

1987

## A survey of the vascular flora of Black Hawk County, Iowa

Karen E. Van Norman  
*University of Northern Iowa*

*Let us know how access to this document benefits you*

Copyright ©1987 Karen E. Van Norman

Follow this and additional works at: <https://scholarworks.uni.edu/etd>



Part of the [Botany Commons](#)

---

### Recommended Citation

Van Norman, Karen E., "A survey of the vascular flora of Black Hawk County, Iowa" (1987). *Dissertations and Theses @ UNI*. 194.

<https://scholarworks.uni.edu/etd/194>

This Open Access Thesis is brought to you for free and open access by the Student Work at UNI ScholarWorks. It has been accepted for inclusion in Dissertations and Theses @ UNI by an authorized administrator of UNI ScholarWorks. For more information, please contact [scholarworks@uni.edu](mailto:scholarworks@uni.edu).

**Offensive Materials Statement:** Materials located in UNI ScholarWorks come from a broad range of sources and time periods. Some of these materials may contain offensive stereotypes, ideas, visuals, or language.

A SURVEY OF THE VASCULAR FLORA  
OF BLACK HAWK COUNTY, IOWA

An Abstract of a Thesis  
Submitted  
In Partial Fulfillment  
of the Requirements for the Degree  
Master of Arts

**LIBRARY  
UNIVERSITY OF NORTHERN IOWA  
CEDAR FALLS, IOWA**

Karen E. Van Norman  
University of Northern Iowa  
July 1987

## ABSTRACT

Black Hawk County, located in the east-central part of the state of Iowa, is a political subdivision of 570 square miles. The topography of the county is the result of glaciation, erosion and deposition, causing gently rolling plains. The Cedar and the Wapsipinicon rivers transect the county from the northeast to the southwest. With their tributaries, these rivers comprise a natural drainage network which has enhanced agricultural practices throughout the county.

The vascular flora of the county was surveyed in the field during the growing seasons of 1982 and 1983. Over 1500 voucher specimens were collected. Data were also compiled from over 2500 herbarium specimens of collections made in Black Hawk County. The documented flora of native or naturalized plant species known to grow or to have grown independent of cultivation consists of 826 species representing 399 genera and 98 families. Eighteen species are included on the Iowa list of threatened and endangered species, including two species unique to the state: Carex leptalea Wahl. (Cyperaceae) and Dalea villosa (Nutt.) Sprengel (Fabaceae). Another rare species, Rubus hispidus L. (Rosaceae) is also found only in Black Hawk County in the state. An annotated catalog of the species has been compiled and includes nomenclature, common names, frequency of occurrence, habitat, and specimens examined.

Pre-settlement vegetation was examined in relation to the soils, and percentage of vegetation in the county was calculated in a general segregation of forest, prairie, and marsh. Calculations of 13.5%,

91.0%, and less than 0.1%, respectively, were derived from distributions of soil types. Forested areas were found mainly along water courses. Upland forests arose adjacent to the floodplains and prairie areas were generally associated with the uplands. Wet prairies and marshes were found in poorly drained lowland areas. Agriculture has played a major role in diminishing the natural areas in the county. Native vegetation has been confined largely to sandy areas, riparian areas, wetlands, marshes, and railroad right-of-ways.

The vegetation of Black Hawk County has been categorized within six major divisions: forest, savannah, prairie, wetland, pond, and cultural. Subdivisions of floodplain forest, upland forest, sand forest, prairie, sand prairie, limestone prairie, sedge meadow, and marsh have been recognized within the major divisions. Research sites representing each of these areas were visited, and species lists were compiled for each.

A checklist of rare species not collected since 1970 was compiled. Additional field reconnaissance may relocate these species and provide information on their frequency in the county. Sandy areas, formed by eolian (windblown) or alluvial deposition, in the county have provided some interesting habitats for some species not commonly found in the state. These sandy areas could be studied extensively and a sand flora compiled for the county.



A SURVEY OF THE VASCULAR FLORA  
OF BLACK HAWK COUNTY, IOWA

A Thesis  
Submitted  
In Partial Fulfillment  
of the Requirements for the Degree  
Master of Arts

Karen E. Van Norman  
University of Northern Iowa  
July 1987

This Study by: Karen E. Van Norman

Entitled:

A Survey of the Vascular Flora of Black Hawk County, Iowa

has been approved as meeting the thesis requirement for the  
Degree of Master of Arts

**Lawrence J. Eilers**

1 July 87  
Date

~~Chairman, Thesis Committee~~

**Daryl D. Smith**

7/1/87  
Date

~~Member, Thesis Committee~~

**David V. McCalley**

7/1/87  
Date

~~Member, Thesis Committee~~

**John C. Downey**

8/13/87  
Date

~~Dean of the Graduate College~~

## ACKNOWLEDGEMENTS

I would like to thank the members of my Thesis Committee, Dr. Lawrence J. Eilers (chairperson), Dr. David V. McCalley, and Dr. Daryl D. Smith for their guidance throughout this study. I especially thank Dr. Eilers for his moral support and aid in identification of specimens. Thanks to Dr. Eilers for allowing me to examine the herbarium at the University of Northern Iowa and to use his data from the University of Iowa herbarium. Thanks to Dr. Dean Roosa and Dr. Eilers for compiling the checklist of the flora of Iowa, an invaluable resource.

Acknowledgement is extended to the Iowa Natural Areas Inventory for financial assistance. Thanks to the many land owners who allowed access to their property. Thanks to Dr. Richard W. Pohl for allowing me to work in the Iowa State University herbarium and for his verification of some Poaceae collections, and to Dr. Almut G. Jones for verification of some Aster collections. Thanks to William Pusateri and Bill Watson for botanical support.

Many people have been supportive at one time or another throughout this project. I thank each of you, including Philip Nusbaum, David and Barb Bangert, Sharon Anway, Rosanna Giordano, John and Martha Deines of the Lutheran Center, and Jeanne and Connie Sorenson of Ingham-Okobojo Camping Ministries.

Finally, I would like to express my special appreciation to my parents, Verl and Martha Van Norman, my sister Joan Van Norman, and my family.

## TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS. . . . .	iii
LIST OF TABLES. . . . .	vii
LIST OF FIGURES . . . . .	viii
CHAPTER	
1. INTRODUCTION . . . . .	1
Iowa Native Habitats . . . . .	1
Study Aims . . . . .	1
Study Area . . . . .	2
Location . . . . .	2
Settlement . . . . .	2
Geology. . . . .	4
Climate. . . . .	4
Topography . . . . .	4
Soils. . . . .	5
Parent materials . . . . .	5
Soil association units . . . . .	7
Vegetation and soil formation. . . . .	9
Pre-historic Vegetation. . . . .	10
Pre-settlement Vegetation. . . . .	13
Post-settlement Vegetation . . . . .	15
Previous Studies . . . . .	15

2. METHODS. . . . .	17
Herbarium Study. . . . .	17
Field Study and Research Sites . . . . .	17
Data Collection. . . . .	19
Identification of Specimens. . . . .	19
Disposition of Specimens . . . . .	19
3. RESULTS. . . . .	26
Threatened and Endangered Species. . . . .	26
Endangered Species . . . . .	26
Threatened Species . . . . .	27
Species of Interest. . . . .	29
Vegetation Classification. . . . .	29
Forest . . . . .	31
Floodplain forest. . . . .	31
Upland forest. . . . .	32
Sand forest. . . . .	33
Savannah . . . . .	34
Prairie. . . . .	35
Prairie. . . . .	35
Sand prairie . . . . .	36
Limestone prairie. . . . .	37
Wetlands . . . . .	38
Sedge meadow . . . . .	38
Marsh. . . . .	39
Pond . . . . .	41
Cultural . . . . .	41

4. CONCLUSION . . . . .	44
Recommendations for Further Study. . . . .	47
REFERENCES CITED. . . . .	48
APPENDIX	
A. ANNOTATED CATALOG. . . . .	52
B. EXCLUDED SPECIES . . . . .	200
C. RARE PLANTS NOT COLLECTED SINCE 1970 . . . . .	204
INDEX OF FAMILIES AND GENERA. . . . .	207

## LIST OF TABLES

## Table

1.	Native vegetation associated with soil series in Black Hawk County, Iowa. . . . .	11
2.	Major research sites in Black Hawk County, Iowa. . . . .	20
3.	Previously studied natural areas in Black Hawk County. . . . .	22
4.	Minor research sites . . . . .	24
5.	Black Hawk County endangered and threatened plant species. . . . .	28
6.	Species of interest in Black Hawk County, Iowa . . . . .	30
7.	Statistical summary of the vascular flora of Black Hawk County, Iowa. . . . .	45
8.	Statistical summary of the families and genera containing the largest number of species found in Black Hawk County . . . . .	46
9.	Approximate locations of sites listed by a title on herbarium specimens . . . . .	54
10.	Interpretation of collection numbers . . . . .	55

## LIST OF FIGURES

## Figure

1.	Map of Black Hawk County, Iowa. . . . .	3
2.	Location of Black Hawk County on the Iowan Surface. . . . .	6
3.	Major soil association units of Black Hawk County, Iowa . . .	8
4.	Early vegetation of Black Hawk County, Iowa . . . . .	14
5.	Map of major research sites in Black Hawk County, Iowa. . . .	21
6.	Map of previously studied natural areas in Black Hawk County, Iowa. . . . .	23
7.	Map of research areas in Black Hawk County, Iowa. . . . .	25



## CHAPTER 1

## INTRODUCTION

Iowa Native Habitats

Black Hawk County and most of Iowa has a landscape of gently rolling plains. Prior to the introduction of agriculture by Euro-American settlers, over 80% of Iowa's land was blanketed with prairies. Today, less than 0.02% of Iowa's native prairie remains as scattered remnants among a patchwork of cultivated fields (Smith 1981).

Not only prairies, but also forests and wetlands have been subjected to destruction by agricultural practices. Before settlement, 19% of Iowa's land was forested; today, little more than 4% of the land remains as forest. Estimated forest acreage for Black Hawk County in the early 1800's was 49,280 acres, or 13.5 percent. In 1974, the acreage was estimated at 12,900 acres (3.5%), a 74% reduction (Thompson and Hertel 1981). Before settlement, more than 1.1 million acres of Iowa wetlands existed (Bishop 1981). Today, only 21,470 acres of natural marshland remain; 95% of our natural wetlands have been drained to accommodate the cultivation of more land.

Study Aims

The chances of survival of native plant species are increasingly diminished as native habitats are continually destroyed. Through the efforts of natural area inventories and floristic surveys such as this one, the state's remaining native flora can be documented.

This report presents the results of a floristic survey of Black Hawk County, Iowa. Specific aims of the study include the following:

- 1) compilation of an annotated and indexed vascular plant list of native and naturalized plant species known to grow or to have grown independent of cultivation in Black Hawk County, Iowa,
- 2) compilation of a list of threatened and endangered species in the county,
- 3) compilation of a list of rare plants not collected since 1970 in Black Hawk County,
- 4) discussion of the relationships between the vegetation and the soil types, and
- 5) discussion of vegetation types and plant communities within the county, including a list of associated species for each community.

### Study Area

#### Location

Black Hawk County, Iowa (Figure 1), located in the east-central part of the state, is the fourth county south of the Minnesota border and the fourth county west of the Mississippi River. This political subdivision of 570 square miles (363,520 acres) (147,115 hectares) is bordered on the north by Bremer County, on the east by Buchanan County, on the south by Benton and Tama counties, and on the west by Grundy and Butler counties (Hartman 1915).

#### Settlement

Black Hawk County is contained within land acquired by the United States in the Louisiana Purchase of 1803 (Fouts and Highland 1978). The county was created in 1843 by territorial legislation, and in 1845

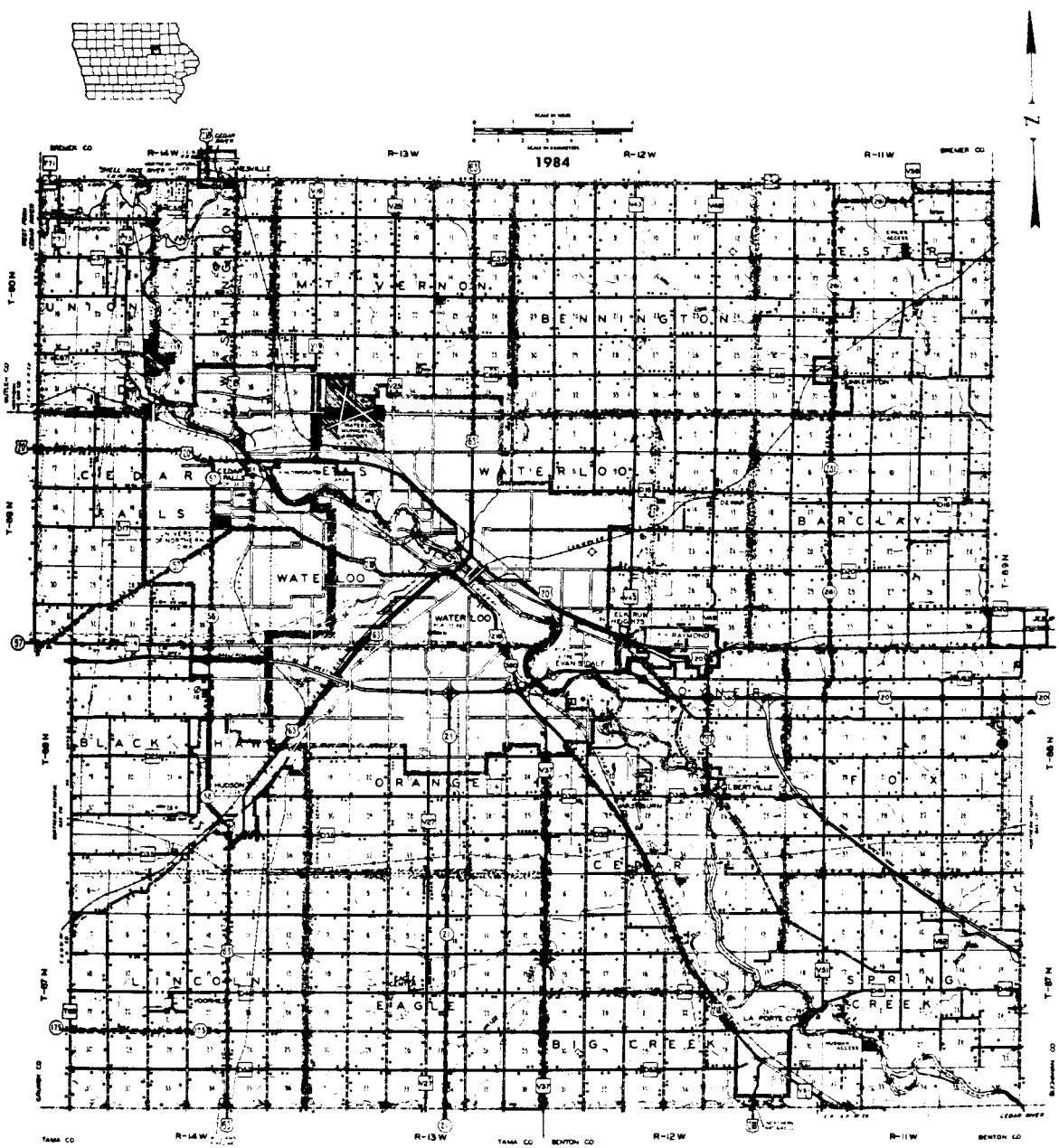


Figure 1. Map of Black Hawk County, Iowa (General Highway and Transportation Map, Black Hawk County, Iowa. Iowa Department of Transportation, Ames, Iowa 1984).

settlement began in Cedar Falls (Melendy 1893). Today, the metropolitan community of Cedar Falls and Waterloo has a combined population of 112,307. The county population in 1980 was 137,961 (Iowa Development Commission 1984).

### Geology

The underlying limestone bedrock of Black Hawk County is mainly of the Devonian period, but some bedrock of the Ordovician and the Silurian periods is present. Exposures of bedrock are visible only along the margins of the valleys of the Cedar River, or along the banks of its tributaries near their entrance point to the Cedar. Significant plant communities do not occur on these large rock exposures. In areas where soils are shallow (4 to 20 inches) over bedrock, excessive drainage occurs (Fouts and Highland 1978) limiting species representation to those which can survive droughty conditions.

### Climate

Black Hawk County has a continental climate with cold dry winters and warm humid summers. The mean January temperature is 17.2°F (-8.2°C), and the mean July temperature is 73.8°F (23.2°C). Extreme temperatures of -34°F (-37°C) and 112°F (44°C) have been recorded (Gale Research Company 1981). The annual mean precipitation is 31.7 inches (80.5 cm) with 71% of this falling from April to September (Fouts and Highland 1978). The growing season consists of 159 frost-free days.

### Topography

The topography of Black Hawk County is the result of glaciation, erosion and deposition, causing gently rolling plains. The major interruptions in this landscape are the valleys cut by the Cedar and

Wapsipinicon Rivers and their tributaries. The Cedar River transects the county from the northwest corner to the southeast corner for approximately 45 miles (Metropolitan Planning Commission of Black Hawk County 1969). The Wapsipinicon River intersects the northeast corner of the county. Both rivers flow in a southeasterly direction. These two rivers and their tributaries comprise a natural drainage network which has enhanced agricultural practices throughout the county.

### Soils

Black Hawk County's most important natural resource is its soil. The majority of the land is utilized for agricultural purposes: the cultivation of row crops and pasturage of livestock. The soil survey (Fouts and Highland 1978) is the source of information on the soils of the county unless otherwise stated.

Parent materials. The county's fertile soils are formed primarily from the following parent materials: glacial drift, alluvium, loess, and eolian (wind-deposited sand). Glacial drift, the most important parent material, is formed from deposits of rock materials left behind after the retreat of glacial ice sheets. Nebraskan and Kansan glaciations deposited several layers of glacial drift or glacial till. Erosion and deposition during the Wisconsin glaciation to the west modified these layers and formed a landscape now called the Iowa Erosional Surface, or simply the Iowan Surface (Prior 1976) (Figure 2).

Alluvium, sediment transported and laid down by water, is the second most extensive parent material in Black Hawk County. Alluvium can be found as lenses and layers of sand, gravel, silt and clay. As

streams overflowed their channels the materials carried with the water were deposited on the floodplain, with coarse textured material deposited first. The finest clay particles may be transported some distance from the main channel before settling from the water. Some of the sandy areas found in Black Hawk County are attributable to alluvial deposition.

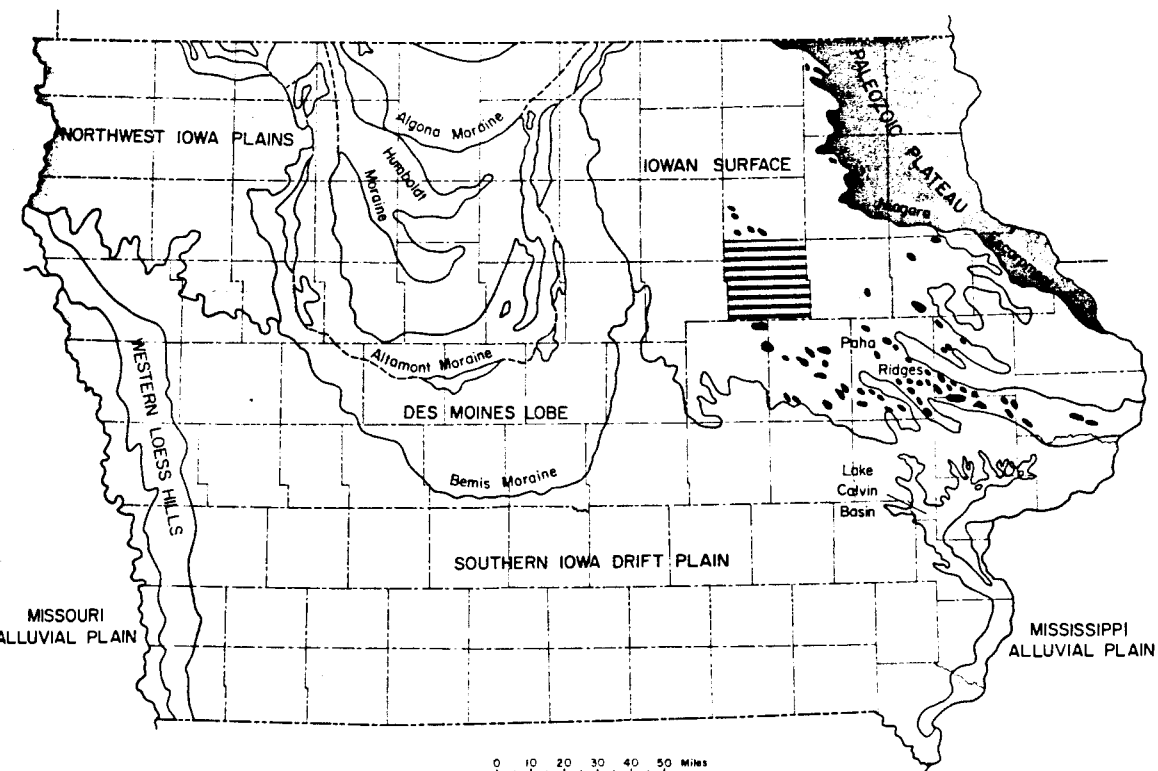


Figure 2. Location of Black Hawk County on the Iowan Surface (Prior, A Regional Guide to Iowa Landforms. Iowa Geological Survey Educational Series, 3, 1976).

Loess is accumulated particles of silt and clay that have been deposited by the wind. Loess deposits are found in the southwest corner of the county and in a wedge-shaped area cutting across the northeast corner of the county. Eolian sand can be found in the uplands and on benches above the floodplains. Sand is found as low mounds or dunes in the glacial till uplands.

Soil association units. The soils of Black Hawk county have been divided into seven major soil association units characterized by parent material and landscape. Figure 3 illustrates the location of these units in the county.

The Kenyon-Clyde-Floyd soil association unit, formed in loamy materials and glacial till, covers 35% of the county. This unit is characterized by nearly-level to strongly-sloping natural upland landscapes, and is almost entirely under cultivation except in wet, rocky, sandy, or steep areas.

Other soils of the level uplands were formed from: 1) loess more than 40 inches thick (Tama-Muscatine-Garwin association type), 2) loess 24 to 40 inches thick and the underlying glacial till (Dinsdale-Klinger-Maxfield association type), and 3) loamy materials and glacial till (Readlyn-Tripoli association type). Almost all of the land of these soil association types is presently cultivated.

The remaining soils on uplands and terraces were formed in eolian sands or a combination of eolian sands and the underlying glacial till (Sparta-Olin-Dickinson association type). Nearly-level or gently-sloping portions of this type are cultivated. Steep, wet, seepy areas are used for permanent pasture, woodland or wildlife habitat.

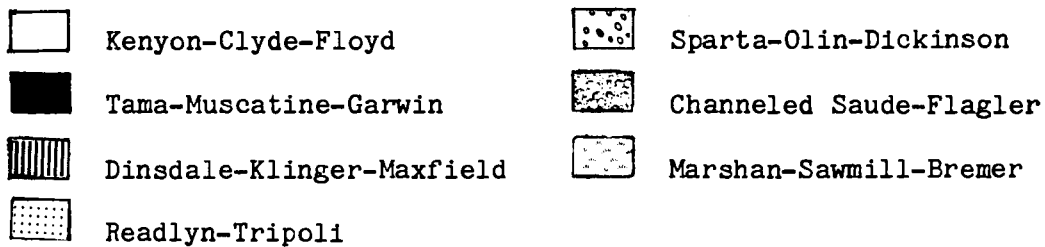
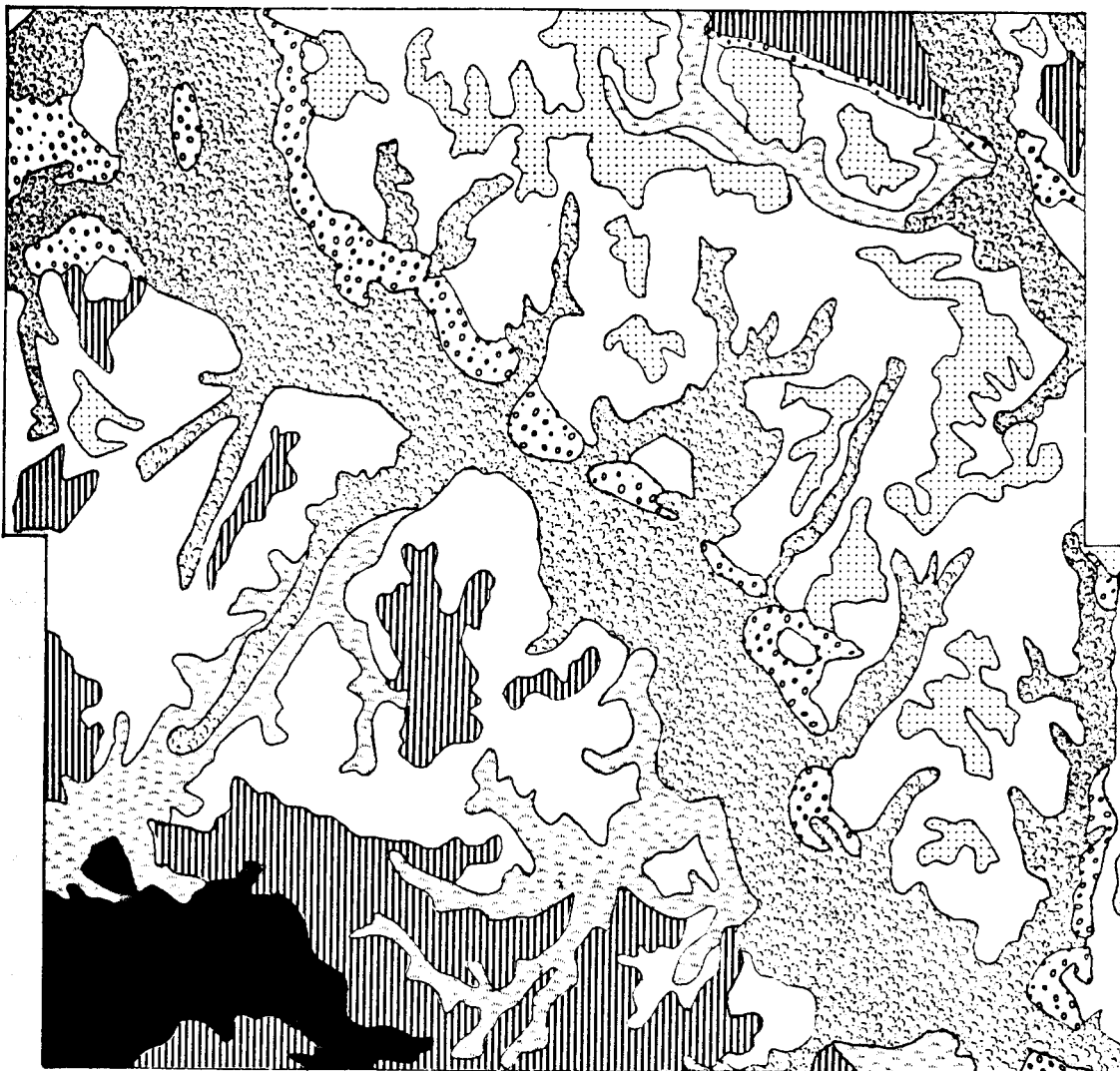


Figure 3. Major soil association units of Black Hawk County, Iowa (Fouts and Highland, Soil Survey of Black Hawk County, Iowa. United States Department of Agriculture, Soil Conservation Service 1978).



Bottomland and terrace soils were formed in 1) loamy alluvial sediments (channeled-Saude-Flagler soil association), or in 2) silty and loamy alluvial sediments (Marshan-Sawmill-Bremer soil association). The land is used for pasture and cultivation.

Vegetation and soil formation. There are 51 different soil series (Fouts and Highland 1978) found in Black Hawk County. Soils that are almost alike make a soil series and are classified according to properties such as soil temperature and moisture which, for the most part, can be differentiated in the field. The United States Comprehensive Soil Classification System (Buol et al. 1973) is used to differentiate soils with the "order" as the broadest division and the "soil series" as the most specific subdivision.

The amount of organic matter in a soil and the color of the surface layer give clues as to under what types of vegetation soils were formed. Buol et al. (1973) discuss the association between vegetation and soil formation: "Nearly all soils with deep dark, relatively fertile topsoil are formed under grassland vegetation" (p. 240). They also stated, "Melanization, the process of darkening of the soil by addition of organic matter, is the dominant process in Mollisols" (p. 243). Of the 51 soil series in Black Hawk County, 37 of them are from the Mollisol order. Eleven soil series are from the Alfisol order. Buol et al. (1973) stated, "Vast acerages of present or former deciduous forest lands and even prairie lands on glacial drift, loess, and in deserts on old alluvial fans are occupied by Alfisols" (p. 263).

Fouts and Highland (1978) have provided descriptions of each of the soil series in Black Hawk County including information on native

vegetation. Thirteen different native vegetation descriptions were used. These have been combined into three broader categories of forest, prairie, and wetland. From the acreage and percentage of each soil series, an estimated percentage of native vegetation has been derived: 8.3% forest, 91% prairie, and less than 0.1% wetland (Table 1). Duritsa (1983) constructed a similar table from the soil survey and categorized the native vegetation under six broader categories of forest, floodplain forest, grasses and trees, prairie, wet prairie, and marsh.

### Pre-historic Vegetation

Black Hawk County is considered part of a grassland formation that "extends over the vast central part of North America" (Vankat 1979, p. 158). The history of grassland formation dates back 10,500 years to the beginning of the Holocene Epoch and the retreat of the Wisconsin glacier. The glacial retreat left nearly barren land and a climate suitable for the northward migration of coniferous forests consisting mainly of Picea (Hallberg cited in Anderson 1983, p. 229) followed by various species of Pinus (Daubenmire 1978).

A warming period of several thousand years called the Hypsithermal Interval, raised temperatures 2-3<sup>o</sup>C above present average temperatures. Very strong winds, the Westerlies, caused an eastward displacement of the dry air from the west and provided environmental conditions that favored grasses over forests. Thus, grasslands extended eastward forming a "prairie peninsula" (Transeau 1935) across Iowa to the foothills of the Appalachian mountains. These grasslands were

Table 1. Native vegetation associated with soil series in Black Hawk County, Iowa (Fouts and Highland, Soil Survey of Black Hawk County, Iowa. United States Dept. of Agriculture, Soil Conservation Service 1978).

VEGETATION	SOIL SERIES	ACERAGE	% OF COUNTY
<b>FOREST</b>			
Trees	Chelsea	2,055	0.6
	Donnon	1,165	0.3
	Lamont	<u>650</u>	<u>0.2</u>
		3,870*	1.1*
Mixed grasses, brush and generally low quality timber	Loamy alluvial land, channeled	17,665*	4.9*
Mixed prairie grasses and trees	Bassett	1,700	0.5
	Dells	560	0.2
	Hayfield	2,445	0.6
	Oran	950	0.3
	Wapsi	<u>890</u>	<u>0.2</u>
		6,545*	1.8*
Trees and prairie grasses	Franklin	830	0.2
	Koszta	470	0.1
	Lilah	395	0.1
	Waubeek	<u>440</u>	<u>0.1</u>
		2,135*	0.5*
<b>PRAIRIE</b>			
Prairie grasses	Aredale	9,525	2.6
	Bertram	385	0.1
	Dickinson	5,470	1.5
	Dinsdale	24,450	6.8
	Floyd	5,400	1.5
	Kenyon	62,210	17.2
	Muscatine	3,435	0.9
	Nevin	3,430	0.9
	Olin	7,765	2.1
	Saude	14,340	4.0
	Sparta	21,840	6.1
	Spillville	5,470	1.5
	Tama	3,495	1.0
	Waukee	6,195	1.7
	Wiota	4,010	1.1
	Clyde-Floyd complex	<u>31,025</u>	<u>8.5</u>
		208,445*	57.5*

Table 1. Continued.

VEGETATION	SOIL SERIES	ACERAGE	% OF COUNTY
Mixed prairie grasses	Flagler	6,000	1.6
	Klinger	13,605	3.7
	Lawler	4,100	1.1
	Protivin	845	0.2
	Readlyn	20,805	5.7
	Rockton	610	0.2
	Sogn	200	0.1
		46,145*	12.6*
Drought-tolerant grass vegetation	Finchford	9,175*	2.5*
Tall prairie grasses	Bremer	5,285*	1.5*
Prairie grasses and sedges	Bremer variant	180	less than 0.1%
	Clyde	17,180	4.7
	Garwin	2,280	0.6
	Maxfield	7,080	1.9
		26,720*	7.2*
Undetermined	Loamy escarpments	250*	0.1*
Water-tolerant prairie grasses and sedges	Colo	3,180	0.9
	Colo-Ely complex	3,625	1.0
	Sawmill	6,145	1.7
	Zook	680	0.2
		6,825*	1.9*
Prairie grasses, sedges and other water-tolerant plants	Coland	1,730	0.5
	Marshan	9,050	2.5
	Palms muck	185	0.1
		10,965*	3.1*
Mixed prairie grasses and water-tolerant plants	Tripoli	9,695*	2.7*
<b>WETLAND</b>			
Cattails, rushes, sedges and other water-tolerant plants	Marsh	175*	less than 0.1%*
<b>UNDETERMINED</b>			
Borrow areas, limestone quarries, made-land, sand and gravel pits		2,800*	0.7*

\* Subtotals of acerage and % of county

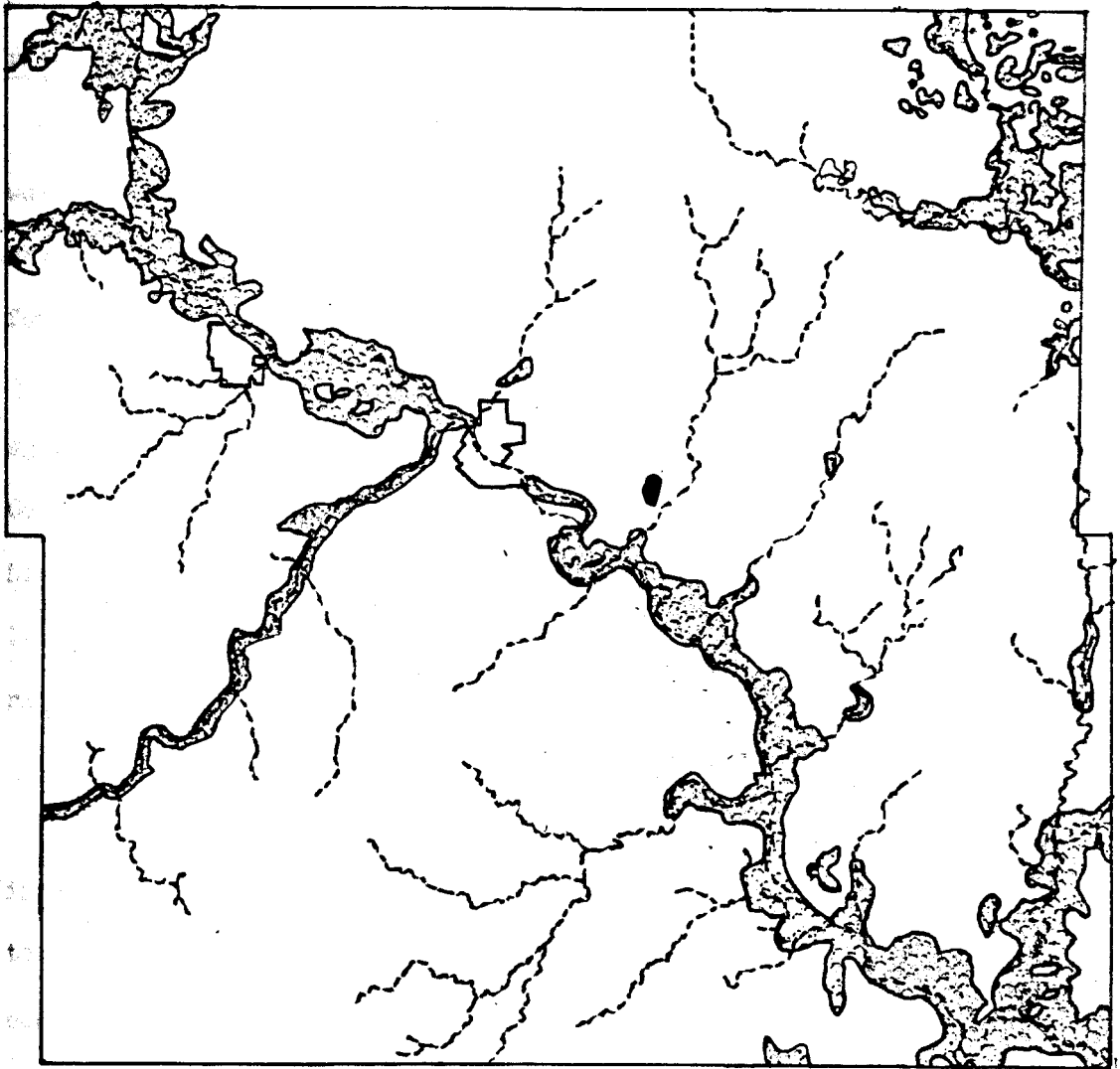
surrounded by established temperate mesophytic forests (Daubenmire 1978).

A forest climate again prevailed following the Hypsithermal Interval (Daubenmire 1978). Fire became an important factor in maintaining Iowa's grasslands. Natural fire barriers such as rivers, marshes and ponds served as refuges for the forest. Savannahs composed of grasses and trees were established where fire tolerant trees such as Quercus macrocarpa, the bur oak, were present.

#### Pre-settlement Vegetation

The distribution of pre-settlement vegetation was influenced by the topography and drainage capabilities of the soil. Forested areas were located along the valleys of the major rivers and streams and were comprised mainly of flood-tolerant forest species. Figure 4 (Andreas 1875) illustrates the early vegetation of Black Hawk County as a general segregation of forest and prairie, and delineates the establishment of forests along water courses. Upland forests and savannahs arose adjacent to the floodplains on moderately rolling and moderately well-drained soils. Prairie vegetation was generally associated with uplands which varied greatly in slope and in drainage capacities. Thompson and Hertel (1981) noted that pre-settlement forests covered 13.5% of the county. Table 1 indicated that forest and prairie covered 8.3% and 91.0% of the county, respectively.

Marshes and wet prairies were found in poorly drained lowland areas. Few marshes were found in Black Hawk County due to well



Forest



Prairie



Marsh

Figure 4. Early vegetation of Black Hawk County, Iowa (Andreas, Illustrated Historical Atlas of the State of Iowa. Andreas Atlas Co., 1875).

developed drainage patterns. The 1875 map in Figure 4 delineated only one marsh in the center of the county. Table 1 indicated that less than 0.1% of the land was marsh.

#### Post-settlement Vegetation

One of the effects of early settlement upon vegetation distribution was the protection of grasslands from fire. This practice permitted the grasslands to be invaded by trees from the floodplain and upland forests.

Prairies, savannahs, forests, and wetlands have all succumbed to agricultural practices. In 1982 there were 1370 farms in Black Hawk County covering 289,000 acres or 79.6% of the county (Iowa Crop and Livestock Reporting Service 1983). Native vegetation has been confined largely to sandy areas, riparian areas, wetlands, marshes, and railroad right-of-ways.

#### Previous Studies

There are over 2400 specimens of plants found in Black Hawk County in herbaria throughout the state. Some of these collections date back to 1898. The earliest floristic study of Black Hawk County was conducted in 1929 (Burk 1931) and a list of 653 species was compiled from that survey. Shimek made many collections in the county, mainly along the Cedar River in the 1920's and early 1930's. In the late 1930's Grant made many collections in the county but never published his findings. Thorne (1954) cited 674 plant species from Black Hawk County. Eilers (1971) conducted a floristic survey of the Iowan Area which includes Black Hawk County. Duritsa (1983) conducted a natural areas

inventory of the county and compiled a species list for the natural areas studied. Lammers (1980) collected extensively throughout the county in 1980 and 1981 for the Duritsa inventory.



## CHAPTER 2

## METHODS

Herbarium Study

The herbarium at the University of Northern Iowa, Cedar Falls, was examined to substantiate previously collected specimens from Black Hawk County which may or may not have been reported in the literature. In the late 1930's, Grant made many collections in the county but never published his findings. The majority of his specimens are deposited in the University of Northern Iowa herbarium. Also, plant taxonomy students have made collections of spring and fall flora of Black Hawk County in fulfillment of course requirements. Some of these collections are in the University of Northern Iowa herbarium. Information on specimens from Black Hawk County contained in other Iowa herbaria was obtained from the Iowa Natural Areas Inventory (personal communication 1982) and from a University of Iowa herbarium study conducted by Eilers (1971) in his research on the vascular flora of the Iowan Area. Each herbarium is listed below with abbreviations that will be used in this paper (Lanjouw and Stafleu 1959).

ISC--Iowa State University, Ames

IA--University of Iowa, Iowa City

ISTC--University of Northern Iowa, Cedar Falls

Field Study and Research Sites

Field study was conducted throughout the growing seasons of 1982 and 1983. Research sites were selected from information received from

preliminary studies for the Natural Areas Inventory of Black Hawk County (Duritsa 1983), county soil survey (Fouts and Highland 1978), literature references, herbarium specimens, personal interviews, and field reconnaissance. In his flora of Dubuque county, Lehmann (1983) noted that the floristic reconnaissance for relatively undisturbed natural areas is a more appropriate method for a floristic survey than random sampling. With this concept in mind, survey sites were chosen to provide representative samples of native prairie, wetland, and forest vegetation.

Research sites where at least 50 collections were made are listed in Table 2 with their major vegetation types and locations. Location coordinates are given using the section-township-range method. All townships are north of the national baseline, and all ranges are west of the fifth principal meridian (Dodds 1943). A location such as: the north half of the southwest quarter of Section 20, Township 90 north, Range 14 west, or N SW 20 T-90 N R-14 W, is abbreviated as N SW 20 90-14 (Rockford Map Publishers 1981). These sites are plotted on the map in Figure 5.

Several natural areas in the county have been studied by other authors (Duritsa 1983; Lammers 1980; Crum 1972; Chumbley 1973; Anderson et al. 1975), and plant lists were compiled for each. Therefore, these areas were not intensively studied in the field as a part of this floristic survey. They are designated in Table 3 with major vegetation types and locations. Figure 6 illustrates the locations of these sites.

Other areas not listed in Tables 2 or 3, but at which fewer than 50 collections were made, are listed in Table 4. The map in Figure 7 depicts the locations of all the areas listed in Tables 2, 3, and 4.

### Data Collection

The major study sites were visited in two to three week intervals during at least one of the field study summers. Over 1500 voucher specimens were collected, information recorded, pressed, and dried according to standard procedures (Lawrence 1951; Klein and Klein 1970; Radford et al. 1974). Information on locality, habitat and vegetation was recorded in field notebooks. This information was transferred to permanent research notebooks in duplicate.

### Identification of Specimens

The several texts and regional keys consulted for identification included: Gilly (1946), Gleason (1952), Gleason and Cronquist (1963), Fassett (1976), Voss (1972), Pohl (1954), Pohl (1966), Correll and Correll (1972), Mason (1969), Spence (1959), Mohlenbrock (1975), and Mackenzie (1940). Specimens were also compared with those in the University of Northern Iowa herbarium. The majority of the specimens were identified by the author. Pohl of Iowa State University identified and verified identification of some of the grasses. A few Aster specimens were identified by Jones (1986) of the University of Illinois. A few taxa which were difficult to identify were verified by Eilers of the University of Northern Iowa.

### Disposition of Specimens

All specimens are at the University of Northern Iowa herbarium for processing and inclusion therein.

Table 2. Major research sites in Black Hawk County, Iowa.

