sloughs.
- Carex bicknellii* Britt. Infrequent in moist prairie.
- Carex blanda* Dew. Common in upland woods.
- Carex brevior* (Dew.) Mackenz. Infrequent in open woods.
- Carex cephalophora* Muhl. Common on roadsides, in fields and upland woods.
- Carex cristatella* Britt. Frequent in alluvial woods.
- Carex davisii* Schw. & Torr. Common in rich and alluvial woods.
- Carex granularis* Muhl. Infrequent in moist rich woods.

- Carex gravida* L. H. Bailey. Rare in sandy prairie.  
*Carex grayii* Carey. Common in alluvial woods.  
*Carex grisea* Wahl. Infrequent in woods.  
*Carex hitchcockiana* Dew. Infrequent in rich woods.  
*Carex hystericina* Muhl. Shallow water in marsh.  
*Carex jamesii* Schw. Infrequent in rich woods.  
*Carex lacustris* Willd. Shallow water in marsh, infrequent.  
*Carex lanuginosa* Michx. Common in moist ground.  
*Carex leavenworthii* Dew. Infrequent in moist ground.  
*Carex lupulina* Muhl. Common in alluvial woods.  
*Carex meadii* Dew. Infrequent in prairies.  
*Carex muhlenbergii* Schkuhr. Infrequent in dry soils.  
*Carex muskingumensis* Schw. Rare in wet, alluvial woods.  
*Carex normalis* Mackenz. Infrequent in upland woods.  
*Carex pennsylvanica* Lam. Common in upland woods and prairies.  
*Carex rosea* Schkuhr. Common in woods.  
*Carex shortiana* Dewey. Infrequent in roadside ditches.  
*Carex sparganioides* Muhl. Frequent in woods.  
*Carex stipata* Muhl. Infrequent in lowlands.  
*Carex stricta* Lam. Common in wet low ground.  
*Carex suberecta* (Olney) Britt. Infrequent in wet ground.  
*Carex tribuloides* Wahlenb. Frequent in alluvial woods.  
*Carex typhina* Michx. Infrequent in moist ground along ditches.  
*Carex vesicaria* L. Infrequent in marshes.  
*Carex vulpinoidea* Michx. Frequent in marshes.  
*Cyperus erythrorhizos* Muhl. Frequent in mud at edge of ponds and streams.  
*Cyperus filiculmis* Vahl. Infrequent in dry sandy soil.  
*Cyperus schweinitzii* Torr. Infrequent in dry, sandy soil.  
*Cyperus strigosus* L. Common in moist ground of marshes.  
*Eleocharis acicularis* L. Frequent in wet ground along marshes and streams.  
*Eleocharis calva* Torr. Infrequent in moist sandy soil.  
*Eleocharis palustris* (L.) R & S. Rare on pond edge.  
*Scirpus atrovirens* Willd. Collected only once in marsh. Possibly overlooked elsewhere.  
*Scirpus cyperinus* (L.) Kunth. Common in marshes, ditches and shallow water.  
*Scirpus heterchaetus* Chase. Frequent in marshes and ditches.  
*Scirpus validus* Vahl. Common in marshes and wet ground.

## ARACEAE

- Arisaema dracontium* (L.) Schott. Green Dragon. Frequent in alluvial woods.  
*Arisaema triphyllum* (L.) Schott. Jack-in-the-pulpit. Common in rich upland woods.

## LEMNACEAE

- Lemna minor* L. Common in ponds and marshes.  
*Spirodela polyrhiza* (L.) Schleid. Frequent in shallow quiet water, and marshes.

## COMMELINACEAE

- \**Commelina communis* L. Infrequent escape to wet ground along ditches.  
*Tradescantia ohiensis* Raf. Common along roadsides and railroads.  
*Tradescantia virginiana* L. Rare along edge of woods.

## JUNCACEAE

- Juncus acuminatus* Michx. Infrequent in wet lowlands.  
*Juncus interior* Wieg. Infrequent in moist ground.  
*Juncus nodosus* L. Infrequent in moist prairie.  
*Juncus tenuis* Willd. Common along paths, roadsides, railroads and in fields.

## LILIACEAE

- Allium canadense* L. Common in upland woods and moist prairie soil.  
 \**Allium fistulosum*. Rare escape along railroad.  
 \**Asparagus officinalis* L. Garden asparagus. Common along roadside and in waste places.  
*Camassia scilloides* (Raf.) Cory. Wild Hyacinth. Rare in prairie opening in upland woods.  
*Erythronium albidum* Nutt. Common in alluvial and moist upland woods.  
 \**Hemerocallis fulva* L. Common escape to roadsides.  
*Lilium michiganense* Farw. Frequent in moist woods and thickets.  
 \**Lilium tigrinum* L'Her. Infrequent escape along railroads.  
*Melanthium virginicum* L. Bunchflower. Indicated from Washington County by dot on maps in "Weed Flora of Iowa," by Pammel, et al.  
*Polygonatum commutatum* (Schult.) Dietr. Common in upland woods and on roadsides.  
*Smilacina racemosa* (L.) Desf. Common in upland woods and roadsides.  
*Smilacina stellata* (L.) Desf. Frequent on moist prairies.  
*Smilax ecirrhata* (Engelm.) Wats. Common in rich woods.  
*Smilax herbacea* L. Carrion flower. Common in upland woods and on roadsides.  
*Smilax hispida* Muhl. Common in rich upland woods.  
*Trillium flexipes* Raf. Rare in rich calcareous soil of upland woods.  
*Trillium recurvatum* Beck. Purple Trillium. Moist, woods, common.  
*Uvularia grandiflora* Sm. Bellwort. Common in upland woods.

## DIOSCOREACEAE

- Dioscorea villosa* L. Frequent in rich upland woods.

## AMARYLLIDACEAE

- Hypoxis hirsuta* (L.) Coville. Common in dry prairies.

## IRIDACEAE

- Iris virginica* Torr. Common in marshes and shallow quiet water.  
*Sisyrinchium angustifolium* Mill. Moist upland woods, infrequent.  
*Sisyrinchium campestre* Brickn. Common in prairies, in dry soil along roadsides, and clearings in upland woods.

## ORCHIDACEAE

- Orchis spectabilis* L. Showy Orchis. Infrequent in rich upland woods.

## SALICACEAE

- \**Populus alba* L. White poplar. Infrequent along roadsides.  
*Populus deltoides* Marsh. Cottonwood. Common in bottomlands and along streams.  
*Populus grandidentata* Michx. Frequent in upland woods.  
*Populus tremuloides* Michx. Frequent in dry upland woods and on roadsides.  
*Salix amygdaloides* Anders. Peach-leaved willow. Frequent along streams and marshy areas.  
*Salix discolor* Muhl. Pussy willow. Frequent in moist ground.  
 \**Salix fragilis* L. Brittle willow. Common in alluvial woods and along edges of sloughs.  
*Salix humilis* Marsh. Prairie willow. Frequent in dry prairie soils.  
*Salix interior* Rowlee. Sandbar willow. Common in wet ground along streams.  
*Salix nigra* Marsh. Black willow. Common on banks of streams.

## JUGLANDACEAE

- Carya cordiformis* (Wang.) K. Koch. Bitternut hickory. Common in upland woods.  
*Carya laciniosa* (Michx. f.) Loud. Shellbark Hickory. Rare in alluvial bottomland.

*Carya ovata* (Mill.) K. Koch. Shagbark Hickory. Common in upland woods and on roadsides.

*Juglans cinerea* L. Butternut. Common on wooded slopes.

*Juglans nigra* Marsh. Black Walnut. Common in woods and along roadsides.

CORYLACEAE

*Betula nigra* L. River Birch. Common on flood plains and stream banks.

*Corylus americana* Walt. Common in upland woods and thickets.

*Ostrya virginiana* (Mill.) K. Koch. Hop-hornbeam. Common in rich upland woods

FAGACEAE

*Quercus alba* L. Common in upland woods.

*Quercus bicolor* Willd. Common in lowland, alluvial woods.

*Quercus imbricaria* Michx. Common in lowlands, alluvial woods.

*Quercus macrocarpa* Michx. Burr Oak. Common in upland and alluvial woods.

*Quercus palustris* Muench. Pin Oak. Frequent in woods along streams.

*Quercus rubra* L. Red Oak. Common in upland woods.

*Quercus velutina* Lam. Black oak. Common in upland woods.

ULMACEAE

*Celtis occidentalis* L. Hackberry. Common in both bottomland and upland woods.

*Ulmus americana* L. Common in rich soil along streams.

\**Ulmus pumila* L. Chinese elm. Commonly planted and rarely escaped along roadside.

*Ulmus rubra* Muhl. Slippery or Red Elm. Common in rich upland woods.

MORACEAE

\**Maclura pomifera* (Raf.) Schneid. Osage orange. Common along roadsides and fencerows.

\**Morus alba* L. White Mulberry. A common escape in woods, roadsides, and waste places.

*Morus rubra* L. Red Mulberry. Infrequent in rich woods.

CANNABINACEAE

\**Cannabis sativa* L. Marijuana. Common weed in fields along ditches.

\**Humulus japonicus* Sieb & Zacc. Rare in fencerow.

\**Humulus lupulus* L. Frequent weed in waste places and fence rows.

URTICACEAE

*Boehmeria cylindrica* (L.) Sw. Bog-hemp. Frequent in moist ground.

*Laportea canadensis* (L.) Wedd. Common in alluvial woods.

*Parietaria pensylvanica* Muhl. Common in moist calcareous woods.

*Pilea pumila* (L.) A. Gray. Common in moist alluvial woods.

*Urtica procera* Muhl. Infrequent in alluvial woods.

SANTALACEAE

*Comandra umbellata* (L.) Nutt. Frequent in upland woods.

ARISTOLOGIACEAE

*Asarum canadense* L. Common in rich woods.

POLYGONACEAE

\**Polygonum aviculare* L. Knotweed. Common weed of roadsides, barnyards and waste places.

*Polygonum coccineum* Muhl. Common on muddy banks of streams and ponds.

\**Polygonum convolvulus* L. Black-bindweed. Common weed of roadsides and fields.

*Polygonum erectum* L. Common along roadsides.

*Polygonum hydropiper* L. Common smartweed. Common in moist soil and marshes.

*Polygonum lapathifolium* L. Common in moist bottomlands and waste areas.

\**Polygonum orientale* L. Rare escape along roadside.

*Polygonum pennsylvanicum* L. Pinkweed. Common in moist soil and fields.

\**Polygonum persicaria* L. Lady's-thumb. Common along roadsides, fence-rows and in barnyards.

*Polygonum punctatum* Ell. Common on stream banks.

*Polygonum ramosissimum* Michx. Rare in dry prairie.

*Polygonum sagittatum* L. Tear-thumb. Common in moist soil in marshes.

*Polygonum scandens* L. Climbing False-buckwheat. Common along roadsides and fence rows.

\**Rumex acetosella* L. Common weed of dry clay soils.

*Rumex altissimus* Wood. Pale-dock. Common in rich moist soil.

\**Rumex crispus* L. Curly-dock. Common weed in fields and waste places.

*Rumex orbiculatus* A. Gray. Rare in marshy lowland.

*Rumex triangulivalvis* (Danser) Rech.f. Rare in moist sandy soil.

*Rumex verticillatus* L. Swamp-dock. Frequent in moist bottomland.

*Tovara virginiana* (L.) Raf. Common in upland woods.

#### CHENOPODIACEAE

\**Chenopodium album* L. Lamb's-quarter. Common weed of roadsides and waste places.

*Chenopodium boscianum* Moq. Frequent in upland woods.

\**Chenopodium ambrosioides* L. Infrequent weed in barnyards.

*Chenopodium hybridum* L. Rare in upland woods.

*Chenopodium leptophyllum* Nutt. Narrow-leaved goosefoot. Common in dry soil.

*Cycloloma atriplicifolium* (Spreng.) Coult. Winged Pigweed. Common weed along railroads and in waste places.

\**Kochia scoparia* (L.) Schrad. Infrequent weed of waste areas.

\**Salsola kali* L. Russian-thistle. Infrequent weed along roadsides.

#### AMARANTHACEAE

*Amaranthus albus* L. Tumbleweed. Common weed of moist lowlands and stream banks.

*Amaranthus graecizans* L. Prostrate amaranth. Common weed of fields, roadsides, and waste places.