SITE	VEGETATION TYPE	LOCATION
1. Ackerson's Marsh @	marsh, wet prairie dry prairie	NW SE 18 90-14
2. Bailey's Lake @	wet prairie, mesic prairie, prairie pothole	NE SE 19 90-14
3. Brustkern's Woods @	oak-hickory sand forest	NW SW 25 88-12
4. Bunchflower Meadow @ *	sedge meadow	SW 1 88-14
5. Cedar Township RR Prairie	sandy alluvial terrace	NW SW 8 88-12 NE 7 88-12
6. Cooper's Woods @	sand forest	NW 1 89-14
7. Dorothy's Prairie @	mesic prairie	NW SE 8 90-14
8. Fall's Access	floodplain forest	W 27 90-14 E 28 90-14
9. George Wyth State Park @	floodplain forest savannah	E 7 89-13 S 8 89-13 N 18 89-13
10. Goose Lake @	prairie pothole, marsh wet prairie, mesic prairie	N SW 20 90-14 S SE NW 20 90-14
11. Martinson's Dunes @	dry sand prairie, blowout community jack-pine community	E NW 19 90-14
12. Newgard's Pasture @	wet prairie	S SW 19 90-14

@ Cited in Duritsa 1983

\* Cited in Lammers 1980

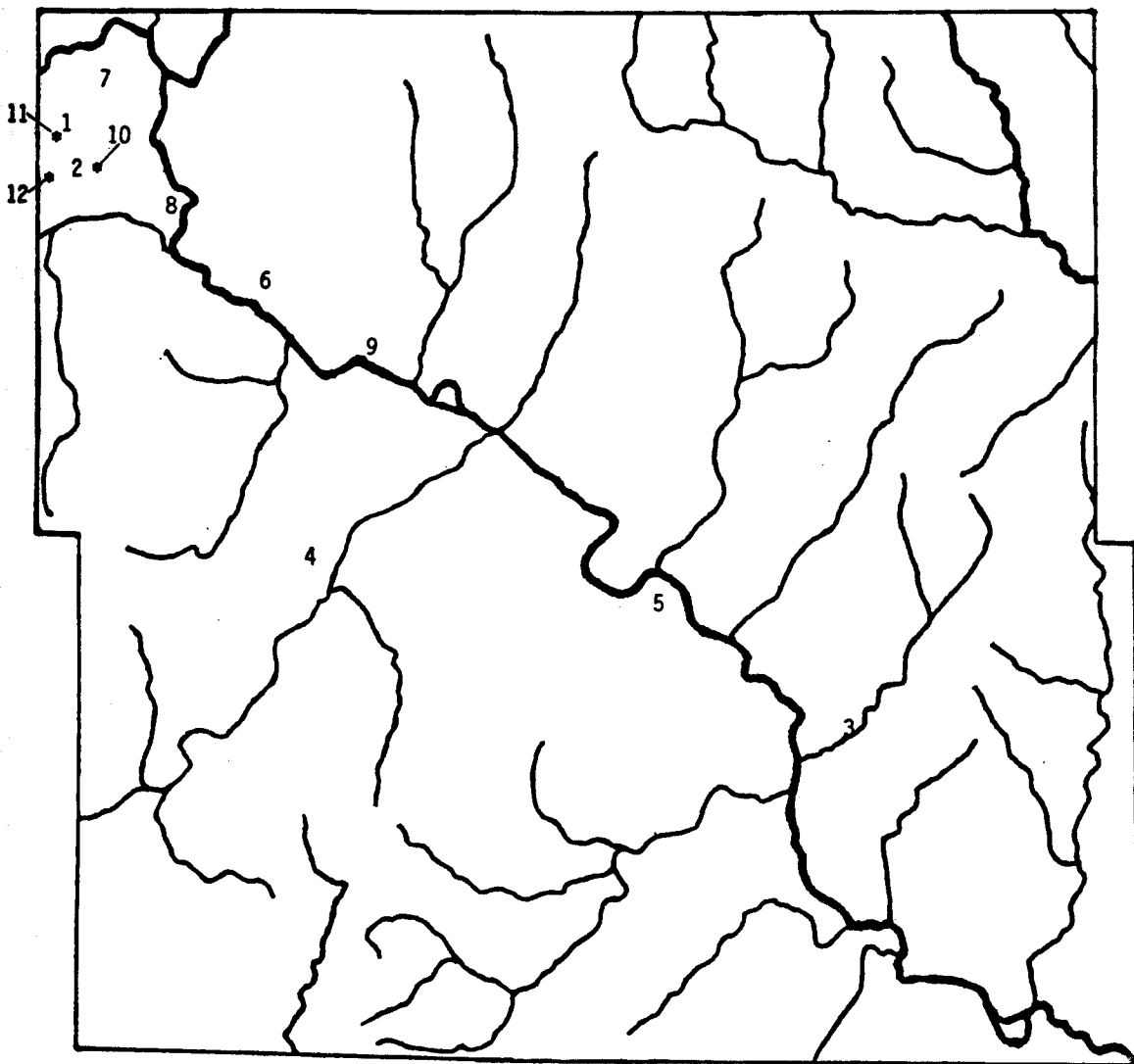


Figure 5. Map of major research sites in Black Hawk County, Iowa.

Table 3. Previously studied natural areas in Black Hawk County.

SITE	VEGETATION TYPE	LOCATION
13. Bennington Township Cemetery (Chumbley 1973) @	upland prairie	NW NW 27 90-12
14. Cedar City Sand Prairie @ *	dry sand prairie	SE SE 6 89-13
15. Cedar Hills Sand Prairie (Crum 1970)	dry to wet sand prairie, marsh	SW SW 19 90-14
16. Dunkerton Prairie @ *	wet-mesic prairie	NE NW 32 90-11
17. Fischels' Prairie @ *	dry limestone prairie	SW NW 11 88-12
18. Frost Prairie @	wet-mesic prairie	NW NE 13 90-11
19. Hartman Reserve Nature Center (Anderson et al. 1975) @	floodplain forest, upland forest	W 17 89-13 SE NE 18 89-13
20. Illinois Central & Gulf RR Prairie @	dry, dry-mesic sand prairie	SE 13 90-14 W 31 90-13
21. Leavitt Prairie @	mesic prairie wet-mesic prairie	SE 18 90-13
22. Lester Township RR Prairie @	mesic and wet-mesic prairie	SE SE 21 90-11 SW NE 22 90-11 NW NE 28 90-11
23. Myszka Prairie @ *	dry sand prairie dry sand savannah	NW NW 18 90-14
24. Raymond Prairie @ *	dry limestone prairie	SE SE 36 89-12
25. Steimel's Prairie @ *	sedge meadow	NW SE 15 87-13
26. Stensland's Dunes @	red cedar sand savannah	NW SE 19 90-13

@ Cited in Duritsa 1983

\* Cited in Lammers 1980.

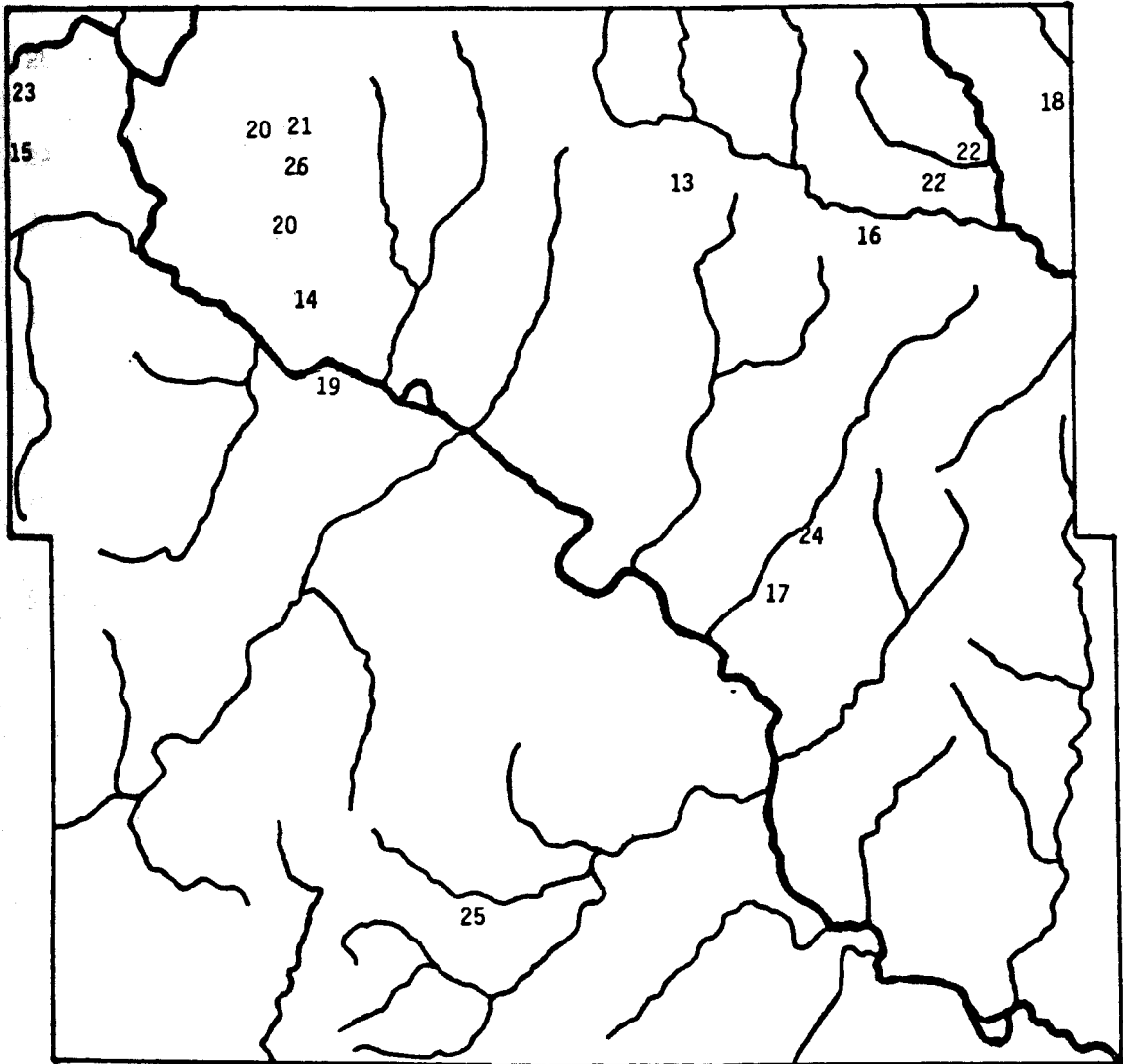


Figure 6. Map of previously studied natural areas in Black Hawk County, Iowa.

Table 4. Minor research areas.

SITE	VEGETATION TYPE	LOCATION
27. Barnes Ferry Road Cemetary @	dry prairie	NE 20 87-11
28. Bruggeman Park	floodplain forest	W SW 14 90-11 W NW 23 90-11
29. Dargon's Marsh	marsh, wet prairie	W SE 21 90-14
30. Highway 175 RR Prairie	wet-mesic prairie remnant	W NW 27 87-14
31. Hussmann Access	floodplain forest	S NW 28 87-11
32. River Birch Bottoms	floodplain forest	SE SW 26 90-11
33. V-37 Prairie	wet prairie	NW SW 7 87-12
34. East Waterloo Prairie	dry prairie	W NW NE NE 24 89-13

@ Cited in Duritsa 1983



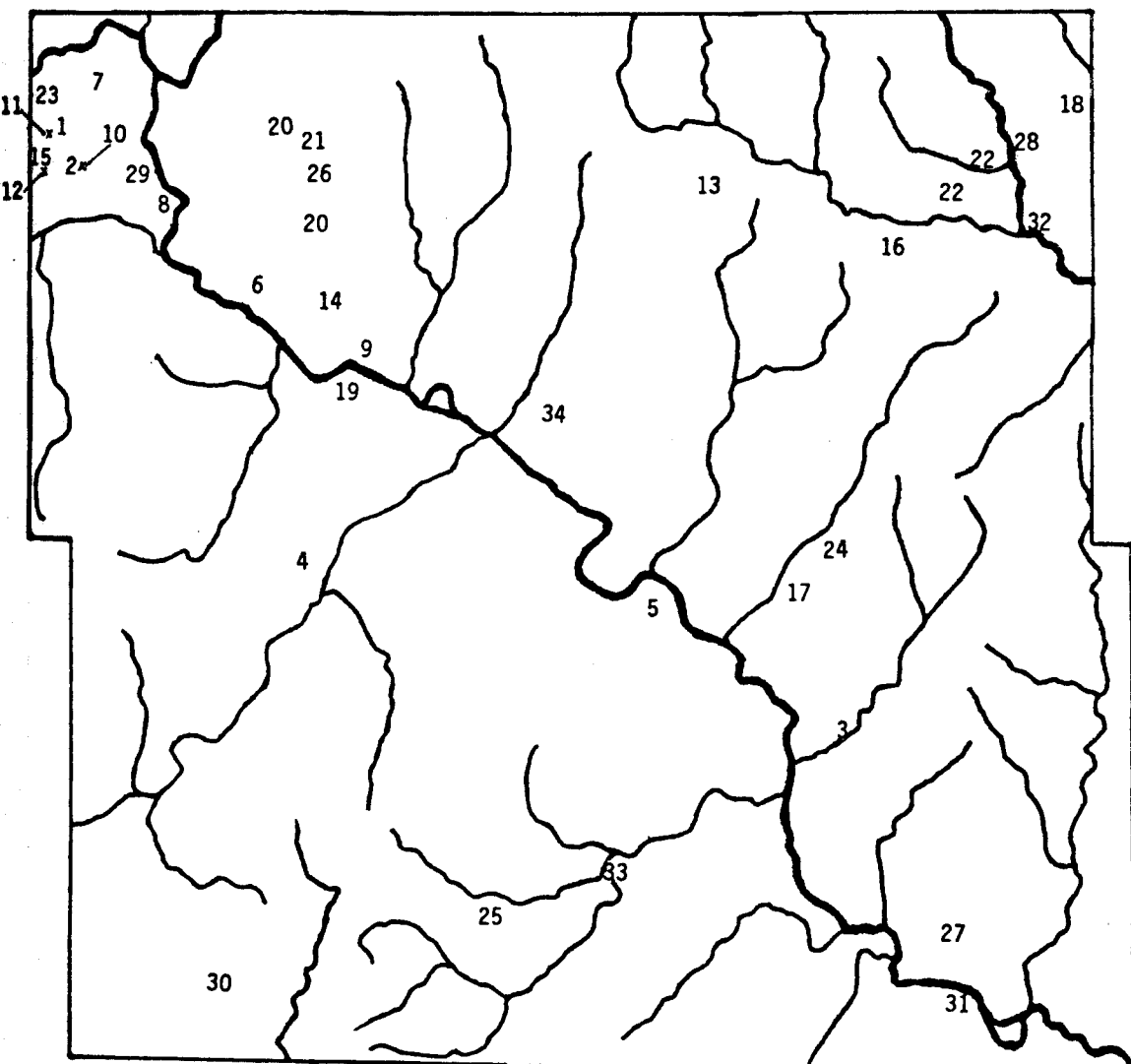


Figure 7. Map of research areas in Black Hawk County, Iowa.

## CHAPTER 3

## RESULTS

The documented vascular flora of Black Hawk County, Iowa consists of 826 species representing 399 genera and 98 families. It includes eighteen species of endangered or threatened status in Iowa (Roosa et al. 1986).

During this survey 485 plant species were collected. The remaining 341 were verified by herbarium vouchers. Over 1500 specimens were collected. Data from over 2250 herbarium specimens were recorded. The vascular plant species from Black Hawk County are cataloged systematically in Appendix A. Appendix B lists species excluded from the annotated catalog because their occurrences in the county could not be verified by correctly identified herbarium vouchers. Appendix C is a list of rare species not collected since 1970.

Threatened and Endangered SpeciesEndangered Species

Twelve Iowa endangered species are known from Black Hawk County (Table 5). Betula pumila var. glandulifera was found in Black Hawk County in 1981. It is presently found in Bremer, Howard and Black Hawk counties. Botrychium simplex was first sighted in 1986 and identified by Farrar in the field. The species is not included in the annotated catalog because voucher specimens have not been collected. Brassenia shreberi was first sighted in 1980 by Lammers. Carex conoidea was sighted by Crum in 1970 and recollected by Lammers in 1980. Carex

Leptalea was first located by Crum in 1970. In 1983, a new location was discovered during this survey. The plant was recollected in 1985 at this second location. Black Hawk County is the only known site of C. leptalea in the state. Dalea villosa is another species known only from Black Hawk County in Iowa. It is found at two locations and was first collected in 1976 at one site and at the second site in 1981.

Dichanthelium linearifolium was collected by Lammers in 1980.

Eriophorum angustifolium has been found at two locations, at one in 1970, and at the other in 1982 during this survey. Juncus greeni was found at two locations, first in 1970, relocated in 1980, and sighted at a new location in 1980. Lechea intermedia was found in 1979. It has not been collected in the county since then, but the site where it was found is a protected area. In addition to Black Hawk County, this species has been found in Allamakee, Dubuque, and Winneshiek counties.

Napaea dioica is known only from Allamakee, Black Hawk, Butler, Howard, and Winneshiek counties. Eilers collected the plant in 1980.

Ophioglossum vulgatum var. pseudopodium was found in 1986. It is also found in Bremer, Chickasaw, Johnson, and Linn counties in Iowa. No collections of O. vulgatum var. pseudopodium have been deposited in Iowa herbaria. Therefore this species is not included in the annotated catalog. Salix candida has been found at three locations in the county. One of these locations was found in 1982 during this survey.

#### Threatened Species

Five species of threatened status are known from Black Hawk County (Table 5). Astragalus distortus was found in Black Hawk County in 1981. Two additional locations of this species were found during this survey.

Table 5. Black Hawk County endangered and threatened plant species (Roosa et al. 1986).

STATUS	SPECIES (FAMILY)
Endangered	<u>Betula pumila</u> var. <u>glandulifera</u> (Betulaceae)
	<u>Botrychium simplex</u> (Ophioglossaceae) *
	<u>Brassenia shreberi</u> (Nymphaeaceae)
	<u>Carex conoidea</u> (Cyperaceae)
	<u>Carex leptalea</u> (Cyperaceae)
	<u>Dalea villosa</u> (Fabaceae)
	<u>Eriophorum angustifolium</u> (Cyperaceae)
	<u>Juncus greenii</u> (Juncaceae)
	<u>Lechea intermedia</u> (Cistaceae)
	<u>Napaea dioica</u> (Malvaceae)
	<u>Ophioglossum vulgatum</u> var. <u>pseudopodium</u> (Ophioglossaceae) *
	<u>Salix candida</u> (Salicaceae)
Threatened	<u>Astragalus distortus</u> (Fabaceae)
	<u>Besseyia bullii</u> (Scrophulariaceae)
	<u>Betula pumila</u> var. <u>glandulifera</u> (Betulaceae)
	<u>Gentianopsis crinata</u> (Gentianaceae)
	<u>Valeriana edulis</u> (Valerianaceae) *
	<u>Zizania aquatica</u> (Poaceae)

\* Field identified, no herbarium vouchers

Besseya bullii was first located during this survey in 1982.

Gentianopsis crinata was first located in Black Hawk County in 1981.

Valeriana edulis was sighted in the field in 1987 by Zager but no collection was made. Zizania aquatica has been found at one location in the county; it was located by Roosa in 1975.

#### Species of Interest

Table 6 lists species of interest in Black Hawk County. Although not of threatened or endangered status, they are of interest due to their uncommon occurrences in Black Hawk County and, in some cases, in Iowa.

#### Vegetation Classification

The vegetation of Black Hawk County can be categorized within six major divisions: forest, savannah, prairie, wetland, pond, and cultural. The definitions of these communities have been adapted from the Illinois Natural Areas Inventory (White 1978) unless otherwise stated. The classifications follow that of Duritsa (1983) in A Natural Areas Inventory of Black Hawk County, Iowa.

Several subdivisions are recognized within each major division. The natural communities of sedge meadow, and marsh are subdivisions of the wetlands division. These communities are differentiated according to their natural features. The titles should be recognized as depicting more than plant communities. White (1978) stated that "a plant community name is based on vegetation and a natural community is based on all the natural features, including vegetation" (p. 321). Each natural community is briefly described below. Sites where

Table 6. Species of interest in Black Hawk County, Iowa.

SPECIES	COMMENTS
<u>Bulbostylis capillaris</u>	found at one location in 1983 during this survey
<u>Coeloglossum viride</u> var. <u>virescens</u>	found at only one location in 1982
<u>Cyripedium calceolus</u> var. <u>pubescens</u>	found at two locations in the county
<u>Cyripedium candidum</u>	found in 1987 by Zaeger at one location; no collection made
<u>Equisetum fluviatile</u>	on Roosa et al. (1986) list of "special concern"
<u>Juncus vaseyi</u>	found in 1970 at one location; in Iowa, found only in Black Hawk County
<u>Melanthium virginicum</u>	formerly considered for the threatened species list; found at four locations in the county
<u>Opuntia humifusa</u>	found at one location in 1981; had been physically removed from the site by someone in 1983
<u>Phlox bifida</u>	listed as an endangered species in Iowa prior to 1986; no longer on the endangered or threatened species list. found at four locations in the county
<u>Rubus hispidus</u>	found at one location and only in Black Hawk County in Iowa
<u>Rubus pubescens</u>	found at only one location in the county
<u>Trichostema brachiatum</u>	on Roosa et al. (1986) list of "special concern"
<u>Viola macloskeyi</u>	found at one location in the county

collecting was accomplished in Black Hawk County and a list of characteristic species are given for each.

### Forest

The forest community is dominated by trees with an average canopy cover of 80% or greater. The floodplain forest, upland forest and sand forest are three subdivisions of the forest community.

Floodplain forest. These communities are found on the floodplains of rivers and streams where periodic flooding may occur. The floodplain of the Cedar River includes the following sites: Falls Access, George Wyth State Park, Hartman Reserve lowland, and Hussman Access. Bruggeman Park and River Birch Bottoms are located on the Wapsipinicon River floodplain. The following is a list of some characteristic floodplain forest plant species.

<u>Acer negundo</u>	<u>Laportea canadensis</u>
<u>Acer saccharinum</u>	<u>Lysimachia nummularia</u>
<u>Botrychium virginianum</u>	<u>Mimulus ringens</u>
<u>Campanula americana</u>	<u>Morus alba</u>
<u>Carex stricta</u>	<u>Parthenocissus quinquefolia</u>
<u>Celtis occidentalis</u>	<u>Parthenocissus vitaceae</u>
<u>Cornus drummondii</u>	<u>Pastinaca sativa</u>
<u>Elymus virginicus</u>	<u>Ranunculus abortivus</u>
<u>Fraxinus pennsylvanica</u>	<u>Rudbeckia laciniata</u>
<u>Gleditsia triacanthos</u>	<u>Rumex altissimus</u>
<u>Isopyrum biternatum</u>	<u>Salix nigra</u>
<u>Juglans nigra</u>	<u>Salix rigida</u>

Silphium perfoliatumToxicodendron radicansStachys tenuifoliaUlmus americanaTeucrium canadense var.Urtica dioicaoccidentaleVitis riparia

Upland forest. Soil moisture, ranging from zeric to wet-mesic, is a significant characteristic in defining upland forest communities. Hartman Reserve is an example of an upland forest, and the following list represents characteristic species found there.

Acer saccharumOstrya virginianaAnemone quinquefoliaPhlox divaricataAquilegia canadensisPodophyllum peltatumArisaema tryphyllumPolygonatum biflorumAsarum canadensePrunus serotinaBotrychium virginianumQuercus albaCarex pennsylvanicaQuercus borealisCarya cordiformisQuercus macrocarpaCarya ovataSanicula gregariaClaytonia virginicaSmilax ecirrhataCornus alternifoliaThalictrum thalictroidesCornus foemina ssp racemosaTilia americanaFraxinus americanaTrillium flexipesGeranium maculatumUlmus rubraMitella diphyllaVeronicastrum virginicumMoehringia laterfloraViburnum rafinesquianumOsmorhiza claytoniViola sororia



Sand forest. Sandy soils differentiate sand forests as a special type of upland forest. Brustkern's Woods and Cooper's Woods are representative of this forest community. A list of associated species follows.

Amphicarpa bracteata

Aquilegia canadensis

Arisaema triphyllum

Botrychium virginianum

Carex blanda

Carya cordiformis

Carya ovata

Cornus drummondii

Cornus foemina ssp. racemosa

Cryptotaenea canadensis

Eupatorium rugosum

Festuca obtusa

Fraxinus americana

Galearis spectabilis

Geranium maculatum

Geum canadense

Hydrophyllum virginianum

Isopyrum biternatum

Mertensia virginica

Moehringia lateriflora

Osmorhiza claytoni

Osmorhiza longistylis

Parthenocissus quinquefolia

Phlox divaricata

Podophyllum peltatum

Polygonatum biflorum

Prunus serotina

Quercus velutina

Scrophularia lanceolata

Silene stellata

Smilacina racemosa

Smilacina stellata

Smilax herbacea

Smilax hispida

Tilia americana

Trillium cernuum

Verbena simplex

Viola papilionaceae

Zanthoxylum americanum

Savannah

Savannahs are areas which support grassy ground cover and an average tree canopy between 10% and 80%. The soils are transitional between forest and prairie. However, Duritsa (1983) pointed out that the soil data alone cannot clearly define a savannah. Sites in Black Hawk County described as savannah communities include Stensland's Dunes, a red cedar savannah. Myszka Prairie has characteristics of a dry sand savannah. The following lists represents plant species found on savannahs.

<u>Achillea millefolium</u>	<u>Lithospermum canescens</u>
<u>Ambrosia psilostachya</u>	<u>Lithospermum carolinense</u>
<u>Amorpha canescens</u>	<u>Oenothera rhombipetala</u>
<u>Andropogon gerardi</u>	<u>Panicum virgatum</u>
<u>Brickellia eupatoriodes</u>	<u>Physalis virginiana</u>
<u>Carex grvida</u>	<u>Plantago patagonica</u>
<u>Delphinium virescens</u>	<u>Populus tremuloides</u>
<u>Dichanthelium oligosanthos</u>	<u>Prunus americana</u>
var. <u>scribnerianum</u>	<u>Quercus ellipsoidalis</u>
<u>Equisetum laevigatum</u>	<u>Quercus macrocarpa</u>
<u>Euphorbia corollata</u>	<u>Rubus allegheniensis</u>
<u>Froehlichia floridana</u> var. <u>campestris</u>	<u>Schizachyrium scoparium</u>
<u>Hedioma hispida</u>	<u>Solidago missouriensis</u>
<u>Helianthemum bicknellii</u>	<u>Stipa spartea</u>
<u>Juniperus virginiana</u>	<u>Verbena stricta</u>
<u>Lespedeza capitata</u>	<u>Viola pedatifida</u>

Prairie

The prairie community is dominated by grasses. Subclasses are based upon soil characteristics.

Prairie. This subclass is recognized simply as prairie and includes "black-soil" prairies. Soil moisture may vary from dry to wet. Sites included in this subclass include: Ackerson's Marsh (wet prairie), Dorothy's Prairie (mesic prairie), Newgard's Pasture (wet prairie), Bennington Township Cemetery (mesic prairie), Dunkerton Prairie (wet-mesic prairie), Leavitt Prairie (mesic prairie, wet-mesic prairie), Lester Township RR Prairie (mesic and wet-mesic prairie), V-37 Prairie (wet prairie), and East Waterloo Prairie (dry prairie). The following list represents plant species found on prairies.

<u>Andropogon gerardii</u>	<u>Eryngium yuccifolium</u>
<u>Antennaria neglecta</u>	<u>Euphorbia corollata</u>
<u>Artemisia ludoviciana</u>	<u>Fragaria virginiana</u>
<u>Aster ericoides</u>	<u>Galium boreal</u>
<u>Calamagrostis canadensis</u>	<u>Gentiana andrewsii</u>
<u>Carex gravida</u>	<u>Heliopsis helianthoides</u>
<u>Carex lanuginosa</u>	<u>Heuchera richardsonii</u>
<u>Carex normalis</u>	<u>Hypoxis hirsuta</u>
<u>Commandra umbellata</u>	<u>Liatris aspera</u>
<u>Coreopsis palmata</u>	<u>Liatris pycnostachya</u>
<u>Dodecatheon meadia</u>	<u>Lilium michiganense</u>
<u>Elymus canadensis</u>	<u>Lithospermum canescens</u>
<u>Erigeron strigosus</u>	

<u>Lobelia spicata</u>	<u>Schizachyrium scoparium</u>
<u>Melanthium virginicum</u>	<u>Scrophularia lanceolata</u>
<u>Panicum capillare</u>	<u>Silphium laciniatum</u>
<u>Panicum virgatum</u>	<u>Sisyrinchium campestre</u>
<u>Pedicularis canadensis</u>	<u>Solidago rigida</u>
<u>Phlox pilosa</u>	<u>Sorghastrum nutans</u>
<u>Physalis heterophylla</u>	<u>Thalictrum dasycarpum</u>
<u>Physalis virginiana</u>	<u>Tradescantia ohiensis</u>
<u>Ratibida pinnata</u>	<u>Verbena stricta</u>
<u>Rudbeckia hirta</u>	<u>Veronicastrum virginicum</u>
<u>Rudbeckia subtomentosa</u>	<u>Viola pedatifida</u>

Sand prairie. Sand, or loamy-sand, soils characterize a sand prairie. Soil moisture can vary from dry to wet. Sites representative of sand prairies include: Bailey's Lake, Goose Lake, Cedar Township RR Prairie, IC&G RR Prairie, Cedar Hills Sand Prairie, Myszka Prairie, Stensland's Dunes, Cedar City Sand Prairie, Martinson's Dunes, and Barnes Ferry Road Cemetary. The following is a list of species found on sand prairies.

<u>Amorpha canescens</u>	<u>Delphinium virescens</u>
<u>Bouteloua curtipendula</u>	<u>Dichanthelium acuminatum</u>
<u>Cassia fasciculata</u>	<u>Dichanthelium oligosanthes</u>
<u>Cyperus strigosus</u>	var. <u>scribnerianum</u>
<u>Dalea candida</u>	<u>Echinacea pallida</u>
<u>Dalea purpurea</u>	<u>Equisetum laevigatum</u>

Froelichia floridanaHedioma hispidumHelianthemum bicknelliiHelianthus grosseserratusHeliopsis helianthoidesLespedeza capitataLithospermum carolinenseLithospermum incisumLobelia siphiliticaMonarda fistulosaOenothera rhombipetalaOxalis violaceaPanicum virgatumPaspalum setaceum var.cilliatifoliumPhlox bifidaPoa compressaPycnanthemum virginianumRosa carolinaSchizachyrium scopariumSolidago missouriensisSpiranthes cernuaStipa sparteaVerbena simplexViola pedatifida

Limestone prairie. This subclass is located on soil over bedrock (Duritsa 1983). Two sites represent this classification: Raymond Prairie, and Fischel's Prairie. The following list represents species found on limestone prairies.

Amelanchier humilisAmorpha canescensAquilegia canadensisAster azureusAster laevisAster oblongifoliusAster pilosusAster sericeusAstragalus crassicaarpusBaptisia bracteataBouteloua curtipendulaBrickellia eupatoriodesCalylophus serrulatusCarex meadii

Dalea purpureaParthenium integrifoliumDelphinium virescensPhlox bifidaDescurainia pinnataPrenanthes asperaDesmodium illinoensePulsatilla patensDichanthelium linearifoliumRanunculus rhomboideusDichanthelium oligosanthes var.Rhus aromaticascribnerianumScutellaria parvulaEchinacea pallidaSilphium laciniatumEuphorbia glyptospermaSisyrinchium campestreHelianthus rigidusSolidago ptarmicoidesHeuchera richardsoniiSolidago rigidaLiatris cylindraceaStipa sparteaLinum sulcatumTrichostema brachiatumLithospermum canescensViola pedataLithospermum incisumViola pedatifidaOnosmodium molle

### Wetlands

Wetlands are recognized as vegetated areas that are flooded or have hydric soils. The subclasses are differentiated by different vegetation types.

Sedge meadow. This area is dominated by sedges on peat, muck or wet sand. Sites include Bunchflower Meadow and Steimel's Prairie. The following is a list of sedge meadow species.

<u>Acalypha rhomboidea</u>	<u>Gentiana andrewsii</u>
<u>Agalinis tenuifolia</u>	<u>Geum laciniatum</u>
<u>Asclepias incarnata</u>	<u>Helenium autumnale</u>
<u>Aster novae-angliae</u>	<u>Juncus dudleyi</u>
<u>Aster puniceus</u>	<u>Lathyrus palustris</u>
<u>Aster umbellatus</u>	<u>Lilium michiganense</u>
<u>Carex annectens</u>	<u>Melanthium virginicum</u>
<u>Carex bebbii</u>	<u>Phlox maculata</u>
<u>Carex brevior</u>	<u>Pycnanthemum tenuifolium</u>
<u>Carex hystericina</u>	<u>Pycnanthemum virginianum</u>
<u>Carex interior</u>	<u>Rudbeckia subtomentosa</u>
<u>Carex stipata</u>	<u>Salix discolor</u>
<u>Carex suberecta</u>	<u>Scirpus atrovirens</u>
<u>Cicuta maculata</u>	<u>Senecio aureus</u>
<u>Desmodium paniculatum</u>	<u>Verbena hastata</u>
<u>Euthamia graminifolia</u>	

Marsh. Marshes are dominated by tall graminoid plants growing in areas "which have water near or above the surface for most of the year" (White 1978, p. 340). Sites which include marsh communities are Ackerson's Marsh, Goose Lake, Bailey's Lake, Martinson's Pond, Dargon's Marsh, and the Cedar Hills Sand Prairie marsh. A list of characteristic species follows.

Alisma plantago-aquatica var.  
parviflorum

Asclepias incarnata

Athyrium filix-femina

Bidens cernua

Bidens coronata

Calamagrostis canadensis

Caltha palustris

Cardamine bulbosa

Carex lanuginosa

Carex stricta

Cyperus strigosus

Epilobium coloratum

Erigeron philadelphicus

Eupatorium maculatum

Eupatorium perfolium

Glyceria grandis

Iris shrevei

Juncus dudleyi

Lycopus americanus

Lysimachia ciliata

Lysimachia hybrida

Onoclea sensibilis

Penthorum sedoides

Phalaris arundinacea

Phlox maculata

Polygonum pennsylvanicum

Polygonum punctatum

Polygonum sagittatum

Ribes americanum

Rorippa palustris ssp.  
fernaldiana

Sagittaria latifolia

Salix discolor

Scirpus atrovirens

Scutellaria lateriflora

Sium suave

Spartina pectinata

Stachys palustris

Stachys tenuifolia

Teucrium canadense

Thelypteris palustris var.  
pubescens

Typha latifolia

Verbena hastata



Pond

A pond is a permanent, or semi-permanent, small, still body of water. In White (1978) "lakes and ponds are separated from wetlands by the general lack of emergent woody or graminoid vegetation" (p. 347). Characteristic vegetation includes plants which root in the substrate or ones which float on the surface. They may have floating or submerged leaves. Pond communities in Black Hawk County include Bailey's Lake, Goose Lake, and Martinson's pond. The following is a list of pond species.

Brassenia schreberiPontederia cordataCeratophyllum demersumPotamogeton foliosusElodea nuttalliiPotamogeton natansLemna minorPotamogeton nodosusLemna trisulcaRorippa palustris ssp.Ludwigia polycarpafernaldianaNelumbo luteaSagittaria latifoliaNuphar luteumSpirodela polyrhizaNymphaea tuberosaUrticularia vulgarisPolygonum pensylvanicumCultural

This class represents communities created by human disturbance. It includes crop land, pasture land, successional fields, tree plantations, and developed land. Every area in the county has been disturbed to some

degree or is surrounded by cultural land. The following is a list of cultural species.

<u>Abutilon theophrasti</u>	<u>Digitaria ischaemum</u>
<u>Achillea millifolium</u>	<u>Echinochloa crusgalli</u>
<u>Agropyron repens</u>	<u>Eragrostis pectinacea</u>
<u>Agrostis gigantea</u>	<u>Erigeron annuus</u>
<u>Amaranthus retroflexus</u>	<u>Hemerocallis fulva</u>
<u>Ambrosia trifida</u>	<u>Hordeum jubatum</u>
<u>Apocynum sibiricum</u>	<u>Lactuca canadensis</u>
<u>Arctium minus</u>	<u>Leonurus cardiaca</u>
<u>Asclepias syriaca</u>	<u>Matricaria matricariodes</u>
<u>Asparagus officinalis</u>	<u>Melilotus alba</u>
<u>Barbarea vulgaris</u>	<u>Mollugo verticillata</u>
<u>Bromus inermis</u>	<u>Morus alba</u>
<u>Cannabis sativa</u>	<u>Nepeta cataria</u>
<u>Capsella bursa-pastoria</u>	<u>Oxalis stricta</u>
<u>Cenchrus longispinus</u>	<u>Panicum capillare</u>
<u>Cerastium vulgatum</u>	<u>Pastinaca sativa</u>
<u>Chenopodium album</u>	<u>Phleum pratense</u>
<u>Cirsium arvense</u>	<u>Plantago rugelii</u>
<u>Clematis virginiana</u>	<u>Poa pratensis</u>
<u>Convolvulus arvensis</u>	<u>Portulaca oleracea</u>
<u>Conyza canadensis</u>	<u>Potentilla norvegica</u>
<u>Dactylis glomerata</u>	<u>Prunella vulgaris</u>
<u>Daucus carota</u>	<u>Prunus americana</u>

Rosa multiflora

Rumex acetosella

Setaria viridus

Silene alba

Solanum americanum

Solidago canadensis

Taraxacum officinale

Thlaspi arvense

Trifolium pratense

Ulmus pumila

Verbascum thapsus

Viola papilionacea

## CHAPTER 4

## CONCLUSION

The vascular flora of Black Hawk County, Iowa was surveyed during 1981-1983. A total of 826 species, representing 98 families and 399 genera (Table 7) were found through field and herbarium studies. An annotated plant list of native and naturalized plant species known to grow or to have grown independent of cultivation is given in Appendix A. The families with the largest number of species are the Asteraceae and the Poaceae. Aster is the largest genus (Table 8). Fourteen endangered plant species and four threatened plant species (Roosa et al. 1986) can be found in Black Hawk County. These species are listed in Table 5.

The flora of Black Hawk County, Iowa is, for the most part, typical of the flora of Iowa as a whole. However, the sandy areas of the county have provided some interesting habitats for some plant species not commonly found throughout the state. Sandy areas have been formed by either the wind or by water.

Shimek (1917) compiled a list of the sand flora of Iowa and stated that the Cedar River provides the finest examples of sandy areas comprised of fluvial sands. The Black Hawk County Conservation Board (Duritsa 1983) mapped the locations of eolian (windblown) sands in the county. Duritsa noted that eolian sand deposits are superimposed over other landscapes and are generally found parallel to the Cedar River on the east. Duritsa suggested that "a proposed source of the

Table 7. Statistical summary of the vascular flora of Black Hawk County, Iowa.

HIGHER TAXA	FAMILIES	GENERA	SPECIES	
			NATIVE	NATURALIZED
EQUISETOPHYTA	1	1	5	0
LYCOPODIOPHYTA	1	1	1	0
POLYPODIOPHYTA	4	8	9	0
PINOPHYTA	1	1	1	0
MAGNOLIOPHYTA				
MAGNOLIOPSIDA	75	296	505	95
LILIOPSIDA	<u>16</u> 98*	<u>92</u> 399*	<u>191</u> 712*	<u>19</u> 114*

\* Totals

eolian debris is the ancient Cedar River floodplain during periglacial times. This wind blown material is generally identified as dunes consisting of fine particles of sand on a northwest to southeast axis" (p. 195). Eolian sands are also found in Washington-Union Township, west of the Cedar River and are probably from the West Fork of the Cedar River. In Lester Township, eolian sands are transected by the Wapsipinicon River. A few characteristic species found in sand habitats in Black Hawk County are:

Bulbostylis capillaris

Astragalus crassicarpus

Dalea villosus

Euphorbia dentata

Froelichia floridana

Euphorbia glyptosperma

Spiranthes cernua

Table 8. Statistical summary of the families and genera containing the largest number of species found in Black Hawk County, Iowa.

FAMILY	NUMBER OF SPECIES	GENERA	NUMBER OF SPECIES
Asteraceae	105	<u>Carex</u>	39
Poaceae	84	<u>Aster</u>	18
Cyperaceae	63	<u>Polygonum</u>	14
Fabaceae	46	<u>Viola</u>	10
Rosaceae	38	<u>Salix</u>	10
Brassicaceae	29	<u>Solidago</u>	9
Ranunculaceae	24	<u>Euphorbia</u>	9
Scrophulariaceae	22		
Lamiaceae	22		
Polygonaceae	22		
Liliaceae	21		

The relationships between the vegetation and the soils were examined as a means to estimate pre-settlement vegetation. In a general segregation of forest, prairie and marsh, native vegetation was calculated as 8.3% forest, 91% prairie, and less than 0.1% marsh. This estimation of forest land was less than Thompson and Hertel (1981) figures of 13.5%, which had been obtained from early surveyer's notes from the 1820's. The percentage of forest land was probably less than 8.3% with savannahs (grasses growing under trees) occupying some of the land. Duritsa (1983) discussed the difficulty in determining if some

soils "may have supported stable savanna communities, or they may be representative of a successional stage in the transition of prairie to forest" (p. 24).

For this survey, the vegetation of Black Hawk County was categorized within six major divisions: forest, savannah, prairie, wetlands, pond, and cultural. Under forest the subdivisions of floodplain forest, upland forest and sand forest were recognized. Prairie subdivisions included prairie, sand prairie, and limestone prairie. Sedge meadow and marsh were subdivisions of the wetland category. Sights which represented each of these divisions and subdivisions were visited, collections were made, and lists of characteristic species were compiled.

#### Recommendations for Further Study

A list has been compiled of rare species which have no herbarium vouchers for Black Hawk County since 1970 (Appendix C). Further field surveys of natural areas may relocate these species and provide information on their frequency in the county. Some natural areas, such as Dorothy's Prairie and the eastern portion of the Goose Lake area, were discovered in the last season of this survey and could be more extensively surveyed. Further studies in the county may locate previously undiscovered high-quality natural areas which may add some species to the county flora. Sandy areas could be studied extensively and a sand flora compiled for the county.

## REFERENCES CITED

- Anderson, W. I.; Dowell, V. E.; Eilers, L. J.; Haman, A. C.; McCalley, D. V.; Smith, D. D.; Whitson, P. D.; Wilson, N.; Volker, J. Description of environment: Hartman Reserve, Black Hawk County, Iowa. Prepared for Iowa Northland Regional Council of Governments Hartman Reserve Aquisition Project; 1975. Available from: Hartman Reserve Nature Center, Cedar Falls, IA.
- Anderson, W. I. Geology of Iowa. Ames, IA: Iowa State Univ. Press; 1983.
- Andreas, A. T. Illustrated historical atlas of the state of Iowa. Chicago, IL: Andreas Atlas Company; 1875.
- Bishop, R. A. Iowa's wetlands. Proc. Iowa Acad. Sci. 88(1):11-16; 1981.
- Buol, S. W.; Hole, F. D.; McCracken, R. J. Soil genesis and classification. Ames, IA: Iowa State Univ. Press; 1973.
- Burk, M. Flowering plants of Black Hawk County, Iowa. Proc. Iowa Acad. Sci. 38:135-149; 1931.
- Chumbley, C. Flora of a prairie remnant; 1973. Available from: Univ. of Northern Iowa Herbarium, Cedar Falls, IA.
- Correll, D. S.; Correll, H. B. Aquatic and wetland plants of southwestern United States. Washington, DC: Environmental Protection Agency; 1972.
- Crabbe, J. A.; Jermy, A. C.; Mickel, J. T. A new generic sequence for the Pteridophyte herbarium. Fern Gaz. 11:141-162; 1975.
- Cronquist, A. The evolution and classification of flowering plants. Boston: Houghton-Mifflin Co.; 1968.
- Crum, G. H. Flora of a sand prairie in Black Hawk County, Iowa. Proc. Iowa Acad. Sci. 78(3-4):81-87; 1972.
- Daubenmire, R. Plant geography. New York: Academic Press; 1978.
- Dodds, J. S., editor-in-chief. Original instructions governing public land survey of Iowa. Ames, IA: Iowa Engineering Society; 1943.
- Duritsa, M. F. A natural areas inventory of Black Hawk County, Iowa. Cedar Falls, IA: Univ. of Northern Iowa; 1983. Thesis.



- Eilers, L. J. The vascular flora of the Iowan area. Univ. of Iowa Studies in Natural History 21(5); 1971.
- Eilers, L. J.; Roosa, D. M. A computerized annotated checklist of the vascular plants of Iowa. Ames, IA: Iowa State Univ. Press; [1987].
- Fassett, N. C. Spring flora of Wisconsin. Madison, WI: Univ. of Wisconsin Press; 1976.
- Fouts, W. L.; Highland, J. D. Soil survey of Black Hawk County, Iowa. United States Department of Agriculture Soil Conservation Service; 1978.
- Gale Research Company. Weather of U.S. cities. Vol. 1. Detroit, MI: Gale Research Company Book Tower; 1981.
- Gilly, C. L. The Cyperaceae of Iowa. Iowa State College Journal of Science 21(1):55-151; 1946.
- Gleason, H. A. New Britton and Brown illustrated flora of northeastern United States and adjacent Canada. Lancaster, PA: Lancaster Press; 1952. 3 vol.
- Gleason, H. H.; Cronquist, A. Manual of vascular plants of northeastern United States and adjacent Canada. New York: D. van Nostrand Co.; 1963.
- Hallberg, G. R. Unpublished table printed by permission in Anderson, W. I., Geology of Iowa. Ames, IA: Iowa State Univ. Press; 1983.
- Hartman, J. C., ed. History of Black Hawk County, Iowa and its people. Vol. 1. Chicago, IL: The S. J. Clarke Co.; 1915.
- Iowa Crop and Livestock Reporting Service. Iowa agriculture statistics. Des Moines, IA: Iowa Department of Agriculture; 1983.
- Iowa Development Commission. Community quick reference. Des Moines, IA: Iowa Development Commission; 1984.
- Jones, A. G. Curator of the Herbarium, Univ. of Illinois, Urbana. [Letter to Dr. L. J. Eilers, Curator of the Herbarium, Univ. of Northern Iowa]. 1986 November 5.
- Klein, R. M.; Klein, D. T. Research methods in plant science. Garden City, NY: Natural History Press; 1970.
- Lammers, T. G. The vascular floras of seven small prairie tracts in Black Hawk County, Iowa; 1980. Available from: Univ. of Northern Iowa Herbarium, Cedar Falls, IA.