\**Amaranthus retroflexus* L. Pigweed. Common weed of fields, roadsides, and waste places.

*Amaranthus tuberculatus* (Moq.) Sauer. Common weed of moist lowlands.

*Froelichia floridana* (Small.) Fern. Infrequent along railroads.

*Froelichia gracilis* (Hook.) Farw. Infrequent along railroads.

#### PHYTOLACCACEAE

*Phytolacca americana* L. Pokeweed. Common in woods and fields.

#### NYCTAGINACEAE

*Mirabilis nyctaginea* (Michx.) MacM. Common along roadsides and in waste places throughout the county.

#### AIZOACEAE

\**Mollugo verticillata* L. Carpetweed. Common weed of cultivated fields, roadsides and waste places.

#### PORTULACACEAE

*Claytonia virginica* L. Spring Beauty. Common spring wild flower of rich woods.

\**Portulaca oleracea* L. Common weed of roadsides and waste places.

#### CARYOPHYLLACEAE

\**Agrostemma githago* L. Corn Cockle. Indicated from Washington County by dot on map in "Weed Flora of Iowa," by Pammel, et al.

- Arenaria lateriflora* L. Common in upland woods.  
*Cerastium nutans* Raf. Nodding Mouse-ear Chickweed. Common weed in variety of habitats.  
*Cerastium vulgatum* L. Infrequent in lawns.  
 \**Lychnis alba* Mill. Collected only once in pasture.  
 \**Saponaria officinalis* L. Bouncing Bet. Common along roadsides.  
*Silene antirrhina* L. Sleepy Catch-fly. Common in waste places and along railroads.  
*Silene stellata* (L.) Ait. f. Starry campion. Frequent in woods and prairies.  
*Stellaria longifolia* Muhl. Infrequent in waste places.  
 \**Stellaria media* (L.) Cyrillo. Common Chickweed. Common in lawns.

## RANUNCULACEAE

- Actaea alba* (L.) Mill. White Baneberry. Common in rich calcareous woods.  
*Anemone canadensis* L. Meadow anemone. Common in moist woods and along streams.  
*Anemone virginiana* L. Tall anemone. Common in woods and along roadsides.  
*Anemonella thalictroides* (L.) Spach. Rue-anemone. Common spring wild flower of rich upland woods.  
*Aquilegia canadensis* L. Common on rich calcareous slopes.  
*Clematis pitcheri* T. & G. Leather flower. Frequent in lowland fencerows.  
*Clematis virginiana* L. Virgin's bower. Infrequent at edges of woods.  
*Hepatica acutiloba* DC. Common spring wild flower of rich upland woods.  
*Isopyrum biternatum* (Raf.) T. & G. False rue anemone. Frequent in alluvial woods.  
 \**Ranunculus acris* L. Rare escape in moist woods.  
*Ranunculus abortivus* L. Small-flowered buttercup. Common in alluvial and rich woods.  
*Ranunculus fascicularis* Muhl. Tufted buttercup. Common in upland woods, and dry prairies.  
*Ranunculus flabellaris* Raf. Frequent in small ponds.  
*Ranunculus septentrionalis* Poir. Marsh buttercup. Common in alluvial woods and moist lowlands.  
*Ranunculus trichophyllus* Chaix. Rare in standing water in marsh.  
*Thalictrum dasycarpum* Fisch and Lall. Frequent in moist prairie and damp meadows.

## BERBERIDACEAE

- \**Berberis thunbergii* DC. Japanese barberry. Collected once in rich woods.  
*Caulophyllum thalictroides* (L.) Michx. Blue cohosh. Common in rich woods.  
*Podophyllum peltatum* L. May-apple. Common in upland woods.

## MENISPERMACEAE

- Menispermum canadense* L. Common in rich upland and alluvial woods.

## PAPAVERACEAE

- Dicentra cucullaria* (L.) Bernh. Dutchman's Breeches. Common in rich woods.  
*Sanguinaria canadensis* L. Bloodroot. Common spring wild flower in rich upland woods.

## CAPPARIDACEAE

- Polanisia graveolens* Raf. Common in ballast along railroads.

## CRUCIFERAE

- \**Armoracia lapathifolia* Gilib. Horseradish. Common along roadsides, and in moist soil.  
 \**Barbarea vulgaris* R. Br. Yellow rocket. Common weed along roadsides and fields.  
 \**Brassica kaber* (DC.) L. C. Wheeler. Charlock. Common weed of fields, roadsides, and railroads.

- \**Brassica nigra* (L.) Koch. Black mustard. Common weed of fields, roadsides and waste places.
- \**Berteroa incana* (L.) DC. Hoary alyssum. Infrequent along roadsides.
- \**Capsella bursa-pastoris* (L.) Medic. Shepherd's purse. Common weed in variety of habitats.
- Cardamine bulbosa* (Schreb.) B. S. P. Common spring flower in alluvial woods.
- Cardamine douglasii* (Torr.) Britt. Rare in moist woods.
- Cardamine pensylvanica* Muhl. Common in wet ground along streams and ponds.
- Dentaria laciniata* Muhl. Common in rich moist woods.
- \**Descurainia pinnata* (Walt.) Britt. Infrequent along railroads.
- \**Hesperis matronalis* L. Rocket. Rare in alluvial woods.
- \**Lepidium campestre* (L.) R. Br. Field peppergrass. Common weed of railroads, roadsides, and waste places.
- \**Lepidium densiflorum* Schrad. Common weed of roadsides and waste places.
- Lepidium virginicum* L. Common peppergrass. Common weed of dry roadsides and waste places.
- Rorippa islandica* (Cedar) Borbas. Common in wet alluvial soil, wet meadows, and stream banks.
- Rorippa sessiliflora* (Nutt.) Greene. Infrequent in mud along streams and ponds.
- \**Sisymbrium altissimum* L. Common along roadsides, railroads, and in waste places.
- \**Thlaspi arvense* L. Field pennycress. Common weed along railroads, roadsides, and in waste places.

## SAXIFRAGACEAE

- Heuchera richardsonii* R. Br. Common in prairie soil.
- Penthorum sedoides* L. Ditch stonecrop. Common in low, moist ground.
- Ribes cynosbati* L. Prickly gooseberry. Common in woods and thickets.
- Ribes missouriense* Nutt. Common gooseberry. Common in woods and thickets.
- \**Ribes odoratum* Wendl. Buffalo currant. Infrequent escape in fence rows.

## PLATANACEAE

- Platanus occidentalis* L. Sycamore. Common tree of alluvial bottoms.

## ROSACEAE

- Agrimonia pubescens* Wallr. Common in rich upland woods.
- Agrimonia striata* Michx. Common in moist woods.
- Amelanchier arborea* (Michx.f.) Fern. Common on bluffs.
- Crataegus crusgalli* L. Common in dry rocky soil.
- Crataegus mollis* L. Common in upland woods.
- Crataegus margaretta* Ashe. Common weed tree in woods and pastures.
- Fragaria virginiana* Duch. Wild strawberry. Common in upland woods and along roadsides.
- Geum canadense* Jacq. White avens. Common in upland woods.
- Geum laciniatum* Murr. Common in low moist ground.
- Potentilla arguta* Pursh. Tall cinquefoil. Common in clay prairie soils along roadsides.
- Potentilla norvegica* L. Rough cinquefoil. Common in moist lowlands.
- \**Potentilla recta* L. Infrequent in sandy soil.
- Potentilla simplex* Michx. Common cinquefoil. Common along roadsides and in prairies.
- Prunus americana* Marsh. Wild plum. Common along roadsides and in upland woods.
- Prunus serotina* Ehrh. Wild Black Cherry. Common in upland woods.
- Prunus virginiana* L. Chokecherry. Common in woods and thickets.
- Pyrus ioensis* (Woods.) Bailey. Wild crab. Common in woods and along roadsides.
- Rosa arkansana* Porter. Common along roadsides and fencerows.

*Rosa blanda* Ait. Frequent in rocky soil.

\**Rosa eglanteria* L. Sweet Briar. Frequent along roadsides.

*Rubus allegheniensis* Porter. Blackberry. Common in upland woods and thickets.

*Rubus flagellaris* Willd. Dewberry. Frequent in dry woods and thickets.

*Rubus occidentalis* L. Black raspberry. Common in upland woods and along roadsides.

*Spiraea alba* DuRoi. Meadowsweet. Common in low moist ground.

LEGUMINOSAE

*Amorpha canescens* Pursh. Lead-plant. Common in prairie soil and along roadsides.

*Amorpha fruticosa* L. Indigo-bush. Common in low moist ground.

*Amphicarpa bracteata* (L.) Fern. Common in woodlands.

*Apios americana* Medic. Groundnut. Rare in moist sandy soil.

*Astragalus canadensis* L. Common along roadsides.

*Baptisia leucantha* T. & G. Frequent along roadsides and in moist prairie soil.

*Baptisia leucophaea* Nutt. Rare in prairie soil.

*Cassia fasciculata* Michx. Partridge-pea. Common in dry ground along roadsides.

*Cercis canadensis* L. Rare, near south edge of county, in alluvial woods.

*Desmodium canadense* (L.) DC. Frequent in upland woods.

*Desmodium cuspidatum* (Muhl.) Loud. Frequent in dry prairie soil.

*Desmodium dillenii* Darl. Infrequent in open woods.

*Desmodium glutinosum* Muhl. Common in upland woods.

*Desmodium illinoense* Gray. Rare in sandy soil.

*Gleditsia triacanthos* L. Common tree in lowland pastures.

*Lespedeza capitata* Michx. Common in dry soil and prairies.

\**Lespedeza stipulacea* Maxim. Common along roadsides and in fields.

*Lespedeza violacea* (L.) Pers. Infrequent in upland woods.

*Lespedeza virginica* (L.) Britt. Infrequent in upland woods.

\**Lotus corniculatus* L. Frequent along roadsides.

\**Medicago lupulina* L. Black Medic. Common in fields and waste places.

\**Medicago sativa* L. Alfalfa. Common along roadsides and in fields.

\**Melilotus alba* Desr. Common along roadsides and in waste places.

\**Melilotus officinalis* (L.) Lam. Yellow Sweet Clover. Common along railroads and roadsides.

*Petalostemum candidum* (Willd.) Michx. White prairie clover. Frequent in dry prairie.

*Petalostemum purpureum* (Vent.) Pydb. Frequent in dry prairies.

\**Robinia pseudo-acacia* L. Black locust. Common in upland woods and thickets.

*Strophostyles helvola* (L.) Britt. Infrequent in dry sandy soil along rivers.

\**Trifolium dubium* Sibth. Little Hop-clover. Rare in alluvial pasture.

\**Trifolium hybridum* L. Alsike Clover. Common along roadsides and in waste places.

\**Trifolium pratense* L. Red Clover. Common along roadsides and in waste places.

\**Trifolium repens* L. White Clover. Common along roadsides, in lawns, and waste places.

\**Vicia sativa* L. Spring Vetch. Indicated from Washington County by maps in "Weed Flora of Iowa", by Pammel et al.

OxALIDACEAE

*Oxalis cymosa* Small. Frequent along roadsides and in gardens.

*Oxalis europaea* Jord. Common Wood-sorrel. Common along roadsides and waste places.

*Oxalis stricta* L. Common along roadsides and in waste places.

*Oxalis violacea* L. Violet wood-sorrel. Common in open woods and prairies.

GERANIACEAE

*Geranium carolinianum* L. Rare in dry sandy soil near the Iowa River.

*Geranium maculatum* L. Wild cranesbill. Common wild flower of rich upland woods.

## RUTACEAE

*Ptelea trifoliata* L. Wafer-ash. Rare at edge of upland woods.

*Zanthoxylum americanum* Mill. Prickly-ash. Common shrub of upland woods and thickets.

## ZYGOPHYLLACEAE

\**Tribulus terrestris* L. Puncture-weed. Rare in sandy waste ground in railroad yard.

## POLYGALACEAE

*Polygala sanguinea* L. Common in prairies.

*Polygala verticillata* L. Rare in dry soil along roadsides.

## EUPHORBIACEAE

*Acalypha rhomboidea* Raf. Common in fields and along roadsides.

*Croton glandulosus* L. Muell. Common in dry fields along streams.

*Euphorbia corollata* L. Flowering Spurge. Common a variety of habitats.

\**Euphorbia cyparissis* L. Cypress spurge. Infrequent escape in old cemeteries.