- Lanjouw, J.; Stafleu, F. A. Index herbariorum. Part 1. The herbaria of the world. Fourth ed. *Regnum Vegetabile* 15:1-249; 1959.
- Lawrence, G. H. M. Taxonomy of vascular plants. New York: Macmillan Co.; 1951.
- Lehmann, J. W. The vascular flora of Dubuque County, Iowa. Cedar Falls, IA: Univ. of Northern Iowa; 1983. Thesis.
- Mackenzie, K. K. North American Cariceae. New York: New York Botanical Garden; 1940. 2 vol.
- Mason, H. L. A flora of the marshes of California. Berkley and Los Angeles: Univ. of California Press; 1969. [first published in 1957]
- Melendy, P. Historical record of Cedar Falls, the garden city of Iowa. Cedar Falls, IA: P. Melendy; 1893.
- Metropolitan Planning Commission of Black Hawk County. Parks and open spaces for Black Hawk County. Waterloo, IA: Metropolitan Planning Commission of Black Hawk County; 1969.
- Mohlenbrock, R. H. Guide to the vascular flora of Illinois. Carbondale, IL: Southern Illinois Univ. Press; 1975.
- Pohl, R. W. How to know the grasses. Dubuque, IA: Wm. C. Brown Co.; 1954.
- Pohl, R. W. The grasses of Iowa. *Iowa State Coll. J. Sci.* 40(4):341-566; 1966.
- Prior, J. C. A regional guide to Iowa landforms. Iowa Geological Survey Educational Series, 3; 1976.
- Radford, A. E.; Dickison, W. C.; Massey, J. R.; Bell, C. R. Vascular plant systematics. New York: Harper and Row; 1974.
- Rockford Map Publishers. Land atlas and plat book, Black Hawk County, Iowa. Rockford, IL: Rockford Map Publishers; 1981. Available from: Black Hawk County Auditor, Waterloo, IA. [first published in 1976]
- Roosa, D. M.; Pusateri, W. P.; Eilers, L. J. Distribution of endangered and threatened Iowa plants. Special Report, No. 6; 1986. Available from: State Preserves Advisory Board, Des Moines, IA.
- Shimek, B. The sand flora of Iowa. *Bull. Lab. Nat. History, State Univ. of Iowa* 7(3):4-24; 1917.

- Smith, D. D. Iowa prairie--an endangered ecosystem. Proc. Iowa Acad. Sci. 88(1):7-10; 1981.
- Spence, W. Salicaceae of Iowa. Iowa City, IA: State Univ. of Iowa; 1959. Thesis.
- Thompson, G. W.; Hertel, G. The forest resources of Iowa in 1980. Proc. Iowa Acad. Sci. 88(1):2-6; 1981.
- Thorne, R. F. Present status of our knowledge of the vascular plant flora of Iowa. Proc. Iowa Acad. Sci. 61:177-183; 1954.
- Transeau, E. N. The prairie peninsula. Ecology 16(3):423-437; 1935.
- Vankat, J. L. The natural vegetation of North America. New York: John Wiley and Sons; 1979.
- Voss, E. G. Michigan flora. Part 1. Gymnosperms and monocots. Bloomfield Hills, MI: Cranbrook Institute of Science; 1972.
- White, J. Illinois natural areas inventory technical report. No. 1. Survey methods and results. Urbana, IL: Illinois Natural Areas Inventory; 1978. [no longer in print]

## APPENDIX A

## ANNOTATED CATALOG

Explanation of Annotated Catalog

The annotated catalog of the vascular plants of Black Hawk County has been compiled from data collected from over 2,250 herbarium specimens and over 1,500 specimens collected in the field. The catalog is alphabetized by family, genus and species names. The Pteridophyte divisions follow Crabbe et al. (1975). The angiosperms are divided into classes according to Cronquist (1968).

Information provided for each species includes the following: 1) scientific binomial, 2) synonyms, 3) a common name, 4) frequency of occurrence, 5) habitat, 6) specimens examined, and 7) remarks.

Scientific Binomial

Nomenclature of species follows the Computerized Annotated Checklist of the Vascular Plants of Iowa prepared by Eilers and Roosa [1987]. Non-indigenous species are preceded by an asterisk (\*).

Synonyms

Synonyms listed in the annotated catalog are those noted by Eilers and Roosa [1987].

Common Name

Common names cited by Eilers and Roosa [1987], or by Gleason and Cronquist (1963) are given for convenience. Names are listed which may be commonly used in Black Hawk County, Iowa.

### Frequency of Occurrence

The relative frequency of occurrence of a species in the county is a subjective determination based on personal observation, collection of species in the field, and upon examination of previously collected herbarium specimens. The following arbitrary scale of relative frequency is used:

1-2 occurrences = rare

3-6 occurrences = infrequent

7-12 occurrences = frequent

13 or more occurrences = common

### Habitat

Short phrases are given to provide a general description of areas in which a species can be found (dry, sandy soil, roadsides). These descriptions are based on personal observations, information on herbarium labels, and descriptions given in Eilers and Roosa [1987].

### Specimens Examined

Entries for specimens examined in Iowa herbaria include collection location, collection year, the surname of the collector, the collector's specimen number (if given), and the herbarium of deposition. The Iowa herbaria are coded as follows: ISC--Iowa State University, ISTC--University of Northern Iowa, and IA--University of Iowa (Lanjouw and Stafleu 1959).

Many older collections, especially those of Burk (1931) did not cite collection locations. The abbreviation NLC, for No Location Cited, has been used for these collections. Similarly, NDC, for No Date Cited, has been used when no collection date was given for a specimen. Eilers

noted that most of Burk's collections were made north of the Cedar River.

Some location names written on herbarium labels can not be determined to exact section-township-range locations. These locations are listed in Table 9 with approximate section-township-range locations.

Table 9. Approximate locations of sites listed by a title on herbarium specimens.

LOCATION TITLE	SEC-T-R	HABITAT DESCRIPTION
Beaver Creek	S 30 90-14 S 29 90-14 SW 28 90-14 NE 33 90-14	floodplain forest
Casebeer Heights	S S 5 88-12 N N 8 88-12	floodplain forest
Cedar Heights	18 89-13 W 17 89-13	upland forest
ISTC Golf Course	NE 24 89-14	prairie, RR right of way
Josh Higgins Park	E 7 89-13 S 8 89-13 N 18 89-13	George Wyth State Park; floodplain forest
Leland Pasture	19 89-11 or 20 89-11	prairie
Lookout Park	N N 18 89-13	upland forest
Snag Creek (Woods)	N 2 89-14 SW 1 89-14	floodplain forest
Washington-Union Township Bridge	NE 16 90-14 NW 15 90-14	floodplain forest

Personal collections have been listed by study sites (Tables 2, 3, and 4) or by the section-township-range system. The location is followed by a ten digit collection number (Table 10).

Remarks

Remarks may include information on the occurrence of species in the state, infraspecific information, or information on species observed but without herbarium vouchers.

Table 10. Interpretation of collection numbers.

POSITION OF NUMBERS	MEANING	EXAMPLE: 1983061842
First four	Year of collection	1983
Second two	Month of collection	06, June
Third two	Day of collection	18, 18th
Last two	Field collection number	42

## DIVISION EQUISETOPHYTA

## EQUISETACEAE (Horsetail Family)

Equisetum arvense L. Common horsetail. Common; disturbed, moist, open areas.

Cedar Heights, 1920, Ries, ISTC. North of Washburn, 1921, Shimek IA. Cedar Falls, 1930, Gilbert, ISTC. Cedar River, 1939, Grant 8386, 8391, ISTC. George Wyth State Park, 1941, McIlrath 8, ISTC. George Wyth State Park, 1941, Phelps 11, ISTC. 6 90-12, 1960, Barnett, ISTC. Cedar Hills Sand Prairie, 1970, Crum 023, 159, ISTC. Dargon's Marsh, 1982051509. NE 20 89-11, 1982052412. George Wyth State Park, 1982060207. Highway 175 RR Prairie, 1983070304.

Equisetum x ferrissii Clute [E. hyemale x E. laevigatum] Ferriss' hybrid scouring rush. Rare; moist prairies and roadsides.

George Wyth State Park, 1947, Schmidt 4, ISTC.

Equisetum fluviatile L. Swamp horsetail. Rare; marshes.

SE NE 23 90-12, 1981, Lammers 4316, ISC, ISTC.

Equisetum hyemale L. var. affine (Engelm.) A. A. Eaton Scouring rush. Frequent; lowland woods.

George Wyth State Park, 1959, Eilers, ISTC. Martinson's Dunes, 1983061006.

Equisetum laevigatum A. Br. [E. kansanum Schaffner] Smooth scouring rush. Common; dry prairies, roadsides.

Cedar Falls, 1920, Van Camp, ISTC. North of Washburn, 1921, Shimek, IA. Elk Run, 1921, Shimek, IA. Cedar Hills Sand Prairie, 1970, Crum 128, ISTC. Dunkerton Prairie, 1981, Lammers 4197, ISTC. Stensland's Dunes, 1982051805. Cedar Township RR Prairie, 1982072443, 1983060715. Martinson's Dunes, 1982072513. Bailey's Lake, 1983063019. Dorothy's Prairie, 1983070117. Lester Township RR Prairie, 1983070431.



## DIVISION LYCOPODIOPHYTA

## SELAGINELLACEAE (Spikemoss Family)

Selaginella rupestris (L.) Spring Spikemoss. Rare; exposed limestone ridges, open rocky outcrops.

Casebeer Heights, 1937, Grant 8010, ISTD.

## DIVISION POLYPODIOPHYTA

## ADIANTACEAE (Maidenhair Fern Family)

Adiantum pedatum L. Northern maidenhair fern. Rare; moist woods.

Cedar Falls, 1884, Buckingham, ISTD. Hartman Reserve Nature Center, 1956, Cooper 26, ISTD.

## APLENIACEAE (Common Fern Family)

Athyrium filix-femina (L.) Roth [A. angustum (Willd.) Presl Northern lady-fern. Frequent; moist woods, marsh margins.

Hartman Reserve Nature Center, 1956, Cooper 28, ISTD. Lester Township, 1978, Roosa 1695, ISTD. Brustkern's Woods, 1980, Lammers 3896, ISTD. Cedar Hills Sand Prairie, 1981, Lammers 4368, ISTD. Ackerson's Marsh, 1982071710, 1982071728, 1982080751.

Cystopteris protrusa (Weath.) Blasdell [C. fragilis (L.) Bernh. var. protrusa Weath.] Creeping fragile fern. Rare; wooded slopes.

Cedar Heights, 1938, Grant 8195, ISTD.

Dryopteris cristata (L.) Gray Crested fern. Rare; marshes.

Cedar Hills Sand Prairie, 1976, Roosa 819, ISC. Cedar Hills Sand Prairie, 1977, Roosa 1389, ISC. Cedar Hills Sand Prairie, 1979, Lammers 3192, ISTD. Ackerson's Marsh, 1981, Lammers 4376, ISTD, ISC. Ackerson's Marsh, 1982070116, 1982071722, 1983061009, 1983070125.

Also found at Newgard's Pasture.

Onoclea sensibilis L. Sensitive fern. Common; marshes, moist sandy areas.

North of Washburn, 1921, Shimek, IA. Cedar Hills Sand Prairie, 1970, Crum 181, ISTC. 3 90-11, 1978, Roosa 1696, ISTC. Cedar Hills Sand Prairie, 1978, Lammers 2121, ISTC. Dargon's Marsh, 1982051505. Martinson's Dunes, 1982060110. Ackerson's Marsh, 1982071703. Goose Lake, 1983082615.

Sighted at Newgard's Pasture and Dorothy's Prairie.

Thelypteris palustris Schott var. pubescens (Lawson) Fern.

[Dryopteris thelypteris Gray] Marsh fern. Frequent; wet sandy slopes, marshes, seeps.

Cedar Hills Sand Prairie, 1978, Lammers 2116, ISTC. Ackerson's Marsh, 1982071729, 1982080711, 1982080727. Newgard's Pasture, 1983080525.

Also sighted at Goose Lake.

#### OPHIOGLOSSACEAE (Adder's-tongue Fern Family)

Botrychium dissectum Sprengel f. obliquum (Muhl.) Fern. [B. dissectum Sprengel var. obliquum (Muhl.) Clute] Oblique grape fern. Rare; upland oak-hickory forest, acid soils, sandy shores, edge of swale.

Hartman Reserve Nature Center, 1980, Lammers 3196, ISTC. Hartman Reserve Nature Center, 1981, Lammers 4445, ISTC. Cedar Hills Sand Prairie, 1986, Roosa, ISTC.

Botrychium virginianum (L.) Sw. Rattlesnake fern. Infrequent; moist wooded slopes and uplands.

Cedar Heights, 1926, Clark, ISTC. Cedar Heights, 1926, NCC, ISTC. Brustkern's Woods, 1982062317, 1983052314.

#### OSMUNDACEAE (Flowering Fern Family)

Osmunda claytoniana L. Interrupted fern. Infrequent; mesic upland forest.

Brustkern's Woods, 1980, Lammers 3890, ISTC.

## DIVISION PINOPHYTA

## CUPRESSACEAE (Cypress Family)

Juniperus virginiana L. Red cedar. Common; dry open woods, pastures.

Snag Creek, 1929, Burk 873, ISTD. North of Cedar Falls, 1932, Shimek, IA. Cedar River, 1939, Grant 8387, ISTD. NLC, 1949, Walder, ISTD. Cedar Hills Sand Prairie, 1970, Crum 005, ISTD. Fischels' Prairie, 1981, Lammers 4029, ISTD. Highway 175 RR Prairie, 1983070311.

## DIVISION MAGNOLIOPHYTA

## CLASS MAGNOLIOPSIDA

## ACERACEAE (Maple Family)

Acer negundo L. Box elder. Common; alluvial woods, moist disturbed habitats.

2 89-14, 1970, Crum 013, 024, ISTC.

Acer nigrum Michx. f. Black maple. Rare; alluvial woods.

NLC, 1929, Burk 688, ISTC. Black Hawk County Park,  
W NE NE 34 90-14, 1980, Lammers 3591, ISTC.

This species was also observed in the lowland woods of Hartman Reserve Nature Center.

Acer saccharinum L. Silver maple. Common; alluvial woods.

Fall's Access, 1985092601, 1985092602. Black Hawk County Park,  
34 90-14, 1985092603.

Acer saccharum Marsh. Sugar maple. Common; moist woods, wooded slopes

Cedar Falls, 1901, Lambert, IA. Black Hawk County Park,  
34 90-14, 1963, Eilers 4260, IA.

## AIZOACEAE (Carpetweed Family)

\* Mollugo verticillata L. Carpetweed. Frequent; dry open sand, waste areas and roadsides.

Waterloo, 1899, Newton, ISTC. NLC, 1929, Burk 824, ISCT. Cedar Falls, 1929, Burk, ISTC. NLC, 1949, Classick, ISTC. Martinson's Dunes, 1983080912.

## AMARANTHACEAE (Amaranth Family)

Amaranthus albus L. Pigweed. Frequent; disturbed areas.

Waterloo, 1899, Newton, ISTC. George Wyth State Park, 1963, Eilers 4299, IA.

Amaranthus arenicola I. M. Johnston [A. torreyi (Gray) Bentham, misappl.] Pigweed. Rare; dry often sandy areas.

Cedar River, NDC, Cooper 23, ISTC. NLC, 1929, Burk 581, ISTC. 6 90-12, 1960, Barnett, ISTC.

\* Amaranthus graecizans L. [A. blitoides S. Watson] Pigweed. Infrequent; disturbed areas, sandy roadside ditches.

NLC, 1929, Burk 539, 950, ISTC. 27 88-14, 1963, Eilers 4372, IA. 3 88-14, 1963, Eilers 4385, IA.

\* Amaranthus retroflexus L. Pigweed. Frequent; roadside ditches, disturbed areas.

NLC, 1929, Burk 670, ISTC. 6 90-12, 1960, Barnett, ISTC. 27 88-14, 1963, Eilers 4381, IA. 3 88-14, 1963, Eilers 4387, IA. Brustkern's Woods, 1983092117.

Amaranthus rudis Sauert [A. tamariscinus Nutt.] Pigweed. Rare; roadside ditches, low moist areas.

Goose Lake, 1937, Grant 8106, ISTC. 6 90-12, 1960, Barnett, ISTC.

Amaranthus tuberculatus (Moq.) Sauer [Acnida altissima (Riddell) Moq.] Water hemp. Rare; wet grounds.

NLC, 1929, Burk 892, ISTC. 6 90-12, 1960, Barnett, ISTC.

Froelichia floridana (Nutt.) Moq. (check var.) Cottonweed.  
Frequent; open sandy soil.

Waterloo, NDC, Newton, IA, ISTC. Cedar Hills Sand Prairie, 1970, Eilers 6583, ISTC. Myszka Prairie, 1976, Eilers 7011, ISTC. Myszka Prairie, 1980, Lammers 3836, ISTC. Martinson's Dunes, 1983080913, 1985090801. Goose Lake, 1983082665.

#### ANACARDIACEAE (Cashew Family)

Rhus aromatica Aiton {incl. var. serotina (Greene) Rehder; var. illinoensis (Greene) Rehder; var. arenaria (Greene) Fern.} [R. trilobata Nutt. var. arenaria (Greene) Barkley] Fragrant sumac. Infrequent; sandy areas.

Fischels' Prairie, 1980, Lammers 3690, ISTC. Fischels' Prairie, 1982051414. Cedar Township RR Prairie, 1982060723, 1982072450.

Rhus glabra L. Smooth sumac. Common; edges of woods, woodland openings.

Cedar Falls, 1919, Hilton, ISTC. Cedar Falls, 1920, Van Camp, ISTC. Cedar river region, 1929, Burk 638, ISTC. North of Cedar Falls, 1932, Shimek, IA. River Birch Bottoms, 1982060413. George Wyth State Park, 1982070303. Brustkern's Woods, 1983070205. Highway 175 RR Prairie, 1983070308.

Toxicodenron radicans (L.) Kuntze ssp. negundo (Greene) Gillis [Rhus radicans L.] [Rhus toxicodenron L., misappl.] Poison ivy. Common; open areas, alluvial woods.

Cedar Falls, 1919, Ries, ISTC. Island Park, 1938, Grant 8160, ISTC. S 33 90-14, 1970, Crum 026, ISTC.

#### APIACEAE (Parsley Family)

\* Carum carvi L. Caraway. Rare; roadsides, waste places.

NLC, 1929, Burk 312, ISTC.

Chaerophyllum procumbens (L.) Crantz Chervil. Rare; alluvial woods.

Black Hawk County Park, W W 34 90-14, 1982051502.

Cicuta maculata L. Water hemlock. Rare; marshes, prairie swales, sedge meadows.

NLC, 1929, Burk 646, ISTC. Cedar Hills Sand Prairie, 1970, Crum 164, ISTC. Bunchflower Meadow, 1980, Lammers 3683, ISTC. Cedar Hills Sand Prairie, 1980, Lammers 3841, ISTC.

Cryptotaenia canadensis (L.) DC. Honewort. Common; moist woods.

NLC, 1929, Burk 765, ISTC. Cedar Heights, 1953 Grant 12031, ISTC. George Wyth State Park, 1982070811. Cooper's Woods, 1983081110. Brustkern's Woods, 1983081308.

\* Daucus carota L. Queen Anne's lace. Common; roadsides, disturbed areas.

NLC, 1929, Burk 603, ISTC. Highway 175 RR Prairie, 1982072475. George Wyth State Park, 1983081010.

Eryngium yuccifolium Michx. Rattlesnake master. Frequent; moist, mesic prairie remnants.

NLC, 1929, Burk 553, ISTC. 6 90-12, 1960, Barnett, ISTC. Dunkerton Prairie, 1980, Lammers 3853, ISTC. Lester Township RR Prairie, 1981, Lammers 4313, ISTC. Dorothy's Prairie, 1983070110.

Heracleum lanatum Michx. [H. maximum Bartram] [H. spondylium L. ssp. montanum (Schl.) Briq.] Cow parsnip. Infrequent; alluvial woods, woodland edges.

NLC, 1929, Burk 799, ISTC. Hartman Reserve Nature Center, 1963, Eilers 4391, IA.

Osmorhiza claytonii (Michx.) C. B. Clarke Sweet cicely. Frequent; upland woods.

NLC, 1929, Burk 245, ISTC.

Sighted at Cooper's Woods.

Osmorhiza longistylis (Torrey) DC. {incl. var. villicaulis Fern.;  
var. brachycoma Blake} Anise root. Common; moist woods.

Fischels' Prairie, 1982051419. Brustkern's Woods, 1982051430,  
1983052308. Lester Township RR Prairie, 1982052422. Martinson's  
Dunes, 1983061005.

Oxypolis rigidior (L.) C. & R. Cowbane. Rare; moist prairie  
remnants.

NLC, 1929, Burk 731, ISTC. Steimel's Prairie, 1980, Lammers  
3786, ISTC. Cedar Hills Sand Prairie, 1980, Lammers 3843, ISTC.

Pastinaca sativa L. Wild parsnip. Common; roadsides, along  
railroads.

NLC, 1929, Burk 308, ISTC.

Sighted at Bunchflower Meadow.

Polytaenia nuttallii DC. Prairie parsley. Rare; prairies.

NLC, 1929, Burk 347, ISTC.

Sanicula canadensis L. Black snakeroot. Frequent; moist woods.

George Wyth State Park, 1963, Eilers 4341, IA.

Sanicula gregaria Bickn. Common snakeroot. Common; moist woods.

NLC, 1929, Burk 623, ISTC. Cedar Heights, 1953, Grant 12025,  
ISTC. SE SE 9 90-14, 1982060314. Frost Prairie, 1982060416.  
Brustkern's Woods, 1982062322.

Sanicula marilandica L. Black snakeroot. Rare; open woods.

NLC, 1929, Burk 348, ISTC.



Sium suave Walter Water parsnip. Frequent; marshes.

Waterloo, 1894, Newton, ISTD. NLC, 1929, Burk 659, ISTD.  
9 89-13, 1963, Eilers 4471, IA. Goose Lake, 1980, Lammers 3883,  
ISTD. Ackerson's Marsh, 1982080710. Goose Lake, 1982081804.  
Highway 175 RR Prairie, 1983070310.

Also found at Dorothy's Prairie.

Thaspium barbinode (Michx.) Nutt. Meadow parsnip. Infrequent; moist prairies, open woods.

Cooper's Woods, 1983052605.

Thaspium trifoliatum (L.) Gray name. Rare; moist prairies, open wooded slopes.

NW 6 90-12, 1960, Barnett, ISTD. Hartman Reserve Nature Center, 1974, Van Ersvelde, ISTD.

Zizia aptera (Gray) Fern. Heart-leaved meadow parsnip. Rare; upland prairie remnants.

NLC, 1929, Burk 500, ISTD. Bennington Township Cemetery, 1973, Chumbley, ISTD. Raymond Prairie, 1980, Lammers 3321, ISTD. Raymond Prairie, 1982051402, 1982062309.

Zizia aurea (L.) W. Koch Golden alexanders. Common; prairie remnants, alluvial woods.

NLC, 1929, Burk 485, ISTD. Goose Lake, 1938, Grant 8131, ISTD. Goose Lake, 1941, McIlrath 32, ISTD. 33 88-14, 1963, Eilers 4357, IA. Bennington Township Cemetery, 1973, Chumbley, ISTD. Bennington Township Cemetery, 1979, Lammers 3083, ISTD.

Sighted at Fall's Access.

#### APOCYNACEAE (Dogbane Family)

Apocynum androsaemifolium L. Spreading dogbane. Rare; woodland borders.

NLC, 1929, Burk 791, ISTD.

Apocynum cannabinum L. {incl. var. pubescens (Mitchell) A. DC.}  
Indian hemp. Frequent; disturbed areas, along railroads.

North of Washburn, 1921, Shimek, IA. NLC, 1929, Burk 717, ISTC.  
S SW SW 12 89-12, 1982060406. Highway 175 RR Prairie,  
1983070322.

Apocynum sibiricum Jacq. {incl. var. cordigerum (Greene) Fern.} [A. cannabinum L. var. hypericifolium Gray] Dogbane. Infrequent;  
marsh edges, sandy flats, disturbed areas.

NLC, 1929, Burk 754, ISTC. North of Cedar Falls, 1932, Shimek,  
IA. Cedar Hills Sand Prairie, 1970, Crum 186, ISTC. Cedar  
Township RR Prairie, 1982062906. Bunchflower Meadow,  
1982063004. Dorothy's Prairie, 1983070120.

#### ARALIACEAE (Ginseng Family)

Aralia racemosa L. Spikenard. Rare; moist woods.

NLC, 1929, Burk 505, ISTC.

Panax quinquefolius L. Ginseng. Infrequent; moist woods.

Cedar Heights, 1953, Grant 12064, ISTC. Hartman's Reserve  
Nature Center, 1963, Eilers 4398, IA.

#### ARISTOLOCHIACEAE (Birthwort Family)

Asarum canadense L. {incl. var. acuminatum Ashe; var. reflexum  
(Bickn.) B. L. Robinson} Wild ginger. Common; moist wooded  
slopes.

Cedar Falls, 1919, Hilton, ISTC. Cedar Falls, 1920, Ries, ISTC.  
NLC, 1929, Burk 229, 232, ISTC. Hartman Reserve Nature Center,  
1941, McIlrath 25, ISTC.

## ASCLEPIADACEAE (Milkweed Family)

Asclepias amplexicaulis Smith Sand milkweed. Rare; dry, open sandy soil.

Elk Run, 1921, Shimek, IA. NLC, 1929, Burk 376, 534, ISTD.  
Cedar Hills Sand Prairie, 1970, Crum 118, ISTD. Myszka Prairie,  
1980, Lammers 3460, 3569, ISTD. Bailey's Lake, 1983063018.

Asclepias hirtella (Pennell) Woodson Tall green milkweed. Rare;  
dry, sandy prairie remnants.

Newgard's Pasture, 1981, Lammers 4402, ISTD. Newgard's Pasture,  
1983080510.

Asclepias incarnata L. Swamp milkweed. Common; marsh edges, prairie  
swales.

Cedar Falls, 1919, Ries, ISTD. NLC, 1929, Burk 641, ISTD.  
George Wyth State Park, 1947, Schmidt 5, ISTD. 34 90-14, 1963,  
Eilers 4291, IA. 9 89-13, 1963, Eilers 4454, IA. Cedar Hills  
Sand Prairie, 1970, Crum 184, ISTD. Steimel's Prairie, 1980,  
Lammers 3788, ISTD. Ackerson's Marsh, 1982071714, 1983081126.  
Goose Lake, 1982081828. Dorothy's Prairie, 1983080107.  
Newgard's Pasture, 1983080516.

Asclepias sullivantii Engelm. ex Gray Prairie milkweed. Infrequent;  
roadside ditches.

NLC, 1929, Burk 818, ISTD. SW SW SW 32 89-14, 1983062902.  
NW NW 21 90-11, 1983070402.

\* Asclepias syriaca L. Common milkweed. Common; disturbed, open  
prairie.

NLC, 1929, Burk 819, ISTD. Cedar Hills Sand Prairie, 1970, Crum  
167, ISTD. Highway 175 RR Prairie, 1983070314. Cedar Township  
RR Prairie, 1983070320. NW NW 21 90-11, 1983070403.

Also seen at Dorothy's Prairie.

Asclepias verticillata L. Whorled milkweed. Common; open dry soil.

Waterloo, 1893, Newton, ISTD. NLC, 1929, Burk 648, ISTD. Cedar Heights, 1938, Grant 8196, ISTD. George Wyth State Park, 1953, Reynolds, ISTD. ISTD Golf Course, 1953, Hardin 12, ISTD. Cedar Hills Sand Prairie, 1970, Crum 219, ISTD. SE 6 89-13, 1980, Lammers 3634, ISTD. Myszka Prairie, 1980, Lammers 3738, ISTD. George Wyth State Park, 1982070804, 1982072428. N NE 4 90-13, 1983080306. Martinson's Dunes, 1983080910.

Asclepias viridiflora Raf. Green milkweed. Rare; dry open sandy prairies.

Elk Run, 1921, Shimek, ISC. NLC, 1929, Burk 512, 647, ISTD. Cedar Hills Sand Prairie, 1970, Crum 168, ISTD. Fischels' Prairie, 1980, Lammers 3685, ISTD. Dunkerton Prairie, 1981, Lammers 4273, ISTD.

#### ASTERACEAE (Aster Family) (Composite Family)

Achillea millefolium L. ssp. lanulosa (Nutt.) Piper [A. lanulosa Nutt.] Western yarrow. Common; disturbed ground, prairie remnants, dry open sandy areas.

Cedar Falls, 1889, NCC, ISTD. NLC, 1898, Page 14, ISTD. NLC, 1929, Burk, ISTD. Between Cedar Falls and Waterloo, 1930, Shimek, IA. George Wyth State Park, 1953, Reynolds, ISTD. ISTD Golf Course, 1953, Hardin 14, ISTD. NW 6 90-12, 1960, Barnett, ISTD. Cedar Hills Sand Prairie, 1970, Crum 92, ISTD. Stensland's Dunes, 1981, Lammers 4264, ISTD. Dorothy's Prairie, 1983061412, 1983080123.

Ambrosia artemisiifolia L. {incl. var. elatior (L.) Descourt.} Common ragweed. Common; dry disturbed open ground.

Cedar Falls, 1919, Ries, ISTD. Cedar Falls, 1919, Hilton, ISTD. North of Cedar Falls, 1926, Shimek, IA. NLC, 1929, Burk 888, ISTD. George Wyth State Park, 1982081837. Newgard's Pasture, 1983080522. Martinson's Dunes, 1983080924.

Ambrosia psilostachya DC. {incl. var. coronopifolia (T. & G.) Farw.}  
Western ragweed. Rare; roadsides, dry sandy prairies.

NLC, 1929, Burk 882, ISTD. 6 90-12, 1960, Barnett, ISTD. Cedar Hills Sand Prairie, 1979, Lammers 3042, 3085, ISTD. Myszka Prairie, 1980, Lammers 3833, ISTD.

Ambrosia trifida L. Giant ragweed. Common; disturbed soil.

Cedar Falls, 1927, Gilbert, ISTD. NLC, 1929, Burk 661, ISTD. Cedar Township RR Prairie, 1982072447. Ackerson's Marsh, 1982080712.

Antennaria neglecta Greene Pussytoes. Frequent; dry prairies.

Cedar Heights, 1920, Ries, ISTD. North of Waterloo, 1929, Shimek, IA. Goose Lake, 1937, Grant 8014, ISTD. Cedar Hills Sand Prairie, 1970, Crum 004, ISTD. Barnes Ferry Road Cemetery, 1983052005, 1983052010. Dorothy's Prairie, 1983060109.

Antennaria plantaginifolia (L.) Richardson Ladies'-tobacco. Rare; prairies, dry open woods.

Cedar Falls, 1920, Ries, ISTD. North of Cedar Falls, 1932, Shimek, IA.

\* Anthemis cotula L. Dog fennel. Infrequent; disturbed areas.

Cedar Falls, 1920, Charlston, ISTD. Washburn, 1921, Shimek, IA. NLC, 1929, Burk 812, ISTD. V-37 Prairie, 1982072472.

\* Arctium minus Bernh. Common burdock. Common; disturbed ground, roadsides.

NLC, 1912, NCC, ISTD. NLC, 1929, Burk 719, ISTD.

Artemisia campestris L. ssp. caudata (Michx.) Hall & Clem. [A. caudata Michx.] Beach wormwood. Infrequent; moist disturbed soil.

Myszka Prairie, 1980, Lammers 3806, ISTD.

Artemisia dracunculus L. [A. dracuncyloides Pursh] [A. glauca Pallas] False tarragon. Rare; sandy plains and dry soils.

Waterloo, 1893, Newton, ISTC. NLC, 1929, Burk 885, 916, 925, ISTC. Dunkerton Prairie, 1980, Lammers 3855, ISTC. SE 6 89-13, 1980, Lammers 4017, ISTC.

Artemisia ludoviciana Nutt. {incl. var. gnaphalodes (Nutt.) T. & G.} [A. gnaphalodes Nutt.] White sage. Common; prairie remnants, sandy soil.

Waterloo, 1893, Newton, ISTC. NLC, 1929, Burk 922, ISTC. 9 89-13, 1963, Eilers 4476, IA. Cedar Hills Sand Prairie, 1979, Lammers 3045, ISTC. Raymond Prairie, 1980, Lammers 3905, ISTC. Cedar Township RR Prairie, 1982072437. Bailey's Lake, 1983063027. Dorothy's Prairie, 1983070107. Highway 175 RR Prairie, 1983081319. Bunchflower Meadow, 1983100412.

Artemisia serrata Nutt. Sage. Rare; wet prairies.

Waterloo, 1893, Newton, ISTC. NLC, 1928, Burk 844, ISTC. Frost Prairie, 1981, Lammers 4370, ISTC, ISC.

Aster azureus Lindley Sky-blue aster. Infrequent; dry open woods, dry prairies, roadsides.

Waterloo, 1893, Newton, ISTC. NLC, 1912, NCC, ISTC. NLC, 1929, Burk 970, 976, ISTC. 6 90-12, 1960, Barnett, ISTC. NW 27 90-12, 1979, Lammers 3084, ISTC. Dunkerton Prairie, 1980, Lammers 3976, ISTC. Fischels' Prairie, 1980, Lammers 3993, ISTC.

Aster cordifolius L. Blue wood aster. Infrequent; dry upland woods.

Hartman Reserve Nature Center, 1956, Cooper 27, ISTC.

Aster drummondii Lindley [A. sagittifolius Wedem. var. drummondii (Lindley) Shinnars] Drummond's aster. Rare; moist woods.

Hartman Reserve Nature Center, 1982090705, 1982090709. Dorothy's Prairie, 1983100715.

Aster ericoides L. Heath aster or frost weed. Common; prairie remnants, roadsides.

Cedar Falls, 1919, Ries, ISTD. North of Washburn, 1921, Shimek, IA. NLC, 1929, Burk 971, ISTD. Dunkerton Prairie, 1980, Lammers 3974, ISTD. Raymond Prairie, 1980, Lammers 3989, ISTD. Fall's Access, 1982090914. George Wyth State Park, 1983090810. Cedar Township RR Prairie, 1983092102. Bunchflower Meadow, 1983100413.

Aster laevis L. Smooth aster. Infrequent; roadsides, prairies, dry soil.

NLC, 1912, NCC, ISTD. NLC, 1929, Burk 956, ISTD. Dunkerton Prairie, 1980, Lammers 3973, ISTD. Raymond Prairie, 1980, Lammers 3983, 3986, ISTD. NW NE 10 88-14, 1983100404.

Aster lanceolatus Willd. ssp. interior (Wieg.) A. G. Jones [A. interior Wiegand] Rare; low prairies.

NLC, 1912, NCC, ISTD. 6-90-12, 1960, Barnett, ISTD.

Aster lanceolatus Willd. ssp. simplex (Willd.) A. G. Jones [A. simplex Willd.] Panicked aster. Rare; low prairies.

NLC, 1929, Burk 915, ISTD.

Aster novae-angliae L. New England aster. Common; prairie swales, along railroads, moist habitats.

NLC, 1912, NCC, ISTD. NLC, 1929, Burk 931, ISTD. Dunkerton Prairie, 1980, Lammers 3975, ISTD. Raymond Prairie, 1980, Lammers 3987, ISTD. Steimel's Prairie, 1980, Lammers 3996, ISTD. Bunchflower Meadow, 1980, Lammers 4002, ISTD. Cedar Hills Sand Prairie, 1981, Lammers 4473, ISTD. Newgard's Pasture, 1983091408. N NE 2 88-14, 1983100401. Bunchflower Meadow, 1983100405. Highway 175 RR Prairie, 1983100415.

Aster oblongifolius Nutt. Aromatic aster. Infrequent; dry sandy, rocky prairies.

Raymond Prairie, 1980, Lammers 3988, ISTD. Fischels' Prairie, 1980, Lammers 3992, ISTD. Cedar City Sand Prairie, 1980, Lammers 4015, ISTD.

Aster ontarionis Wiegand Ontario aster. Infrequent; low, moist woods.

NLC, 1929, Burk 933, ISTC.

Aster parviceps (Burgess) Mack. & Bush [A. pilosus Willd. ssp. parviceps (Burgess) A. G. Jones] Rare; prairie remnants, dry sandy soil, roadsides.

NLC, 1929, Burk 947, ISTC.

Aster pilosus Willd. Hairy aster. Rare; upland prairie.

NLC, 1912, NCC, ISTC. Dunkerton Prairie, 1980, Lammers 3977, ISTC. Raymond Prairie, 1980, Lammers 3990, ISTC.

Aster praealtus Poiret Willow aster. Rare; moist open soil.

Waterloo, 1893, Newton, ISTC. NLC, 1912, NCC, ISTC. NLC, 1929, Burk 972, ISTC. Highway 175 RR Prairie, 1983100418.

Also located at Dorothy's Prairie.

Aster puniceus L. {incl. var. lucidulus Gray} [A. lucidulus (Gray) Wiegand] Swamp aster. Infrequent; moist prairies.

NLC, 1912, NCC, ISTC. NLC, 1929, Burk 932, ISTC. Steimel's Prairie, 1980, Lammers 3995, ISTC. Bunchflower Meadow, 1982091605. Newgard's Pasture, 1983091411.

The two personal collections are variety lucidulus.

Aster sagittifolius Willd. [A. X sagittifolius Willd.] Arrow-leaved aster. Rare; dry upland woods.

NLC, 1929, Burk 946, ISTC. Brustkern's Woods, 1982091003.

Aster sericeus Vent Silky aster. Infrequent; dry sandy, rocky prairies.

Waterloo, 1893, Newton, ISTC. Raymond Prairie, 1980, Lammers 3985, ISTC. Fischels' Prairie, 1980, Lammers 3991, ISTC. Cedar City Sand Prairie, 1980, Lammers 4016, ISTC.



Aster umbellatus Miller White aster. Infrequent; marshes, moist prairies, swales.

NLC, 1929, Burk 744, ISTC. Cedar Hills Sand Prairie, 1979, Lammers 3047, ISTC. Steimel's Prairie, 1980, Lammers 3936, ISTC. Ackerson's Marsh, 1982080704. Newgard's Pasture, 1982082312, 1983080524.

Aster X amethystinus Nutt. [A. ericoides X A. novae-angliae] Rare.

NLC, 1912, NCC, ISTC.

Bidens cernua L. Nodding bur marigold. Frequent; lake margins, marshes.

NLC, 1929, Burk 943, ISTC. Goose Lake, 1937, Grant 8109, ISTC. Steimel's Prairie, 1980, Lammers 3997, ISTC. Newgard's Pasture, 1982082311, 1983091406. Fall's Access, 1982090910.

Bidens coronata (L.) Britton [B. trichosperma (Michx.) Fern.]  
Tickseed sunflower. Frequent; marshes, prairie swales.

Cedar Hills Sand Prairie, 1979, Lammers 3089, ISTC. Bailey's Lake, 1980, Lammers 3859, ISTC. Steimel's Prairie, 1980, Lammers 3938, ISTC. Ackerson's Marsh, 1982080708, 1983081132. Goose Lake, 1982081816. Newgard's Pasture, 1982082305.

Bidens frondosa L. Beggar-ticks. Rare; marshes, moist prairies.

Waterloo, 1893, Newton, ISTC. 6 90-12, 1960, Barnett, ISTC. Steimel's Prairie, 1980, Lammers 3998, ISTC.

Bidens tripartita L. [B. comosa (Gray) Wieg.] Rare; moist soil.

NLC, 1949, Walder, ISTC.

Bidens vulgata Greene Tall beggar-ticks. Rare; moist soil, lake shores.

NLC, 1929, Burk 893, ISTC.

Boltonia asteroides (L.) L'her. {incl. var. recognita (Fern. & Grisc.) Cronq.; var. latisquama (Gray) Cronq.} False aster. Rare; marshes.

NLC, 1929, Burk 881, ISTD. Ackerson's Marsh, 1982080748.

The Ackerson's Marsh collection is variety recognita.

Brickellia eupatoriodes (L.) Shinnars {incl. var. corymbulosa (T. & G.) Shinnars} [Kuhnia eupatoriodes L. {incl. var. corymbulosa T. & G.}] False boneset. Frequent; dry prairies, roadsides, railroad ballasts.

NLC, 1929, Burk 926, ISTD. George Wyth State Park, 1963, Eilers 4309, IA. 10 87-12, 1963, Eilers 4578, IA. Myszka Prairie, 1976, Eilers 7010, ISTD. Myszka Prairie, 1980, Lammers 3811, ISTD. Fischels' Prairie, 1980, Lammers 3898, ISTD. Cedar Township RR Prairie, 1982082810, 1983092112. George Wyth State Park, 1983081002.

Cacalia plantaginea (Raf.) Shinnars [C. tuberosa Nutt.] [Arnoglossum plantagineum Raf.] Prairie Indian plantain. Rare; prairie remnants.

NLC, 1929, Burk 644, ISTD. Dorothy's Prairie, 1983070121.

\* Cichorium intybus L. Chicory. Infrequent; roadsides.

Highway 175 RR Prairie, 1983070315.

\* Cirsium arvense (L.) Scop. Canada thistle. Frequent; cultivated fields, pastures, roadsides, waste places.

Cedar Hills Sand Prairie, 1970, Crum 206, ISTD. Ackerson's Marsh, 1982070122. SE SW 2 90-12, 1982070719. Dorothy's Prairie, 1983080104.

Cirsium discolor (Muhl. ex Willd.) Sprengel Field thistle. Frequent; open woods, roadsides, moist prairie remnants, disturbed ground.

North of Cedar Falls, 1926, Shimek, ISTD. NLC, 1929, Burk 914, ISTD. 6 90-12, 1960, Barnett, ISTD. Hartman Reserve Nature Center, 1963, Eilers 4423, IA. Goose Lake, 1982080710. Fall's Access, 1982090901. Cedar Township RR Prairie, 1983092122.

Cirsium hillii (Canby) Fern. [C. pumilum (Nutt.) Sprengel]  
Thistle. Rare; sandy prairies, roadsides.

Hudson, 1923, Barkhum, ISC. NLC, 1929, Burk 766, ISTC. Cedar Hills Sand Prairie, 1970, Crum 205, ISTC.

\* Cirsium vulgare (Savi) Tenore [C. lanceolatum Hill, misappl.] Bull thistle. Frequent; pastures, disturbed ground, roadsides.

Cedar Falls, 1919, Hilton, ISTC. Cedar Falls, 1926, Burk, ISTC. NLC, 1929, Burk 861, ISTC.

Conyza canadensis (L.) Cronq. [Erigeron canadensis L.] Horseweed, muletail. Common; sandy, open disturbed soil, pastures, fields.

Cedar Falls, 1926, NCC, ISTC. NLC, 1929, Burk 588, ISTC. George Wyth State Park, 1963, Eilers 4303, IA. 27 88-14, 1963, Eilers 4371, IA. 10 87-12, 1963, Eilers 4572, IA. Ackerson's Marsh, 1982080733. Cedar Township RR Prairie, 1982082805. SE SE 1 87-12, 1983081316.

Coreopsis palmata Nutt. Tickseed, prairie coreopsis. Common; prairie remnants, open woods.

Cedar Falls, 1920, Sherwood, ISTC. Cedar Falls, 1920, Van Camp, ISTC. NLC, 1929, Burk 806, ISTC. Cedar Hills Sand Prairie, 1970, Crum 152, ISTC. Bennington Township Cemetery, 1973, Chumbley, ISTC. Cedar Hills Sand Prairie, 1979, Lammers 2886, ISTC. Cedar City Sand Prairie, 1980, Lammers 3635, ISTC. NE NE 10 88-12, 1980, Lammers 3696, ISTC. Raymond Prairie, 1980, Lammers 3741, ISTC. S SW SE 16 90-11, 1983070401. Illinois Central & Gulf RR Prairie, 1983070428.

Crepis runcinata (James) T. & G. Hawksbeard Rare; waste ground.

Elk Run, 1921, Shimek, ISC.

Echinacea pallida Nutt. Pale coneflower. Frequent; dry prairies, roadsides.

Cedar Falls, 1920, Sherwood, ISTC. NLC, 1929, Burk 772, ISTC. Bennington Township Cemetery, 1973, Chumbley, ISTC. Cedar City Sand Prairie, 1980, Lammers 3586, ISTC. Raymond Prairie, 1980, Lammers 3614, ISTC. Fischels' Prairie, 1980, Lammers 3689, ISTC. SW SW SW 32 89-14, 1983062901. Illinois Central & Gulf RR Prairie, 1983070425.

Erechtites hieracifolia (L.) Raf. ex DC. Fireweed. Rare; marshes, prairie swales, moist ditches.