*Euphorbia dentata* Michx. Common along roadsides and railroads.

*Euphorbia glyptosperma* Engelm. Rare in dry sandy soil.

*Euphorbia maculata* (L.) Small. Nodding Spurge. Common in dry soil along roadsides and in waste places.

\**Euphorbia marginata* Pursh. Snow-on-the-mountain. Infrequent escape along roadsides.

*Euphorbia supina* (Raf.) Moldenke. Milk Spurge. Common in dry soils along roadsides.

## ANACARDIACEAE

*Rhus glabra* L. Smooth Sumac. Common along roadsides and in upland woods.

*Rhus radicans* L. Poison Ivy. Common in woods and along roadsides throughout the county.

## CELASTRACEAE

*Celastrus scandens* L. Climbing Bittersweet. Common in both alluvial and upland woods.

*Euonymus atropurpureus* Jacq. Burning-bush, Wahoo. Frequent in upland woods.

## STAPHYLEACEAE

*Staphylea trifolia* L. Bladdernut. Infrequent in upland woods.

## ACERACEAE

*Acer negundo* L. Box-elder. Common in alluvial woods.

*Acer nigrum* Michx. f. Black Maple. Common in upland woods.

*Acer saccharinum* L. Silver Maple. Common along banks of streams.

## HIPPOCASTANACEAE

*Aesculus glabra* Willd. Common in lowland woods.

## BALSAMINACEAE

*Impatiens capensis* Meerb. Spotted Touch-me-not. Common in moist lowlands.

*Impatiens pallida* Nutt. Common in alluvial bottoms.

## RHAMNACEAE

*Ceanothus americanus* L. New Jersey Tea. Common along roadsides.

*Rhamnus lanceolata* Pursh. Buckthorn. Rare in low woods.

VITACEAE

- Parthenocissus inserta* (Kerner) K. Fritsch. Common in rich woods.  
*Parthenocissus quinquefolia* (L.) Planch. Virginia Creeper. Common in wooded areas throughout the county.  
*Vitis riparia* Michx. Riverbank Grape. Common in alluvial woods and along fence rows.

TILIACEAE

- Tilia americana* L. Basswood. Common tree of alluvial bottoms and calcareous slopes.

MALVACEAE

- \**Abutilon theophrasti* Medic. Velvet-leaf. Common weed of cultivated fields and waste places.  
 \**Althaea rosea* Cav. Hollyhock. Common escape to roadsides and waste places.  
 \**Hibiscus trionum* L. Flower-of-an-hour. Common weed of cultivated fields and roadsides.  
 \**Malva neglecta* Wallr. Common weed of barnyards and waste places.  
 \**Malva rotundifolia* L. Indicated as being in Washington County by dots on maps of "Weed Flora of Iowa" by Pammel et al.  
 \**Sida spinosa* L. Prickly Sida. Frequent weed of waste places.

GUTTIFERAE

- Hypericum mutilum* L. Common in moist ground in sloughs.  
 \**Hypericum perforatum* L. Common St. John's Wort. Common along roadsides and in meadows.  
*Hypericum prolificum* L. Shrubby St. John's Wort. Rare on dry wooded slopes.  
*Hypericum punctatum* Lam. Common in moist woods.  
*Hypericum pyramidatum* Ait. Giant St. John's Wort. Rare in moist prairie.  
*Hypericum sphaerocarpum* Michx. Common in upland woods and along roadsides.

CISTACEAE

- Helianthemum bicknellii* Fern. Frostweed. Common in dry prairie.  
*Lechea stricta* Leggett. Rare in dry sandy soil.

VIOLACEAE

- \**Viola hallii* Rare escape along roadside.  
*Viola missouriensis* Greene. Common in alluvial bottom woods.  
*Viola papilionacea* Pursh. Butterfly Violet. Common in upland woods.  
*Viola pedata* L. Bird-foot violet. Frequent in prairies.  
*Viola pedatifida* Don. Infrequent in prairie.  
*Viola pennsylvanica* Michx. Common yellow violet. Common in rich woods.  
*Viola sororia* Willd. Downy blue violet. Common in upland woods.

LYTHRACEAE

- Lythrum alatum* Pursh. Common Loosestrife. Common in low wet bottom lands and sloughs.  
*Peplis diandra* Nutt. Common on mud along sloughs and ponds.

ONAGRACEAE

- Circaea quadrisulcata* (Maxim.) G.&S. Common in upland woods.  
*Gaura biennis* L. Infrequent in dry soil along roadsides.  
*Ludwigia alternifolia* L. False Loosestrife. Common along marshes and sloughs.  
*Ludwigia polycarpa* S. & P. Infrequent in moist sandy soil.  
*Oenothera biennis* L. Common weed of many habitats.  
*Oenothera pilosella* Raf. Common Sundrops. Infrequent in moist ground along roadsides.  
*Oenothera rhombipetala* Nutt. Frequent in sandy soil.

## ARALIACEAE

- Aralia nudicaulis* L. Common in rich upland woods.  
*Aralia racemosa* L. Infrequent in rich upland woods.  
*Panax quinquefolius* L. Infrequent in rich woods.

## UMBELLIFERAE

- Chaerophyllum procumbens* (L.) Crantz. Common in bottomlands.  
*Cicuta maculata* L. Frequent along moist banks of streams.  
*Cryptotaenia canadensis* (L.) DC. Common in moist upland woods.  
 \**Daucus carota* L. Queen Ann's Lace. Common along roadsides.  
*Eryngium yuccifolium* Michx. Frequent in prairies.  
*Osmorhiza claytonii* (Michx.) Clarke. Common in upland woods.  
*Osmorhiza longistylis* (Torr.) DC. Infrequent in rich upland woods.  
 \**Pastinaca sativa* L. Common along roadsides, railroads, and in waste places.  
*Sanicula canadensis* L. Frequent in woods  
*Sanicula gregaria* Bickn. Common in woods.  
*Sium suave* Walt. Common in moist lowlands.  
*Taenidia integerrima* (L.) Drude. Infrequent in moist upland woods.  
*Thaspium barbinode* (Michx.) Meunch. Common in woods.  
*Zizia aurea* (L.) Koch. Common along roadsides and in meadows.

## CORNACEAE

- Cornus alternifolia* L.f. Alternate-leaved dogwood. Common in rich upland woods.  
*Cornus drummondii* Meyer. Rough-leaved dogwood. Common in moist woods and along streams.  
*Cornus obliqua* Raf. Pale Dogwood. Frequent in moist shady woods and low wet areas.  
*Cornus racemosa* Lam. Gray Dogwood. Common in woods and on roadsides.

## PRIMULACEAE

- Dodecatheon meadia* L. Frequent in dry prairie.  
*Lysimachia ciliata* L. Fringed loosestrife. Common in moist ground.  
*Lysimachia lanceolata* Walt. Common in moist alluvial soil.  
 \**Lysimachia nummularia* L. Moneywort. Frequent in moist alluvial soil along streams.

## OLEACEAE

- Fraxinus americana* L. White ash. Infrequent in rich woods.  
*Fraxinus pennsylvanica* Marsh. Green ash. Common in bottomland.

## GENTIANACEAE

- Gentiana andrewsii* Griseb. Rare in moist lowland prairie.  
*Gentiana puberula* Michx. Infrequent in dry prairie.

## APOCYNACEAE

- Apocynum androsaemifolium* L. Spreading Dogbane. Rare in rich woods.  
*Apocynum cannabinum* L. Dogbane. Common along roadsides, railroads and waste places.  
 \**Vinca minor* L. Running-myrtle. Rare escape along banks of English River.

## ASCLEPIADIACEAE

- Asclepias amplexicaulis* Sm. Infrequent in dry sandy soil.  
*Asclepias incarnata* L. Swamp milkweed. Common in marshes and sloughs.  
*Asclepias purpurascens* L. Purple milkweed. Rare in upland woods.  
*Asclepias syriaca* L. Common milkweed. Common in fields and along roadsides.  
*Asclepias tuberosa* L. Butterfly-weed. Frequent along roadsides and along railroads.  
*Asclepias verticillata* L. Horsetail Milkweed. Common in fields and along roadsides.

CONVOLVULACEAE:

- \**Convolvulus arvensis* L. Field Bindweed. Frequent along railroads and in waste places.
- \**Convolvulus repens* L. Rare in railroad ballast.
- \**Convolvulus sepium* L. Wild Morning Glory. Common along roads, railroads, and fencerows.
- \**Ipomea hederacea* Jacq. Infrequent in fields.
- Ipomea pandurata* (L.) G. F. W. Mey. Wild Sweet-potato. Infrequent in rich woods.
- \**Ipomea purpurea* (L.) Roth. Common morning-glory. Common in fields and waste places.
- Cuscuta polygonorum* Engelm. Rare, observed in lowland moist field on *Polygonum*.

POLEMONIACEAE

- Phlox divaricata* L. Blue Phlox. Common in alluvial bottom woods.
- Phlox paniculata* L. Fall phlox. Rare in upland woods.
- Phlox pilosa* L. Downy Phlox. Frequent in prairies.
- Polemonium reptans* L. Jacob's Ladder. Common in rich upland woods.

HYDROPHYLLACEAE

- Ellisia nyctelea* L. Common in upland woods and disturbed soil.
- Hydrophyllum appendiculatum* Michx. Rare in rich woods.
- Hydrophyllum virginianum* L. Common in moist rich woods.

BORAGINACEAE

- Lithospermum canescens* (Michx.) Lehm. Common in prairies.
- Mertensia virginica* (L.) Pers. Bluebells. Common in moist alluvial woods.

VERBENACEAE

- Lippia lanceolata* Michx. Common in marshes and moist lowlands.
- Verbena bracteata* Lag. & Rodr. Frequent weed of roadsides and lawns.
- Verbena hastata* L. Blue Vervain. Common in moist bottom lands.
- Verbena stricta* Vent. Hoary Vervain. Common weed of dry soils.
- Verbena urticifolia* L. White vervain. Frequent along borders of alluvial woods.

LABIATAE

- Agastache nepetoides* (L.) Ktze. Frequent along borders of woods and thickets.
- Hedeoma hispida* Pursh. Rough Pennyroyal. Common along railroads and in waste places.
- Hedeoma pulegioides* (L.) Pers. American Pennyroyal. Common in dry upland woods.
- \**Glechoma hederacea* L. Frequent in waste ground.
- \**Leonurus cardiaca* L. Motherwort. Common weed of barnyards and roadsides.
- Lycopus americanus* Muhl. Common in wet ground along streams.
- Lycopus virginicus* L. Common in wet ground along streams.
- Mentha arvensis* L. Wild Mint. Rare in marshy area.
- Monarda fistulosa* var. *mollis* (L.) Benth. Wild Bergamot. Common along fencerows and in waste places.
- \**Nepeta cataria* L. Catnip. Common weed of barnyards and waste places.
- Physostegia parviflora* Nutt. Common on wet ground along streams.
- Prunella vulgaris* L. Carpenter-weed. Common in low pastures and waste ground.
- Pycnanthemum tenuifolium* Schrad. Frequent in dry waste ground.
- Pycnanthemum pilosum* Nutt. Common along roads, borders of woods, and in prairie soil.
- Stachys palustris* L. Frequent in wet lowlands.
- Stachys tenuifolia* Willd. Common in moist bottomland woods.
- Scutellaria epilobiifolia* A. Hamilton. Common in marshy soil.
- Scutellaria lateriflora* L. Common in alluvial woods and marshy areas.
- Teucrium canadense* L. Common in a variety of habitats.

## SOLANACEAE

- \**Datura stramonium* L. Jimson-weed. Common in cultivated fields and barnyards.  
 \**Lycium halimifolium* Mill. Matrimony-vine. Frequent escape along roadsides and railroads.  
*Physalis heterophylla* Nees. Common in dry soil in cultivated fields and waste ground.  
*Physalis lanceolata* Michx. Common in dry soil.  
*Physalis pruinosa* L. Infrequent in waste ground.  
*Physalis subglabrata* Mack. & Bush. Infrequent in waste ground.  
*Solanum carolinense* L. Horse-nettle. Common in barnyards and fields.  
*Solanum nigrum* L. Common in waste places and along fencerows.  
 \**Solanum rostratum* Dunal. Infrequent in barnyards.