Waterloo, 1893, Newton, ISTC. Cedar Hills Sand Prairie, 1981, Pelton 111, ISTC.

Erigeron annuus (L.) Pers. Daisy fleebane. Common; roadsides, pastures, upland openings.

Cedar Falls, 1919, Hilton, ISTC. Cedar Falls, 1920, Jenson, ISTC. NLC, 1929, Burk 364, 595, 767, ISTC. 6 90-12, 1960, Barnett, ISTC. Black Hawk County Park, 34 90-14, Eilers 4246, IA. George Wyth State Park, 1983061603, 1983061604. Bruggeman Park, 1982080744. Bailey's Lake, 1983063004. Frost Prairie, 1983070434.

Erigeron philadelphicus L. Fleebane. Frequent; moist woods and shores, moist sandy areas.

Cedar Falls, 1894, Orsubly, ISTC. Cedar River, 1920, Ries, ISTC. NLC, 1929, Burk 351, ISTC. ISTC Golf Course, 1953, Hardin 30, ISTC. Newgard's Pasture, 1982052712. George Wyth State Park, 1983061605, 1983061612.

Erigeron strigosus Muhl. ex Willd. Fleebane. Common; open woods, prairie remnants, roadsides.

Cedar Falls, 1889, NCC, ISTC. NLC, 1929, Burk 332, 365, 565, ISTC. Cedar Hills Sand Prairie, 1970, Crum 133, ISTC. George Wyth State Park, 1982060736, 1983081005. Dorothy's Prairie, 1983061408. SW NE 26 88-11, 1983070210. Cedar Township RR Prairie, 1983070321. Newgard's Pasture, 1983080529.

Eupatorium altissimum L. [Ageratina altissima (L.) King & H. Robins.] Tall thoroughwort. Rare; dry open woods, alluvial woods.

Along Cedar River, Cedar Falls, 1926, Shimek, IA. Black Hawk County Park, 34 90-14, 1963, Eilers 4244, IA. Hartman Reserve Nature Center, 1963, Eilers 4419, IA.

Eupatorium maculatum L. {incl. var. bruneri (Gray) Breitung}  
[Eupatoriadelphus maculatus (L.) King & H. Robins.] Spotted  
Joe-pye-weed. Frequent; open marshy places.

Cedar Hills Sand Prairie, 1978, Lammers 2109, ISTD. Steimel's  
Prairie, 1980, Lammers 3998, ISTD. Ackerson's Marsh,  
1982071706, 1982080725, 1983081119. Newgard's Pasture,  
1983080519. Martinson's Dunes, 1983080917.

Eupatorium perfoliatum L. Boneset. Frequent; edges of marshes,  
prairie swales.

NLC, 1929, Burk 869, ISTD. 9 89-13, 1963, Eilers 4469, IA.  
Cedar Hills Sand Prairie, 1979, Lammers 3043, ISTD. Steimel's  
Prairie, 1980, Lammers 3797, ISTD. Ackerson's Marsh,  
1982071708, 1982080718, 1983081122. Martinson's Dunes,  
1982072525.

Eupatorium purpureum L. [Eupatoriadelphus purpureus (L.) King & H.  
Robins.] Purple Joe-pye-weed. Frequent; moist woods.

NLC, 1929, Burk 864, ISTD. George Wyth State Park, 1963,  
Eilers 4342, IA. Hartman Reserve Nature Center, 1963, Eilers  
4403, IA. Cooper's Woods, 1982082703, 1982082707, 1983081103.  
George Wyth State Park, 1983081011.

Also sighted at Brustkern's Woods.

Eupatorium rugosum Houtt. [Ageratina altissima (L.) King & H.  
Robins. in part] White snakeroot. Common; moist woods.

Waterloo, 1892, Newton, ISTD. NLC, 1929, Burk 690, ISTD.  
Hartman Reserve Nature Center, 1963, Eilers 4402, IA. Cedar  
Falls, 1965, Gilbert 17, ISTD. George Wyth State Park,  
1982072408. Cooper's Woods, 1982082701, 1983081104.  
Brustkern's Woods, 1982091004.

Euthamia graminifolia (L.) Nutt. ex Cass. [E. gymnospermoides  
Greene] [Solidago graminifolia (L.) Salisb. {incl. var.  
gymnospermoides (Greene) Croat; var. major (Michx.) Fern.; var.  
media (Greene) Harris}] Grass-leaved goldenrod. Infrequent;  
prairie remnants, sedge meadows.

NLC, 1929, Burk 921, ISTD. Cedar Hills Sand Prairie, 1979,  
Lammers 3037, ISTD. Bunchflower Meadow, 1980, Lammers 3886,  
ISTD.

Gnaphalium obtusifolium L. Everlasting. Rare; sandy field; disturbed prairies.

NW 19 90-14, 1970, Eilers 6582, ISTC.

Helenium autumnale L. Sneezeweed. Infrequent; marshes, moist prairies, wet ground.

Cedar Falls, 1919, Hilton, ISTC. NLC, 1929, Burk 870, ISTC. Leland's Pasture, 1956, Cooper 8, ISTC. 9 89-13, 1963, Eilers 4452, IA. Steimel's Prairie, 1980, Lammers 3937, ISTC. Newgard's Pasture, 1982082309, 1983091404. Bunchflower Meadow, 1983100409.

Helianthus decapetalus L. Pale sunflower. Rare; upland woods, wooded slopes.

Hartman Reserve Nature Center, 1963, Eilers 4407, IA. Hartman Reserve Nature Center, 1982090707.

Helianthus divaricatus L. Woodland sunflower. Rare; dry open woods.

NLC, 1929, Burk 726, ISTC.

Helianthus grosseserratus Martens Saw-tooth sunflower. Frequent; sandy remnant prairies, moist ground, roadsides.

NLC, 1929, Burk 868, 974, ISTC. 6 90-12, 1960, Barnett, ISTC. Ackerson's Marsh, 1982071715, 1982080705, 1983081131. Highway 175 RR Prairie, 1982072476. Bailey's Lake, 1982081850. Newgard's Pasture, 1983080527.

Also sighted at Dorothy's Prairie.

Helianthus maximiliani Schrader Maximillian's sunflower. Rare; prairie remnants, roadsides, disturbed soil.

Highway 175 RR Prairie, 1983081318.

Helianthus petiolaris Nutt. Petioled sunflower. Rare; sandy prairies.

NLC, 1929, Burk 682, ISTC. NW SE 90-14 19, 1983063011.

Helianthus rigidus (Cass.) Desf. [H. laetiflorus Pers.] Prairie sunflower. Infrequent; sandy or dry upland prairies.

Waterloo, 1893, Newton, ISTC. NLC, 1929, Burk 973, ISTC. Cedar Hills Sand Prairie, 1979, Lammers 3034, ISTC. Fischels' Prairie, 1980, Lammers 3899, ISTC. Raymond Prairie, 1980, Lammers 3903, ISTC. Myszka Prairie, 1980, Lammers 3945, ISTC.

Helianthus strumosus L. [H. trachelifolius Miller] Pale-leaved sunflower. Rare; open woods.

NLC, 1929, Burk 871, ISTC. Cedar Township RR Prairie, 1982072441.

Helianthus tuberosus L. Jerusalem artichoke. Infrequent; moist prairies.

Waterloo, 1893, Newton, ISTC. NLC, 1929, Burk 856, 887, ISTC. Cedar Township RR Prairie, 1982082803.

Also sighted at Bunchflower Meadow and Goose Lake.

Heliopsis helianthoides (L.) Sweet {incl. var. scabra (Dunal) Fern.} Ox-eye. Common; prairies, roadsides.

Cedar Falls, 1885, NCC, ISTC. Waterloo, 1893, Newton, ISTC. NLC, 1912, NCC, ISTC. NLC, 1929, Burk 727, 769, ISTC. Goose Lake, 1953, Hardin, ISTC. 6 90-12, 1960, Barnett, ISTC. George Wyth State Park, 1963, Eilers 4339, IA. Bunchflower Meadow, 1980, Lammers 3603, ISTC. Bailey's Lake, 1982062104, 1983061317. Bunchflower Meadow, 1982063003, 1982070702, 1982070703, 1982070708, 1983070212. Highway 175 RR Prairie, 1983070313. Frost Prairie, 1983070412. Illinois Central & Gulf RR Prairie, 1983070427.

Krigia biflora (Walter) Blake False dandelion. Infrequent; prairie remnants.

Cedar Falls, 1895, Abraham, ISTC. NLC, 1929, Burk 489, ISTC. Goose Lake, 1938, Grant 8148, ISTC. Cedar Hills Sand Prairie, 1970, Crum 103, ISTC. Cedar Hills Sand Prairie, 1982060107. Leavitt Prairie, 1982060202. Dorothy's Prairie, 1983070113.

Lactuca canadensis L. {incl. var. obovata Weigand; var. latifolia Kuntze} Wild lettuce. Common; roadsides, along railroads, open sandy areas.

NLC, 1929, Burk 860, 862, ISTC. 6 90-12, 1960, Barnett, ISTC. Black Hawk County Park, 34 90-14, 1963, Eilers 4276, IA. Hartman Reserve Nature Center, 1963, Eilers 4416, IA. George Wyth State Park, 1982072412. Dorothy's Prairie, 1983070116.

\* Lactuca serriola L. [L. scariola L.] Prickly lettuce. Rare; weed of waste ground and disturbed places.

Cedar Falls, 1920, Sherwood, ISTC. Cedar Falls, 1926, NCC, ISTC. 27 88-14, 1963, Eilers 4367, IA.

Liatris aspera Michx. Blazing star. Common; prairie remnants.

Waterloo, 1883, Newton, ISTC. NLC, 1929, Burk 919, ISTC. Myszka Prairie, 1976, Eilers 7016, ISTC. Cedar Hills Sand Prairie, 1977, Magee, ISTC. Cedar Hills Sand Prairie, 1979, Lammers 3044, ISTC. Bennington Township Cemetery, 1979, Lammers 3082, ISTC. Raymond Prairie, 1980, Lammers 3902, ISTC. Myszka Prairie, 1980, Lammers 3949, ISTC. Cedar Township RR Prairie, 1982082814.

Liatris cylindracea Michx. Blazing star. Rare; dry rocky or sandy prairies.

Raymond Prairie, 1980, Lammers 3822, ISTC.

Liatris pycnostachya Michx. Prairie blazing star. Frequent; moist prairies, roadsides, along railroads.

NLC, 1929, Burk 680, ISTC. Cedar Hills Sand Prairie, 1970, Crum 204, ISTC. Cedar Hills Sand Prairie, 1978, Lammers 2110, ISTC. Dunkerton Prairie, 1980, Lammers 3850, ISTC. Bailey's Lake, 1980, Lammers 3871, ISTC. Frost Prairie, 1981, Lammers 4369, ISTC. Bailey's Lake, 1982081843. Dorothy's Prairie, 1983080114. Cedar Hills Sand Prairie, 1983080305.

Liatris squarrosa (L.) Michx. {incl. var. hirsuta (Rydb.) Gaiser; var. glabrata (Rydb.) Gaiser} Blazing star. Rare; prairies and woodland openings.

Cedar Falls, 1919, Palmer, ISTC.



- \* Matricaria matricarioides (Less.) Porter Pineapple weed. Frequent; roadsides, paths, pastures, disturbed habitats.

George Wyth State Park, 1982060739.

- Parthenium integrifolium L. Feverfew, wild quinine. Rare; prairies.

NLC, 1929, Burk 773, ISTD. SW NW 19 90-12, 1949, Grant 11300, ISTD. Bennington Township Cemetery, 1973, Chumbley, ISTD. Raymond Prairie, 1980, Lammers 3616, ISTD. Dorothy's Prairie, 1983070109.

- Prenanthes aspera Michx. Rough white lettuce. Rare; prairies.

Waterloo, 1899, Newton, ISTD. NLC, 1929, Burk 917, ISTD. Fischels' Prairie, 1980, Lammers 3900, ISTD.

- Prenanthes racemosa Michx. {incl. ssp. multiflora Cronq.} Glauous white lettuce. Rare; prairies.

Waterloo, 1893, Newton, ISTD. NLC, 1912, NCC, ISTD. NLC, 1929, Burk 944, ISTD. Cedar Hills Sand Prairie, 1979, Lammers 3086, ISTD. Bailey's Lake, 1982081841.

- Ratibida pinnata (Vent.) Barnh. Yellow coneflower. Common; prairie remnants, roadsides.

NLC, 1929, Burk, ISTD. 6 90-12, 1960, Barnett, ISTD. 27 88-14, 1963, Eilers 4382, IA. Cedar Township RR Prairie, 1982072436. Highway 175 RR Prairie, 1982072478, 1983081322. Dorothy's Prairie, 1983080121.

- Rudbeckia hirta L. {incl. var. pulcherrima Farw.} [R. serotina Nutt.] Black-eyed Susan. Common; prairie remnants, roadsides.

NLC, 1929, Burk 362, ISTD. ISTD Golf Course, 1953, Hardin 16, ISTD. George Wyth State Park, 1963, Eilers 4321, IA. Cedar Hills Sand Prairie, 1970, Crum 153, ISTD. Steimel's Prairie, 1982063015. Newgard's Pasture, 1982070103. George Wyth State Park, 1982070817. Martinson's Dunes, 1982072530. Bailey's Lake, 1983063001. Dorothy's Prairie, 1983070106, 1983080119. Frost Prairie, 1983070417.

Rudbeckia laciniata L. Tall coneflower. Infrequent; alluvial woods.

Waterloo, 1893, Newton, ISTD. Black Hawk County Park, 34 90-14, 1963, Eilers 4273, IA. George Wyth State Park, 1982072430, 1983081006. Fall's Access, 1982082610.

Rudbeckia subtomentosa Pursh Fragrant coneflower. Frequent; moist prairies, open grasslands.

NLC, 1929, Burk 737, ISTD. Dunkerton Prairie, 1980, Lammers 3854. Bailey's Lake, 1980, Lammers 3869, ISTD. SE NW SW 1 88-14, 1980, Lammers 3885, ISTD. Steimel's Prairie, 1980, Lammers 3941, ISTD. Frost Prairie, 1982080740, 1983081703. Bailey's Lake, 1982081851. Dorothy's Prairie, 1983080101, 1983080116.

Also sighted at Bunchflower Meadow.

Senecio aureus L. Golden ragwort. Rare; moist prairies.

Goose Lake, 1941, McIlrath 28, ISTD. Bunchflower Meadow, 1981, Lammers 4098, ISTD. Steimel's Prairie, 1981, Lammers 4157, ISTD.

Senecio pauperculus Michx. Prairie ragwort. Rare; mesic prairies, moist prairies.

Cedar Hills Sand Prairie, 1970, Crum 064, ISTD. Myszka Prairie, 1980, Lammers 3463, ISTD.

Senecio plattensis Nutt. Prairie ragwort. Common; prairies, woodland openings.

NLC, 1929, Burk 345, 346, ISTD. Goose Lake, 1938, Grant 8137, ISTD. Brustkern's Woods, 1982051439. Black Hawk County Park, 34 90-14, 1982051501. Fall's Access, 1982051717. George Wyth State Park, 1982070314, 1983051608, 1983060301. Barnes Ferry Road Cemetery, 1983052011. Dorothy's Prairie, 1983060113.

Also sighted at Newgard's Pasture.

Silphium integrifolium Michx. Rosinweed. Rare; prairie remnants, open sandy soil.

NLC, 1912, NCC, ISTD. NLC, 1929, Burk 685, ISTD. Dorothy's Prairie, 1983080124.

Silphium laciniatum L. Compass plant. Infrequent; prairie remnants, roadsides, along railroads.

Waterloo, 1893, Newton, ISTC. NLC, 1929, Burk 555, ISTC. 6 90-12, 1960, Barnett, ISTC. 27 88-14, 1963, Eilers 4388, IA. NE NE 10 88-12, 1980, Lammers 3695, ISTC. Raymond Prairie, 1980, Lammers 3742, ISTC. NE 20 89-11, 1982052409. Dorothy's Prairie, 1983070105.

Silphium perfoliatum L. Cup plant. Frequent; moist alluvial woods, prairie swales, roadsides.

NLC, 1929, Burk 663, ISTC. George Wyth State Park, 1963, Eilers 4338, IA. Seven miles south of Cedar Falls at Black Hawk Creek, 1965, Gilbert 45, ISTC. N NW 3 90-13, 1983080309. George Wyth State Park, 1983090808.

Also sighted at V-37 Prairie.

Solidago canadensis L. {incl. var. gilvocanescens Rydb.; var. hargeri Fern.; var. scabra (Muhl.) T. & G.} [S. altissima L.] Tall goldenrod. Common; roadsides, disturbed prairies, open woods.

NLC, 1912, NCC, ISTC. NLC, 1929, Burk 854, 883, ISTC. 36 90-13, 1960, Barnett, ISTC. Hartman Reserve Nature Center, 1982090704. Brustkern's Woods, 1982091001, 1983081313. N NW 3 90-13, 1983080310. George Wyth State Park, 1983090801. N NE 2 88-14, 1983100402. Highway 175 RR Prairie, 1983100416, 1983100419.

Also sighted at Goose Lake and Dorothy's Prairie.

Solidago gigantea Aiton {incl. var. serotina (Aiton) Cronq.} Smooth goldenrod. Common; woodland borders, roadsides, moist open habitats.

Black Hawk County Park, 34 90-14, 1963, Eilers 4243, IA. 10 87-12, 1963, Eilers 4574, IA. Goose Lake, 1982081808. Bailey's Lake, 1982081840. Fall's Access, 1982082601, 1982082602, 1982090903. Cedar Township RR Prairie, 1982082801, 1982082804. Dorothy's Prairie, 1983090703. Brustkern's Woods, 1983092119. Bunchflower Meadow, 1983100411. Highway 175 RR Prairie, 1983100421.

Solidago missouriensis Nutt. {incl. vr. fasciculata Holz.}

Missouri goldenrod. Common; upland prairie remnants.

MLC, 1912, NCC, ISTC. NLC, 1929, Burk 858, ISTC. Cedar Hills Sand Prairie, 1970, Crum 233, ISTC. Cedar Hills Sand Prairie, 1978, Lammers 2105, ISTC. Myszka Prairie, 1980, Lammers 3808, ISTC. Cedar City Sand Prairie, 1980, Lammers 3813, ISTC. Martinson's Dunes, 1981, Lammers 4407, ISTC. Martinson's Dunes, 1982072509, 1983080905, 1983080915. Cedar Hills Sand Prairie, 1983080301. SE SE 1 87-12, 1983081317.

Collection 1983080301 is variety fasciculata.

Solidago nemoralis Aiton {incl. var. longipetiolata (Mack. & Bush)

Palmer & Steyerf.} [S. decemflora DC.] [S. longipetiolata Mack. & Bush] Field goldenrod. Infrequent; open woods, fields, remnant prairies.

MLC, 1912, NCC, ISTC. NLC, 1929, Burk 913, ISTC. Cedar Hills Sand Prairie, 1979, Lammers 3038, ISTC. Raymond Prairie, 1980, Lammers 3901, ISTC. Myszka Prairie, 1980, Lammers 3948, ISTC. Cedar Township RR Prairie, 1982072452, 1982082807. Brustkern's Woods, 1982091008.

Solidago ptarmicoides (Nees) Boivin [Aster ptarmicoides (Nees)

Boivin] Goldenrod. Rare; dry upland prairies.

Waterloo, 1893, Newton, ISTC. Raymond Prairie, 1980, Lammers 3758, ISTC.

Solidago riddellii Frank ex Riddell Riddell's goldenrod. Rare; marshes, moist prairies.

MLC, 1929, Burk 929, ISTC. SE 35 89-13, 1986, Zager, ISTC.

Solidago rigida L. {incl. var. humilis Porter} Stiff goldenrod.

Frequent; prairies.

Waterloo, 1893, Newton, ISTC. NLC, 1929, Burk 918, ISTC. 17 89-13, 1963, Eilers 4422, IA. 10 87-12, 1963, Eilers 4571, IA. Cedar Hills Sand Prairie, 1979, Lammers 3036, ISTC. Raymond Prairie, 1980, Lammers 3904, ISTC. Fall's Access, 1982082808. Highway 175 RR Prairie, 1983081323. Cedar Township RR Prairie, 1983092109, 1983092110.

Collection 1982082808 is variety rigida. Collections 1983092109 and 1983092110 are variety humilis. Also sighted at Dorothy's Prairie and Lester Township RR Prairie.

Solidago speciosa Nutt. {incl. var. jejunifolia (Steele) Cronq.;  
var. rigidiuscula T. & G.} Showy goldenrod. Rare; prairies.

Cedar Hills Sand Prairie, 1979, Lammers 3088, ISTC.

Solidago ulmifolia Muhl. ex Willd. Elm-leaved goldenrod.  
Infrequent; open, upland woods.

Hartman Reserve Nature Center, 1956, Cooper 4, ISTC. 17 89-13,  
1963, Eilers, IA. Hartman Reserve Nature Center, 1982090703.

\* Sonchus asper (L.) Hill Spiny-leaved sow thistle. Rare; waste  
places, roadsides, fields, disturbed soil.

NW NW 20 90-14, 1983080926.

\* Tanacetum vulgare L. Tansy. Rare; roadsides, pastures, waste  
places.

NLC, 1929, Burk 728, ISTC.

\* Taraxacum laevigatum (Willd.) DC. [T. erythrospermum Andrz.] Red-  
seeded dandelion. Rare; weeds of lawns, roadsides, pastures.

Cedar Hills Sand Prairie, 1970, Crum 052, ISTC.

\* Taraxacum officinale Weber Common dandelion. Common; weeds of  
lawns, fields, roadsides, waste places.

ISTC Campus, 1884, Buckingham, ISTC. NLC, 1887, Sweatt, ISTC.  
Cedar Falls, 1926, NCC, ISTC. Cedar Falls, 1958, Rogers, ISTC.  
9 89-14, 1970, Greene 110, ISTC. Cedar Hills Sand Prairie,  
1970, Crum 047, ISTC. Hartman Reserve Nature Center, 1972,  
Kirchhoff, ISTC.

\* Tragopogon dubius Scop. {incl. ssp. major (Jacq.) Voll.} [T. major  
Jacq.] Goat's-beard. Infrequent; roadsides, disturbed  
prairies.

Cedar Falls, 1946, Benninghauser, IA. Black Hawk County Park,  
34 90-14, 1963, Eilers 4255, IA. Cedar Hills Sand Prairie,  
1970, Crum 102, ISTC. East Waterloo Prairie, 1982052402.

Vernonia fasciculata Michx. {incl. ssp. corymbosa (Schwein. ex Keating) S. B. Jones} Ironweed. Frequent; moist prairies, roadsides, open moist habitats.

NLC, 1929, Burk 910, ISTC. 6 90-12, 1960, Barnett, ISTC. Black Hawk County Park, 34 90-14, 1963, Eilers 4256, IA. 9 89-13, 1963, Eilers 4453, IA. George Wyth State Park, 1982072431. Ackerson's Marsh, 1982080701, 1983081124. Goose Lake, 1982081802. Martinson's Dunes, 1983080923.

\* Xanthium strumarium Greene [X. echinatum Murray] Cocklebur. Rare; sandy prairies.

NLC, 1929, Burk 948, ISTC.

#### BALSAMINACEAE (Touch-me-not Family)

Impatiens capensis Meerb. [I. biflora Walter] Spotted touch-me-not. Infrequent; alluvial woods, moist wooded slopes, marsh edges.

NLC, 1929, Burk 896, ISTC. Cedar Heights, 1953, Grant 12091, 12094, ISTC. George Wyth State Park, 1963, Eilers 4344, IA.

Impatiens pallida Nutt. Pale touch-me-not, jewel weed. Infrequent; alluvial woods, moist wooded slopes.

Cedar Heights, 1953, Grant 12027, ISTC. Hartman Reserve Nature Center, 1963, Eilers 4421, IA.

#### BERBERIDACEAE (Barberry Family)

\* Berberis thunbergii DC. Japanese barberry. Rare; woods.

Hartman Reserve Nature Center, 1983051605.

Caulophyllum thalictroides (L.) Michx. Blue cohosh. Frequent; moist woods.

Cedar Falls, 1920, Ries, ISTC. NLC, 1929, Burk 225, ISTC. Brustkern's Woods, 1981, Lammers 4055, ISTC. SE SE 9 90-14, 1982060325.

Podophyllum peltatum L. Mayapple. Common; open woods, woodland edges, moist upland woods.

Cedar Falls, 1885, NCC, ISTD. NLC, 1929, Burk 249, ISTD.  
Brustkern's Woods, 1982051436.

BETULACEAE (Birch Family)

Betula nigra L. River birch. Infrequent; alluvial woods.

Wapsipinicon River, 1929, Burk 953, ISTD. Bruggeman Park, 1980, Lammers 3979, ISTD. Bruggeman Park, 1982080746. Lester Township RR Prairie, 1983070411.

Also sighted at River Birch Bottoms

Betula pumila L. var. glandulifera Regel [B. glandulosa Michx. var. glandulifera (Regel) Gl.] Swamp birch. Rare; boggy habitats, marshes.

Ackerson's Marsh, 1981, Lammers 4375, ISTD. Ackerson's Marsh, 1982070119, 1983070127.

Corylus americana Walter Hazelnut. Frequent; woodland openings, woodland borders.

Cedar Falls, 1920, Sherwood, ISTD. North of Cedar Falls, 1932, Shimek, IA. Brustkern's Woods, 1982062320, 1983061303. Cooper's Woods, 1982082702. Hartman Reserve Nature Center, 1982090711. Lester Township RR Prairie, 1983070410.

Ostrya virginiana (P. Miller) K. Koch Ironwood, hop hornbeam. Frequent; upland woods, wooded slopes.

Cedar Falls, 1901, Lambert, IA. Cedar Falls, 1920, Sherwood, ISTD. Cedar Falls, 1920, Ries, ISTD. 2 89-14, 1970, Crum 010, ISTD.

BORAGINACEAE (Borage Family)

Hackelia virginiana (L.) I. M. Johnston [Lappula virginiana (L.) Greene] Stickseed. Infrequent; open woods and alluvium.

NLC, 1929, Burk 574, ISTD. George Wyth State Park, 1983081009. Cooper's Woods, 1983081113. Brustkern's Woods, 1983081307.

- \* Lappula redowskii (Hornem.) Greene {incl. var. texana (Scheele) Brand.} [L. texana (Scheele) Britton] Beggar's-lice. Rare; open dry places, railroad ballasts, disturbed areas.

South of Washburn, 1932, Shimek, IA, ISTC. Fall's Access, 1965, Gilbert 8, ISTC.

- Lithospermum canescens (Michx.) Lehm. Hoary puccoon. Common; prairie remnants, sandy open ground, along railroads.

Cedar Falls, 1893, Shearer, ISTC. NLC, 1929, Burk 267, 326, ISTC. North of Waterloo, 1929, Shimek, IA. Goose Lake, 1938, Grant 8136, ISTC. Cedar Hills Sand Prairie, 1970, Crum 045, ISTC. Myszka Prairie, 1980, Lammers 3462, ISTC. Raymond Prairie, 1980, Lammers 3516, ISTC. Cedar City Sand Prairie, 1980, Lammers 3588, ISTC. Dunkerton Prairie, 1981, Lammers 4094, ISTC. Cedar City Sand Prairie, 1982051614. SE SW 12 90-14, 1982052724. Bennington Township Cemetery, 1983061617.

- Lithospermum caroliniense (Walter) Macm. [L. croceum Fern.] Hairy puccoon. Frequent; dry sandy soil.

NLC, 1929, Burk 495, ISTC. South of Washburn, 1932, Shimek, IA. Goose Lake, 1938, Grant 8146, ISTC. Cedar Hills Sand Prairie, 1970, Crum 065, ISTC. Cedar Hills Sand Prairie, 1978, Lammers 2108, ISTC. Stensland's Dunes, 1981, Lammers 4263, ISTC. Stensland's Dunes, 1982051808. Bailey's Lake, 1982062113, 1983061107. Cedar City Sand Prairie, 1982062407. S SE SE 1 87-12, 1983052311. Cedar Township RR Prairie, 1983060703.

- Lithospermum incisum Lehm. Yellow puccoon. Frequent; sandy prairies, sandy alluvium.

Cedar Falls, 1920, Jensen, ISTC. Cedar Falls, 1920, Ries, ISTC. NLC, 1929, Burk 268, ISTC. Between Cedar Falls and Waterloo, 1930, Shimek, IA. Cedar River, 1939, Grant 8392, ISTC. George Wyth State Park, 1942, Munley 1606, ISC. Raymond Prairie, 1980, Lammers 3320, ISTC. Cedar City Sand Prairie, 1981, Lammers 4081, ISTC. Fischels' Prairie, 1981, Lammers 4101, ISTC. Raymond Prairie, 1982051401. NE SE 26 88-12, 1983052313.



Mertensia virginica (L.) Pers. ex Link Bluebell. Infrequent; moist woods, bottomlands.

Cedar Falls, 1893, Briggs, ISTC. NLC, 1898, Page 7, ISTC.  
Cedar Falls, 1920, Ries, ISTC. NLC, 1929, Burk 220, ISTC.  
NW 31 90-14, 1980, Lammers 3224, ISTC. Hartman Reserve Nature Center, 1983051612.

Myosotis verna Nutt. [M. virginica (L.) BSP., misappl.] Forget-me-not. Rare; open sandy alluvial woods.

George Wyth State Park, 1942, Murley 1610, ISC. George Wyth State Park, 1983060305.

Onosmodium molle Michx. var. occidentale (Mack.) I. M. Johnston [O. occidentale Mack.] False gromwell. Infrequent; lowland sandy prairies, upland prairies, roadsides.

Waterloo, 1894, Newton, ISTC. North of Cedar Falls, 1896, Shimek, IA. Cedar Falls, 1908, Pammel, ISC. Cedar Falls, 1920, Charlston, ISTC. NLC, 1929, Burk 519, ISTC. George Wyth State Park, 1963, Eilers 4312, IA. Fall's Access, 1965, Gilbert 5, ISTC. Raymond Prairie, 1980, Lammers 3613, ISTC. NE NE 10 88-12, 1980, Lammers 3697, ISTC. Stensland's Dunes, 1981, Lammers 4266, ISTC. George Wyth State Park, 1982070818.

#### BRASSICACEAE (Mustard Family)

Arabis canadensis L. Rock cress. Rare; moist, open woods.

NLC, 1929, Burk 525, ISTC.

Arabis drummondii Gray Rock cress. Rare; prairies, openings in woods.

Cedar Falls, 1885, Johnson 365, Grinnel. Beaver Creek, 1938, Grant 8122, ISTC.

Arabis hirsuta (L.) Scop. {incl. var. pyncocarpa (M. Hopk.) Roll.; var. adpressipilis (M. Hopk.) Roll} Rock cress. Rare;

George Wyth State Park, 1983060304.

Arabis shortii (Fern.) Gl. [A. perstellata E. L. Br. var. shortii Fern.] Rock cress. Rare; floodplain forest.

Brustkern's Woods, 1981, Lammers 4058, ISTD.

- \* Barbarea vulgaris R. Br. {incl. var. arcuata (Opiz) Fries} Yellow rocket. Frequent; roadsides, waste places.

Fischels' Prairie, 1982051417. Brustkern's Woods, 1982051444.  
Lester Township RR Prairie, 1982052421. Bunchflower Meadow,  
1982060802, 1982063013. SW NW NW 36 88-11, 1983060711.

Berteroa incana (L.) DC. Hoary alyssum. Infrequent; roadsides, disturbed soil, sandy open areas.

NLC, 1929, Burk 329, ISTD. Black Hawk Park, NW 27 90-14, 1980,  
Lammers 3489, ISTD. Ackerson's Marsh, 1982070121, 1982080736.  
5 89-14, 1983061115.

- \* Brassica campestris L. [B. rapa L. ssp. olifera DC.] Field mustard. Rare; fields, waste places.

Dargon's Marsh, 1982062218.

Capsella bursa-pastoris (L.) Medicus Shepherd's purse. Common; lawns, disturbed soil, along roads.

NLC, 1929, Burk 243, ISTD. Cedar Falls, 1965, Gilbert 56,  
ISTD. Fischels' Prairie, 1982051410. SE SW 12 90-14,  
1982060103.

Cardamine bulbosa (Schreb.) BSP. Spring cress. Frequent; shallow water, marshes, seeps.

Beaver Creek, 1938, Grant 8124, ISTD. Steimel's Prairie, 1981,  
Lammers 4048, ISTD. SE NW SW 1 88-14, 1981, Lammers 4099,  
ISTD. Dargon's Marsh, 1982051506. Stensland's Dunes,  
1982051804. Brustkern's Woods, 1983052301.

Cardamine parviflora L. var. arenicola (Britton) O. E. Schultz  
Small-flowered bitter cress. Rare; open sandy soil.

Ackerson's Marsh, 1983052402. Dorothy's Prairie, 1983060115.

Cardamine pensylvanica Muhl. ex Willd. Bitter cress. Rare; wet ground.

NLC, 1929, Burk 757, ISTC.

Dentaria laciniata Muhl. ex Willd. [Cardamine concatenata (Michx.) O. Schwartz] Toothwort. Infrequent; moist wooded slopes, bottomland woods.

Cedar Falls, 1920, Ries, ISTC. NLC, 1929, Burk 212, ISTC.  
Hartman Reserve Nature Center, 1969, Eilers 6563A, ISTC.  
Hartman Reserve Nature Center, 1972, Kirchoff, ISTC.

Descurainia pinnata (Walter) Britton var. brachycarpa (Richardson) Fern. Tansy mustard. Frequent; dry usually sandy habitats.

NLC, 1929, Burk 264, ISTC. 2 89-14, 1970, Crum 015, ISTC.  
Fischels' Prairie, 1982051409. Cedar City Sand Prairie, 1982051608. Fall's Access, 1982051707.

Also sighted at Lester Township RR Prairie.

Draba reptans (Lam.) Fern. {incl. var. micrantha (Nutt.) Fern.} Whitlow grass. Frequent; open sandy soil.

Cedar Falls, 1902, Newton, ISTC. Cedar River, 1920, Ries, ISTC. George Wyth State Park, 1941, McIlrath 15, ISTC. George Wyth State Park, 1974, Eilers, ISTC. Cedar City Sand Prairie, 1981, Lammers 4087, ISTC. George Wyth State Park, 1982060728, 1983050701.

Also sighted at Barnes Ferry Road Cemetery.

\* Erysimum cheiranthoides L. Wormseed mustard. Infrequent; pastures, roadsides, waste places.

Cedar River, 1929, Burk 825, ISTC. SW 13 88-11, 1981, Lammers 4374, ISTC. George Wyth State Park, 1982072432.

\* Hesperis matronalis L. Dame's violet. Rare; roadsides, alleys, waste ground near human habitation.

NE NW NW 13 89-14, 1982060121. SE NE 15 90-13, 1982060419.



Iodanthus pinnatifidus (Michx.) Steudel Purple rocket. Rare; moist sandy alluvial woods.

Waterloo, 1894, Newton, ISTC. NLC, 1929, Burk 792, ISTC.  
SW NE 3 87-12, 1980, Lammers 3620, ISTC. Fall's Access,  
1982061906.

\* Lepidium campestre (L.) R. Br. Field cress. Rare; roadsides, disturbed ground.

NLC, 1929, Burk 386, ISTC. East Waterloo Prairie, 1982052403.

\* Lepidium densiflorum Schrader Peppergrass. Infrequent; roadsides, pastures, waste places, along railroads.

Beaver Creek, 1938, Grant 8126, ISTC. Union Township Bridge, 1966, Grant 14975, ISTC. Cedar Hills Sand Prairie, 1970, Crum 087, ISTC. Bunchflower Meadow, 1982060806.

\* Lepidium virginicum L. Poor-man's pepper. Rare; waste ground, fields, roadsides.

Cedar Falls, 1920, Thorp, ISTC. Cedar Falls, 1926, NCC, ISTC. NLC, 1929, Burk 387, ISTC. Cedar Falls, 1965, Grant 14968, ISTC.

\* Lesquerella ludoviciana (Nutt.) S. Watson Silvery bladder-pod. Rare; sandy soil.

Waterloo, 1921, Newton, ISTC.

\* Nasturtium officinale R. Br. Watercress. Rare; cold streams, springs, river banks.

Cedar Falls, 1894, Newton, ISTC. Beaver Creek, 1938, Grant 8123, ISTC. NLC, 1949, Walder, ISTC. NLC, 1949, Classick, ISTC. Two miles east of Cedar Falls, 1956, Cooper 24, ISTC.

\* Raphanus raphanistrum L. Wild radish. Rare; in sandy dune; roadsides, old fields.

Martinson's Dunes, 1982060111.

Rorippa islandica (Oeder) Borbas Yellow cress. Shallow water, muddy shores, marshes.

MLC, 1929, Burk 762, ISTC. Black Hawk County Park, 34 90-14, 1963, Eilers 4293, IA. 9 89-13, 1963, Eilers 4474, IA.

Varieties of these specimens could not be determined.

Rorippa palustris (L.) Besser ssp. fernaldiana (Butters & Abbe) Jonsell [R. islandica (Oeder) Borbas var. fernaldiana Butters & Abbe] Yellow cress. Frequent; shallow water, muddy shores, marshes.

6 90-12, Barnett, ISTC. ISTC Campus, 1965, Gilbert, ISTC. Cedar Hills Sand Prairie, 1970, Crum 175, ISTC. Brustkern's Woods, 1983052302.

Also sighted at Newgard's Pasture.

- \* Rorippa sylvestris (L.) Besser Creeping yellow cress. Rare; wet, often sandy bottomlands, pond margins.

Black Hawk County Park, 34 90-14, 1963, Eilers 4289, IA. Black Hawk County Park, 34 90-14, 1980, Lammers 3594, ISTC.

- \* Sinapis arvensis L. [Brassica kaber (DC.) L. C. Wheeler] Charlock. Rare; roadsides, fields, disturbed places.

MLC, 1929, Burk 320, ISTC. South of Highway 218, 1965, Gilbert 37, ISTC. ISTC Campus, 1965, Gilbert 55, ISTC.

- \* Sisymbrium altissimum L. Tumble mustard. Rare; fields, roadsides, waste places.

Cedar Falls, 1920, Godfrey, ISTC. MLC, 1929, Burk 333, ISTC. Cedar Township RR Prairie, 1982062909, 1983060701.

- \* Thlaspi arvense L. Penny cress. Frequent; roadsides, fields, disturbed ground.

Cedar Falls, 1920, Martin, ISTC. MLC, 1929, Burk 247, ISTC. Union Township Bridge, 1966, Grant 14974, ISTC. 2 89-14, 1970, Crum 006, ISTC. Cedar Falls, 1977, Eilers 7054, ISTC. Fischels' Prairie, 1982051413. Cedar City Sand Prairie, 1982051606.



## CACTACEAE (Cactus Family)

Opuntia humifusa (Raf.) Raf. [O. compressa (Salisb.) J. P. Macbr.]  
Prickly pear. Rare; dry sandy soil.

Cedar Township RR Prairie, 1981, Van Norman 01, ISTC.

This plant was no longer at this site in June, 1983. It had been physically removed.

## CAMPANULACEAE (Bellflower Family)

Campanula americana L. Tall bellflower. Common; moist or open alluvial woods.

NLC, 1929, Burk 624, ISTC. 33 88-14, 1963, Eilers 4348, IA. George Wyth State Park, 1982072407, 1983081008. Fall's Access, 1982082612. Cooper's Woods, 1983081109.

Campanula aparinoides Pursh [C. uliginosa Rydb.] Marsh bellflower. Rare; moist prairies, swales, marshes.

NLC, 1929, Burk 809, ISTC. Goose Lake, 1953, Hardin 25, ISTC. 9 89-13, 1963, Eilers 4448, IA. Cedar Hills Sand Prairie, 1978, Lammers 2120, ISTC. Ackerson's Marsh, 1982071705, 1983070124.

\* Campanula rapunculoides L. Bell flower. Rare; roadsides, waste ground.

Cedar Falls, 1965, Gilbert 14, ISTC.

Lobelia cardinalis L. Cardinal flower. Rare; moist alluvial woods, moist open areas.

Cedar Falls, 1897, Newton, ISTC. Cedar Falls, 1908, Pammel, ISC. NLC, 1929, Burk 843, ISTC. Beaver Creek, 1937, Grant 8120, ISTC. SW 30 90-14, 1975, Roosa 719, ISTC. Beaver Creek, 1977, Magee, ISTC. Bruggeman Park, 1981, Lammers 4381, ISTC. Bruggeman Park, 1982080745, 1983081705.

Lobelia siphilitica L. Great lobelia. Frequent; moist open places, sandy soil.

Cedar Falls, 1919, Hilton, ISTD. NLC, 1929, Burk 711, ISTD. 9 89-13, 1952, Grant 11772, IA, ISTD. 9 89-13, 1952, Grant 11773, ISTD. 9 89-13, 1963, Eilers 4459, IA. Cedar Hills Sand Prairie, 1980, Lammers 3842, ISTD. Steimel's Prairie, 1980, Lammers 3935, ISTD. Ackerson's Marsh, 1982080702, 1983081129. Goose Lake, 1982081801. Newgard's Pasture, 1982082303, 1983080508.

Lobelia spicata Lam. {incl. var. hirtella Gray; var. campanulata Mcvaugh; var. leptostachya (A. DC.) Mack. & Bush.} Spiked lobelia. Common; moist prairies.

Cedar Falls, 1895, NCC, ISTD. Cedar Falls, 1920, Jenson, ISTD. NLC, 1929, Burk 388, ISTD. Cedar River, 1937, Grant 8113, ISTD. Cedar Hills Sand Prairie, 1970, Crum 096, ISTD. Bunchflower Meadow, 1980, Lammers 3555, ISTD. Bailey's Lake, 1982062119, 1983063003. Cedar Hills Sand Prairie, 1982062803. Martinson's Dunes, 1982072528. Bennington Township Cemetery, 1983061619. SW SW 18 90-14, 1983063023. Dorothy's Prairie, 1983070111.

Triodanis perfoliata (L.) Nieuwl. [Specularia perfoliata (L.) A. DC.] Venus' looking-glass. Infrequent; open woods, roadsides, dry sandy soil.

Cedar Falls, 1920, Charleton, ISTD. Cedar Falls, 1932, Shimek, IA. Brustkern's Woods, 1982062321, 1983070206.

Also sighted at Cedar Township RR Prairie.

#### CAPPARIDACEAE (Caper Family)

Polanisia dodecandra (L.) DC. [P. graveolens Raf.] Clammy weed. Infrequent; dry, open sandy or gravelly soil.

Cedar Falls, 1920, Charlston, ISTD. NLC, 1929, Burk 781, ISTD. George Wyth State Park, 1953, Grant 12007, ISTD. Black Hawk County Park, 34 90-14, 1980, Lammers 3598, ISTD. George Wyth State Park, 1982070304. Lester Township RR Prairie, 1983070430.

Waterloo, 1893, Norton, ISTD. NLC, 1929, Burk 342, ISTD. North of Cedar Falls, 1932, Shimek, IA. Brustkern's Woods, 1980, Lammers 3894, ISTD.



## CAPRIFOLIACEAE (Honeysuckle Family)

Diervilla lonicera Miller Bush honeysuckle. Rare; woods.

Cedar Falls, 1901, Lambert, IA.

Lonicera dioica L. var. glaucescens (Rydb.) Butters Wild honeysuckle. Rare; open wooded slopes.

Cedar Falls, 1897, Newton, IA, ISTC. 2 89-14, 1970, Crum 007, ISTC. Cooper's Woods, 1983052606, 1983052607

\* Lonicera tatarica L. Cultivated honeysuckle. Infrequent; dry woods, sandy uplands and savannahs.

Cedar Hills Sand Prairie, 1970, Crum 203, ISTC. Stensland's Dunes, 1982051807. George Wyth State Park, 1982070310. Cooper's Woods, 1983052603. Bailey's Lake, 1983061106.

Sambucus canadensis L. Elderberry, common elder. Common; edges of moist woods, shorelines, fence rows.

NLC, 1929, Burk 833, ISTC. George Wyth State Park, 1947, Schmidt 6, ISTC. 6 90-12, 1960, Barnett, ISTC. Cedar Hills Sand Prairie, 1970, Crum 169, ISTC. Bunchflower Meadow, 1982063011. Raymond Prairie, 1982062313. Dorothy's Prairie, 1983060107. Bailey's Lake, 1983063006.

Symphoricarpos occidentalis Hooker Wolfberry, buck brush. Rare; dry prairies.

Cedar Falls, 1896, Conner, ISC. Highway 175 RR Prairie, 1982072481, 1983070309.

Symphoricarpos orbiculatus Moench Corallberry, buck brush. Rare; dry sandy prairies.

George Wyth State Park, 1963, Eilers 4320, IA.

Triosteum perfoliatum L. Horse gentian, feverwort. Infrequent; upland woods, woodland openings.

Waterloo, 1893, Newton, ISTC. NLC, 1929, Burk 342, ISTC. North of Cedar Falls, 1932, Shimek, IA. Brustkern's Woods, 1980, Lammers 3894, ISTC.



Viburnum lentago L. Nannyberry. Rare; upland woods, moist uplands.