## SCROPHULARIACEAE

- \**Chaenorrhinum minus* (L.) Lange. Frequent escape along roadsides.  
*Collinsia verna* Nutt. Blue-eyed Mary. Rare in alluvial woods.  
*Gerardia grandiflora* Benth. False Foxglove. Rare on dry slope.  
*Gerardia auriculata* Michx. Rare in field.  
*Gerardia tenuifolia* Vahl. Common in moist ground along ponds and streams.  
*Gratiola neglecta* Torr. Infrequent in moist soil.  
 \**Linaria vulgaris* Hill Butter and Eggs. Common escape along roadsides and railroads.  
*Lindernia anagallidea* (Michx.) Pennell. Frequent along marshes and ditches.  
*Lindernia dubia* (L.) Pennell. Frequent along sloughs and ditches.  
*Mimulus alatus* Soland. Rare in wet ground of stream.  
*Mimulus ringens* L. Common in moist lowlands and sloughs.  
*Pedicularis canadensis* L. Lousewort. Frequent in prairies.  
*Scrophularia marilandica* L. Frequent in upland woods, and along roadsides.  
 \**Verbascum blattaria* L. Moth mullein. Rare along roadsides.  
 \**Verbascum phlomoides* L. Rare along roadside.  
 \**Verbascum thapsus* L. Common mullein. Common along roads and in waste places.  
 \**Veronica arvensis* L. Common weed of lawns and waste places.  
*Veronica peregrina* L. Neckweed. Common weed along roadsides and in waste places.  
*Veronicastrum virginicum* (L.) Farw. Culver-root. Common in upland woods and along roadsides.

## BIGNONIACEAE

- \**Campsis radicans* (L.) Seem. Trumpet-creeper. Escape along edge of small stream.  
 \**Catalpa speciosa* Warder. Infrequent escape along roadsides.

## ACANTHACEAE

- Ruellia humilis* Nutt. Hairy Ruellia. Common in dry prairie soil.  
*Ruellia strepens* L. Smooth Ruellia. Rare in alluvial woods.

## PHRYMACEAE

- Phryma leptostachya* L. Common in upland woods.

## PLANTAGINACEAE

- Plantago aristata* Michx. Common in dry clay soil.  
 \**Plantago lanceolata* L. Ribgrass. Common in fields and waste places.  
 \**Plantago major* L. Common plantago. Common weed in lawns and waste places.  
*Plantago rugelii* Dcne. Common in lawns and waste places.

RUBIACEAE

- Cephalanthus occidentalis* L. Common in moist ground along marshes and streams.  
*Galium aparine* L. Common in woods.  
*Galium circaezans* Michx. Frequent in upland woods.  
*Galium concinnum* T. & G. Common in upland woods.  
*Galium obtusum* Bigel. Infrequent in dry woods.  
*Galium tinctorium* L. Common in marshy lowlands.  
*Galium triflorum* Michx. Frequent in rich upland woods.

CAPRIFOLIACEAE

- Lonicera prolifera* (Kirchn.) Rehd. Infrequent on calcareous slopes.  
*Sambucus canadensis* L. Common in moist woodlands.  
*Symphoricarpos orbiculatus* Moench. Coralberry. Common in dry upland pastures.  
*Triosteum aurantiacum* Bickn. Rare in open woods.  
*Triosteum perfoliatum* L. Frequent in rich upland woods.  
*Viburnum lentago* L. Frequent in rich woods and along roadsides.

CUCURBITACEAE

- Echinocystis lobata* (Michx.) T. & G. Wild Balsam-apple. Infrequent in alluvial bottomlands.  
*Sicyos angulatus* L. Infrequent in alluvial bottom woods.

CAMPANULACEAE

- Campanula americana* L. Common in moist woods.  
*Lobelia inflata* L. Indian tobacco. Common in moist fields and lowland woods.  
*Lobelia siphilitica* L. Giant Lobelia. Common in moist lowlands.  
*Lobelia spicata* Lam. Common along roadsides and in prairies.  
*Triodanis perfoliata* (L.) Nieuel. Common in dry soil.

COMPOSITAE

- \**Achillea millefolium* L. Common weed in dry pastures.  
*Ambrosia artemisiifolia* L. Common weed of fields, roadsides and waste ground.  
*Ambrosia trifida* L. Common weed of roadsides, stream banks, and waste places.  
*Antennaria neglecta* Greene. Common in upland woods and clearings.  
*Antennaria plantaginifolia* (L.) Hook. Common in dry soils along roadsides and in upland woods.  
\**Anthemis cotula* L. Dog-fennel. Common weed of barnyards and moist pastures.  
\**Arctium minus* (Hill.) Bernh. Common weed of roadsides and waste places.  
\**Artemisia biennis* Willd. Rare in alluvial pasture.  
*Artemisia caudata* Michx. Rare in lowland woods.  
*Artemisia ludoviciana* Nutt. White Sage. Common in dry soils.  
*Aster azureus* Lindl. Common in prairie.  
*Aster ericoides* L. Common in dry woods and prairies.  
*Aster lateriflorus* (L.) Britt. Common along roadsides and in wooded areas.  
*Aster laevis* L. Infrequent in dry soil.  
*Aster novae-angliae* L. Common along roadsides.  
*Aster ontarionis* Wieg. Infrequent in fields and pastures.  
*Aster pilosus* Willd. Common along roadsides and fields.  
*Aster praealtus* Poir. Infrequent in dry soil.  
*Aster sagittifolius* Wedem. Common in a wide variety of habitats.  
*Aster shortii* Lindl. Frequent in moist woods.  
*Aster simplex* Willd. Frequent in moist soil along streams.  
*Bidens cernua* L. Common in moist lowlands and along streams.  
*Bidens comosa* (A. Gray.) Wieg. Common in low wet areas and along streams.