Cedar Hills Sand Prairie, 1970, Crum 069, ISTC. Brustkern's Woods, 1980, Lammers 3891, ISTC.

Viburnum rafinesquianum Schultes {incl. var. affine (Bush) House} Downy arrowwood. Rare; upland woods.

Cedar Falls, 1897, Newton, ISTC. Hartman Reserve Nature Center, 1982090712.

CARYOPHYLLACEAE (Pink Family)

Cerastium brachypodum (Engelm. ex Gray) B. L. Robinson [C. nutans Raf. var. brachypodum Engelm. ex Gray] Mouse-ear chickweed. Rare; prairie.

Casebeer Heights, 1937, Grant 8011, ISTC.

\* Cerastium vulgatum L. [C. fontanum Baumg.] Common mouse-ear chickweed. Frequent; open, moist disturbed habitats.

Cedar Falls, 1965, Gilbert 52, ISTC. Stensland's Dunes, 1982051803. Newgard's Pasture, 1982052701. Dorothy's Prairie, 1983060114.

\* Dianthus armeria L. Deptford pink. Infrequent; disturbed prairies, waste areas.

NE SE 24 90-12, 1981, Lammers 4317, ISTC. George Wyth State Park, 1982070311. Hussman Access, 1983070316.

Moehringia lateriflora (L.) Fenzl [Arenaria lateriflora L.] Sandwort. Frequent; moist upland woods, open areas.

NLC, 1929, Burk 262, ISTC. Beaver Creek, 1938, Grant 8125, ISTC. 3 90-11, 1978, Roosa 1697, ISTC. Brustkern's Woods, 1982051432, 1983052309. Frost Prairie, 1982060418. Cooper's Woods, 1983052602, 1983052604.

\* Saponaria officinalis L. Bouncing bet, soapwort. Infrequent; roadsides, waste places.

La Porte City, 1921, Shimek, ISC. NLC, 1929, Burk 634, ISTC. SW SE SW 10 87-12, 1982072462. N NW 3 90-13, 1983080307.

- \* Silene alba (P. Miller) Krause [Lychnis alba P. Miller] [S. pratensis (Rafn) Gren. & Godr.] White campion. Frequent; disturbed open places, prairies.

NLC, 1929, Burk 548, 782, ISTC. ISTC Golf Course, 1953, Hardin 2, ISTC. SW NE 27 88-14, 1982052506. S SW SE 5 90-14, 1982060120. Bunchflower Meadow, 1982060805, 1982063010. Brustkern's Woods, 1983061301, 1983092115.

- Silene antirrhina L. Sleepy catchfly. Infrequent; sandy soil, waste ground.

NLC, 1920, Ries, ISTC. NLC, 1929, Burk, ISTC. George Wyth State Park, 1982060726. Cedar Township RR Prairie, 1982062905. Bunchflower Meadow, 1982063009.

- \* Silene cserei Baumg. Catchfly. Rare; along railroads.

SW 22 90-11, 1981, Lammers 4310, ISTC, ISC.

- Silene nivea (Nutt.) Oth Catchfly. Rare; open, grassy places, low ground, along railroads.

Cedar Falls, 1897, Newton, ISTC. North of Washburn, 1921, Shimek, ISC. Dargon's Marsh, 1982062211.

- \* Silene noctiflora L. Night-flowering catchfly. Rare; disturbed soil, roadsides, waste ground.

Cedar Falls, 1920, Thorp, ISTC.

- Silene stellata (L.) Aiton f. Starry campion. Rare; upland woods.

NLC, 1929, Burk 547, ISTC. Cooper's Woods, 1983081102, 1983081117. Brustkern's Woods, 1983081302.

- \* Silene vulgaris (Moench) Garcke [S. latifolia (Mill.) Britten & Randle] Bladder campion. Rare; disturbed soil and waste ground.

NLC, 1929, Burk 541, ISTC.



- \* Stellaria graminea L. Common stitchwort. Rare; moist disturbed soil.

Cedar Falls, NE NE NE 23 89-14, 1983060601.

- Stellaria longifolia Muhl. ex Willd. Stitchwort. Rare; marsh edges, sedge meadows.

NLC, 1929, Burk 287, ISTC. Cedar Hills Sand Prairie, 1970, Crum 079, ISTC. Cedar Hills Sand Prairie, 1980, Lammers 3581, ISTC. Cedar Hills Sand Prairie, 1982060106. Ackerson's Marsh, 1982070125, 1983052401.

#### CELASTRACEAE (Bittersweet Family)

- Celastrus scandens L. Bittersweet. Frequent; woodland edges, woodland openings, fence rows.

Waterloo, 1893, Newton, ISTC.

- Euonymus atropurpureus Jacq. Wahoo, burning bush. Infrequent; moist woods.

NLC, 1929, Burk 337, ISTC. Cooper's Woods, 1982060310.

#### CERATOPHYLLACEAE (Hornwort Family)

- Ceratophyllum demersum L. Coontail, hornwort. Infrequent; shallow water of lakes and ponds.

Black Hawk County Park, 34 90-14, 1980, Lammers 3596, ISTC. Goose Lake, 1980, Lammers 3878, ISTC. River Birch Bottoms, 1981, Lammers 4371, ISTC.

#### CHENOPODIACEAE (Goosefoot Family)

- \* Chenopodium album L. {incl. var. lanceolatum (Muhl.) Cosson & Germ.} Lamb's quarters. Frequent; disturbed soil, fields, waste ground.

Cedar Falls, 1920, Jenson, ISTC. NLC, 1929, Burk 668, ISTC. George Wyth State Park, 1963, Eilers 4300, IA.

Chenopodium desiccatum A. Nelson [C. leptophyllum (Moq.) Nutt. ex S. Watson var. oblongifolium S. Watson] [C. pratericola Rydb. ssp. desiccatum (A. Nelson) Aellen] Narrow-leaved goosefoot. Infrequent; open dry sandy soil, roadsides.

27 88-14, 1963, Eilers 4370, IA. Myszka Prairie, 1980, Lammers 3736, ISTD. Cedar Township RR Prairie, 1983092104.  
N NE 2 88-14, 1983100403.

CONVOLVULACEAE (Morning-glory Family)

Chenopodium hybridum L. {incl. var. gigantospermum (Aellen) Rouleau} [C. gigantospermum Aellen] Maple-leaved goosefoot. Rare; disturbed woods, waste places.

NLC, 1929, Burk 620, ISTD.

Chenopodium standleyanum Aellen [C. boscianum Moq. misappl.] Goosefoot. Rare; moist woods, moist open sandy soil.

NLC, 1929, Burk 702, ISTD.

Cycloloma atriplicifolium (Sprengel) Coulter Winged pigweed. Rare. open dry sandy soil.

NLC, 1929, Burk 590, ISTD. Myszka Prairie, 1976, Eilers 7009, ISTD.

Salsola iberica Sennen & Pau [S. kali L. var. tenuifolia Tausch] [S. pestifer A. Nelson] Russian thistle. Infrequent; sandy soil, along railroads, roadsides, waste ground.

NLC, 1912, NCC, ISTD. NLC, 1929, Burk, ISTD. Cedar City Sand Prairie, 1982051601. Cedar Township RR Prairie, 1982060710, 1982072451, 1982082811.

CISTACEAE (Rockrose Family)

Helianthemum bicknellii Fern. Frost weed. Frequent; sandy upland prairies.

NLC, 1929, Burk 779, ISTD. Cedar Hills Sand Prairie, 1970, Crum 150, ISTD. Cedar City Sand Prairie, 1980, Lammers 3819, ISTD. Stensland's Dunes, 1981, Lammers 4267, ISTD. Bailey's Lake, 1982062115, 1983063007. Cedar City Sand Prairie, 1982062406. Ackerson's Marsh, 1982070117.



Lechea intermedia Leggett Pinweed. Rare; dry sandy prairie.

Cedar Hills Sand Prairie, 1979, Lammers 3046, ISTC.

Known only from Allamakee, Black Hawk, Dubuque, and Winneshiek counties.

CONVOLVULACEAE (Morning-glory Family)

Calystegia sepium (L.) R. Br. ssp. americana (Sims) Brummitt  
[Convolvulus sepium L.] [Convolvulus americanus (Sims) Greene]  
[Convolvulus repens L.] Morning glory, bindweed. Frequent;  
roadsides, railroad ballasts, sandy prairies.

MLC, 1929, Burk, ISTC. 3 88-14, 1963, Eilers 4384, IA.

10 87-12, 1963, Eilers 4577, IA. Cedar Hills Sand Prairie,

1970, Crum 139, ISTC. Bailey's Lake, 1982062120, 1983063016.

Highway 175 RR Prairie, 1982081321. Dorothy's Prairie,  
1983080110.

- \* Convolvulus arvensis L. Creeping Jenny. Frequent; fields,  
roadsides, railroad ballasts.

MLC, 1929, Burk 803, ISTC. 10 87-12, 1963, Eilers 4575, IA.

Highway 175 RR Prairie, 1982081327, 1983070307. Illinois  
Central & Gulf RR Prairie, 1983070424.

Cuscuta cuspidata Engelm. Dodder. Rare; sandy prairie, moist  
habitats.

MLC, 1929, Burk 905, ISTC. George Wyth State Park, 1953, Grant  
12098, ISTC.

Cuscuta indecora Choisy Dodder. Rare; cultivated fields.

Waterloo, 1893, Newton, ISTC.

Cuscuta polygonorum Engelm. Dodder. Rare; moist habitats.

MLC, 1929, Burk 878, ISTC. One mile west of Waterloo, 1956,  
Cooper 9, ISTC. Fall's Access, 1982090913.

## CORNACEAE (Dogwood Family)

Cornus alternifolia L. f. Alternate-leaved dogwood. Infrequent;  
moist upland woods.

Hartman Reserve Nature Center, 1963, Eilers 4410, IA. Cooper's  
Woods, 1982060308.

Cornus amomum P. Miller ssp. obliqua (Raf.) J. S. Wilson [C.  
obliqua Raf.] [C. purpusi Koehne] Silky dogwood. Rare; wet  
prairies.

NLC, 1929, Burk 785, ISTE. 6 90-12, 1960, Barnett, ISTE.  
33 90-14, 1970, Crum 32, ISTE. Goose Lake, 1983082623.

Cornus drummondii C. A. Meyer [C. asperifolia Michx., misappl.]  
Rough-leaved dogwood. Common; moist woods, along wooded  
streams, woodland borders.

Cedar River, 1920, Jenson, ISTE. Snag Creek Woods, 1929, Burk  
788, ISTE. Black Hawk County Park, 34 90-14, 1963, Eilers  
4257, IA. George Wyth State Park, 1983061602, 1983081007.  
Dorothy's Prairie, 1983070101. Ackerson's Marsh, 1983070129.

Also sighted at Cedar Township RR Prairie, Hussman Access, and  
Brustkern's Woods.

Cornus foemina Mill. ssp. racemosa (Lam.) J. S. Wilson [C. racemosa  
Lam.] Gray dogwood. Common; upland woods.

NLC, 1929, Burk 380, ISTE. Cedar Hills Sand Prairie, 1970,  
Crum 115, ISTE. River Birch Bottoms, 1982060412. Goose Lake,  
1982062103. Dorothy's Prairie, 1983090701.

Also sighted at Hartman Reserve Nature Center and Brustkern's  
Woods.

Cornus stolonifera Michx. [C. sericea L.] Red-osier dogwood.  
Rare; escape from cultivation.

Waterloo, NDC, Newton, ISTE. Cedar Falls, 1986, Eilers, ISTE.



## CUCURBITACEAE (Gourd Family)

Echinocystis lobata (Michx.) T. & G. Wild balsam apple, wild cucumber. Rare; low moist woods.

NLC, 1929, Burk 689, ISTC. Black Hawk County Park, 34 90-14, 1963, Eilers 4245, IA. Fall's Access, 1977, Bradner, ISTC. Fall's Access, 1982082611.

Sicyos angulatus L. Bur-cucumber. Infrequent; alluvial woods.

George Wyth State Park, 1983090807.

## ELAEAGNACEAE (Russian Olive Family)

\* Elaeagnus angustifolia L. Russian olive. Infrequent escape; disturbed woods.

Black Hawk County Park, 34 90-14, 1963, Eilers 4253, IA.

## ERICACEAE (Heath Family)

Monotropa uniflora L. Indian pipe. Rare; moist woods.

Hartman Reserve Nature Center, 1981, Lammers 4444, ISTC.

Pyrola elliptica Nutt. Shinleaf. Rare; moist wooded slopes.

NLC, 1929, Burk 391, ISTC.

## EUPHORBIACEAE (Spurge Family)

Acalypha gracilens Gray {incl. var. monococca Engelm.} [A. monococca (Engelm. ex Gray) Miller] Three-seeded mercury. Rare; dry sandy pastures.

Goose Lake, 1982081835.

Acalypha rhomboidea Raf. Three-seeded mercury. Infrequent; edges of ponds, marshes, lowland prairies.

Goose Lake, 1937, Grant 8107, ISTC. 6 90-12, 1960, Barnett, ISTC. Steimel's Prairie, 1980, Lammers 3999, ISTC.

Acalypha virginica L. Three-seeded mercury. Rare; disturbed soil.

NLC, 1929, Burk 585, ISTC.

Croton glandulosus L. var. septentrionalis Mueller-Arg. Croton. Rare; dry, sandy blowouts, sandy pond margins.

Martinson's Dunes, 1981, Lammers 4408, ISTC.

Euphorbia corollata L. Flowering spurge. Common; prairie remnants, roadsides.

Cedar Falls, 1919, Hilton, ISTC. Cedar Falls, 1920, Sherwood, ISTC. NLC, 1929, Burk 633, ISTC. ISTC Golf Course, 1953, Hardin 14, ISTC. 33 88-14, 1963, Eilers 4361, IA. 3 88-14, 1963, Eilers 4383, IA. Cedar Falls, 1965, Gilbert 26, ISTC. Cedar Hills Sand Prairie, 1970, Crum 116, ISTC. Myszka Prairie, 1980, Lammers 3834, ISTC. Bailey's Lake, 1982062117. Goose Lake, 1982081833. Dorothy's Prairie, 1983070103, 1983080115.

Euphorbia cyathophora Murray [E. heterophylla L.] [Poinsettia cyathophora (Murray) Klotzch & Garcke] Wild poinsettia. Rare; dry sandy savannah.

Myszka Prairie, 1980, Lammers 3835, ISTC.

\* Euphorbia cyparissias L. Cypress spurge. Rare; prairies, waste places.

NLC, 1929, Burk 294, ISTC.



Euphorbia dentata Michx. [Poinsettia dentata (Michx.) Klotzch & Garcke] Spurge. Infrequent; roadsides, along railroads, dry sandy prairies, often disturbed.

NLC, 1929, Burk 695, ISTD. George Wyth State Park, 1956, Cooper 5, ISTD. 10 87-12, 1963, Eilers 4570, IA. Myszka Prairie, 1980, Lammers 3946, ISTD. Cedar City Sand Prairie, 1980, Lammers 4013, ISTD. Martinson's Dunes, 1981, Lammers 4409, ISTD. Cedar Township RR Prairie, 1982072454, 1982082812.

\* Euphorbia esula L. [E. podperrea Croizat] Leafy spurge. Infrequent; along railroads, along roadsides, waste places.

George Wyth State Park, 1963, Eilers 4346, IA. Cedar City Sand Prairie, 1982051602. SE SW 90 14-12, 1982052723. George Wyth State Park, 1983060306. Illinois Central & Gulf RR Prairie, 1983070423.

Euphorbia geyeri Engelm. [Chamaesyce geyeri (Engelm.) Small] Spurge. Rare; sandy savannahs, roadsides.

NLC, 1929, Burk 904, ISTD. Myszka Prairie, 1976, Eilers 7014, ISTD. Myszka Prairie, 1980, Lammers 3947, ISTD. Martinson's Dunes, 1981, Lammers 4410, ISTD.

Euphorbia glyptosperma Engelm. [Chamaesyce glyptosperma (Engelm.) Small] Spurge. Infrequent; open sandy soil, dry sandy prairies.

18 90-14, 1977, Roosa 1592, ISTD. Myszka Prairie, 1980, Lammers 3807, ISTD. Cedar Hills Sand Prairie, 1980, Lammers 3848, ISTD. Raymond Prairie, 1980, Lammers 3982, ISTD. Fischels' Prairie, 1980, Lammers 3994, ISTD. Cedar City Sand Prairie, 1980, Lammers 4014, ISTD.

Euphorbia hexagona Nutt. ex Sprengel Spurge. Rare; sandy alluvium. Cedar Falls, 1930, Shimek, IA.

Euphorbia maculata L. [Chamaesyce maculata (L.) Small] [E. supina Raf.] Nodding spurge. Rare; low, sandy prairie remnants, alluvial woods, yards.

Cedar Falls, 1920, Wetherell, ISTD. ISTD Campus, 1929, Burk 536, ISTD. NLC, 1929, Burk 693, ISTD. Black Hawk County Park, 34 90-14, 1963, Eilers 4283, IA. George Wyth State Park, 1963, Eilers 4315, IA.

## FABACEAE (Bean Family)

Amorpha canescens Pursh Lead plant. Common; prairie remnants, dry sandy open habitats.

Cedar Falls, 1892, Newton, ISTD. Cedar Falls, 1920, Palmer, ISTD. Cedar Falls, 1926, Godfrey, ISTD. NLC, 1929, Burk 502, ISTD. George Wyth State Park, 1953, Hardin 15, ISTD. George Wyth State Park, 1953, Reynolds, ISTD. Cedar Hills Sand Prairie, 1970, Crum 165, ISTD. Cedar Hills Sand Prairie, 1978, Lammers 2114, ISTD. Cedar Hills Sand Prairie, 1979, Lammers 2888, ISTD. Raymond Prairie, 1980, Lammers 3615, ISTD. Myszka Prairie, 1980, Lammers 3626, ISTD. Cedar City Sand Prairie, 1980, Lammers 3631, ISTD. Fischels' Prairie, 1980, Lammers 3688, ISTD. Myszka Prairie, 1982070901. Martinson's Dunes, 1982072519. Dorothy's Prairie, 1983070104.

Amorpha fruticosa L. Indigo bush, false indigo. Rare; along railroads.

NLC, 1929, Burk 375, ISTD.

Amphicarpa bracteata (L.) Fern. Hog peanut. Frequent; woods, woodland edges, low prairies.

Waterloo, 1893, Newton, ISTD. NLC, 1929, Burk 884, ISTD. Cedar Heights, 1953, Grant 12061, ISTD. Frost Prairie, 1983070419. Brustkern's Woods, 1983081310.

Astragalus canadensis L. Milk vetch. Infrequent; roadsides, prairies.

NLC, 1929, Burk 586, ISTD. NW 16 90-14, 1980, Lammers 3739, ISTD.

Astragalus crassicaarpus Nutt. [A. caryocarpus Ker] Ground plum. Infrequent; dry upland or sandy prairies.

North of Waterloo, 1929, Shimek, IA. SE SE 36 89-12, 1976, Eilers, ISTD. Fischels' Prairie, 1980, Lammers 3686, ISTD. Cedar City Sand Prairie, 1981, Lammers 4085, ISTD.



Astragalus distortus T. & G. Bent milk vetch. Infrequent; sandy prairies, alluvium, open sandy soil.

North edge of East Waterloo, 1928, Shimek, IA. North of Waterloo, 1929, Shimek, ISC. NLC, 1930, Burk 259, ISTC. Cedar River, 1939, Grant 8389, ISTC. George Wyth State Park, 1942, Musley 1605, ISC. Cedar City Sand Prairie, 1981, Lammers 4084, ISTC. SE SW 12 90-14, 1982052726. Cedar Township RR Prairie, 1983060705.

Baptisia bracteata Muhl. ex Elliott var. glabrescens (Larisey) Isely [B. leucophaea Nutt.] False indigo. Infrequent; upland prairies.

Cedar Falls, 1884, Buckingham, ISTC. Cedar Falls, 1897, Newton, ISTC. NLC, 1929, Burk 301, ISTC. Goose Lake, 1938, Grant 8129, ISTC. Cedar Hills Sand Prairie, 1970, Crum 074, ISTC. Bennington Township Cemetery, 1973, Chumbley, ISTC. Raymond Prairie, 1980, Lammers 3518, ISTC. Cedar Hills Sand Prairie, 1983061114. Bennington Township Cemetery, 1983061618.

Baptisia lactea (Raf.) Thierat [B. leucantha T. & G.] Wild indigo. Rare; prairie remnants.

NLC, 1929, Burk 797, ISTC.

Cassia fasciculata Michx. [Chamaecrista fasciculata (Michx.) Greene] Partridge pea. Frequent; prairie remnants, dry open habitats.

NLC, 1929, Burk 584, ISTC. Between Cedar Falls and Waterloo, 1930, Shimek, IA. ISTC Golf Course, 1953, Hardin 20, ISTC. 9 89-13, 1963, Eilers 4449, IA. Black Hawk Creek, 1965, Gilbert 44, ISTC. Cedar City Sand Prairie, 1980, Lammers 3816, ISTC. George Wyth State Park, 1982072488. Cedar Township RR Prairie, 1982082813.

Cassia marilandica L. Wild senna. Rare; sandy floodplain.

SE 33 87-11, 1981, Lammers 4476, ISTC.

\* Coronilla varia L. Crown vetch. Used as plantings along roadsides.

George Wyth State Park, 1982070306. Bailey's Lake, 1982062107.

\* Crotalaria sagittalis L. Rattle box. Rare; prairie remnants, dry sandy soil.

Cedar Falls, 1898, Newton, ISTD. Cedar Hills Sand Prairie, 1985090901.

Dalea candida Willd. [Petalostemon candidum (Willd.) Michx.] White prairie clover. Frequent; prairies.

NLC, 1929, Burk, ISTD. Between Waterloo and Cedar Falls, 1930, Shimek, IA. Cedar Hills Sand Prairie, 1970, Crum 194, ISTD. Bennington Township Cemetery, 1973, Chumbley, ISTD. Cedar City Sand Prairie, 1980, Lammers 3627, ISTD. Cedar Township RR Prairie, 1982072446. Illinois Central & Gulf RR Prairie, 1983070426.

Dalea purpurea Vent. [Petalostemon purpureum (Vent.) Rydb. Purple prairie clover. Frequent; prairies.

NLC, 1929, Burk 554, ISTD. Between Waterloo and Cedar Falls, 1930, Shimek, IA. Cedar Falls, 1965, Gilbert 40, ISTD. Cedar Hills Sand Prairie, 1970, Crum 193, ISTD. Bennington Township Cemetery, 1973, Chumbley, ISTD. Cedar Hills Sand Prairie, 1978, Lammers 2112, ISTD. Cedar City Sand Prairie, 1980, Lammers 3628, ISTD. Fischels' Prairie, 1980, Lammers 3687, ISTD. Raymond Prairie, 1980, Lammers 3744, ISTD. Dunkerton Prairie, 1980, Lammers 3852, ISTD. Cedar Township RR Prairie, 1982072460.

Dalea villosa (Nutt.) Sprengel [Petalostemon villosum Nutt.] Silky prairie clover. Rare; sandy prairies.

NLC, 1929, Burk 912, ISTD. Waterloo, 1947, Grant 11197, ISTD, IA. Myszka Prairie, 1976, Eilers 7007, ISTD. Myszka Prairie, 1977, Roosa 1591, ISTD. Myszka Prairie, 1980, Lammers 3810, ISTD. Martinson's Dunes, 1981, Lammers 4404, ISTD. Martinson's Dunes, 1982072520.

Known only in Iowa from Black Hawk County.

Cedar Falls, 1901, Lambert, IA. Cedar Falls, 1975, Pammel, ISTD. Cedar Falls, 1975, Pammel, ISTD. Black Hawk County Park, 34 30-14, 1965, Eilers 4285, IA. Cedar Hills Sand Prairie, 1970, Crum 212, ISTD. Brantzen's Woods, 1983082116.



Desmodium canadense (L.) DC. Tick clover. Common; open alluvial woods, roadsides, prairies.

NLC, 1929, Burk 745, ISTC. 33 88-14, 1963, Eilers 4358, IA. 17 89-13, 1963, Eilers 4427, IA. Cedar Hills Sand Prairie, 1970, Crum 198, ISTC. Cedar Hills Sand Prairie, 1980, Lammers 3847, ISTC. Dunkerton Prairie, 1980, Lammers 3851, ISTC. Highway 175 RR Prairie, 1982072474. Martinson's Dunes, 1983080922.

Desmodium cuspidatum (Muhl. ex Willd.) Loudon {incl. var. longifolium (T. & G.) Schub.} Tick trefoil. Rare; sandy or rocky woods and alluvium.

17 89-13, 1963, Eilers 4389, 4426, IA.

Desmodium glutinosum (Muhl. ex Willd.) Wood Pointed tick trefoil. Infrequent; moist woods.

Waterloo, 1893, Newton, ISTC. NLC, 1929, Burk 517, ISTC. Hartman Reserve Nature Center, 1982090710. Cooper's Woods, 1983081116.

Desmodium illinoense Gray Illinois tick trefoil. Infrequent; dry prairie remnants.

NLC, 1929, Burk 699, ISTC. Cedar City Sand Prairie, 1980, Lammers 3812, ISTC. Fischels' Prairie, 1980, Lammers 3824, ISTC.

Desmodium sessilifolium (Torrey) T. & G. Sessile-leaved tick trefoil. Rare; dry upland woods and alluvial sand flats.

Waterloo, 1893, Newton, ISTC.

Gleditsia triacanthos L. Honey locust. Common; alluvial woods, old pastures, sandy prairies.

Cedar Falls, 1901, Lambert, IA. Cedar Falls, 1920, Pammel, ISC. Cedar Falls, 1925, Pammel, ISC. Black Hawk County Park, 34 90-14, 1963, Eilers 4285, IA. Cedar Hills Sand Prairie, 1970, Crum 212, ISTC. Brustkern's Woods, 1983092116.

- \* Gymnocladus dioica (L.) K. Koch Kentucky coffee tree. Infrequent; sandy alluvium, moist alluvial woods.

Cedar Falls, 1920, Pammel, ISC. North of Cedar Falls, 1926, Shimek, IA. George Wyth State Park, 1963, Eilers 4336, IA.

1982060721. Cedar Township RR Prairie, 1983060710.

- \* Lathyrus palustris L. Marsh vetchling. Infrequent; moist prairie remnants, marshy shores.

Bunchflower Meadow, 1980, Lammers 3558, ISTC. Bunchflower Meadow, 1982060810. Bailey's Lake, 1982062109. Dorothy's Prairie, 1983061407, 1983070102.

- \* Lathyrus venosus Muhl. ex Willd. Veiny pea. Rare; dry upland prairies.

NLC, 1929, Burk 283, ISTC.

- \* Lespedeza capitata Michx. Round-headed bush clover. Common; prairies, dry open sandy soil.

Waterloo, 1893, Newton, ISTC. Cedar Falls, 1919, Hilton, ISTC. North of Washburn, 1921, Shimek, IA. NLC, 1929, Burk 894, ISTC. Cedar Hills Sand Prairie, 1979, Lammers 3035, ISTC. Cedar City Sand Prairie, 1980, Lammers 3818, ISTC. Cedar Township RR Prairie, 1983092106. George Wyth State Park, 1982072416. Bailey's Lake, 1982081849.

Cedar Falls, 1920, Sherwood, ISTC. NLC, 1929, Burk 835, ISTC.

- \* Lespedeza leptostachya Engelm. Prairie bush clover. Rare; prairie remnants.

Waterloo, 1893, Newton, ISTC.

NLC, 1929, Burk 477, ISTC.

- \* Lotus corniculatus L. Birdsfoot trefoil. Infrequent; roadsides, waste places.

George Wyth State Park, 1982070307.

South of Cedar Falls, 1965, Eilers 48, ISTC.

- \* Medicago falcata L. Yellow alfalfa. Rare; waste places, field edges, roadsides.

Dargon's Marsh, 1982062213.

Waterloo, 1893, Newton, ISTC. NLC, 1929, Burk 903, ISTC.

Bailey's Lake, 1980, Lammers 3566, ISTC. Bailey's Lake,

1982081848.



- \* Medicago lupulina L. Black medic. Infrequent; roadsides, along railroads, waste places.  
NLC, 1929, Burk 325, ISTC. ISTC Campus, 1956, Cooper 1, ISTC. Waterloo, 1965, Gilbert 43, ISTC. George Wyth State Park, 1982060731. Cedar Township RR Prairie, 1983060710.
- \* Medicago sativa L. Alfalfa. Common escape from cultivation; fields, roadsides, disturbed soil.  
Dargon's Marsh, 1982062212. Brustkern's Woods, 1983061307.
- \* Melilotus alba Medicus White sweet clover. Common; roadsides, disturbed soil, fields.  
NLC, 1929, Burk 778, ISTC. North of Cedar Falls, 1932, Shimek, IA. Cedar Township RR Prairie, 1982062907. Bunchflower Meadow, 1982070715.
- \* Melilotus officinalis (L.) Lam. Yellow sweet clover. Common; roadsides, disturbed soil, fields.  
NLC, 1929, Burk 319, ISTC. George Wyth State Park, 1982072411.
- \* Psoralea argophylla Pursh Scurf-pea. Rare; dry prairies, roadside.  
Cedar Falls, 1920, Sherwood, ISTC. NLC, 1929, Burk 805, ISTC.
- \* Robinia pseudoacacia L. Black locust. Rare; roadsides, disturbed woodlands, open hillsides.  
NLC, 1929, Burk 477, ISTC.
- \* Strophostyles helvola (L.) Ell. Wild bean. Rare; open sandy, gravelly soil.  
South of Cedar Falls, 1965, Gilbert 48, ISTC.
- \* Strophostyles leiosperma (T. & G.) Piper Wild bean. Rare; dry sandy soils, upland prairies, successional fields.  
Waterloo, 1893, Newton, ISTC. NLC, 1929, Burk 903, ISTC. Bailey's Lake, 1980, Lammers 3868, ISTC. Bailey's Lake, 1982081848.

Tephrosia virginiana (L.) Pers. Goat's-rue. Rare; dry sandy savannah.

Waterloo, 1893, Newton, ISTC. Myszka Prairie, 1976, Eilers 7013, ISTC. Myszka Prairie, 1980, Lammers 3625, ISTC.

- \* Trifolium arvense L. Rabbit-foot clover. Rare; disturbed soil, pasture, sandy soil.

Martinson's Dunes, 1982072502, 1983080901.

- \* Trifolium aureum Pollich [T. agrarium L.] Hop-clover. Rare; disturbed prairie.

Dorothy's Prairie, 1983070118.

- \* Trifolium campestre Schreber [T. procumbens L., misappl.] Low hop-clover. Rare; disturbed open habitats.

Cedar Falls, 1927, Pammel, ISC.

- \* Trifolium hybridum L. Alsike clover. Infrequent; disturbed soil.

North of Cedar Falls, 1926, Shimek, IA. NLC, 1929, Burk 808, ISTC.

- \* Trifolium pratense L. Red clover. Common; fields, roadsides, disturbed soil.

ISTC Campus, 1884, Buckingham, ISTC. Cedar Falls, 1885, NCC, ISTC. NLC, 1887, Ross, ISTC. NLC, 1929, Burk 280, ISTC. Cedar Hills Sand Prairie, 1970, Crum, 122, ISTC. Bailey's Lake, 1983063028.

- \* Trifolium repens L. White clover. Common; lawns, roadsides, pastures.

ISTC Campus, 1884, Buckingham, ISTC. NLC, 1887, Sweatt, ISTC. NLC, 1887, Irons, ISTC. NLC, 1929, Burk 279, ISTC. Cedar Hills Sand Prairie, 1970, Crum 123, ISTC.



Vicia americana Muhl. ex Willd. Vetch. Infrequent; prairie remnants, roadsides, along railroads.

North of Cedar Falls, 1939, Shimek, IA. SE SW 12 90-14, 1980, 1982052722. Dorothy's Prairie, 1983061401.

\* Vicia sativa L. var. nigra L. [V. angustifolia Reichard] Narrow-leaved vetch. Rare; along railroads, roadsides, pastures.

NLC, 1929, Burk 377, ISTC. Cedar Falls, 1953, Sturtevant 130, ISTC.

\* Vicia villosa Roth Vetch. Rare; roadsides.

Cedar Falls, 1908, Pammel, ISC. NLC, 1929, Burk 297, ISTC. George Wyth State Park, 1982070308.

#### FAGACEAE (Beech Family)

Quercus alba L. White oak. Frequent; upland woods.

Hartman Reserve Nature Center, 1958, Grant 13817, ISTC.

Quercus bicolor Willd. Swamp white oak. Rare; alluvial woods.

Wapsipinicon River, 1929, Burk 952, ISTC. Bruggeman Park, 1980, Lammers 3981, ISTC.

Quercus borealis Michx. f. var. maxima (Marsh.) Ashe [Q. rubra L. nom. ambig.] Northern red oak. Frequent; moist upland woods.

Cedar Falls, 1925, Lantz, ISTC.

Quercus ellipsoidalis E. J. Hill Jack oak. Frequent; open upland woods.

Cedar Falls, 1925, Lantz, ISTC. Snag Creek Woods, 1929, Burk 300, ISTC. 17 89-13, 1963, Eilers 4425, IA. Myszka Prairie, 1980, Lammers 3457, ISTC. E SE NE 11 90-11, 1980, Lammers 3754, ISTC. SE SE 15 90-14, 1980, Lammers 3829, ISTC. Dorothy's Prairie, 1983061411.

Quercus macrocarpa Michx. Bur oak. Frequent; dry uplands and slopes.

North of Cedar Falls, 1932, Shimek, IA. Myszka Prairie, 1980, Lammers 3456, ISTD. Brustkern's Woods, 1980, Lammers 3892, ISTD. SE SE 9 90-14, 1982060323. Hussmann Access, 1982062003.

Quercus velutina Lam. Black oak. Infrequent; upland woods, sandy alluvial flats.

Cedar Falls, 1925, Lantz, ISTD. Snag Creek Woods, 1929, Burk 872, ISTD. SE SE 15 90-14, 1980, Lammers 3828, ISTD. Brustkern's Woods, 1980, Lammers 3893, ISTD.

#### GENTIANACEAE (Gentian Family)

Gentiana alba Muhl. [G. flavida Gray] Pale gentian, yellow gentian. Rare; open upland woods.

Cedar Falls, 1902, Newton, ISTD. Cedar Heights, 1943, Pavey, ISTD. Look Out Park, Cedar Falls, 1978, Eilers 7292-D, ISTD. Hartman Reserve Nature Center, 1981, Lammers 4443, ISTD.

Gentiana andrewsii Griseb. Bottle gentian, closed gentian. Frequent; moist prairie remnants.

Cedar Falls, 1897, Newton, ISTD. NLC, 1929, Burk 930, ISTD. 28 90-14, 1977, Bradner, ISTD. Steimel's Prairie, 1980, Lammers 4000, ISTD. Bunchflower Meadow, 1980, Lammers 4001, ISTD. Goose Lake, 1980, Britzman, Collins, Van Norman, ISTD. Frost Prairie, 1981, Lammers 4441, ISTD. Newgard's Pasture, 1981, Lammers 4471, ISTD. Cedar Hills Sand Prairie, 1981, Lammers 4474, ISTD. Bunchflower Meadow, 1983100408.

Observed at Dorothy's Prairie.

Gentiana x billingtonii Farw. [G. andrewsii x G. puberulenta] [G. saponaria L., misappl.] Soapwort gentian. Rare; moist prairie remnants.

Cedar Hills Sand Prairie, 1981, Lammers 4475, ISTD.



Gentiana puberulenta J. Pringle [G. puberula Michx., misappl.]  
Downy gentian. Infrequent; prairie remnants.

Cedar Falls, 1897, Newton, ISTC. NLC, 1912, NCC, ISTC. La  
Porte City, 1928, Hawkins, ISC. Cedar Hills Sand Prairie,  
1977, Magee, ISTC. Cedar Hills Sand Prairie, 1979, Lammers  
3123, ISTC. Goose Lake, 1980, Gearhart, Rusk, Neiman, ISTC.

This species has only been found in Black Hawk and Grant

Gentianella quinquefolia (L.) Sm. [Gentiana quinquefolia L. var.  
occidentalis (Gray) Hitchc.] Stiff gentian. Infrequent;  
prairie openings, wooded slopes.

Cedar Falls, 1900, Newton, ISTC. Look Out Park, Cedar Falls,  
1978, Eilers 7292-C, ISTC. Dunkerton Prairie, 1980, Lammers  
3978, ISTC. Hartman Reserve Nature Center, 1980, Convey,  
Heintz, ISTC.

Gentianopsis crinita (Froel.) Ma [Gentiana crinita Froel.] Fringed  
gentian. Rare; marshes, sandy lowlands, hillside seeps.

Newgard's Pasture, 1981, Lammers 4401, 4470, ISTC.

#### GERANIACEAE (Geranium Family)

Geranium carolinianum L. {incl. var. confertifolium Fern.} [G.  
sphaerospermum Fern. in part] Cranebill. Infrequent; sandy  
prairies, sandy alluvial flats.

Cedar River, 1920, Jensen, ISTC. Elk Run, 1921, Shimek, IA.  
Cedar Falls, 1926, Pammel et al 282, ISC. NLC, 1929, Burk 318,  
ISTC. Fall's Access, 1982061907. Bailey's Lake, 1983063013.

Geranium maculatum L. Wild geranium. Common; moist wooded slopes,  
sandy prairies.

Cedar Falls, 1885, NCC, ISTC. NLC, 1898, Page 23, ISTC. NLC,  
1929, Burk 242, ISTC. Hartman Reserve Nature Center, 1941,  
McIlrath 20, ISTC. Brustkern's Woods, 1982051421. Hartman  
Reserve Nature Center, 1983051601.

Hypericum perforatum L. St. John's-wort. Rare; dry roadsides,  
disturbed prairies.

6-90-12, 1960, Barlett, ISTC.

## HALORAGIDACEAE (Water-milfoil Family)

Myriophyllum verticillatum L. Water milfoil. Rare; shallow pond.

River Birch Bottoms, 1981, Lammers 4373, ISTC.

This species has only been found in Black Hawk and Emmet counties.

## HYDROPHYLLACEAE (Waterleaf Family)

Ellisia nyctelea L. Wild tomato. Frequent; wooded alluvial flats.

MLC, 1929, Burk 494, ISTC. Fischels' Prairie, 1982051418.

Brustkern's Woods, 1982051438, 1983061308. Stensland's Dunes, 1982051802. V-37 Prairie, 1982052608.

Hydrophyllum virginianum L. Virginia waterleaf. Frequent; moist wooded slopes and alluvium.

Brustkern's Woods, 1982051441. SE SE 9 90-14, 1982060315.

## HYPERICACEAE (St. John's-wort Family)

Hypericum majus (Gray) Britton St. John's-wort. Infrequent; marsh margins, prairie swales.

MLC, 1929, Burk 900, ISTC. Bailey's Lake, 1980, Lammers 3863, ISTC. Newgard's Pasture, 1982082301. Dorothy's Prairie, 1983080109.

Hypericum mutilum L. St. John's-wort. Rare; marsh margins, sandy prairie.

MLC, 1929, Burk 608, 675, ISTC.

Hypericum perforatum L. St. John's-wort. Rare; dry roadsides, disturbed prairies.

6 90-12, 1960, Barnett, ISTC.



Hypericum pyramidatum Aiton [H. ascyron L.] St. John's-wort.  
Rare; prairies, alluvium.

Annals NLC, 1929, Burk 839, ISTC. Yellow giant-hyssop. Rare; open  
upland woods, alluvium, woodland edges.

Hypericum sphaerocarpum Michx. [H. cistifolium; misapplied] St.  
John's-wort. Rare; prairie remnants, moist, usually sandy  
ground.

Annals Washburn, 1921, Shimek, IA. NLC, 1929, Burk 559, 578, ISTC.  
George Wyth State Park, 1963, Eilers 4327, IA.

Triadenum fraseri (Spach) Gl. [Hypericum virginicum L. var. fraseri  
(Spach) Fern.] Marsh St. John's wort. Infrequent; marshes,  
prairie swales, sandy shores.

Annals Cedar Hills Sand Prairie, 1970, Crum 232, ISTC. Cedar Hills  
Sand Prairie, 1978, Lammers 2106, ISTC. Bailey's Lake, 1980,  
Lammers 3856, ISTC. Ackerson's Marsh, 1981, Lammers 4377,  
ISTC. Ackerson's Marsh, 1982080726. Martinson's Dunes,  
1983080920.

Heisteria hispida Pursh Rough paronychia. Common; dry soil, rocky  
woods, prairies.

#### JUGLANDACEAE (Walnut Family)

Carya cordiformis (Wang.) K. Koch Bitternut hickory. Frequent;  
upland woods, wooded slopes.

Brustkern's Woods, 1983061306, 1983081306.

Carya ovata (P. Miller) K. Koch Shagbark hickory. Frequent; dry  
upland woods.

Annals Bruggeman Park, 1980, Lammers 3980, ISTC. Hartman Reserve  
Nature Center, 1981, Fish, ISTC.

Juglans cinerea L. Butternut. Common; moist wooded slopes,  
alluvial woods.

17 89-13, 1963, Eilers 4415, IA.

Juglans nigra L. Black walnut. Common; moist woodlands, alluvial  
woods.

33 90-14, 1970, Crum 028, ISTC.

Lycopus americanus Nutt. LAMIACEAE (Mint Family) *var. communis*  
marshes, sandy shores.

Agastache nepetoides (L.) Kuntze Yellow giant-hyssop. Rare; open upland woods, alluvium, woodland edges.

NLC, 1929, Burk 721, ISTC. Cedar River, 1937, Grant 8118, ISTC.

Agastache scrophulariifolia (Willd.) Kuntze Giant-hyssop. Rare; open upland woods, woodland edges.

NLC, 1929, Burk 955, ISTC. Brustkern's Woods, 1982091005, 1983092120.

- \* Glechoma hederacea L. Ground ivy. Frequent; moist woods, shaded alluvium, roadsides, yards.

Cedar Falls, 1885, NCC, ISTC.

Hedeoma hispidum Pursh Rough pennyroyal. Common; dry soil, rocky woods, prairies.

Between Waterloo and Cedar Falls, 1896, Shimek, IA. NLC, 1929, Burk 355, ISTC. Cedar Hills Sand Prairie, 1970, Crum 085, ISTC. Myszka Prairie, 1980, Lammers 3465, ISTC. George Wyth State Park, 1982060729, 1983061601. Barnes Ferry Road Cemetery, 1982062014. Cedar City Sand Prairie, 1982062408.

- \* Leonurus cardiaca L. Motherwort. Frequent; disturbed woods, shaded disturbed areas.

NLC, 1929, Burk 383, ISTC. Hussmann Access, 1982062012. Goose Lake, 1982062102. George Wyth State Park, 1982070810, 1982072429.

Observed at Cedar Township RR Prairie.

Asarum canadense L. Catnip. Frequent; disturbed, dry open ground.

NLC, 1929, Burk 544, ISTC. North of Cedar Falls, 1937, Shimek, IA. Cedar Falls, 1965, Gilbert 19, ISTC. Cedar Township RR Prairie, 1982072429.



Lycopus americanus Muhl. ex Bart. Water horehound. Common; marshes, muddy shores.

NLC, 1929, Burk 569, ISTD. George Wyth State Park, 1953, Reynolds, ISTD. 6 90-12, 1960, Barnett, ISTD. 27 88-14, 1963, Eilers 4365, IA. 17 89-13, 1963, Eilers 4435, IA. 9 89-13, 1963, Eilers 4445, IA. Cedar Hills Sand Prairie, 1970, Crum 183, ISTD. Steimel's Prairie, 1980, Lammers 3785, ISTD. Ackerson's Marsh, 1982071716, 1982080703, 1983081123. Dorothy's Prairie, 1983080106. Newgard's Pasture, 1983080526. Martinson's Dunes, 1983080914.

Lycopus uniflorus Michx. Northern bugleweed. Infrequent; wet ground of lake edges, marshes.

NLC, 1929, Burk 852, ISTD. 9 89-13, 1963, Eilers 4444, IA. Martinson's Dunes, 1982072529. Goose Lake, 1982081809.

Lycopus virginicus L. Water horehound. Rare; open wet ground, alluvium, stream margins.

Waterloo, 1893, Newton, ISTD. NLC, 1929, Burk 846, ISTD. Goose Lake, 1937, Grant 8100, ISTD.

Mentha arvensis L. {incl. var. villosa (Bentham) Stewart} Wild mint. Rare; marshes, prairie swales.

NLC, 1929, Burk 660, ISTD.

Monarda fistulosa L. {incl. var. mollis (L.) Bentham} Wild bergamot. Common; prairies, roadsides, dry open habitats.

20 90-14, 1919, Hilton, ISTD. NLC, 1929, Burk 562, ISTD. George Wyth State Park, 1953, Reynolds, ISTD. Goose Lake, 1953, Hardin, ISTD. Bennington Township, 1960, Barnett, ISTD. Cedar Hills Sand Prairie, 1970, Crum 216, ISTD. George Wyth State Park, 1982072401. Dorothy's Prairie, 1983080120.

Nepeta cataria L. Catnip. Frequent; disturbed, dry open ground.

NLC, 1929, Burk 544, ISTD. North of Cedar Falls, 1932, Shimek, IA. Cedar Falls, 1965, Gilbert 19, ISTD. Cedar Township RR Prairie, 1982072434.

Ruellia lateriflora L. Red-dog skullcap. Infrequent; marshes, shores, alluvial bottom.

NLC, 1929, Burk 852, ISTD. 9 89-13, 1963, Eilers 4437, IA.

Physostegia parviflora Nutt. ex Gray [Dracocephalum nuttallii Benth.] Obedient plant, small-flowered false dragonhead. Infrequent; streambanks, open moist habitats.

NLC, 1929, Burk 708, ISTD. Black Hawk County Park, 34 90-14, 1963, Eilers 4281, IA.

Physostegia virginiana (L.) Bentham [P. speciosa Sweet] False dragonhead. Infrequent; moist to mesic woods and prairies.

Fall's Access, 1980, Lammers 3822, ISTD. Bruggeman Park, 1981, Lammers 4379, ISTD. Ackerson's Marsh, 1982080713. Fall's Access, 1982082608, 1982090911.

Prunella vulgaris L. {incl. var. lanceolata (Bartram) Fern.} Self heal. Common; disturbed open woods and moist open habitats.

NLC, 1929, Burk 520, ISTD. George Wyth State Park, 1953, Hardin 13, ISTD. Cedar Falls, 1965, Gilbert 24, ISTD. Cedar Hills Sand Prairie, 1970, Crum 189, ISTD. George Wyth State Park, 1982070815. Martinson's Dunes, 1982072427. Cedar Township RR Prairie, 1982072459. Goose Lake, 1982081832.

Pycnanthemum virginianum (L.) Durand & Jackson Mountain mint. Common; prairies, along railroads and roadsides.

Washburn, 1921, Shimek, IA. NLC, 1929, Burk 560, ISTD. Goose Lake, 1953, Reynolds, ISTD. 9 89-13, 1963, Eilers 4481, IA. Cedar Hills Sand Prairie, 1970, Crum 191, ISTD. Bunchflower Meadow, 1980, Lammers 3746, ISTD. Steimel's Prairie, 1980, Lammers 3784, ISTD. Bunchflower Meadow, 1982070706. Ackerson's Marsh, 1982071702, 1983081121. Goose Lake, 1982081811.

Scutellaria galericulata L. [S. epilobiifolia A. Hamilton] Skullcap. Infrequent; marshes.

Cedar Hills Sand Prairie, 1970, Crum 180, ISTD. Steimel's Prairie, 1980, Lammers 3789, ISTD. Cedar Hills Sand Prairie, 1980, Lammers 3839, ISTD. Bailey's Lake, 1980, Lammers 3858, ISTD. Ackerson's Marsh, 1982080719, 1982080728. Goose Lake, 1982081812.

Scutellaria lateriflora L. Mad-dog skullcap. Infrequent; marshes, shores, alluvial bottoms.

NLC, 1929, Burk 840, ISTD. 17 89-13, 1963, Eilers 4437, IA.



Scutellaria parvula Michx. Skullcap. Infrequent; dry sandy prairies, rocky soil.

NLC, 1929, Burk 284, ISTC. Cedar Hills Sand Prairie, 1970, Crum 073, 086, ISTC. Raymond Prairie, 1980, Lammers 3520, ISTC. Cedar Hills Sand Prairie, 1981, Lammers 4247, ISTC. Raymond Prairie, 1982062305.

Stachys palustris L. {incl. var. pilosa (Nutt.) Fern.; var. homotricha Fern.; var. phaneropoda Weath.} Woundwort. Frequent; marshes, moist ground.

Washburn, 1921, Shimek, IA. NLC, 1929, Burk 564, ISTC. Goose Lake, 1953, Hardin 31, ISTC. Steimel's Prairie, 1980, Lammers 3799, ISTC. Steimel's Prairie, 1982063016. V-37 Prairie, 1982072466. Bailey's Lake, 1982081852, 1983063009. Highway 175 RR Prairie, 1983081325.

Stachys tenuifolia Willd. {incl. var. hispida (Pursh) Fern.} [S. hispida Pursh] Hedge nettle. Frequent; alluvial woods, marshes, moist prairies.

NLC, 1929, Burk 656, ISTC. Goose Lake, 1937, Grant 8104, ISTC. Goose Lake, Hardin 32, ISTC. Black Hawk County Park, 34 90-14, 1963, Eilers 4254, IA. 33 88-14, 1963, Eilers 4352, IA. 17 89-13, 1963, Eilers 4428, IA. George Wyth State Park, 1982090203.

Teucrium canadense L. var. occidentale (Gray) Mccl. & Epling Wood sage, germander. Common; alluvial woods, marshes, moist prairies.

NLC, 1929, Burk 538, ISTC. Between Waterloo and Cedar Falls, 1930, Shimek, IA. Black Hawk County Park, 34 90-14, 1963, Eilers 4275, IA. 9 89-13, 1963, Eilers 4440, IA. Cedar Falls, 1965, Gilbert 18, ISTC. George Wyth State Park, 1982070803, 1982070816, 1982072406. Cedar Township RR Prairie, 1982072449. Goose Lake, 1982081806. Cooper's Woods, 1983081114. Brustkern's Woods, 1983081312.

Trichostema brachiatum L. [Isanthus brachiatus (L.) BSP] Bluecurls. Rare; dry prairies.

NLC, 1929, Burk 906, ISTC. Raymond Prairie, 1980, Lammers 3985, ISTC.

## LENTIBULARIACEAE (Bladderwort Family)

Utricularia vulgaris L. Common bladderwort. Infrequent; shallow water of ponds and marshes.

Goose Lake, 1938, Grant 8155, ISTC. Cedar Hills Sand Prairie, 1970, Crum 083, ISTC. Cedar Hills Sand Prairie, 1980, Lammers 3575, ISTC. Goose Lake, 1980, Lammers 3877, ISTC. Goose Lake, 1982081818, 1983082614.

## LINACEAE (Flax Family)

Linum sulcatum Riddell Wild flax. Rare; dry prairies, sandy soil.

Waterloo, 1893, Newton, ISTC. NLC, 1929, Burk 732, ISTC. Cedar Hills Sand Prairie, 1970, Crum 214, ISTC. Cedar Hills Sand Prairie, 1979, Lammers 2884, ISTC. Raymond Prairie, 1980, Lammers 3757, ISTC.

## LYTHRACEAE (Loosestrife Family)

Ammannia coccinea Rottb. Toothcup. Rare; moist, often sandy, habitats, marsh edges.

Waterloo, 1893, NCC, ISTC.

Lythrum alatum Pursh [L. dacotanum Nieuwl.] Purple loosestrife. Infrequent; prairie swales, marsh edges, seepage areas.

NLC, 1929, Burk 639, ISTC. George Wyth State Park, 1953, Hardin 28, ISTC. 27 88-14, 1963, Eilers 4369, IA. Cedar Hills Sand Prairie, 1970, Crum 171, ISTC. Bunchflower Meadow, 1980, Lammers 3681, ISTC. Steimel's Prairie, 1980, Lammers 3794, ISTC. Newgard's Pasture, 1982070104, 1983080504. Bunchflower Meadow, 1982070705. Ackerson's Marsh, 1983070128, 1983081120. Martinson's Dunes, 1982072534.

Cannabis sativa L. Hemp, marijuana. Common; disturbed habitats, waste ground.

Cedar Falls, 1919, Rice, ISTC. Cedar Falls, 1929, Burk, ISTC. George Wyth State Park, 1953, Grant 12099, ISTC. George Wyth State Park, 1963, Eilers 4384, IA.



## MALVACEAE (Mallow Family)

Abutilon theophrasti Medicus Velvet leaf. Common; weed of cultivated fields.

- \* Cedar River, 1937, Grant 8112, ISTC. Snag Creek, Cedar Falls, NDC, Cooper 20, ISTC. George Wyth State Park, 1963, Eilers 4301, IA. ISTC Campus, 1965, Gilbert 36, ISTC. Brustkern's Woods, 1983081314.

\* Hybiscus trionum L. Flower-of-an-hour. Rare; roadsides, field edges.

NLC, 1898, Page 18, ISTC. Cedar Falls, 1919, Ries, ISTC. 6 90-12, 1960, Barnett, ISTC. ISTC Campus, 1970, Eilers 6586, ISTC. 14 89-14, 1977, Bradner, ISTC.

\* Malva neglecta Wallr. Cheeses. Rare; waste ground.

ISTC Campus, 1912, NCC, ISTC. NLC, 1929, Burk, ISTC.

Napaea dioica L. Glade mallow. Rare; moist alluvial woods.

Waterloo, 1894, Newton, ISTC. Waterloo, 1927, Pammel, ISC. NLC, 1929, Burk 800, ISTC. 17 89-13, 1980, Eilers 7385A, ISTC.

## MENISPERMACEAE (Moonseed Family)

Menispermum canadense L. Moonseed. Infrequent; woods and woodland borders.

Cedar River, 1920, Jenson, ISTC. Cedar Falls, 1920, Sherwood, ISTC. NLC, 1929, Burk 357, ISTC. Fall's Access, 1982051720. George Wyth State Park, 1983061613.

## MORACEAE (Mulberry Family)

\* Cannabis sativa L. Hemp, marijuana. Common; disturbed habitats, waste ground.

Cedar Falls, 1919, Ries, ISTC. Cedar Falls, 1929, Burk, ISTC. George Wyth State Park, 1953, Grant 12099, ISTC. George Wyth State Park, 1963, Eilers 4304, IA.

Humulus lupulus L. Hops. Rare; on trees and shrubs, floodplains and low open woods.

NLC, 1929, Burk 718, ISTC.

- \* Morus alba L. Chinese mulberry, white mulberry. Common escape from cultivation; woods, roadsides, riverbanks.

Fall's Access, 1982051708. S SW SW 12 89-12, 1982060404.

NYCTAGINACEAE (Four-O'clock Family)

Mirabilis nyctaginea (Michx.) Macm. [Oxybaphus nyctagineus (Michx.) Sweet] Wild four-o'clock, umbrella wort. Frequent; dry, sandy or gravelly soil, roadsides, along railroads.

Cedar Falls, 1919, Hilton, ISTC. NLC, 1929, Burk 324, ISTC. N NE 4 89-14, 1982060101. George Wyth State Park, 1983061607. Cedar Township RR Prairie, 1983070319.

NYMPHAEEACEAE (Water-lily Family)

Brasenia schreberi Gmelin Watershield. Rare; shallow standing water.

Goose Lake, 1980, Lammers 3875, ISTC, ISC. Goose Lake, 1981, Lammers 4259, ISTC. Goose Lake, 1982081820, 1983082676.

Presently known only in Black Hawk County. Several colonies of 100-200 plants.

Nelumbo lutea (Willd.) Pers. American lotus. Rare; shallow water.

Goose Lake, 1983082609.

Nuphar luteum (L.) Sibth. & Smith ssp. variegatum (Engelm. ex Dur.) E. O. Beal [N. advena (Aiton) Aiton f.] [N. variegatum Engelm. ex Dur.] Yellow water lily. Rare; shallow water of ponds and marshes.

Cedar Falls, 1897, Newton, ISTC. NLC, 1929, Burk 796, ISTC.



Nymphaea tuberosa Paine [N. odorata Aiton] White water lily.  
Rare; shallow standing water of marshes and ponds.

Cedar Falls, 1919, Hilton, ISTC. NLC, 1929, Burk 795, ISTC.  
Goose Lake, 1981, Lammers 4260, ISTC, ISC. Goose Lake,  
1983082610.

OLEACEAE (Olive Family)

Fraxinus americana L. White ash. Frequent; upland woods.

17 89-13, 1963, Eilers 4404, IA. Hartman Reserve Nature  
Center, 1982090702. Brustkern's Woods, 1983070204.

Fraxinus pennsylvanica Marsh. Red ash. Frequent; alluvial or low  
moist woods.

Cedar Falls, 1919, Hilton, ISTC. NLC, 1929, Burk 573, ISTC.  
Wapsipinicon River, 1929, Burk 954, ISTC. 2 89-14, 1970, Crum  
014, ISTC. Cedar Hills Sand Prairie, 1970, Crum 195, ISTC.  
Black Hawk County Park, 34 90-14, 1980, Lammers 3592, ISTC.  
NE 27 88-14, 1980, Lammers 3607, ISTC.

ONAGRACEAE (Evening-Primrose Family)

Calylophus serrulatus (Nutt.) Raven [Oenothera serrulata Nutt.]  
Toothed evening primrose. Infrequent; sandy prairies and dry  
uplands.

NLC, 1929, Burk 361, ISTC. Cedar City Sand Prairie, 1980,  
Lammers 3589, ISTC. Raymond Prairie, 1980, Lammers 3617, ISTC.  
Fischels' Prairie, 1980, Lammers 3691, ISTC.

Circaea lutetiana (L.) Ascherson & Magnus ssp. canadensis (L.)

Ascherson & Magnus [C. quadrisucata (Maxim.) Franch. & Sav.  
var. canadensis (L.) Hara] Small enchanter's nightshade.  
Frequent; moist woods.

Cedar Heights, 1953, Grant 12026, ISTC. Brustkern's Woods,  
1983070201. Cooper's Woods, 1983081101.

Epilobium coloratum Biehler Cinnamon willowherb. Frequent; marshes and moist woods.

NLC, 1929, Burk 886, ISTD. 9 89-13, 1963, Eilers 4463, IA. Cedar Hills Sand Prairie, 1979, Lammers 3087, ISTD. Goose Lake, 1982081830. Newgard's Pasture, 1982082310.

Epilobium leptophyllum Raf. [E. densum L., misappl.] [E. lineare L., misappl.] {incl. E. palustre L.} Bog willowherb. Rare; marshes.

Steimel's Prairie, 1980, Lammers 3940, ISTD. Goose Lake, 1982081829. Newgard's Pasture, 1983091412.

Gaura biennis L. {incl. var. pitcheri T. & G.} [G. longiflora Spach] Rare; prairie remnants, open sandy areas and roadsides.

Waterloo, 1899, Newton, ISTD. NLC, 1929, Burk 546, ISTD. SW NW 19 90-12, 1949, Grant 11303, ISTD.

Ludwigia palustris (L.) Ell. Water purslane. Rare; shallow water of ponds, marshes and wet sand.

Bailey's Lake, 1980, Lammers 3866, ISTD.

Ludwigia polycarpa Short & Peter False loosestrife. Rare; marshes and shallow standing water.

Waterloo, 1893, Newton, ISTD. NLC, 1929, Burk 847, ISTD. Goose Lake, 1937, Grant 8102, ISTD. Goose Lake, 1938, Grant 8134, ISTD. Newgard's Pasture, 1981, Lammers 4472, ISTD. Goose Lake, 1982081825.

Oenothera biennis L. ssp. centralis Munz. Evening primrose. Common; sandy roadsides and disturbed prairie remnants.

Cedar Falls, 1920, Sherwood, ISTD. NLC, 1929, Burk 697, ISTD. 9 89-13, 1963, Eilers 4450, IA. South of Cedar Falls, 1965, Gilbert 50, ISTD. Cedar Hills Sand Prairie, 1970, Crum 207, ISTD. SW SW 3 89-14, 1982072501. Ackerson's Marsh, 1982080723, 1982080731. Cedar Township RR Prairie, 1982082802. Dorothy's Prairie, 1983080108.



Oenothera laciniata Hill Ragged evening primrose. Rare; sandy soil, prairie remnants, along railroads.

Cedar City Sand Prairie, 1980, Lammers 3637, ISTC.

Oenothera rhombipetala Nutt. ex T. & G. Sand primrose. Frequent; dry sandy soil.

NLC, 1929, Burk 543, ISTC. George Wyth State Park, 1953, Grant 12096, ISTC. Cedar Hills Sand Prairie, 1970, Crum 188, ISTC. Myszka Prairie, 1976, Eilers 7008, ISTC. Cedar Hills Sand Prairie, 1978, Lammers 2115, ISTC. Cedar City Sand Prairie, 1980, Lammers 3636, ISTC. Myszka Prairie, 1980, Lammers 3735, ISTC. Raymond Prairie, 1982062306. George Wyth State Park, 1982072489. Martinson's Dunes, 1982072503, 1983080925. Ackerson's Marsh, 1982080730.

Oenothera villosa Thunb. ssp. canovirens (Steele) D. Dietr. & Raven [O. strigosa (Rydb.) Mack. & Bush ssp. canovirens (Steele) Munz] [O. biennis L. var. canescens T. & G.] Gray evening primrose. Infrequent; prairie remnants and open alluvial woods.

NLC, 1929, Burk 561, ISTC. George Wyth State Park, 1963, Eilers 4310, 4311, IA. 27 88-14, 1963, Eilers 4373, IA. Hartman Reserve Nature Center, 1963, Eilers 4418, IA 10 87-12, 1963, Eilers 4573, IA. 10 87-12, 1980, Lammers 3817, ISTC.

#### OXALIDACEAE (Wood-sorrel Family)

Oxalis dillenii Jacq. Yellow-wood sorrel. Rare; sandy fields and prairies.

Cedar Falls, 1891, Boal, ISTC.

Oxalis stricta L. [O. europaea Jordan] Yellow wood sorrel, Lady's sorrel. Common; roadsides, moist open ground, disturbed soil.

ISTC Campus, 1884, Buckingham, ISTC. NLC, 1929, Burk 576, 643, ISTC. ISTC Campus, 1956, Cooper 2, ISTC. 6 90-12, 1960, Barnett, ISTC. Black Hawk County Park, 34 90-14, Eilers 4251, IA. Cedar Hills Sand Prairie, 1970, Crum 126, ISTC. Newgard's Pasture, 1982052716. Martinson's Dunes, 1982060112. Cedar Township RR Prairie, 1982060703, 1983060706. George Wyth State Park, 1982072424.

Oxalis violacea L. Violet wood sorrel. Frequent; prairie remnants, dry sparsely wooded ridges.

ISTC Campus, 1884, Buckingham, ISTC. Cedar Falls, 1885, NCC, ISTC. NLC, 1929, Burk 322, ISTC. Goose Lake, 1938, Grant 8140, ISTC. Cedar Hills Sand Prairie, 1970, Crum 042, ISTC. Cedar Hills Sand Prairie, 1980, Lammers 3329, ISTC. Cedar Hills Sand Prairie, 1982060104. SE SE SE 8 90-14, 1983052601. Martinson's Dunes, 1983061003.

PAPAVERACEAE (Poppy Family)

\* Chelidonium majus L. Swallow-wort, celandine. Escape from cultivation; moist woods, open alluvium.

3 90-11, 1978, Roosa 1694, ISTC.

Corydalis micrantha (Engelm.) Gray Slender fumewort. Infrequent; dry sandy soil.

Cedar Falls, 1897, Newton, ISTC. Cedar Falls, 1920, Ries, ISTC. Elk Run, 1921, Shimek, IA. George Wyth State Park, 1941, McIlrath 10, ISTC. Cedar City Sand Prairie, 1982051605. Cedar Township RR Prairie, 1983052001.

Dicentra canadensis (Goldie) Walp. Squirrel corn. Infrequent; moist north and east facing wooded slopes.

Cedar Falls, 1897, Newton, ISTC. NLC, 1929, Burk 235, ISTC.

Dicentra cucullaria (L.) Bernh. Dutchman's breeches. Common; moist wooded slopes.

Cedar Falls, 1884, Buckingham, ISTC. NLC, 1898, Page 15, ISTC. Cedar Falls, 1920, Ries, ISTC. NLC, 1929, Burk 213, ISTC. Hartman Reserve Nature Center, 1941, McIlrath 2, ISTC. Hartman Reserve Nature Center, 1969, Heuer, ISTC. Hartman Reserve Nature Center, 1969, Eilers 6561, ISTC. 2 89-14, 1970, Green 113, ISTC. Fall's Access, 1972, Grivenwald, ISTC.

Sanguinaria canadensis L. Bloodroot. Infrequent; disturbed woods.

NLC, 1898, Page 27, ISTC. Hartman Reserve Nature Center, 1929, Burk 211, ISTC. Cedar Falls, 1941, McIlrath 1, ISTC. Hartman Reserve Nature Center, 1969, Eilers 6567, ISTC. 13 89-13, 1970, Green 109, ISTC.



## PHRYMACEAE (Lopseed Family)

Phryma leptostachya L. Lopseed. Frequent; moist woods.

NLC, NDC, Burk 978, ISTD. Cooper's Woods, 1983081105,  
1983081106. Brustkern's Woods, 1983081305.

## PLANTAGINACEAE (Plantain Family)

Plantago aristata Michx. Bracted plantain. Rare; dry open habitats.

Cedar Hills Sand Prairie, 1970, Crum 185, ISTD.

\* Plantago lanceolata L. Buckthorn plantain. Rare; dry disturbed areas.

Cedar Falls, NDC, Thorp, ISTD. ISTD Campus, 1929, Burk 16, ISTD. East Waterloo Prairie, 1982062302.

Plantago patagonica Jacq. [P. purshii R. & S.] Plantain. Frequent; roadsides, dry sandy soil, waste ground.

Waterloo, NDC, Newton, ISTD. Cedar Falls, 1920, Ries, ISTD. Cedar Falls, 1920, Palmer, ISTD. Snag Creek, 1929, Burk 339, ISTD. George Wyth State Park, 1953, Reynolds, Hardin, ISTD. George Wyth State Park, 1963, Eilers 4306, IA. Cedar Hills Sand Prairie, 1970, Crum 084, ISTD. Myszka Prairie, 1976, Eilers 7012, ISTD. Cedar Hills Sand Prairie, 1979, Lammers 2889, ISTD. Black Hawk County Park, NW 27 90-14, 1980, Lammers 3487, ISTD. Myszka Prairie, 1980, Lammers 3570, ISTD. Cedar Township RR Prairie, 1982060704. George Wyth State Park, 1982060734. Cedar City Sand Prairie, 1982062401. Cedar Hills Sand Prairie, 1982062804. Martinson's Dunes, 1983061007.

Plantago rugelii Dene. Common plantain, Rugel's plantain. Common; yards, open woods, disturbed soil, waste ground.

NLC, 1929, Burk 811, ISTD. Waterloo, 1965, Gilbert 57, ISTD. Cedar Hills Sand Prairie, 1970, Crum 170, ISTD. Dargon's Marsh, 1982062219. George Wyth State Park, 1982070805.

Phlox pilosa L. POLEMONIACEAE (Polemonium Family) Prairie  
phlox. Frequent; prairie remnants.

- \* Collomia linearis Nutt. Rare; dry or sandy prairies, along  
railroads. Newton, ISTD. NLC, 1929, Page, ISTD. North edge  
of East Waterloo, 1928, Shimek, IA. NLC, 1929, Burk 224, ISTD.  
Washburn, 1921, Shimek, IA. ISTD. SE SE 27 29-11, 1952.

Phlox bifida Beck Cleft phlox. Infrequent; dry open sand. Prairie,

Cedar Falls, 1927, Alrtz, ISC. North of Waterloo, 1929,  
Shimek, ISC. NLC, 1929, Burk 219, ISTD. North of Cedar Falls,  
1933, Shimek, IA. North of Waterloo, 1933, Shimek, IA. West  
of Cedar Falls, 1945, Savage, ISTD. Cedar City Sand Prairie,  
1981, Lammers 4086, ISTD, ISC. Fischels' Prairie, 1981,  
Lammers 4100, ISTD, ISC. Fischels' Prairie, 1982051416.  
S SE SE 1 87-12, 1983052312.

Phlox divaricata L. {incl. ssp. laphamii (Wood) Wherry} Sweet  
William, blue phlox. Frequent; moist woods.

Cedar Falls, 1884, Buckingham, ISTD. Cedar Falls, 1885, NCC,  
ISTD. Cedar Falls, 1897, Newton, ISTD. Cedar Heights, 1920,  
Ries, ISTD. NLC, 1929, Burk 233, ISTD. Hartman Reserve Nature  
Center, 1941, Phelps 13, ISTD. 2 89-14, 1970, Green 114, ISTD.  
Brustkern's Woods, 1981, Lammers 4049, ISTD. Brustkern's  
Woods, 1982051434. George Wyth State Park, 1982060206.

Phlox maculata L. Phlox. Frequent; prairie swales, moist  
roadsides.

NLC, 1929, Burk 341, ISTD. Cedar Hills Sand Prairie, 1970,  
Crum 125, ISTD. Cedar Hills Sand Prairie, 1979, Lammers 2883,  
ISTD. Bunchflower Meadow, 1980, Lammers 3557, ISTD. Steimel's  
Prairie, 1980, Lammers 3793, ISTD. Lester Township RR Prairie,  
1981, Lammers 4311, ISTD. Bunchflower Meadow, 1982063001,  
1983070211. Bailey's Lake, 1983063010. Highway 175 RR  
Prairie, 1983070301.

- \* Phlox paniculata L. Garden phlox. Rare escape; roadsides,  
disturbed soil near dwellings.

Cooper's Woods, 1982082704.



Phlox pilosa L. {incl. ssp. fulgida (Wherry) Wherry} Prairie phlox. Frequent; prairie remnants.

Polygala Cedar Falls, 1885, NCC, ISTD. NLC, 1889, Wode, ISTD. Cedar Falls, 1897, Newton, ISTD. NLC, 1898, Page, ISTD. North edge of East Waterloo, 1928, Shimek, IA. NLC, 1929, Burk 288, ISTD. Goose Lake, 1938, Grant 8142, ISTD. SE SE 27 89-11, 1953, Grant 11818, ISTD. Cedar Hills Sand Prairie, 1970, Crum 094, ISTD. Bennington Township Cemetery, 1973, Chumbley, ISTD. Raymond Prairie, 1980, Lammers 3517, ISTD. Dunkerton Prairie, 1981, Lammers 4095, ISTD. Bunchflower Meadow, 1981, Lammers 4097, ISTD. Dorothy's Prairie, 1983060111. Bailey's Lake, 1983061103.

Polemonium reptans L. Jacob's ladder. Common; moist to dry open woods, woodland edges.

Cedar Falls, 1884, Buckingham, ISTD. Cedar Falls, 1892, Newton, ISTD. NLC, 1898, Page, ISTD. Cedar Falls, 1920, Ries, ISTD. NLC, 1929, Burk 227, ISTD. Hartman Reserve Nature Center, 1941, McIlrath 23, ISTD. 13 89-13, 1970, Green 134, ISTD. Brustkern's Woods, 1981, Lammers 4057, ISTD. Hussmann Access, 1982062002. Hartman Reserve Nature Center, 1983051611.

#### POLYGALACEAE (Milkwort Family)

Polygala sanguinea L. [P. viridescens L.] Field milkwort. Infrequent; prairie remnants, sandy, moist places.

Waterloo, 1892, Newton, ISTD. NLC, 1929, Burk 730, ISTD. Goose Lake, 1937, Grant 8103, ISTD. NLC, 1949, Grant 11298, ISTD. Goose Lake, 1953, Hardin 8, ISTD. Cedar Hills Sand Prairie, 1970, Crum 199, ISTD. Cedar Hills Sand Prairie, 1978, Lammers 2117, ISTD. Bailey's Lake, 1980, Lammers 3870, ISTD. Martinson's Dunes, 1982072536, 1983080916. Bailey's Lake, 1982081846. Newgard's Pasture, 1982082302, 1983080518.

Polygala verticillata L. {incl. var. isocycla Fern.; var. sphenostachya Pennell; var. ambigua (Nutt.) Wood} Whorled milkwort. Rare; prairie remnants.

Polygala SW NW 19 90-12, 1949, Grant 11299, ISTD.

ISTD Campus, 1972, NCC, ISTD. Jackson's Marsh, 1982080715.

## POLYGONACEAE (Buckwheat Family)

Polygonum achoreum Blake [P. erectum L.] Smartweed. Infrequent; open disturbed areas.

NLC, 1929, Burk 521, ISTD. Black Hawk County Park, 34 90-14, 1963, Eilers 4261, IA. NE 27 88-14, 1980, Lammers 3608, ISTD.

Polygonum amphibium L. var. emersum Michx. [P. coccineum Muhl.] Water smartweed. Infrequent; muddy shores and in standing water of marshes.

NLC, 1929, Burk 768, 786, ISTD. 6 90-12, 1960, Barnett, ISTD. Goose Lake, 1982081803.

Unable to determine variety of Burk collections.

\* Polygonum aviculare L. Knotweed. Infrequent; yards, dry disturbed areas.

ISTC Campus, 1912, NCC, ISTD. Cedar Falls, 1920, Charlston, ISTD. NLC, 1929, Burk 815, ISTD. Black Hawk County Park, 34 90-14, 1963, Eilers 4262, IA.

\* Polygonum convolvulus L. Black bindweed. Infrequent; roadsides, alluvial woods, waste places.

ISTC Campus, 1912, NCC, ISTD. Cedar Falls, 1920, Chalston, ISTD. NLC, 1929, Burk 537, ISTD. 6 90-12, 1960, Barnett, ISTD. George Wyth State Park, 1963, Eilers 4345, IA. 9 89-13, 1963, Eilers 4479, IA. Cedar Hills Sand Prairie 1970, Crum 211, ISTD. Cooper's Woods, 1982082706.

\* Polygonum cuspidatum Sieb. & Zucc. Japanese bamboo. Infrequent; roadsides.

University Avenue Preserve, Cedar Falls, 1980, Smith, ISTD. SE 2 89-13, 1981, Lammers 4428, ISTD.

Polygonum hydropiper L. Smartweed. Rare; shallow water, marshes, stream margins.

ISTC Campus, 1912, NCC, ISTD. Ackerson's Marsh, 1982080715.



Polygonum lapathifolium L. Smartweed. Infrequent; alluvial woods, shores, waste ground.

NLC, 1929, Burk 902, ISTD. 9 89-13, 1963, Eilers 4472, 4483, IA. V-37 Prairie, 1982072468. Goose Lake, 1983082608.

Polygonum pensylvanicum (L.) Small [P. bicorne Raf.] [P. longistylum Sm.] Smartweed. Common; fields, marshes, ponds, open wet habitats.

ISTC Campus, Cedar Falls, 1912, NCC, ISTD. North of Cedar Falls, 1926, Shimek, IA. NLC, 1929, Burk 597, 673, ISTD. NLC, 1949, Walder, ISTD. Goose Lake, 1937, Grant 8108, ISTD. Black Hawk County Park, 34 90-14, 1963, Eilers 4347, ISTD. 33 88-14, 1963, Eilers 4350, IA. 17 89-13, 1963, Eilers 4432, IA. Cedar Township RR Prairie, 1983092105.

\* Polygonum persicaria L. Lady's thumb. Rare; open wet habitats.

ISTC Campus, 1912, NCC, ISTD.

Polygonum punctatum Ell. {incl. var. confertiflorum (Meisner) Fassett} [P. acre HBK] Water smartweed. Frequent; open wet ground, marsh edges, prairie swales.

NLC, 1929, Burk 842, ISTD. Cedar River, 1962, Eilers 2660, ISTD. Black Hawk County Park, 34 90-14, 1963, Eilers 4268, IA. 9 89-13, 1963, Eilers 4480, IA. Martinson's Dunes, 1983080918. Brustkern's Woods, 1983092124.

Polygonum ramosissimum Michx. Bushy knotweed. Infrequent; moist, usually sandy soil.

Waterloo, 1893, Newton, ISTD. NLC, 1929, Burk 890, ISTD. 27 88-14, 1963, Eilers 4376, IA. Cedar City Sand Prairie, 1980, Lammers 3815, ISTD.

Polygonum sagittatum L. Tearthumb. Frequent; open, marshy ground.

Waterloo, 1893, Newton, ISTD. NLC, 1929, Burk 841, ISTD. Cedar Hills Sand Prairie, 1978, Lammers 2107, ISTD. Ackerson's Marsh, 1982071709, 1983081125.

\* Polygonum sarmentosum L. var. virginicum (Willd.) Wats. [P. persicarioides L., Michx.] Dock. Rare; shores, marshes, wet sand.

Goose Lake, 1931, Lammers 4237, ISTD.

Polygonum scandens L. {incl. var. cristatum (Engelm. & Gray) Gl.; var. dumetorum (L.) Gl.} Climbing false buckwheat. Infrequent; roadsides, fence rows, alluvial woods.

East of Cedar Falls, 1956, Cooper 22, ISTC. George Wyth State Park, 1983090806. Brustkern's Woods, 1983092118.

Polygonum virginianum L. [Tovara virginianum (L.) Raf.] Jumpseed. Infrequent; moist wooded slopes and ravines.

Hartman Reserve Nature Center, 1956, Cooper 25, ISTC. 17 89-13, 1963, Eilers 4401, IA. George Wyth State Park, 1983090804.

Rumex acetosella L. Red sorrel. Common; dry sandy soil or waste ground.

ISTC Campus, 1884, Buckingham, ISTC. Cedar Falls, 1896, Shafer, ISTC. North edge of East Waterloo, 1928, Shimek, IA. NLC, 1929, Burk 281, ISTC. George Wyth State Park, 1963, Eilers 4298, IA. ISTC Campus, 1965, Gilbert 30, ISTC. Stensland's Dunes, 1982051801. Cedar Township RR Prairie, 1982052602, 1982060716, 1983060704. Cedar Hills Sand Prairie, 1982060108. Newgard's Pasture, 1982070102. Barnes Ferry Road Cemetery, 1983052008.

Rumex altissimus Wood Dock. Infrequent; prairie remnants, open alluvial woods.

North of Washburn, 1921, Shimek, IA. North of Cedar Falls, 1926, Shimek, IA. Cedar Falls, 1926, NCC, ISTC. NLC, 1929, Burk 305, ISTC. Black Hawk County Park, 34 90-14, Eilers 4278, IA. Bunchflower Meadow, 1982060808, 1982070710. Highway 175 RR Prairie, 1983070305.

\* Rumex crispus L. Curly dock. Frequent; open, moist, often disturbed habitats.

Cedar Falls, 1926, NCC, ISTC. George Wyth State Park, 1963, Eilers 4343, IA. Cedar Hills Sand Prairie, 1970, Crum 095, ISTC. V-37 Prairie, 1982072471. Ackerson's Marsh, 1982080714. Bailey's Lake, 1983063012.

\* Rumex maritimus L. var. fueginus (Phil.) Dusen [R. persicarioides L., misappl.] Dock. Rare; shores, marshes, wet sand.

Goose Lake, 1981, Lammers 4257, ISTC.



- \* Rumex obtusifolius L. Bitter dock. Rare; roadsides, sandy marshes, moist lowlands.

9 89-13, 1963, Eilers 4442, IA.

- Rumex orbiculatus Gray Dock. Rare; pond margins, marshes, prairie swales.

NLC, 1929, Burk 936, ISTD. 9 89-13, 1963, Eilers 4447, IA.

- \* Rumex patientia L. Dock. Rare; moist roadsides, alluvium, sandy soil.

NLC, 1929, Burk 323, ISTD.

- Rumex verticillatus L. Infrequent; lake margins, marshes, low, moist ground.

NLC, 1929, Burk 360, ISTD. Cedar River, 1937, Grant 8115, ISTD, IA. George Wyth State Park, 1983061608.

#### PORTULACACEAE (Purslane Family)

- Claytonia virginica L. Spring beauty. Frequent; moist wooded slopes.

NLC, 1892, Adams, ISTD. NLC, 1893, Fullerton, ISTD. Cedar Falls, 1920, Ries, ISTD. NLC, 1929, Burk 209, ISTD. Hartman Reserve Nature Center, 1941, McIlrath 4, ISTD. Hartman Reserve Nature Center, 1969, Eilers 6560, ISTD. 13 89-13, 1970, Green 90, ISTD. Hartman Reserve Nature Center, 1983051604.

- Portulaca oleracea L. Common purslane. Common; waste ground, yards, disturbed habitats.

George Wyth State Park, 1963, Eilers 4302, IA.

## PRIMULACEAE (Primrose Family)

Androsace occidentalis Pursh Infrequent; dry, often sandy, open habitats.

Cedar Falls, 1920, Ries, ISTC. Beaver Creek, 1937, Grant 8008, ISTC. Hartman Reserve Nature Center, 1969, Heuer, ISTC. Hartman Reserve Nature Center, 1969, Eilers 6570, ISTC. George Wyth State Park, 1974, Eilers, ISTC. Cedar City Sand Prairie, 1981, Lammers 4088, ISTC. Cedar City Sand Prairie, 1982051610. George Wyth State Park, 1982060205. Cedar Township RR Prairie, 1982060705.

Dodecatheon meadia L. {incl. var. brachycarpum (Small) Fassett} Shooting star. Infrequent; prairie remnants.

ISTC Campus, 1884, Buckingham, ISTC. Cedar Falls, 1891, Richardson, ISTC. NLC, 1898, Page 22, ISTC. Between Jesup and Waterloo, 1928, Shimek, IA. NLC, 1929, Burk 480, ISTC. Goose Lake, 1938, Grant 8141, ISTC. Goose Lake, 1941, Phelps 6, ISTC. Bennington Township Cemetery, 1974, Chumbley, ISTC. Raymond Prairie, 1980, Lammers 3319, ISTC. Dorothy's Prairie, 1983060103.

Lysimachia ciliata L. Fringed loosestrife. Frequent; moist lowland woods, low prairies, marsh edges.

NLC, 1929, Burk 790, ISTC. Goose Lake, 1953, Hardin 22, ISTC. George Wyth State Park, 1953, Reynolds, ISTC. ISTC Golf Course, 1953, Hardin 29, ISTC. Cedar Falls, 1965, Gilbert 25, ISTC. Bunchflower Meadow, 1982063008, 1982070716. Ackerson's Marsh, 1982070114. George Wyth State Park, 1982072433. Fall's Access, 1982090912. Dorothy's Prairie, 1983070108.

Lysimachia hybrida Michx. [L. lanceolata Walter var. hybrida (Michx.) Gray] Loosestrife. Frequent; alluvial woods, shores, marshy ground.

Waterloo, 1892, Newton, ISTC. NLC, 1920, Stoddard, ISTC. North of Washburn, 1921, Shimek, IA. NLC, 1929, Burk 530, ISTC. George Wyth State Park, 1953, Hardin 21, ISTC. 27 88-14, 1963, Eilers 4374, IA. Cedar Hills Sand Prairie, 1970, Crum 215, ISTC. Cedar Hills Sand Prairie, 1980, Lammers 3840, ISTC. Bailey's Lake, 1980, Lammers 3857, ISTC. Martinson's Dunes, 1982072533. Goose Lake, 1982081814. Newgard's Pasture, 1982082314, 1983080507.



- \* Lysimachia nummularia L. Moneywort. Infrequent; alluvial woods, open moist habitats, moist disturbed soil.

Cedar Falls, 1920, Ries, ISTC. NLC, 1929, Burk 789, ISTC. Fall's Access, 1965, Gilbert 1, ISTC. George Wyth State Park, 1982070801.

- Lysimachia quadriflora Sims Loosestrife. Infrequent; low moist ground, alluvium, marsh edges.

NLC, 1929, Burk 504, ISTC. Steimel's Prairie, 1980, Lammers 3795, ISTC. Newgard's Pasture, 1983080511. Ackerson's Marsh, 1983081128.

- Lysimachia terrestris (L.) BSP. Swamp loosestrife, swamp candle. Infrequent; marshes, low prairies, wet, sandy ground.

Goose Lake, 1938, Grant 8151, ISTC. Cedar Hills Sand Prairie, 1970, Crum 149, ISTC. Cedar Hills Sand Prairie, 1982062802. Ackerson's Marsh, 1982070123. Bailey's Lake, 1983063002.

#### RANUNCULACEAE (Crowfoot Family)

- Actaea pachypoda Ell. [A. alba (L.) Miller] White baneberry. Rare; upland woods, wooded slopes.

Cedar Heights, 1953, Grant 12032, ISTC.

- Anemone canadensis L. Canada anemone. Common; moist prairies, roadsides, alluvium.

Cedar Falls, 1884, Buckingham, ISTC. Near ISTC, 1885, NCC, ISTC. NLC, 1898, Page 10, ISTC. NLC, 1929, Burk 487, ISTC. North of Cedar Falls, 1932, Shimek, IA. George Wyth State Park, 1953, Hardin 26, ISTC. 6 90-12, 1960, Barnett, ISTC. South of Cedar Falls, 1965, Gilbert 47, ISTC. Cedar Hills Sand Prairie, 1970, Crum 105, ISTC. Dargon's Marsh, 1982051507. Fall's Access, 1982051709. George Wyth State Park, 1983060308.

- Anemone caroliniana Walter Carolina anemone. Rare; dry, open, usually sandy places.

Along Cedar River, 1939, Grant 8390, ISTC.

Anemone cylindrica Gray Windflower, thimbleweed. Infrequent;  
prairie remnants, dry sandy soil.

North of Washburn, 1921, Shimek, IA. NLC, 1929, Burk 389,  
ISTC. Cedar Hills Sand Prairie, 1970, Crum 166, ISTC. Myszka  
Prairie, 1980, Lammers 3623, ISTC. Cedar City Sand Prairie,  
1980, Lammers 3632, ISTC. Raymond's Prairie, 1982062304.

Anemone quinquefolia L. {incl. var. interior Fern.} Wood anemone.  
Frequent; open upland woods, wooded slopes.

NLC, 1898, Page 32, ISTC. Cedar Heights, 1920, Ries, ISTC.  
NLC, 1929, Burk 216, ISTC. 2 89-14, 1970, Green 112, ISTC.  
Hartman Reserve Nature Center, 1980, Lammers 3222, ISTC.  
Hartman Reserve Nature Center, 1983042803.

Anemone virginiana L. Tall anemone. Infrequent; wooded slopes,  
woodland openings, woodland edges, prairie remnants.

Snag Creek Woods, 1929, Burk 340, ISTC. Hartman Reserve Nature  
Center, 1963, Eilers 4394, IA.

Aquilegia canadensis L. {incl. var. coccinea (Small) Munz}

Columbine. Common; moist wooded slopes, often sandy or rocky  
soil, limestone outcrops.

Cedar Falls, 1884, Buckingham, ISTC. Cedar Falls, 1885, NCC,  
ISTC. Cedar Falls, 1895, Andrews, ISTC. NLC, 1898, Page 35,  
ISTC. NLC, 1929, Burk 240, ISTC. Brustkern's Woods,  
1982051429.

Caltha palustris L. Marsh marigold. Frequent; marshes, springs,  
seeps.

Cedar Falls, 1884, Buckingham, ISTC. Cedar Falls, 1893,  
Beckwith, ISTC. NLC, 1898, Page 33, ISTC. 6 90-12, 1960,  
Barnett, ISTC. Cedar Hills Sand Prairie, 1970, Crum 001, ISTC.  
Cedar Hills Sand Prairie, 1980, Lammers 3225, ISTC. Steimel's  
Prairie, 1981, Lammers 4044, ISTC. Ackerson's Marsh,  
1983052405.



Clematis pitcheri T. & G. Leather flower. Infrequent; openings in woods, sandy alluvium, occasionally on prairies.

Cedar Falls, 1920, Sherwood, ISTC. NLC, 1929, Burk, ISTC. Snag Creek Prairie, 1929, Burk 780, ISTC. North of Cedar Falls, 1932, Shimek, IA. SW NE 3 87-12, 1980, Lammers 3619, ISTC. Dargon's Marsh, 1982062215. Cedar Township RR Prairie, 1982062903. Hussmann Access, 1983070317.

Clematis virginiana L. Virgin's bower. Frequent; disturbed open alluvial woods.

Cedar Falls, 1920, Charlston, ISTC. South of Cedar Falls, 1965, Gilbert 46, ISTC. Frost Prairie, 1983070418.

Delphinium virescens Nutt. {incl. var. penardii (Huth.) Perry} Prairie larkspur. Frequent; dry upland prairies.

NLC, 1898, Page 20, ISTC. NLC, 1929, Burk 363, ISTC. South of Washburn, 1932, Shimek, IA. 6 90-12, 1960, Barnett, ISTC. Cedar Hills Sand Prairie, 1970, Crum 114, ISTC. Cedar Hills Sand Prairie, 1979, Lammers 2882, ISTC. Myszka Prairie, 1980, Lammers 3568, ISTC. Cedar Hills Sand Prairie, 1980, Lammers 3578, ISTC. Cedar City Sand Prairie, 1980, Lammers 3587, ISTC. Raymond Prairie, 1980, Lammers 3618, ISTC. Fischels' Prairie, 1980, Lammers 3684, ISTC. Stensland's Dunes, 1981, Lammers 4262, ISTC. Hussmann Access, 1982062011. Ackerson's Marsh, 1982070120. SW SW 18 90-14, 1983063020, 1983063021.

Hepatica nobilis P. Miller var. acuta (Pursh) Steyerem. [H. acutiloba DC.] Liverleaf. Rare; wooded, rocky hillsides.

Cedar Falls, 1920, NCC, ISTC. NLC, 1929, Burk 208, ISTC. Hartman Reserve Nature Center, 1969, Eilers 6563, ISTC. 2 89-14, 1970, Green 104, ISTC.