- Bidens aristosa* (Michx.) Britt. Common in moist ground along roadsides and streams.
- Bidens connata* Muhl. Infrequent in marshes.
- Bidens frondosa* L. Common in moist ground.
- Bidens vulgata* Greene. Common in moist lowlands and along streams.
- Boltonia asteroides* (L.) L'Her. Common on banks of streams and in marshes.
- Cacalia atriplicifolia* L. Rare in sandy open woods.
- Cacalia suaveolens* L. Rare in alluvial woods.
- \**Chrysanthemum leucanthemum* L. Frequent along roadsides and in old pastures.
- \**Cichorium intybus* L. Infrequent along roadsides.
- Cirsium altissimum* (L.) Spreng. Frequent in woods and along streams.
- \**Cirsium arvense* (L.) Scop. Canada thistle. Indicated from Washington county by dots on maps in "Weed Flora of Iowa," by Pammel, et al.
- Cirsium discolor* (Muhl.) Spreng. Frequent in dry fields and along roads.
- Cirsium hillii* (Canby) Fern. Rare in prairie pasture.
- \**Cirsium vulgare* (Savi.) Airy-Shaw. Common in fields and on roadsides.
- Coreopsis palmata* Nutt. Common in prairies along railroads.
- Coreopsis tripteris* L. Common along roadsides and in prairies.
- \**Coreopsis tinctoria* Nutt. Rare in ballast along railroad near Washington.
- Echinacea pallida* Nutt. Common along roadsides and in prairies.
- Eclipta alba* (L.) Hassk. Common in moist bottom lands and on mud banks along streams and ponds.
- Erechtites hieracifolia* (L.) Raf. Fireweed. Frequent in moist lowlands.
- Erigeron annuus* (L.) Pers. Common along roadsides and in upland woods.
- Erigeron canadensis* L. Common weed of many and variable habitats.
- Erigeron divaricatus* Michx. Rare in over grazed pastures.
- Erigeron philadelphicus* L. Common in upland woods.
- Erigeron strigosus* Muhl. Common in upland woods, along roadsides and in waste places.
- Eupatorium altissimum* L. Tall thoroughwort. Frequent in upland woods and along roadsides.
- Eupatorium maculatum* L. Frequent in moist lowlands.
- Eupatorium perfoliatum* L. Boneset. Common in marshes, low woods and meadows.
- Eupatorium purpureum* L. Frequent in woods and along streams.
- Eupatorium rugosum* Houtt. White Snake Root. Common in upland woods.
- Eupatorium serotinum* Michx. Late boneset. Common in moist ground.
- Gnaphalium obtusifolium* L. Sweet Everlasting. Common in field, and along roadsides.
- Helianthus autumnale* L. Common in alluvial lowlands.
- \**Helianthus annuus* L. Common along railroads and roadsides.
- Helianthus grosseserratus* Martesn. Common in moist ground along ditches and roadsides.
- Helianthus decapetalus* L. Infrequent in dry upland woods.
- \**Helianthus petiolaris* Nutt. Rare along railroads.
- Helianthus strumosus* L. Frequent in prairies and along borders of woods.
- Helianthus tuberosus* L. Common along roadsides and in waste places.
- Heliopsis helianthoides* (L.) Sweet. Common in prairie and along roadsides.
- Hieracium scabrum* Michx. Rough Hawkweed. Rare in dry open woods.
- Krigia biflora* (Walt.) Blake. Common in prairie.
- Kuhnia eupatorioides* L. Frequent in dry prairie.
- Lactuca canadensis* L. Common along roadsides and in waste places.
- Lactuca floridana* (L.) Gaertn. Common along roadsides and edges of woods.
- Lactuca pulchella* (Pursh) DC. Rare along railroads.
- \**Lactuca scariola* L. Frequent in dry soil.
- Liatriis espera* Fichx. Common in dry prairies.
- Liatriis pycnostachya* Michx. Frequent in low, moist prairies.
- \**Matricaria matricarioides* (L.) Less. Porter. Weed of roadsides and waste places.

- Parthenium integrifolium* L. Infrequent in prairie.  
*Prenanthes alba* L. Common in upland woods and on roadsides.  
*Prenanthes aspera* Michx. Rare in dry prairie.  
*Ratibida pinnata* (Vent.) Barnh. Common in prairie along roadsides, and in waste places.  
*Rudbeckia laciniata* L. Common in moist bottomlands.  
*Rudbeckia serotina* Nutt. Common in dry soil.  
*Rudbeckia subtomentosa* Pursh. Infrequent in low moist soil.  
*Rudbeckia triloba* L. Common in upland woods, and along streams.  
*Senecia plattensis* Nutt. Common in prairies, upland woods and on roadsides.  
*Silphium integrifolium* Michx. Common in prairies and along roadsides.  
*Silphium laciniatum* L. Common in moist prairie.  
*Silphium perfoliatum* L. Common in moist bottomlands and along streams.  
*Solidago altissima* L. Common along railroads, fencerows and in waste places.  
*Solidago canadensis* L. Common in variable habitats.  
*Solidago flexicaulis* L. Common in woods.  
*Solidago gigantea* Ait. Common in woods, on roadsides and in waste places.  
*Solidago graminifolia* L. Frequent in dry prairies and fields.  
*Solidago missouriensis* Nutt. Infrequent in dry prairie.  
*Solidago nemoralis* Ait. Frequent in dry calcareous soil.  
*Solidago rigida* L. Frequent in prairie.  
*Solidago ulmifolia* Muhl. Common in upland woods.  
*Solidago speciosa* Nutt. Frequent in prairie and on roadsides.  
*\*Sonchus asper* (L). Hill. Spiny sow-thistle. Rare in barnyard.  
*\*Sonchus oleraceus* L. Common Sow-thistle. Infrequent in fields and waste places.  
*\*Taraxacum erythrospermum* Andrz. Common in a variety of habitats.  
*\*Taraxacum officinale* Weber. Common weed of lawns, fields, and waste places.  
*\*Tragopogon major* Jacq. Common weed of roadsides.  
*Vernonia fasciculata* Michx. Common weed of moist lowlands and pastures.  
*Vernonia missurica* Raf. Rare in open wooded pasture.  
*Xanthium commune* Britt. Common weed of cultivated fields.

STATISTICAL SUMMARY

A. Components of the Flora of Washington County, Iowa

Major Groups	Species		Genera
	Native	Introduced	
Pteridophytes	17	0	10
Gymnosperms	1	0	1
Monocotyledons	129	19	69
Dictoyledons	420	92	346

B. Number of families represented 94

C. Largest families with number of species in each.

Compositae	103	Rosaceae	24
Gramineae	70	Labiatae	20
Cyperaceae	46	Scrophulariaceae	18
Leguminosae	33		

D. Largest genera with number of species in each.

Carex	35	Solidago	10
Polygonum	14	Panicum	8
Aster	11	Viola	7

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