Isopyrum biternatum (Raf.) T. & G. [Enemion biternatum Raf.] False rue anemone. Frequent; moist, wooded slopes, low woods, alluvial flats.

Cedar Falls, 1885, NCC, ISTC. Cedar Falls, 1920, Ries, ISTC. NLC, 1929, Burk 215, ISTC. Cedar Heights, 1941, Phelps 10, ISTC. George Wyth State Park, 1941, McIlrath 11, ISTC. Hartman Reserve Nature Center, 1969, Eilers 6568, ISTC. 2 89-14, 1970, Green 117, ISTC. Black Hawk County Park, 34 90-14, 1982051503. Hartman Reserve Nature Center, 1983042802.

Pulsatilla patens (L.) P. Miller var. multifida Pritz. [Anemone patens L. var. wolfgangiana (Besser) K. Koch] [Anemone patens L.] Pasque flower. Infrequent; dry, sandy or gravelly prairie knolls and hillsides.

Cedar Falls, 1924, Lantz, ISTC. NLC, 1929, Burk 210, ISTC. Raymond Prairie, 1976, Eilers ISTC. Raymond Prairie, 1980, Lammers 3198, 3322, ISTC. Fischel's Prairie, 1981, Lammers 4030, ISTC. Raymond Prairie, 1983040801, 1983042101.

Ranunculus abortivus L. Small-flowered crowfoot. Common; moist woods, moist open places.

Cedar Falls, 1920, Ries, ISTC. NLC, 1929, Burk 230, ISTC. Cedar River, 1941, McIlrath 18, ISTC. 13 89-13, 1970, Green, ISTC. Hartman Reserve Nature Center, 1972, Kirchhoff, ISTC. Bunchflower Meadow, 1982060809. Dorothy's Prairie, 1983060116.

Ranunculus fascicularis Muhl. {incl. var. apricus (Greene) Fern.] Buttercup. Infrequent; prairie openings, open sandy places.

NLC, 1898, Page 11, ISTC. Cedar Falls, 1920, Ries 11, ISTC. Cedar Hills Sand Prairie, 1970, Crum 019, ISTC.

Ranunculus flabellaris Raf. Yellow water crowfoot. Rare; muddy shores, shallow water of marshes.

Cedar Falls, 1897, Newton, ISTC. NLC, 1929, Burk 838, ISTC. Goose Lake, 1938, Grant 8128, ISTC. Goose Lake, 1941, McIlrath 30, ISTC. Goose Lake, 1941, Phelps 7, ISTC.

Ranunculus pensylvanicus L. f. Bristly crowfoot. Infrequent; marshes, lake margins.

NLC, 1898, Page 34, ISTC. NLC, 1929, Burk 710, ISTC. W 9 89-13, 1963, Eilers 4467, ISTC, IA. Newgard's Pasture, 1981, Lammers 4403, ISTC. Ackerson's Marsh, 1982071707.

Ranunculus rhomboideus Goldie Buttercup. Rare; dry open soil.

ISTC Campus, 1885, NCC, ISTC. NLC, 1898, Page 8, ISTC. Raymond Prairie, 1976, Eilers, ISTC. Raymond Prairie, 1982051406.



Ranunculus sceleratus L. Cursed crowfoot. Rare; sandy lowlands, pond margins.

Black Hawk County Park, 34 90-14, 1980, Lammers 3595, ISTD.

Ranunculus septentrionalis Poiret Swamp buttercup. Frequent; low moist woods.

Cedar Falls, 1891, Aldrich, ISTD. Cedar Falls, 1920, Ries, ISTD. NLC, 1929, Burk 289, ISTD. Cedar Falls, NDC, Williams, ISTD. Hartman Reserve Nature Center, 1969, Eilers 6564, ISTD. Hartman Reserve Nature Center, 1969, Heuer, ISTD. 2 89-14, 1970, Crum 016, ISTD. Brustkern's Woods, 1982051422. SE SE 9 90-14, 1982060311. Hartman Reserve Nature Center, 1983042801.

Thalictrum dasycarpum Fischer & Lall. Meadow-rue. Common; moist prairie remnants, roadside ditches, open woods, moist alluvium.

Waterloo, 1893, Newton, ISTD. North of Washburn, 1921, Shimek, IA. NLC, 1929, Burk 817, ISTD. Goose Lake, 1938, Grant 8145, ISTD. George Wyth State Park, 1953, Hardin 7, ISTD. Cedar Hills Sand Prairie, 1970, Crum 106, ISTD. Bunchflower Meadow, 1980, Lammers 3602, ISTD. Bunchflower Meadow, 1982060803. Hussmann Access 1982062013. Bailey's Lake, 1983063005. Cooper's Woods, 1983081115.

Thalictrum dioicum L. Early meadow-rue. Rare; moist woods.

6 90-12, 1960, Barnett, ISTD.

Thalictrum thalictroides (L.) Eames & Boivin [Anemonella thalictroides (L.) Spach] Rue anemone; Common; moist wooded slopes.

Hartman Reserve Nature Center, 1969, Eilers 6562, ISTD. Hartman Reserve Nature Center, 1983051603.

Erigeron annuus L. (E. phylicoides Ashe of author) [E. delicatulus Berg.] Fleabane. Rare; moist open alluvium.

Cedar Falls, 1891, Buckingham, ISTD. Along Cedar River, 1989, Burk 513, ISTD.

Crataegus mollis (RHAMNACEAE (Buckthorn Family))

Ceanothus americanus L. var. pitcheri T. & G. New Jersey tea.

Infrequent; prairie remnants, woodland edges, openings in dry woods.

Waterloo, 1893, Newton, ISTC. North of Washburn, 1921, Shimek, ISTC. NLC, 1929, Burk 501, ISTC. Cedar Falls, 1965, Gilbert 23, ISTC. Cedar Hills Sand Prairie, 1970, Crum 187, ISTC.

Cedar Hills Sand Prairie, 1979, Lammers 2887, ISTC. Bailey's Lake, 1982062116. Lester Township RR Prairie, 1983070404.

ROSACEAE (Rose Family)

Agrimonia gryposepala Wallr. Agrimony. Infrequent; dry woods, woodland borders, moist low areas.

NLC, 1929, Burk 503, ISTC. 17 89-13, 1963, Eilers 4397, ISTC.

Also sighted at Goose Lake.

Agrimonia pubescens Wallr. Agrimony. Rare; upland woods, moist wooded slopes.

NLC, 1929, Burk 621, ISTC. 17 89-13, 1963, Eilers 4405, IA. Cedar Hills Sand Prairie, 1970, Crum 209, ISTC.

Agrimonia striata Michx. Agrimony. Rare; dry upland woods; occasionally in low, moist woods.

Waterloo, 1893, Newton, ISTC.

Amelanchier humilis Wieg. [A. spicata (Lam.) K. Koch, in part] [A. stolonifera Wieg., in part] Service-berry. Rare; dry sandy prairies, limestone outcrops.

Raymond Prairie, 1980, Lammers 3611, ISTC.

Crataegus coccinea L. [C. chrysoarpa Ashe of authors] [C. pedicellata Sarg.] Hawthorn. Rare; moist open alluvium.

Cedar Falls, 1884, Buckingham, ISTC. Along Cedar River, 1929, Burk 513, ISTC.



Crataegus mollis (T. & G.) Scheele Hawthorn. Frequent; open upland woods, sandy alluvium, prairie openings.

George Wyth State Park, 1941, McIlrath 16, ISTC. Black Hawk County Park, 34 90-14, 1963, Eilers 4258, 4274, 4277, IA. Cedar Hills Sand Prairie, 1970, Crum 210, ISTC. Black Hawk County Park, 34 90-14, 1980, Lammers 3490, ISTC. Fall's Access, 1982051705.

Crataegus punctata Jacq. Hawthorn. Infrequent; open woods, pastures.

Black Hawk County Park, 34 90-14, 1963, Eilers 4284, IA. Along Black Hawk Creek, Waterloo, 1980, Lammers 3554, ISTC. SW NE 3 87-12, 1980, Lammers 3622, ISTC.

Fragaria vesca L. var. americana Porter [F. americana (Porter) Britton] Woodland strawberry. Rare; upland woods.

NLC, 1929, Burk 228, ISTC. Goose Lake, 1941, Phelps 5, ISTC. 6 90-12, 1960, Barnett, ISTC.

Fragaria virginiana Duchesne {incl. var. illinoense (Prince) Gray; var. glauca S. Watson} Wild strawberry. Common; prairie remnants, open woods.

ISTC Campus, 1884, Buckingham, ISTC. NLC, 1898, Page 5, ISTC. NLC, 1929, Burk 490, ISTC. North of Cedar Falls, 1932, Shimek, ISTC. Goose Lake, 1941, McIlrath 29, ISTC. Cedar Hills Sand Prairie, 1970, Crum 021, ISTC. 2 89-14, 1970, Green 121, ISTC. Bennington Township Cemetery, 1974, Chumbley, ISTC.

Geum aleppicum Jacq. var. strictum (Aiton) Fern. [G. strictum Aiton] Yellow avens. Rare; prairie swales, wet meadows, marshes.

Cedar Hills Sand Prairie, 1979, Lammers 2881, ISTC.

Geum canadense Jacq. {incl. var. camporum (Rydb.) Fern. & Weath.} White avens. Frequent; moist woods, prairies, alluvial woods.

Snag Creek Woods, 1929, Burk 787, ISTC. Cedar Heights, 1953, Grant 12030, ISTC. Black Hawk County Park, 34 90-14, 1963, Eilers 4249, IA. 17 89-13, 1963, Eilers 4406, IA. Fall's Access, 1965, Gilbert 6, ISTC. Brustkern's Woods, 1982091006.

Geum laciniatum Murray {incl. var. trichocarpum Fern.} Rough avens. Infrequent; marshes, lakeshores, wet disturbed sites.

NLC, 1929, Burk 394, ISTC. George Wyth State Park, 1963, Eilers 4328, IA. Bunchflower Meadow, 1980, Lammers 3600, ISTC. Steimel's Prairie, 1980, Lammers 3787, ISTC. Bunchflower Meadow, 1982063005.

Geum triflorum Pursh [G. ciliatum Pursh] [Sieversia triflorum (Pursh) R. Br.] Prairie smoke, purple avens. Infrequent; prairie remnants, roadsides.

Cedar Falls, 1891, Sokoe, ISTC. NLC, 1893, Fackler, ISTC. NLC, 1929, Burk 271, ISTC. Goose Lake, 1938, Grant 8133, ISTC. West of Cedar Falls, 1945, Savage, ISTC. 6 90-12, 1960, Barnett, ISTC. Bennington Township Cemetery, 1974, Chumbley, ISTC. Bennington Township Cemetery, 1981, Lammers 4089, ISTC. Stensland's Dunes, 1982051806.

Malus ioensis (Wood) Britton [M. coronaria (L.) P. Miller, misappl.] [Pyrus ioensis (Wood) Bailey] Wild crab. Infrequent; dry brushy uplands, open woods, prairie remnants.

Brustkern's Woods, 1982051443. Fall's Access, 1982051706.

Physocarpus opulifolius (L.) Maxim. Ninebark. Rare; wooded rocky hillsides, rocky ledges.

Cedar Falls, 1901, Lambert, IA. 18 89-13, 1978, Eilers 7929-B, ISTC.

\* Potentilla argentea L. Cinquefoil. Infrequent; open sandy soil, sandy alluvium.

Cedar Township RR Prairie, 1982052605. Martinson's Dunes, 1982060114. Newgard's Pasture, 1983061109.

Potentilla arguta Pursh Cinquefoil. Infrequent; dry prairies, sandy soil.

Waterloo, 1893, Newton, ISTC. Cedar Falls, 1920, Thorp ISTC. North of Washburn, 1921, Shimek, IA. NLC, 1929, Burk 978, ISTC. Goose Lake, 1953, Reynolds, ISTC. Cedar Hills Sand Prairie, 1970, Crum 174, ISTC. Cedar City Sand Prairie, 1980, Lammers 3629, ISTC. Martinson's Dunes, 1982072505.



- \* Potentilla intermedia L. Cinquefoil. Rare; occasional weed in dry soil and waste places.

George Wyth State Park, 1982060737.

- Potentilla norvegica L. [P. monospeliensis L. in part] Cinquefoil. Common; roadsides, pastures, shores, alluvium, waste places.

NLC, 1929, Burk 802, ISTC. Between Waterloo and Cedar Falls, 1930, Shimek, IA. 27 88-14, 1963, Eilers 4379, IA. Cedar Hills Sand Prairie, 1970, Crum 172, ISTC. Bunchflower Meadow, 1980, Lammers 3748, ISTC. Dargon's Marsh, 1982062216. Ackerson's Marsh, 1982080721.

- Potentilla palustris (L.) Scop. Cinquefoil. Rare; marshes.

Newgard's Pasture, 1982070111.

- \* Potentilla recta L. Cinquefoil. Infrequent; dry roadsides, along railroads, in pastures, waste ground.

George Wyth State Park, 1963, Eilers 4316, IA. Cedar Falls, 1965, Gilbert 28, ISTC. Cedar Hills Sand Prairie, 1970, Crum 091, ISTC. Hussmann Access, 1982062010. George Wyth State Park, 1982070309. SW NE 26 88-11, 1983070208.

- Potentilla rivalis Nutt. {incl. var. millegrana (Engelm.) S. Watson; var. pentandra (Engelm.) S. Watson} Cinquefoil. Rare; lake margins, sandy marshes.

9 89-13, 1963, Eilers 4458, IA.

Also sighted at Newgard's Pasture.

- Potentilla simplex Michx. {incl. var. calvescens Fern.} Cinquefoil. Common; woodland openings, sandy prairie remnants, woodland edges.

ISTC Campus, 1884, Buckingham, ISTC. Cedar Falls, 1889, NCC, ISTC. NLC, 1929, Burk 478, ISTC. Goose Lake, 1938, Grant 8138, ISTC. Goose Lake, 1941, McIlrath, 27, ISTC. SE SE 28 89-11, 1953, Grant 11819, ISTC. Cedar Hills Sand Prairie, 1970, Crum 075, ISTC. NW NW 7 87-14, 1982052511. Newgard's Pasture, 1982052715. Cedar Township RR Prairie, 1982060721, 1983060702.



Prunus americana Marsh. Wild plum. Common; fencerows, along railroads, woodland edges, open woods.

ISTC Campus, 1884, Buckingham, ISTC. North of Cedar Falls, 1932, Shimek, IA. 33 88-14, 1963, Eilers 4360, IA. 2 89-14, 1970, Crum 011, ISTC. Cedar Hills Sand Prairie, 1970, Crum 025, ISTC. Brustkern's Woods, 1982051442. S SW SW 12 89-12, 1982060405.

Prunus pensylvanica L. f. Pin cherry. Rare; woods, clearings.

2 89-14, Crum 009, ISTC. Ackerson's Marsh, 1982070118.

Prunus serotina Ehrh. Wild black cherry. Frequent; moist wooded slopes, upland woods.

6 90-12, 1960, Barnett, ISTC. Cedar Hills Sand Prairie, 1970, Crum 068, ISTC. S SW SW 12 89-12, 1982060403. N NE 19 90-14, 1983063025. Highway 175 RR Prairie, 1983070302.

Prunus virginiana L. Choke cherry. Common; open woods, woodland borders, fencerows.

Cedar Falls, 1884, Buckingham, ISTC. Cedar River, 1941, McIlrath 17, ISTC. 2 89-14, 1970, Crum 008, ISTC. Raymond Prairie, 1982051403. Barnes Ferry Road Cemetery, 1983052009. George Wyth State Park, 1983061623.

Rosa arkansana Porter var. suffulta (Greene) Cockerell [R. suffulta Greene] Prairie rose. Infrequent; dry prairies.

North of Washburn, 1921, Shimek, IA. NLC, 1929, Burk 776, ISTC. Cedar Falls, 1953, Hardin 27, ISTC. ISTC Campus, 1953, Reynolds, ISTC. 6 90-12, 1960, Barnett, ISTC. Cedar Hills Sand Prairie, 1970, Crum 221, ISTC. Ackerson's Marsh, 1982080747. Bailey's Lake, 1983061108. Highway 175 RR Prairie, 1983070303.

Rosa blanda Aiton Meadow rose. Infrequent; prairie remnants, roadsides.

ISTC Campus, 1884, Buckingham, ISTC. Cedar Falls, 1885, NCC, ISTC. NLC, 1887, Ebert, ISTC. Elk Run, 1921, Shimek, IA. NLC, 1929, Burk 493, ISTC. George Wyth State Park, 1963, Eilers 4323, IA. Myszka Prairie, 1980, Lammers 3459, ISTC. Bunchflower Meadow, 1982060801. Cedar Township RR Prairie, 1983060708.

Rosa carolina L. {incl. var. grandiflora (Baker) Rehder; var. villosa (Best) Rehder} Wild rose. Frequent; prairie remnants, open sandy places.

Cedar Hills Sand Prairie, 1970, Crum 196, ISTC. Bailey's Lake, 1982062118. Cedar Township RR Prairie, 1982072453.

- \* Rosa eglanteria L. [R. rubiginosa L.] Sweetbrier. Rare; roadsides.

Cedar Falls, 1885, NCC, ISTC.

- \* Rosa multiflora Thunb. ex Murray Multiflora rose. Frequent; escape to waste ground, pastures, successional fields, fencerows.

Goose Lake, 1982062101. Brustkern's Woods, 1983061302.

Rubus allegheniensis Porter ex Bailey Blackberry. Common; moist to dry woods, woodland edges, roadsides.

Cedar Hills Sand Prairie, 1970, Crum 076, ISTC. Martinson's Dunes, 1982060113, 1983061001.

Rubus hispidus L. Dewberry. Rare; edge of moist sandy prairie swale.

Cedar Hills Sand Prairie, 1970, Crum 223, ISTC. Cedar Hills Sand Prairie, 1981, Lammers 4248, ISTC.

Found only in Black Hawk County in Iowa.

- \* Rubus idaeus L. Cultivated red raspberry. Rare escape from cultivation; waste ground, fencerows, woodland edges.

Cedar Falls, 1920, NCC, ISTC.

Rubus occidentalis L. Black raspberry. Common; upland woods, woodland edges, roadsides.

Highway 175 RR Prairie, 1983070306.



Rubus pubescens Raf. Dwarf blackberry. Rare; in slough, under  
Betula pumila var. glandulifera.

Ackerson's Marsh, 1983052411.

In Iowa, known only from Allamakee, Black Hawk, Clayton,  
Dubuque, and Winneshiek counties.

Spiraea alba Du Roi Meadow sweet. Common; low prairies, marshy  
ground.

Waterloo, 1893, Newton, ISTE. NLC, 1929, Burk 510, ISTE.  
33 88-14, 1963, Eilers 4349, IA. Cedar Hills Sand Prairie,  
1970, Crum 124, ISTE. Cedar Hills Sand Prairie, 1978, Lammers  
2111, ISTE. Bunchflower Meadow, 1980, Lammers 3599, ISTE.  
Bunchflower Meadow, 1982063006. Bailey's Lake, 1983063008.  
Ackerson's Marsh, 1983070123, 1983070126. Newgard's Pasture,  
1983080520.

Sighted also at Goose Lake.

#### RUBIACEAE (Madder Family)

Cephalanthus occidentalis L. Buttonbush. Rare; marshes,  
lakeshores, moist alluvium.

NLC, 1929, Burk 506, ISTE. Cedar Falls, NDC, Seerley, ISTE.  
George Wyth State Park, 1947, Schmidt 10, ISTE. George Wyth  
State Park, 1953, Hardin 1, ISTE.

Sighted also at Goose Lake.

Galium boreale L. {incl. var. intermedium DC.; var. hyssopifolium  
(Hoffm.) DC.} Northern bedstraw. Common; prairie remnants.

North of Washburn, 1921, Shimek, IA. NLC, 1929, Burk 344,  
ISTE. Goose Lake, 1938, Grant 8147, ISTE. 6 90-12, 1960,  
Barnett, ISTE. Bennington Township Cemetery, 1973, Chumbley,  
ISTE. Cedar Hills Sand Prairie, 1980, Lammers 3579, ISTE.  
Raymond Prairie, 1980, Lammers 3612, ISTE. Dunkerton Prairie,  
1981, Lammers 4199, ISTE. S SW SW 12 89-12, 1982060408.  
Raymond Prairie, 1982062325. Bennington Township Cemetery,  
1983061621.

Galium concinnum T. & G. Shining bedstraw. Rare; upland woods, moist wooded slopes.

NLC, 1929, Burk 784, 794, ISTC. 17 89-13, 1963, Eilers 4409, IA.

Galium obtusum Bigelow Bedstraw. Infrequent; moist prairie remnants, open alluvial woods and shores.

NLC, 1929, Burk 311, ISTC. Cedar Hills Sand Prairie, 1970, Crum 155, ISTC. Bunchflower Meadow, 1980, Lammers 3559, ISTC. Hussmann Access, 1982062006. Dorothy's Prairie, 1983061403.

Galium tinctorium L. [G. claytoni Michx.] [G. trifidum L. var. tinctorium (L.) T. & G.] Bedstraw. Rare; open marshy habitats.

NLC, 1929, Burk 845, ISTC. Cedar Hills Sand Prairie, 1970, Crum 136, ISTC. Ackerson's Marsh, 1982080717. Goose Lake, 1983082633.

Galium triflorum Michx. Sweet-scented bedstraw. Infrequent; open woods, moist wooded slopes, alluvial woods.

Cedar Falls, 1920, Ries, ISTC. Hartman Reserve Nature Center, 1963, Eilers 4395, IA. Fall's Access, 1982051718. Cedar Township RR Prairie, 1982060713. Dorothy's Prairie, 1983061404.

Houstonia minima Beck [Hedyotis crassifolia Raf.] Bluets. Rare; sandy or rocky lowland prairies.

NLC, 1929, Burk 238, ISTC. Beaver Creek, 1937, Grant 8007, ISTC. George Wyth State Park, 1941, McIlrath 14, ISTC. George Wyth State Park, 1974, Eilers, ISTC.



## RUTACEAE (Rue Family)

Zanthoxylum americanum P. Miller Prickly ash. Common; open upland woods, woodland openings, edges.

Waterloo, 1893, Newton, ISTE. NLC, 1929, Burk 568, ISTE. North of Cedar Falls, 1932, Shimek, IA. Casebeer Heights, 1937, Grant 8009, ISTE. 6 90-12, 1960, Barnett, ISTE. Cedar Hills Sand Prairie, 1970, Crum 142, ISTE. Hussmann Access, 1982062004. George Wyth State Park, 1982070312. Ackerson's Marsh, 1982080709.

## SALICACEAE (Willow Family)

Populus deltoides Bartram ex Marsh. Cottonwood. Common; moist habitats, usually on alluvium.

Cedar Falls, 1920, Jenson, ISTE. 33 90-14, 1970, Crum 27, ISTE. Black Hawk County Park, 34 90-14, 1980, Lammers 3593, ISTE.

Populus grandidentata Michx. Big-tooth aspen. Rare; moist to dry, usually upland woods.

Cedar Falls, 1901, Lambert, IA.

Populus tremuloides Michx. [P. tremula L. ssp. tremuloides (Michx.) Love & Love] Quaking aspen. Infrequent; open woods, moist prairies, woodland edges.

Cedar Falls, 1901, Lambert, IA. Cedar Falls, 1919, Hilton, ISTE. Cedar Hills Sand Prairie, 1970, Crum 057, ISTE. Cedar Hills Sand Prairie, 1979, Lammers 2885, ISTE. Myszka Prairie, 1980, Lammers 3458, ISTE. Ackerson's Marsh, 1983052408.

Salix amygdaloides Andersson Peach-leaved willow. Frequent; along streams.

Cedar Falls, 1901, Lambert, IA. NLC, 1929, Burk 273, ISTE. Black Hawk County Park, 34 90-14, 1963, Eilers 4269, 4279, 4286, IA. Cedar Hills Sand Prairie, 1970, Crum 033, ISTE.



- \* Salix babylonica L. Weeping willow. Cultivated; moist or sandy habitats near dwellings.

9 89-13, 1963, Eilers 4462, IA.

- Salix bebbiana Sarg. Beaked willow. Rare; moist ground.

Cedar Hills Sand Prairie, 1970, Crum 059, ISTC. Cedar Hills Sand Prairie, 1980, Lammers 3200, ISTC.

- Salix candida Fluegge ex Willd. Sage-leaved willow. Rare; edges of prairie swales, wet marshy areas around springs.

Cedar Hills Sand Prairie, 1970, Crum 039, ISTC. Cedar Hills Sand Prairie, 1980, Lammers 3800, ISTC. Steimel's Prairie, 1981, Lammers 4045, ISTC. Newgard's Pasture, 1982052717, 1983070110.

- Salix discolor Muhl. Pussy willow. Frequent; stream banks, low prairies, marsh edges.

NLC, 1929, Burk 725, ISTC. 6 90-12, 1960, Barnett, ISTC. Cedar Hills Sand Prairie, 1970, Crum 002, 003, ISTC. Cedar Hills Sand Prairie, 1980, Lammers 3199, ISTC. Bunchflower Meadow, 1980, Lammers 3601, ISTC. Steimel's Prairie, 1980, Lammers 3783, ISTC. Steimel's Prairie, 1981, Lammers 4046, ISTC. Newgard's Pasture, 1983061111.

- Salix exigua Nutt. ssp. interior (Rowlee) Cronq. [S. interior Rowlee] Sandbar willow. Common; streambanks, sandbars, alluvial bottoms.

Cedar Falls, 1901, Lambert, IA. Cedar Falls, 1919, Hilton, ISTC. NLC, 1929, Burk 707, ISTC. Beaver Creek, 1941, McIlrath 5, ISTC. 6 90-12, 1960, Barnett, ISTC. Cedar Hills Sand Prairie, 1970, Crum 037, ISTC. V-37 Prairie, 1982052607. Bunchflower Meadow, 1982070713.

- Salix humilis Marsh. {incl. var. hyporhysa Fern.; var. microphylla (Andersson) Fern.} [S. tristis Aiton] Prairie willow. Rare; prairie remnants.

Cedar Falls, 1897, Newton, ISTC. North of Washburn, 1921, Shimek, IA. NLC, 1929, Burk 677, ISTC. Goose Lake, 1937, Grant 8006, ISTC. Goose Lake, 1938, Grant 8143, ISTC.

Salix nigra Marsh. Black willow. Infrequent; streambanks, lake margins, alluvial woods.

NLC, 1929, Burk 272, ISTD. Black Hawk County Park, 34 90-14, 1963, Eilers 4294, IA.

Salix petiolaris Smith [S. gracilis Andersson var. textoris Fern.] Willow. Common; moist prairie remnants, marsh edges.

Goose Lake, 1937, Grant 8005, ISTD. Goose Lake, 1938, Grant 8144, ISTD. 6 90-12, 1960, Barnett, ISTD. Cedar Hills Sand Prairie, 1970, Crum 058, ISTD. Ackerson's Marsh, 1983052413. Bailey's Lake, 1983061102, 1983061104.

Salix rigida Muhl. {incl. var. angustata (Pursh) Fern.; var. watsonii (Bebb) Cronq.; var. vestita Andersson} [S. cordata Michx. var. angustata (Pursh) Gray] [S. cordata Michx. var. rigida (Muhl.) Carey] [S. eriocephala Michx.] Willow. Frequent; streambanks, wet lowlands, ditches.

NLC, 1929, Burk 563, 724, ISTD. Cedar Hills Sand Prairie, 1970, Crum 034, 035, 040, 041, ISTD. Steimel's Prairie, 1981, Lammers 4047, ISTD. Bailey's Lake, 1982062105, 1982081845. Fall's Access, 1982090909.

#### SANTALACEAE (Sandalwood Family)

Commandra umbellata (L.) Nutt. [C. richardsiana Fern.] Bastard toadflax. Common; prairie remnants, upland woodland openings.

NLC, 1929, Burk 299, ISTD. North of Cedar Falls, 1932, Shimek, IA. Cedar Hills Sand Prairie, 1970, Crum 051, ISTD. Cedar Hills Sand Prairie, 1980, Lammers 3328, ISTD. Dunkerton Prairie, 1981, Lammers 4092, ISTD. Raymond Prairie, 1982051408. Dorothy's Prairie, 1983060112.

Sida hibernica Nutt. ex T. & G. [Crucularia hibernica (Nutt.) Cov. & Sillton] Wild gooseberry. Common; woodland edges, open woods.

Waterloo, 1893, Newton, ISTD. Washington-Oriskany Bridge, 1933, Burk 591, ISTD. George Wyth State Park, 1941, Mallinck 12, ISTD. Brantner's Woods, 1983081301.



## SAXIFRAGACEAE (Saxifrage Family)

Heuchera richardsonii R. Br. {incl. var. hispidior Rosend., Butters & Lak.} [H. x hirsuticaulis (Wheelock) Rydb.] Alum root.  
Common; prairies, open rocky woods, limestone outcrops.

North of Washburn, 1921, Shimek, IA. NLC, 1929, Burk 499, ISTE. 27 89-11, 1953, Grant 11817, ISTE. 6 90-12, 1960, Barnett, ISTE. Cedar Hills Sand Prairie, 1970, Crum 141, ISTE. Cedar Hills Sand Prairie, 1980, Lammers 3494, ISTE. Raymond Prairie, 1980, Lammers 3515, ISTE. Dunkerton Prairie, 1981, Lammers 4198, ISTE. SW 12 89-12, 1982060402. Dorothy's Prairie, 1983060112.

Mitella diphylla L. Bishop's cap, Mitrewort. Frequent; wooded, rocky slopes.

Cedar Heights, 1953, Reynolds, ISTE.

Penthorum sedoides L. Ditch stonecrop. Common; marshes, shores, moist prairies and alluvium.

NLC, 1929, Burk 589, ISTE. NLC, 1949, Walder, ISTE. Cedar Heights, 1953, Grant 12078, ISTE. West of Waterloo, 1956, Cooper 11, ISTE. 17 89-13, 1963, Eilers 4433, IA. Cedar Hills Sand Prairie, 1970, Crum 202, 208, ISTE. Newgard's Pasture, 1982070109, 1983080513. Goose Lake, 1982081826, 1983082634. Fall's Access, 1983082310.

Ribes americanum P. Miller Wild black currant. Frequent; moist, open woods, lake and marsh edges.

Cedar River, 1941, McIlrath 19, ISTE. 9 89-13, 1963, Eilers 4461, IA. 2 89-14, 1970, Crum 017, ISTE. Bunchflower Meadow, 1980, Lammers 4003, ISTE. Bunchflower Meadow, 1981, Lammers 4096, ISTE. Lester Township RR Prairie, 1983070409.

Ribes missouriense Nutt. ex T. & G. [Grossularia missouriensis (Nutt.) Cov. & Britton] Wild gooseberry. Common; woodland edges, open woods.

Waterloo, 1893, Newton, ISTE. Washington-Union Bridge, 1929, Burk 691, ISTE. George Wyth State Park, 1941, McIlrath 12, ISTE. Brustkern's Woods, 1983081303.

Saxifraga pensylvanica L. Swamp saxifrage. Frequent; low prairies.

NLC, 1929, Burk 290, ISTC. Cedar Hills Sand Prairie, 1970, Crum 038, 062, ISTC. Cedar Hills Sand Prairie, 1980, Lammers 3332, ISTC. Steimel's Prairie, 1981, Lammers 4155, ISTC. Ackerson's Marsh, 1983052404. Leavitt Prairie, 1983060118. Newgard's Pasture, 1983061113.

SCROPHULARIACEAE (Figwort Family)

Agalinis aspera (Benth) Britton [Gerardia aspera Douglas]  
Infrequent; dry prairie remnants.

18 90-14, 1975, Roosa 715, ISTC.

Agalinis purpurea (L.) Pennell [Gerardia purpurea L.] Infrequent;  
moist open sand.

NLC, 1929, Burk 907, ISTC. Goose Lake, 1937, Grant 8099, ISTC. NW 19 90-14, 1970, Eilers 6581, ISTC. Goose Lake, 1980, Lammers 3879, ISTC. Newgard's Pasture, 1982082315. Also sighted at Martinson's Dunes and Goose Lake.

Agalinis tenuifolia (Vahl) Raf. {incl. var. macrophylla (Benth) Blake; var. parviflora (Nutt.) Pennell} [Gerardia tenuifolia Vahl] Infrequent; moist prairies, marshy ground.

Waterloo, 1893, Newton, ISTC. NLC, 1929, Burk 899, ISTC. SW NW 19 90-12, 1949, Grant 11302, ISTC. NW 19 90-14, 1970, Eilers 6580, ISTC. Bunchflower Meadow, 1980, Lammers 3888, ISTC. Newgard's Pasture, 1982082306. Goose Lake, 1983082603. Brustkern's Woods, 1983092125.

Bacopa rotundifolia (Michx.) Wettst. Water hyssop. Rare; shallow standing water and muddy shores.

Bailey's Lake, 1980, Lammers 3865, ISTC.

Besseyia bullii (Eaton) Rydb. [Synthesis bullii (Eaton) Heller] [Wulfenia bullii (Eaton) Barnh.] Kittentails. Rare; dry prairie ridges.

North of Cedar Falls, 1927, Lantz, ISC. NLC, 1929, Burk 260, ISTC. North of Cedar Falls, 1931, Shimek, IA. Barnes Ferry Road Cemetery, 1982062016, 1983052012.



Castilleja coccinea (L.) Sprengel Indian paint brush. Rare; rocky prairies, prairie openings.

Cedar Falls, 1897, Newton, ISTC. NLC, 1929, Burk 488, 497, ISTC. Goose Lake, 1938, Grant 8135, ISTC.

- \* Chaenorrhinum minus (L.) Lange [Linaria minor (L.) Desf.] Dwarf snapdragon. Rare; dry sandy gravel, often along railroads.

Highway 175 RR Prairie, 1983081328.

Gratiola neglecta Torrey Hedge hyssop. Rare; moist prairie remnants.

Waterloo, 1893, Newton, ISTC. NLC, 1929, Burk 756, ISTC.

- \* Linaria vulgaris Hill Butter and eggs. Rare; roadsides, field and woodland edges, disturbed soil.

Cedar Falls, 1920, Wetherall, ISTC. NLC, 1929, Burk 509, ISTC. George Wyth State Park, 1947, Schmidt 7, ISTC. ISTC Golf Course, 1953, Hardin 4, ISTC. George Wyth State Park, 1953, Reynolds, ISTC. Waterloo, 1965, Gilbert 42, ISTC.

Lindernia anagallidea (Michx.) Pennell [L. dubia (L.) Pennell var. anagallidea (Michx.) Cooperrider] False pimpernel. Rare; marshes, sandy alluvium.

Newgard's Pasture, 1983080521.

Lindernia dubia (L.) Pennell False pimpernel. Rare; clear shallow pools, wet soil, streambanks.

Waterloo, NDC, Newton, ISTC.



Mimulus ringens L. {incl. var. minthodes (Greene) A. L. Grant}  
 Monkey flower. Common; muddy lakeshores, moist alluvial woods.

Waterloo, 1893, Newton, ISTD. NLC, 1929, Burk 583, ISTD. NLC, 1949, Classick, ISTD. Cedar Heights, 1953, Grant 12075, ISTD. George Wyth State Park, 1963, Eilers 4330, IA. 9 89-13, 1963, Eilers 4443, IA. Cedar Hills Sand Prairie, 1970, Crum 231, ISTD. Bailey's Lake, 1980, Lammers 3861, ISTD. Bunchflower Meadow, 1980, Lammers 3887, ISTD. Martinson's Dunes, 1982072512. Goose Lake, 1982081813. Bailey's Lake, 1982081856.

Also sighted at Fall's Access and Newgard's Pasture.

Pedicularis canadensis L. {incl. var. dobbsii Fern.} Lousewort.  
 Frequent; prairie remnants, woodland openings.

NLC, 1929, Burk 291, ISTD. Goose Lake, 1938, Grant 8149, ISTD. Goose Lake, 1941, McIlrath 26, ISTD. 17 89-13, 1963, Eilers 4396, IA. Bennington Township Cemetery, 1974, Chumbley, ISTD. Bennington Township Cemetery, 1980, Lammers 3238, ISTD. Hartman Reserve Nature Center, 1980, Lammers 3265, ISTD. Leavitt Prairie, 1982060201.

Also sighted at Dorothy's Prairie.

Pedicularis lanceolata Michx. Swamp lousewort. Frequent; marshes, seeps, wet sand.

Waterloo, 1893, Newton, ISTD. NLC, 1929, Burk 908, ISTD. Steimel's Prairie, 1980, Lammers 3939, ISTD. Newgard's Pasture, 1983091407.

Penstemon grandiflorus Nutt. [P. bradburii Pursh] Large-flowered beard tongue. Rare; sandy soil.

NLC, 1929, Burk 491, ISTD. George Wyth State Park, 1963, Eilers 4330, IA. Cedar City Sand Prairie, 1980, Lammers 3630, ISTD. Martinson's Dunes, 1982060109, 1983061008.

Penstemon scutellata L. Marsh speedwell. Rare; marsh edges, prairie scales.

Goose Lake, 1938, Grant 8156, ISTD. Cedar Hills Sand Prairie, 1970, Crum 148, ISTD.

Scrophularia lanceolata Pursh Figwort. Frequent; dry prairie remnants, openings in upland woods.

North of Washburn, 1921, Shimek, IA. NLC, 1929, Burk 277, ISTC. Goose Lake, 1938, Grant 8130, ISTC. Cedar City Sand Prairie, 1980, Lammers 3590, ISTC. Dargon's Marsh, 1982062214. Hussmann Access, 1983070318. Lester Township RR Prairie, 1983070406.

Also sighted at Cooper's Woods.

Scrophularia marilandica L. Figwort. Frequent; open woods, sandy roadsides.

Cedar Falls, 1920, Palmer, ISTC. NLC, 1929, Burk 820, ISTC. Cedar Heights, 1953, Grant 12093, ISTC. Black Hawk County Park, 34 90-14, 1963, Eilers 4263, IA. 17 89-13, 1963, Eilers 4424, IA.

Tomanthera auriculata (Michx) Raf. [Gerardia auriculata Michx.] Rare; moist prairie remnants.

Dunkerton, 1896, Newton, ISTC. 19 90-12, 1949, Grant 11301, ISTC, IA.

\* Verbascum thapsus L. Common mullein. Common; pastures, roadsides, waste places.

NLC, 1929, Burk 783, ISTC. Newgard's Pasture, 1982070105.

Veronica peregrina L. {incl. var. xalapensis (HBK.) St. John & Warren} Speedwell. Infrequent; roadsides, lawns, yards, sandy alluvium.

NLC, 1929, Burk 491, ISTC. George Wyth State Park, 1982060204. Dorothy's Prairie, 1983060120.

Veronica scutellata L. Marsh speedwell. Rare; marsh edges, prairie swales.

Goose Lake, 1938, Grant 8156, ISTC. Cedar Hills Sand Prairie, 1970, Crum 148, ISTC.



Veronicastrum virginicum (L.) Farw. Culver's root. Common; moist prairies, moist open upland woods, woodland borders.

North of Washburn, 1921, Shimek, IA. NLC, 1929, Burk 637, ISTC. Goose Lake, 1953, Hardin 23, ISTC. Cedar Hills Sand Prairie, 1970, Crum 178, ISTC. Cedar Hills Sand Prairie, 1978, Lammers 2113, ISTC. Raymond Prairie, 1980, Lammers 3743, ISTC. Steimel's Prairie, 1980, Lammers 3790, ISTC. NW NW 20 90-14, 1982072537.

Also sighted at Frost Prairie and Dorothy's Prairie.

#### SOLANACEAE (Nightshade Family)

Physalis heterophylla Nees Ground cherry. Frequent; disturbed prairies, roadsides, sandy open habitats.

NLC, 1929, Burk 940, ISTC. Between Cedar Falls and Waterloo, 1930, Shimek, IA. 17 89-13, 1963, Eilers 4420, ISTC. ISTC Campus, 1965, Gilbert 38, ISTC. Cedar Hills Sand Prairie, 1970, Crum 138, ISTC. Bailey's Lake, 1982081854. Dorothy's Prairie, 1983070119.

Physalis virginiana P. Miller [P. longifolia Nutt.] [P. subglabrata Mack. & Bush] [P. lanceolata, misapplied] Ground cherry. Frequent; prairie remnants, disturbed sandy soil.

Waterloo, 1894, Newton, ISTC. Cedar Falls, 1920, Thorp, ISTC. Elk Run, 1921, Shimek, IA. NLC, 1929, Burk 354, 576, ISTC. Black Hawk County Park, 34 90-14, 1963, Eilers 4292, IA. 10 87-12, 1963, Eilers 4576, IA. ISTC Campus, 1965, Gilbert 31, ISTC. Cedar Hills Sand Prairie, 1970, Crum 072, ISTC. Myszka Prairie, 1980, Lammers 3571, ISTC. Raymond Prairie, 1982062307. Bunchflower Meadow, 1982091603, 1983100414. NW 1 90-13, 1983080315.

Solanum americanum P. Miller [S. nigrum L., misappl.] Black nightshade. Common; roadsides, fields, waste places.

Cedar Falls, 1920, Thorp, ISTC. NLC, 1929, Burk 829, ISTC. ISTC Campus, 1965, Gilbert 12, ISTC. Cedar Falls, 1965, Grant 14967, ISTC.

Solanum carolinense L. Horse nettle. Infrequent; fields, roadsides, along railroads, waste ground.

MLC, 1929, Burk 826, ISTC. George Wyth State Park, 1947, Schmidt 9, ISTC. George Wyth State Park, 1953, Reynolds, ISTC. George Wyth State Park, 1956, Cooper 6, ISTC. Black Hawk County Park, 34 90-14, 1963, Eilers 4259, IA. ISTC Campus, 1965, Gilbert 29, ISTC. Cedar Hills Sand Prairie, 1970, Crum 197, ISTC. George Wyth State Park, 1982070802. Martinson's Dunes, 1983080921.

\* Solanum rostratum Dunal [S. cornutum Lam.] Buffalo bur. Rare; farmyards, roadsides, disturbed soil.

MLC, 1929, Burk 951, ISTC.

Native of the western United States.

TILIACEAE (Linden Family)

Tilia americana L. {incl. var. neglecta (Spach) Fosberg} Basswood, American linden. Common; moist upland woods and slopes.

MLC, 1898, Page 12, ISTC. Along Cedar River, 1929, Burk 507, ISTC. North of Cedar Falls, 1932, Shimek, IA. 3 87-12, 1980, Lammers 3621, ISTC. Fall's Access, 1982061901.

ULMACEAE (Elm Family)

Celtis occidentalis L. {incl. var. pumila (Pursh) Gray; var. canina (Raf.) Sarg.} Hackberry. Common; moist woods, open disturbed soil.

MLC, 1929, Burk 425, ISTC. Cedar Falls, 1965, Gilbert 15, Cedar River, 1939, Grant 8388, ISTC. 6 90-12, 1960, Barnett, ISTC.

Sighted at Brustkern's Woods.

Ulmus americana L. American elm. Common; woods, especially alluvial flats.

Cedar Falls, 1901, Lambert, IA. Cedar Hills Sand Prairie, 1970, Crum 056, ISTC. Fall's Access, 1982051704.



- \* Ulmus pumila L. Siberian elm. Frequent; fencerows, successional fields.

Ackerson's Marsh, 1983052407. George Wyth State Park, 1983060303, 1983090802. Lester Township RR Prairie, 1983070408.

VALERIANACEAE (Valerian Family)

- Ulmus rubra Muhl. [U. fulva Michx.] Red elm, slippery elm. Frequent; wooded slopes and bluffs.

Cedar Falls, 1952, Grant 11789, ISTC. George Wyth State Park, 1963, Eilers 4340, IA. George Wyth State Park, 1982072422, 1982090202, 1983060302.

- Ulmus thomasii Sarg. Rock elm, cork elm. Infrequent; bases of moist wooded slopes.

Cedar Falls, 1926, Pammel, ISC. Black Hawk County Park, 34 90-14, 1963, Eilers 4264, IA. Hartman Reserve Nature Center, 1969, Eilers 6569, ISTC. George Wyth State Park, 1982090201.

MLC, 1929, Burk 582, ISTC. Goose Lake, 1937, Grant 8103, ISTC. Black Hawk County Park, 34 90-14, Eilers 4250, IA. Falls Access, 19830826

URTICACEAE (Nettle Family)

- Boehmeria cylindrica (L.) Sw. Bog hemp. Rare; marshes, alluvium, low woods, shorelines.

MLC, 1929, Burk 571, ISTC. Black Hawk County Park, 34 90-14, 1963, Eilers 4270, 4271, IA. Ackerson's Marsh, 1982080750.

- Laportea canadensis (L.) Wedd. Wood nettle. Common; moist alluvial woods.

MLC, 1929, Burk 625, ISTC. Cedar Falls, 1965, Gilbert 15, ISTC. Cooper's Woods, 1983081107.

- Pilea pumila (L.) Gray {incl. var. deamii (Lunell) Fern.} Clearweed. Infrequent; moist woods, streambanks, alluvium.

Cedar Heights, 1953, Grant 12068, ISTC. Hartman Reserve Nature Center, 1956, Cooper 3, ISTC. Black Hawk County Park, 34 90-14, 1963, Eilers 4267, IA. Brustkern's Woods, 1983081311.

Urtica dioica L. {incl. ssp. gracilis (Aiton) Selander} Stinging nettle. Common; moist alluvial woods, disturbed soil.

Ackerson's Marsh, 1982080749.

VALERIANACEAE (Valerian Family)

Valeriana edulis Nutt. ex T. & G. ssp. ciliata (T. & G.) F. G. Meyer [V. ciliata T. & G.] Valerian. Rare; prairies.

Cedar Falls, 1897, Newton, ISTD. NLC, 1929, Burk 274, ISTD.

VERBENACEAE (Vervain Family)

Phyla lanceolata (Michx.) Greene [Lippia lanceolata Michx.]

Frogfruit. Infrequent; marshes, pond and stream margins, alluvial woods.

NLC, 1929, Burk 582, ISTD. Goose Lake, 1937, Grant 8105, ISTD. Black Hawk County Park, 34 90-14, Eilers 4250, IA. Fall's Access, 1982082603, 1982090906.

Verbena bracteata Lag. & Rodr. Vervain. Rare; farmyards, along railroads, roadsides.

Cedar Falls, 1920, Wetherall, ISTD. ISTD Campus, 1929, Burk 542a, ISTD. Between Cedar Falls and Waterloo, 1930, Shimek, IA. 27 88-14, 1963, Eilers 4378, IA. ISTD Campus, 1965, Gilbert, ISTD. George Wyth State Park, 1982070814.

Verbena hastata L. Blue vervain. Common; marshes, moist prairies, streambanks.

North of Washburn, 1921, Shimek, IA. NLC, 1929, Burk 542, ISTD. George Wyth State Park, 1953, Grant 12008b, ISTD. 9 89-13, 1963, Eilers 4477, IA. Cedar Falls, 1965, Gilbert 27, ISTD. Cedar Hills Sand Prairie, 1970, Crum 190, ISTD. Bunchflower Meadow, 1980, Lammers 3747, ISTD. Steimel's Prairie, 1980, Lammers 3796, ISTD. Ackerson's Marsh, 1982071713, 1982071724. Frost Prairie, 1983070435. NW 1 90-13, 1983080313.



Verbena simplex Lehm. [V. angustifolia Michx.] Vervain. Frequent; dry, often sandy soil.

North of Cedar Falls, 1926, Shimek, IA. NLC, 1929, Burk 594, ISTC. George Wyth State Park, 1963, Eilers 4305, IA, ISTC. Fall's Access, 1965, Gilbert 7, ISTC. SE 33 87-11, 1981, Lammers 4477, ISTC. Cooper's Woods, 1982060304. George Wyth State Park, 1982060725, 1982070302, 1982070812. Ackerson's Marsh, 1983081133.

Verbena stricta Vent. Hoary vervain. Common; dry prairies, roadsides, dry pastures.

Cedar Falls, 1919, Ries, ISTC. Cedar Falls, 1919, Hilton, ISTC. NLC, 1929, Burk 828, ISTC. Between Waterloo and Cedar Falls, 1930, Shimek, IA. George Wyth State Park, 1953, Grant 12005, ISTC. George Wyth State Park, 1953, Hardin 9, ISTC. 9 89-13, 1963, Eilers 4465, IA. Cedar Hills Sand Prairie, 1970, Crum 151, ISTC. Myszka Prairie, 1980, Lammers 3624, ISTC. Cedar City Sand Prairie, 1982062404. George Wyth State Park, 1982070301, 1982070313, 1982072409. Cedar Township RR Prairie, 1982072439. Bailey's Lake, 1983063014. SW NE 26 88-11, 1983070207. Illinois Central & Gulf RR Prairie, 1983070421.

Verbena urticifolia L. White vervain. Rare; openings in woods, streambanks, low woods.

Cedar Falls, 1919, Hilton, ISTC. NLC, 1929, Burk 591, ISTC. George Wyth State Park, 1953, Reynolds, ISTC. George Wyth State Park, 1983090805.

Verbena x blanchardii Moldenke [V. hastata x V. simplex] Vervain. Rare;

George Wyth State Park, 1953, Grant 12008a, ISTC.

Verbena x Moechina Moldenke [V. simplex x V. stricta] Vervain. Rare; prairie openings, dry pasture.

Elk Run, 1921, Shimek, IA. Between Cedar Falls and Waterloo, 1930, Shimek, IA. SE 11 87-33, 1981, Lammers 4478, ISTC. V-37 Prairie, 1982072470.

Verbena x Rydbergii Moldenke [V. hastata x V. stricta] Vervain.  
Rare; moist or sandy areas, dry sandy prairie.

Cedar Hills Sand Prairie, 1970, Crum 177, ISTD. Cedar City  
Sand Prairie, 1980, Lammers 3633, ISTD.

VIOLACEAE (Violet Family)

Viola lanceolata L. Lance-leaved violet. Rare; moist sandy areas.

Cedar Hills Sand Prairie, 1978, Eilers 7234, ISTD. Cedar Hills  
Sand Prairie, 1980, Lammers 3330, ISTD. Martinson's Dunes,  
1982060115, 1983061010.

Viola macloskeyi Lloyd ssp. pallens (Banks ex DC.) M. S. Baker [V.  
pallens (Banks ex DC.) Brainerd] Wild white violet. Rare; wet  
sandy areas.

Ackerson's Marsh, 1983052403.

Viola missouriensis Greene Violet; Infrequent; moist, often sandy,  
alluvial woods.

MLC, 1898, Page 25, ISTD. Cedar Falls, 1920, Ries, ISTD. ISTD  
Campus, 1980, Lammers 3237, ISTD. NW 21 89-11, 1982052408.

Sighted at Raymond Prairie.

Viola nephrophylla Greene Bog violet. Rare; low prairies, marshes.

MLC, 1929, Burk 307, 484, ISTD. Cedar Hills Sand Prairie,  
1980, Lammers, 3331, ISTD. Steimel's Prairie, 1981, Lammers  
4156, ISTD.

Viola papilionacea Pursh {incl. var. priceana (Pollard) Alex.} [V.  
pratincta Greene] [V. priceana Pollard of authors] Common  
blue violet. Common; moist woods, roadsides, waste places.

Cedar Falls, 1920, Ries, ISTD. Cedar River, 1956, Cooper 21,  
ISTD. 6 90-12, 1960, Barnett, ISTD. Black Hawk County Park,  
34 90-14, 1963, Eilers 4252, IA. Cedar Hills Sand Prairie,  
1970, Crum 018, ISTD. Illinois Central RR, 1970, Green 131,  
ISTD. Cedar Falls, 1980, Lammers 3226, ISTD.



Viola pedata L. {incl. var. lineariloba DC.} Bird's-foot violet.  
Infrequent; prairie remnants.

ISTC Campus, 1884, Buckingham, ISTC. NLC, 1898, Page 24, ISTC. North of Waterloo, 1929, Shimek, IA. Cedar Hills Sand Prairie, 1970, Crum 020, ISTC. Cedar Hills Sand Prairie, 1974, Eilers, ISTC. Bennington Township Cemetery, 1974, Chumbley, ISTC. Raymond Prairie, 1980, Lammers 3323, ISTC. Cedar Hills Sand Prairie, 1980, Lammers 3325, ISTC. Brustkern's Woods, 1982051437.

VITACEAE (Grape Family)

Viola pedatifida G. Don Prairie violet. Frequent; prairie remnants, dry, rocky ridges.

NLC, 1898, Page 17, ISTC. Cedar Hills Sand Prairie, 1970, Crum 044, ISTC. Cedar Hills Sand Prairie, 1972, Crum 050, ISTC. Bennington Township Cemetery, 1974, Chumbley, ISTC. Cedar Hills Sand Prairie, 1980, Lammers 3326, ISTC. Myszka Prairie, 1980, Lammers 3461, ISTC. Cedar City Sand Prairie, 1981, Lammers 4082, ISTC. Fischels' Prairie, 1982051412. Cedar City Sand Prairie, 1982051616. Dorothy's Prairie, 1983060108, 1983060117.

Viola pubescens Aiton [V. eriocarpa Schwein] [V. pensylvanica Michx.] [V. pubescens Aiton var. eriocarpa (Schwein) Rusell] Downy yellow violet. Infrequent; moist wooded slopes and low sandy woods.

Cedar Falls, 1884, Buckingham, ISTC. ISTC Campus, 1885, NCC, ISTC. NLC, 1898, Page 26, ISTC. Cedar Falls, 1920, Ries, ISTC. Cedar Falls, 1920, NCC, ISTC. NLC, 1929, Burk 237, ISTC. George Wyth State Park, 1941, McIlrath 7, ISTC. Hartman Reserve Nature Center, 1941, Phelps 12, ISTC. Hartman Reserve Nature Center, 1969, Eilers 6565, ISTC. 13 89-13, 1970, Greene 135, ISTC. Hartman Reserve Nature Center, 1972, Kirchhoff, ISTC. Hartman Reserve Nature Center, 1980, Lammers 3221, ISTC. Brustkern's Woods, 1981, Lammers 4056, ISTC. Brustkern's Woods, 1982051423. SE SE 9 90-14, 1982060320.

Viola sagittata Aiton Arrow-leaved violet. Rare; moist low sandy areas and moist prairie remnants.

Goose Lake, 1937, Grant 8013, ISTC. Goose Lake, 1941, McIlrath 31, ISTC. Cedar Hills Sand Prairie, 1970, Crum 022, ISTC. Cedar Hills Sand Prairie, 1974, Eilers, ISTC. Cedar Hills Sand Prairie, 1980, Lammers 3327, ISTC. Dunkerton Prairie, 1981, Lammers 4090, ISTC.

Viola sororia Willd. Hairy blue violet. Frequent; alluvial woods, moist upland woods, woodland edges.

NLC, 1898, Page 16, ISTC. Cedar Falls, 1920, Ries, ISTC. Cedar Falls, 1920, Jenson, ISTC. Goose Lake, 1938, Grant 8139, ISTC. Cedar River, 1939, Grant, ISTC. George Wyth State Park, 1941, McIlrath, ISTC. Cedar Hills Sand Prairie, 1970, Crum 043, ISTC.

VITACEAE (Grape Family)

Parthenocissus quinquefolia (L.) Planchon Virginia creeper. Common; moist to dry woods and alluvial woods.

North of Cedar Falls, 1932, Shimek, IA. Cedar Hills Sand Prairie, 1970, Crum 030, ISTC. George Wyth State Park, 1982060738. Brustkern's Woods, 1983061313. Cooper's Woods, 1983081112.

Parthenocissus vitacea (Knerr) Hitchc. [P. inserta (Kerner) K. Fritsch] Woodbine. Frequent; wooded slopes, sandy areas and wooded borders.

Cedar Hills Sand Prairie, 1970, Crum 131, ISTC. Cedar Township RR Prairie, 1982060715.

Vitis riparia Michx. Riverbank grape. Common; woodland edges, along streams.

North of Cedar Falls, 1932, Shimek, IA. George Wyth State Park, 1963, Eilers 4337, IA. Bailey's Lake, 1983061105. N NW 3 90-13, 1983080311.

Vitis vulpina L. Frost grape. Rare; wooded bluffs.

NLC, 1929, Burk 275, ISTC. Cedar Hills Sand Prairie, 1970, Crum 029, 117, ISTC.



## DIVISION MAGNOLIOPHYTA

## CLASS LILIOPSIDA

## ALISMACEAE (Water Plantain Family)

Alisma plantago-aquatica L. var. parviflorum (Pursh) Torrey [A. parviflorum Pursh] [A. subcordatum Raf.] Water plantain. Frequent; shallow water marshes.

MLC, 1929, Burk 531, ISTC. George Wyth State Park, 1963, Eilers 4334, IA. Cedar Hills Sand Prairie, 1970, Crum 200, ISTC. Bailey's Lake, 1980, Lammers 3862, ISTC. Ackerson's Marsh, 1982080716.

Sagittaria brevirostra Mack. & Bush [S. engelmanniana J. G. Smith ssp. brevirostra (Mack. & Bush) Bogin] Arrowhead. Rare; muddy shores and shallow water, marshes.

MLC, 1929, Burk 535, 859, ISTC. George Wyth State Park, 1963, Eilers 4335, IA.

Sagittaria cuneata Sheldon Arrowhead. Rare; muddy shores and shallow water, marshes.

MLC, 1929, Burk 654, ISTC. Cedar Hills Sand Prairie, 1970, Crum 201, ISTC.

Sagittaria graminea Michx. Arrowhead. Rare; muddy shores and shallow water.

MLC, 1929, Burk 381, ISTC. Goose Lake, 1981, Lammers 4256, ISTC. Ackerson's Marsh, 1982071723.

Sagittaria latifolia Willd. Arrowhead. Frequent; muddy shores and shallow water, marshes.

MLC, 1929, Burk 596, ISTC. 9 89-13, 1963, Eilers 4439, IA. Steimel's Prairie, 1980, Lammers 3942, ISTC. Ackerson's Marsh, 1983081127. Martinson's Dunes, 1983080919.

Sagittaria rigida Pursh Arrowhead. Infrequent; muddy shores and shallow water, marshes.

Along Cedar River, 1929, Burk 615, ISTD. Cedar Hills Sand Prairie, 1970, Crum 220, ISTD. Crane Creek, SE NW 23 90-12, 1981, Lammers 4315, ISTD.

Martinson's Dunes, 1981080208.

ARACEAE (Arum Family)

Acorus calamus L. [A. americanus (Raf.) Raf.] Sweetflag.

Infrequent; marshes and shallow standing water, lake margins.

Goose Lake, 1938, Grant 8150, ISTD. Goose Lake, 1980, Lammers 3881, ISTD. Crane Creek, SE NW 29 90-12, 1981, Lammers 4314, ISTD.

Arisaema triphyllum (L.) Schott [A. atropurpureum (Aiton) Blume]

Jack-in-the-pulpit. Common; woods.

Cedar Falls, 1885, NCC, ISTD. NLC, 1898, Page, ISTD. Cedar Heights, 1920, Ries, ISTD.

COMMELINACEAE (Spiderwort Family)

Tradescantia bracteata Small Spiderwort. Rare; low, sandy open areas.

Cedar Falls, 1885, NCC, ISTD. NLC, 1929, Burk 382, ISTD. Beaver Creek, 1938, Grant 8127, ISTD. Cedar Hills Sand Prairie, 1970, Crum 101, ISTD. Fall's Access, 1982051711.

Tradescantia ohiensis Raf. Spiderwort. Common; sandy open places, roadsides and prairie remnants.

Elk Run, 1921, Shimek, IA. NLC, 1929, Burk 278, ISTD. Cedar Hills Sand Prairie, 1970, Crum 088, ISTD. East Waterloo Prairie, 1982052401. Cedar Township RR Prairie, 1982060712, 1983060709. Lester Township RR Prairie, 1983070405.



## CYPERACEAE (Sedge Family)

Bulbostylis capillaris (L.) C. B. Clarke [Stenophyllus capillaris (L.) Britton] Slender bulbostylis. Rare; dry, open sandy soil.

Martinson's Dunes, 1983080908.

Carex amphibola Steudel var. turgida Fern. [C. grisea Wahl.] Turgid sedge. Rare; sandy soil.

Cedar Township RR Prairie, 1982052606, 1982060719. Brustkern's Woods, 1983052303.

Carex annectens (Bickn.) Bickn. var. xanthocarpa (Bickn.) Wiegand [C. brachyglossa Mack.] Yellow-fruited sedge. Infrequent; moist areas, marsh edges, sandy areas.

Between Waterloo and Cedar Falls, 1930, Shimek, IA. Cedar Hills Sand Prairie, 1970, Crum 112, ISTC. Steimel's Prairie, 1981, Lammers 4250, ISTC. Highway 175 RR Prairie, 1982072482.

Carex atherodes Sprengel Awned sedge. Rare; marsh edges.

NLC, 1929, Burk 368, 492, ISTC. Cedar Hills Sand Prairie, 1970, Crum 154, ISTC.

Carex bicknellii Britton Bicknell's sedge. Rare; prairies, sandy alluvial floodplain.

Elk Run, 1921, Shimek, IA. Cedar Hills Sand Prairie, 1970, Crum 173, ISTC. Lester Township RR Prairie, 1983070407.

Carex blanda Dewey [C. laxiflora Lam. var. blanda (Dewey) Boott] Woodland sedge. Frequent; sandy woodland areas.

Brustkern's Woods, 1982051440. SW NE 27 88-14, 1982052507. George Wyth State Park, 1982060740.

Carex brevior (Dewey) Mack. ex Lunnell Few-headed straw sedge. Infrequent; sandy prairies, wet prairies.

George Wyth State Park, 1963, Eilers 4322, IA, ISTC. Steimel's Prairie, 1981, Lammers 4251, ISTC.

Carex buxbaumii Wahl. Buxbaum's sedge. Infrequent; mesic prairies, marsh edges.

Cedar Hills Sand Prairie, 1970, Crum 070, ISTD. Dunkerton Prairie, 1981, Lammers 4202, ISTD. Dorothy's Prairie, 1983061405.

Carex conjuncta Boott Soft fox sedge. Rare; sedge meadow, prairie swale.

Cedar Hills Sand Prairie, 1970, Crum 129, ISTD. V-37 Prairie, 1982052610.

Carex conoidea Willd. Field sedge. Rare; moist prairie, prairie swale.

Cedar Hills Sand Prairie, 1970, Crum 054, ISTD. Cedar Hills Sand Prairie, 1980, Lammers 3577, ISTD.

Carex davisii Schw. & Torrey Davis' sedge. Infrequent; alluvial woods.

Along Cedar River, 1929, Burk 821, ISTD. North of Cedar Falls, 1932, Shimek, IA. Fall's Access, 1982051702. George Wyth State Park, 1982060211. Hussman Access, 1982062007.

Carex gravida Bailey [C. lunelliana Mack.] Heavy sedge. Frequent; mesic to dry prairies, sandy areas, roadsides.

MLC, 1929, Burk 286, ISTD. Cedar Hills Sand Prairie, 1970, Crum 111, ISTD. Myszka Prairie, 1980, Lammers 3573, ISTD. Dunkerton Prairie, 1981, Lammers 4203, ISTD. N NE 2 88-14, 1982052503. George Wyth State Park, 1983061614. SW SW 18 90-14, 1983063024.

Carex grayi Carey Gray's sedge. Infrequent; alluvial woods, lakeshores.

MLC, 1929, Burk 837, ISTD. George Wyth State Park, 1963, Eilers 4324, IA. Fall's Access, 1965, Gilbert 2, ISTD. NE 27 88-14, 1980, Lammers 3606, ISTD. George Wyth State Park, 1982070807.

Carex haydenii Dewey Hayden's sedge. Rare; marsh edges.

Cedar Hills Sand Prairie, 1970, Crum 119, ISTD.



Carex hystericina Muhl. ex Willd. [C. hystericina Muhl. ex Willd. of authors] Porcupine sedge. Rare; marshy areas.

NLC, 1929, Burk 295, ISTD. 9 89-13, 1963, Eilers 4451, IA. Steimel's Prairie, 1980, Lammers 3802, ISTD. Steimel's Prairie, 1981, Lammers 4160, ISTD.

Carex interior Bailey Inland sedge. Infrequent; marshes, wet prairies, swales.

Cedar Hills Sand Prairie, 1970, Crum 078, ISTD. Steimel's Prairie, 1981, Lammers 4158, ISTD. Newgard's Pasture, 1982052707, 1983061116. Bailey's Lake, 1982062112.

Carex lacustris Willd. [C. riparia Curtis var. lacustris (Willd.) Kuek.] River-bank sedge. Rare; marshes and lake margins.

Cedar Hills Sand Prairie, 1970, Crum 048, ISTD. Cedar Hills Sand Prairie, 1980, Lammers 3576, ISTD. Bailey's Lake, 1983061101.

- \* Carex laeviconica Dewey [C. atherodes Sprengel var. longo-lanceolata (Dewey) Gilly] [C. trichocarpa Schkuhr var. deweyi Bailey] Smooth-sheathed awned sedge. Infrequent; marsh edges, sandy alluvial savannah areas.

Black Hawk County Park, NW 27 90-14, 1980, Lammers 3488, ISTD. W NE NE 1 88-14, 1980, Lammers 3604, ISTD. George Wyth State Park, 1983061611.

Carex lanuginosa Michx. [C. lasiocarpa Ehrh. var. latifolia (Boeckl.) Gilly] Woolly sedge. Frequent; mesic prairies, prairie swales, sedge meadow, wet roadside ditches.

NLC, 1929, Burk 296, 399, ISTD. Cedar Hills Sand Prairie, 1970, Crum 071, ISTD. Cedar Hills Sand Prairie, 1980, Lammers 3580, ISTD. Dunkerton Prairie, 1981, Lammers 4200, ISTD. NW SE 33 88-14, 1982052509. NW NW 7 87-14, 1982052513. V-37 Prairie, 1982052609. SW NW NW 36 88-11, 1983060712. Bailey's Lake, 1983061117.

Carex laxiculmis Schw. [C. x copulata (Bailey) Mack.] [C. digitalis Willd. var. copulata Bailey] Spreading sedge. Rare; sedge meadow.

NLC, 1929, Burk 276, ISTD.

- \* Carex leavenworthii Dewey Leavenworth's sedge. Rare; sandy alluvial floodplains.

Elk Run, 1921, Shimek, IA. Cedar Township RR Prairie, 1982060720. George Wyth State Park, 1983060307.

- Carex leptalea Wahl. Sedge. Rare; swale in sand prairie, marsh edge.

Cedar Hills Sand Prairie, 1970, Crum 163, ISTC. Ackerson's Marsh, 1983052406, 1985052001.

- Carex In Iowa, found only in Black Hawk County.

- Carex lupulina Muhl. ex Willd. Hop sedge. Rare; low moist areas.

NLC, 1912, NCC, ISTC. NLC, 1929, Burk 580, ISTC.

- Carex meadii Dewey [C. tetanica Schkuhr var. meadii (Dewey) Bailey] Mead's sedge. Infrequent; mesic prairie remnants.

Cedar Hills Sand Prairie, 1970, Crum 104, ISTC. Raymond Prairie, 1980, Lammers 3519, ISTC. Dunkerton Prairie, 1981, Lammers 4201, ISTC.

- Carex muhlenbergii Willd. {incl. var. inervis Boott} Muhlenberg's sedge. Infrequent; dry sandy prairies.

Between Waterloo and Cedar Falls, 1930, Shimek, IA. Cedar Hills Sand Prairie, 1970, Crum 077, ISTC. Newgard's Pasture, 1982052719. Martinson's Dunes, 1982060118, 1982072522. SW SW 18 90-14, 1983063022.

- Carex normalis Mack. Larger straw sedge. Frequent; mesic to moist prairies, sandy areas.

East Waterloo Prairie, 1982052404. NW NW 7 87-14, 1982052512. Cedar Township RR Prairie, 1982052603, 1982060714. Ackerson's Marsh, 1982071720. V-37 Prairie, 1982072467. Dorothy's Prairie, 1983061406.

- Carex stipata Nutt. ex Willd. [C. X stipata Nutt. ex Willd. cf. authors] 3rd-fruited sedge. Rare; marshes.

NLC, 1929, Burk 750, ISTC. Steinsel's Prairie, 1981, Lammers 4159, ISTC.



Carex pensylvanica Lam. Pennsylvania sedge. Frequent; upland woods and wooded slopes.

6 90-12, 1960, Barnett, ISTC. Hartman's Reserve, 1965, Heuer, ISTC. Hartman's Reserve, 1969, Eilers 6558, ISTC. Lester Township RR Prairie, 1982052426.

Carex projecta Mack. Necklace sedge. Rare; alluvial woods.

Between Waterloo and Cedar Falls, 1930, Shimek, IA.

Carex rosea Willd. [C. flaccidula Steud. in part] Stellate sedge. Rare; alluvial woods.

MLC, 1929, Burk 516, ISTC.

Carex sartwellii Dewey Sartwell's sedge. Rare; marsh edges.

Cedar Hills Sand Prairie, 1970, Crum 182, ISTC.

Carex scoparia Schkuhr ex Willd. Pointed broom sedge. Rare; marsh margins and alluvial woods.

MLC, 1929, Burk 750, 814, ISTC. Between Waterloo and Cedar Falls, 1930, Shimek, IA. Cedar Hills Sand Prairie, 1970, Crum 090, ISTC.

Carex sparganioides Muhl. ex Willd. Bur-reed sedge. Rare; moist alluvial woods.

George Wyth State Park, 1982070808.

Carex sprengelii Dewey ex Sprengel Sprengel's sedge. Infrequent; upland woods and thickets, alluvial woods.

Fall's Access, 1974, Eilers, ISTC. Brustkern's Woods, 1982051427, 1983052304. SE SE 9 90-14, 1982060326.

Carex stipata Muhl. ex Willd. [C. X stipata Muhl. ex Willd. of authors] Awl-fruited sedge. Rare; marshes.

MLC, 1929, Burk 358, ISTC. Steimel's Prairie, 1981, Lammers 4159, ISTC.

Carex stricta Lam. [C. strictior Dewey] Tussock sedge. Frequent; sedge meadows, swales, moist prairies, alluvial woodlands.

NLC, 1929, Burk 292, ISTD. Cedar Hills Sand Prairie, 1970, Crum 055, ISTD. W NE NE 1 88-14, 1980, Lammers 3605, ISTD. Fall's Access, 1982051701. N NE 2 88-14, 1982052502. NW SE 33 88-14, 1982052508. Cedar Hills Sand Prairie, 1982060105. Dorothy's Prairie, 1983060102, 1982061413. Martinson's Dunes, 1983061002.

Carex suberecta (Olney) Britton Prairie straw sedge. Infrequent; sandy prairies and alluvial terraces.

NLC, 1929, Burk 749, ISTD. Cedar Hills Sand Prairie, 1970, Crum 132, 173, 222, ISTD. Steimel's Prairie, 1981, Lammers 4252, ISTD. Cedar Township RR Prairie, 1982060706, 1982072438. George Wyth State Park, 1982060732, 1982072403, 1982072418. Newgard's Pasture, 1983061110.

Carex tribuloides Wahl. Blunt broom sedge. Rare; marshes and wet sandy areas.

NLC, 1929, Burk 549, ISTD. 27 88-14, 1963, Eilers 4366, IA. Bailey's Lake, 1982062111. Ackerson's Marsh, 1982071717.

Carex trichocarpa Schkuhr Hairy-fruited sedge. Rare; wet sands or marshes.

E E 28 90-14, 1982051710. Dargon's Marsh, 1982062203.

Carex vesicaria L. Inflated sedge. Rare; sandy marshes and alluvial floodplains.

Elk Run, 1921, Shimek, IA. NLC, 1929, Burk 492, ISTD. 33 88-14, 1963, Eilers 4354, IA. Cedar Hills Sand Prairie, 1970, Crum 049, ISTD.

Carex vulpinoidea Michx. Fox sedge. Infrequent; low moist ground and sandy alluvial floodplains, lake margins.

NLC, 1912, NCC, ISTD. Elk Run, 1921, Shimek, IA. NLC, 1929, Burk 397, 614, ISTD. George Wyth State Park, 1963, Eilers 4326, IA. 27 88-14, 1963, Eilers 4364, IA. Cedar Hills Sand Prairie, 1970, Crum 156, ISTD.



Cyperus aristatus Rottb. [C. inflexus Muhl.] Nut grass, umbrella sedge. Rare; river bank, sandy pond margins.

MLC, Burk 823, ISTC. Hartman's Reserve Nature Center, 1980, Lammers 3889, ISTC.

Cyperus esculentus L. Yellow nut grass. Rare; moist disturbed soil, alluvial woods.

MLC, 1929, Burk 611, ISTC. 6 90-12, Barnett, ISTC. Black Hawk County Park, 34 90-14, 1963, Eilers 4266, IA.

Cyperus filiculmis Vahl [C. bushii Britton] Fern flatsedge. Infrequent; dry sandy prairies.

MLC, 1929, Burk 736, ISTC. George Wyth State Park, 1963, Eilers 4318, IA. Cedar Hills Sand Prairie, 1970, Crum 228, ISTC. Cedar Hills Sand Prairie, 1975, Roosa 728, ISTC. Cedar Hills Sand Prairie, 1978, Lammers 2119, ISTC. Martinson's Dunes, 1981, Lammers 4405, ISTC. Martinson's Dunes, 1982072510.

Cyperus odoratus L. var. squarrosus (Britton) Gilly [C. ferruginescens Boeckl.] [C. speciosus Vahl] Coarse cyperus. Rare; moist or wet soil, sandy pond margin.

6 90-12, 1960, Barnett, ISTC. 17 89-13, 1963, Eilers 4431, IA.

Cyperus rivularis Kunth Brook flatsedge. Infrequent; moist, open sand, pond margins, marsh edges.

MLC, 1929, Burk 938, ISTC. Goose Lake, 1980, Lammers 3884, ISTC. Newgard's Pasture, 1982082304. Martinson's Dunes, 1983080911.

Cyperus schweinitzii Torrey Schweinitz's cyperus. Infrequent; sandy areas, dry prairies, roadsides.

MLC, 1929, Burk 610, ISTC. North of Cedar Falls, 1932, Shimek, IA. George Wyth State Park, 1963, Eilers 4308, IA. Myszka Prairie, 1980, Lammers 3737, ISTC. Cedar Township RR Prairie, 1982072456. Martinson's Dunes, 1982072531.

Cyperus strigosus L. Straw-colored cyperus. Frequent; moist, sandy shores, marshy places, and wet prairies.

NLC, 1929, Burk 937, ISTD. 6 90-12, 1960, Barnett, ISTD. George Wyth State Park, 1963, Eilers 4329, IA. 9 89-13, 1963, Eilers 4470, IA. Cedar Hills Sand Prairie, 1970, Crum 229, ISTD. Martinson's Dunes, 1982072521. Newgard's Pasture, 1983080501. Goose Lake, 1983082622.

Dulichium arundinaceum (L.) Britton Three-way sedge. Rare; marshes.

Cedar Hills Sand Prairie, 1970, Crum 066, 218, ISTD. Goose Lake, 1980, Lammers 3880, ISTD.

Eleocharis acicularis (L.) R. & S. Needle spike-rush. Rare; shallow water and margins of ponds and lakes.

NLC, 1929, Burk 374, ISTD. Hartman Reserve Nature Center, 1963, Eilers 4438, IA, ISTD.

Eleocharis compressa Sulliv. [E. elliptica Kunth] Spike-rush. Rare; moist, sandy areas.

Cedar Hills Sand Prairie, 1970, Crum 137, ISTD. Cedar Hills Sand Prairie, 1980, Lammers 3582, ISTD.

- \* Eleocharis erythropoda Steudel [E. calva Torrey, invalid name] [E. palustris (L.) R. & S. var. calva (Torrey) Gray] Red-footed spike-rush. Infrequent; seepage areas, marshes, lake margins.

NLC, 1929, Burk 373, 482, 746, ISTD. George Wyth State Park, 1963, Eilers 4332, IA. Cedar Hills Sand Prairie, 1970, Crum 134, ISTD. Newgard's Pasture, 1982052706. Martinson's Dunes, 1982060116. Bunchflower Meadow, 1982070711. Frost Prairie, 1983070416.

Eleocharis macrostachya Britton [E. palustris (L.) R. & S. var. australis Nees] Spike-rush. Rare; shallow water and marsh edges.

NLC, 1929, Burk 526, ISTD. 27 88-14, 1963, Eilers 4375, IA. Cedar Hills Sand Prairie, 1970, Crum 144, ISTD. Goose Lake, 1982081817.



Eleocharis obtusa (Willd.) Schultes Spike-rush. Rare; marshes at lake margins.

Bailey's Lake, 1980, Lammers 3864, ISTC.

Eleocharis tenuis (Willd.) Schultes {incl. var. verrucosa (Svenson) Svenson} [E. verrucosa (Svenson) Harmes] Spike-rush. Rare; prairies.

NLC, 1929, Burk 316, ISTC.

Eriophorum angustifolium Honck. [E. polystachyon L. in part] Tall cotton-grass. Rare; prairie swale.

Cedar Hills Sand Prairie, 1970, Crum 067, ISTC. Newgard's Pasture, 1982070112.

Hemicarpha micrantha (Vahl) Pax [Scirpus micranthus Vahl] Bulrush. Rare; stream banks and lakeshores.

Waterloo, 1893, Newton, ISTC.

Scirpus atrovirens Willd. Dark green bulrush. Common; wet prairies, lake margins, marshes.

NLC, 1929, Burk 367, 771, ISTC. George Wyth State Park, 1963, Eilers 4325, IA. 9 89-13, 1963, Eilers 4473, IA. Bunchflower Meadow, 1980, Lammers 3679, ISTC. Steimel's Prairie, 1980, Lammers 3801, ISTC. Bailey's Lake, 1982062122. Ackerson's Marsh, 1982071718. Highway 175 RR Prairie, 1982072483. V-37 Prairie, 1982072464. Frost Prairie, 1983070413.

Scirpus cyperinus (L.) Kunth {incl. var. brachypodus (Fern.) Gilly; var. rubricosus (Fern.) Gilly; var. laxus (Gray) Beetle} Woolgrass. Infrequent; sandy wetlands, prairie swales, and marshes.

NLC, 1929, Burk 681, ISTC. 33 88-14, 1963, Eilers 4353, IA. 27 88-14, 1963, Eilers 4368, IA. Cedar Hills Sand Prairie, 1970, Crum 230, ISTC. Ackerson's Marsh, 1982080720.

Scirpus fluviatilis (Torrey) Gray River bulrush. Rare; marshes.

NLC, 1929, Burk 309, ISTC. NE NW 7 90-13, 1981, Lammers 4261, ISTC.

Scirpus heterochaetus Chase Pale great bulrush. Rare; marshes.

ILC, 1929, Burk 310, ISTD. Cedar Hills Sand Prairie, 1970,  
Crum 100, ISTD. Cedar Hills Sand Prairie, 1982062801.  
Newgard's Pasture, 1983080528.

Scirpus pendulus Muhl. [S. lineatus Michx., misappl.] Bulrush.  
Rare; wet prairie.

ILC, 1929, Burk 336, ISTD.

Scirpus validus Vahl var. creber Fern. [S. tabernaemontanii K. C.  
Gmelin] Soft-stemmed bulrush. Infrequent; marshes.

ILC, 1929, Burk 515, ISTD. 9 89-13, 1963, Eilers 4482, IA.  
Ackerson's Marsh, 1982071721. Martinson's Dunes, 1982072532.

Scleria triglomerata Michx. Nut-rush. Rare; wet prairies and wet  
alluvium.

Elk Run, 1921, Shimek, IA. Cedar Hills Sand Prairie, 1970,  
Crum 089, ISTD.

#### DIOSCOREACEAE (Yam Family)

Dioscorea villosa L. Wild yam. Infrequent; upland forest.

Cedar Heights, 1953, Grant 12086, ISTD. Hartman's Reserve  
Nature Center, 1960, Brady 44, ISTD. Cooper's Woods,  
1982060306.

#### HYDROCHARITACEAE (Frog's-bit Family)

Elodea nuttallii (Planchon) St. John [Anacharis nuttallii Planchon]  
Water-weed. Rare; shallow standing water.

Black Hawk County Park, 34 90-14, 1963, Eilers 4287, IA. Black  
Hawk County Park, W NE NE 34 90-14, 1980, Lammers 3597, ISTD.  
River Birch Bottoms, 1981, Lammers 4372, ISTD.



## IRIDACEAE (Iris Family)

Iris shrevei Small [I. virginica L. var. shrevei (Small) E. Anderson] Blue flag. Frequent; shallow water of marshes, prairie swales.

Cedar Falls, 1885, NCC, ISTD. Cedar Falls, NDC, Trimble, ISTD. NLC, 1929, Burk 269, ISTD. Cedar Hills Sand Prairie, 1970, Crum 099, ISTD. Bunchflower Meadow, 1980, Lammers 3556, ISTD. Cedar Hills Sand Prairie, 1980, Lammers 3574, ISTD. Dargon's Marsh, 1982062207.

Sisyrinchium campestre Bickn. {incl. var. kansanum Bickn.} Blue-eyed grass. Common; moist to dry prairies.

NLC, 1898, Page 28, ISTD. NLC, 1929, Burk 261, 498, ISTD. North of Waterloo, 1929, Shimek, IA. Goose Lake, 1938, Grant 8132, ISTD. Goose Lake, 1941, Phelps 4, ISTD. Cedar Hills Sand Prairie, 1970, Crum 060, ISTD. Raymond Prairie, 1980, Lammers 3324, ISTD. Cedar City Sand Prairie, 1981, Lammers 4083, ISTD. Dunkerton Prairie, 1981, Lammers 4093, ISTD. Raymond Prairie, 1982051404. Cedar City Sand Prairie, 1982051615. Cedar Township RR Prairie, 1983052003. Dorothy's Prairie, 1983060110.

## JUNCACEAE (Rush Family)

Juncus canadensis J. Gay ex Laharpe Rush. Rare; moist sandy prairie.

NLC, 1929, Burk 742, ISTD. Bailey's Lake, 1980, Lammers 3872, ISTD.

Burk's collection had no mature fruit for positive identification, but it is most likely J. canadensis

Juncus dudleyi Wiegand [J. tenuis Willd. var. dudleyi (Wieg.) F. J. Harms] [J. tenuis Willd. var. uniflorus (Farw.) Farw.] Dudley's rush. Infrequent; sedge meadows, marshes, wet prairies.

NLC, 1929, Burk 298, 371, ISTD. Goose Lake, 1953, Harden 24, ISTD. 9 89-13, 1963, Eilers 4457, IA. Bunchflower Meadow, 1980, Lammers 3682, ISTD. Steimel's Prairie, 1981, Lammers 4253, ISTD. Newgard's Pasture, 1982070101. Frost Prairie, 1983070414.

Juncus greenii Oakes & Tuckerman Rush. Rare; moist sandy prairies.

Cedar Hills Sand Prairie, 1970, Crum 225, ISTC. Cedar Hills Sand Prairie, 1980, Lammers 3838, ISTC. Bailey's Lake, 1980, Lammers 3873, ISTC. Cedar Hills Sand Prairie, 1980, Van Norman, ISTC.

Juncus interior Wieg. Rush. Rare; moist prairies, sandy soil.

NLC, 1929, Burk 752, ISTC. Cedar Hills Sand Prairie, 1970, Crum 109, ISTC. Martinson's Dunes, 1982072507, 1982072523.

Juncus nodosus L. Rush. Rare; wet prairies.

NLC, 1929, Burk 550, 612, ISTC. 9 89-13, 1963, Eilers 4455, IA. Steimel's Prairie, 1980, Lammers 3792, ISTC.

Juncus tenuis Willd. Path rush. Infrequent; moist prairies, along woodland paths.

NLC, 1929, Burk 372, 398, 651, 753, ISTC. 17 89-13, 1963, Eilers 4436, IA. Cedar Hills Sand Prairie, 1970, Crum 227, ISTC. Martinson's Dunes, 1982072506. Brustkern's Woods, 1983061309. Dorothy's Prairie, 1983070115.

Juncus torreyi Cov. Rush. Rare; roadside ditches.

SW SW SW 10 87-12, 1982072463.

Juncus vaseyi Engelm. Rush. Rare; moist to mesic prairies.

Cedar Hills Sand Prairie, 1970, Crum 226, ISTC.

In Iowa, found only in Black Hawk County.

#### LEMNACEAE (Duckweed Family)

Lemna minor L. Duckweed. Common; ponds, stagnant water.

Goose Lake, 1938, Grant 8152, ISTC. North of Waterloo, 1956, Cooper 10, ISTC. Black Hawk County Park, 34 90-14, 1963, Eilers 4272, 4290, IA. Ackerson's Marsh, 1983052410. Bailey's Lake, 1983061118.



Lemna trisulca L. Star duckweed. Rare; lake margin, stagnant water.

NLC, 1929, Burk 616, ISTD. Goose Lake, 1938, Grant 8153, ISTD.

Spirodela polyrhiza (L.) Schleiden Greater duckweed. Frequent; stagnant water.

Goose Lake, 1938, Grant 8154, ISTD. Black Hawk County Park, 34 90-14, 1963, Eilers 4272, IA. Goose Lake, 1983082611.

Wolffia columbiana Karsten Watermeal. Rare; stagnant water.

Black Hawk County Park, 34 90-14, 1963, Eilers 4290, IA.

Wolffia punctata Griseb. Watermeal. Rare; stagnant water.

Black Hawk County Park, 34 90-14, 1963, Eilers 4272, IA.

#### LILIACEAE (Lily Family)

Allium canadense L. Wild onion. Frequent; prairie remnants, open woods.

Cedar Falls, 1892, Ries, ISTD. NLC, 1929, Burk 349, ISTD. Cooper's Woods, 1982060301.

Allium tricoccum Aiton Wild leek. Infrequent; moist wooded slopes, upland woods.

Cedar Heights, 1953, Hardin 10, ISTD. Hartman Reserve Nature Center, 1969, Eilers 6560A, ISTD. Hartman Reserve Nature Center, 1980, Lammers 3220, ISTD. Brustkern's Woods, 1981, Lammers 4052, ISTD. Brustkern's Woods, 1983052310, 1983070202.

Asparagus officinalis L. Garden asparagus. Common; roadsides, disturbed ground.

Cedar Falls, 1919, Hilton, ISTD. NLC, 1929, Burk 335, ISTD. Bunchflower Meadow, 1982063012.

Erythronium albidum Nutt. {incl. var. mesochoreum (Knerr) Rickett}  
[E. mesochoreum Knerr] Trout lily. Infrequent; moist  
woodlands.

NLC, 1898, Page, ISTC. NLC, 1929, Burk 214, ISTC. Hartman  
Reserve Nature Center, 1969, Eilers 6559, ISTC.

Hemerocallis fulva (L.) L. Day lily. Common; roadsides.

NW NW NW 36 90-12, 1982070717.

Hypoxis hirsuta (L.) Cov. Yellow stargrass. Frequent; prairie  
remnants, woodland openings.

Cedar Falls, 1884, Buckingham, ISTC. NLC, 1898, Page 29, ISTC.  
NLC, 1929, Burk 486, ISTC. Cedar Hills Sand Prairie, 1970,  
Crum 053, ISTC. Bennington Township Cemetery, 1973, Chumbley,  
ISTC. N NE 2 88-14, 1982052501. Newgard's Pasture,  
1982052713. Dorothy's Prairie, 1983060105.

Lilium michiganense Farw. [L. canadense L. ssp. michiganense  
(Farwell) Boivin & Cody] [L. superbum L. misappl.] Michigan  
lily. Frequent; wet moist prairies.

NLC, 1898, Page 2, ISTC. NLC, 1929, Burk 552, ISTC.  
S S 6 90-12, 1980, Lammers 3740, ISTC. Bunchflower Meadow,  
1980, Lammers 3750, ISTC. Lester Township RR Prairie, 1981,  
Lammers 4312, ISTC. Highway 175 RR Prairie, 1982072477.

Lilium philadelphicum L. var. andinum (Nutt.) Ker-Gawl. [L.  
umbellatum Pursh] Wood lily. Rare; moist prairies.

NLC, 1898, Page 3, ISTC. NLC, 1929, Burk 770, ISTC.

Melanthium virginicum L. [Veratrum virginicum (L.) Aiton f.]  
Bunchflower. Infrequent; moist prairies, prairie roadsides.

Cedar Falls, 1897, Newton, ISTC. North of Washburn, 1921,  
Shimek, IA, ISC. NLC, 1929, Burk 635, ISTC. Bunchflower  
Meadow, 1980, Lammers 3680, ISTC, IA, ISC. NE NE 25 90-12,  
1980, Lammers 3753, ISTC, ISC. NW NW NE 2 90-13, 1980, Lammers  
3803, ISTC, IA. SE SE 3 90-12, 1981, Lammers 4390, ISTC.  
Highway 175 RR Prairie, 1982072479.



- \* Ornithogalum umbellatum L. Star of Bethlehem. Rare; disturbed habitats, grassy roadsides.  
N SW 12 87-11, 1983060714.
- Polygonatum biflorum (Walter) Ell. [P. canaliculatum (Muhl.) Pursh, misappl.] [P. commutatum (Schultes f.) A. Dietr.] Solomon's seal. Common; upland woods, woodland borders, roadsides.  
Snag Creek Woods, 1929, Burk 343, ISTC. Cooper's Woods, 1983061311.
- Smilacina racemosa (L.) Desf. False Solomon's seal. Frequent; moist woodlands.  
Brustkern's Woods, 1983070203.
- Smilacina stellata (L.) Desf. False Solomon's seal. Common; moist woodlands, moist shaded areas in prairies.  
NLC, 1898, Page 21, ISTC. Cedar Falls, 1920, Ries, ISTC. NLC, 1929, Burk 250, ISTC. Cedar Hills Sand Prairie, 1970, Crum 063, ISTC. Hartman Reserve Nature Center, 1972, Kirchhoff, ISTC. Hartman Reserve Nature Center, 1980, Lammers 3264, ISTC. Brustkern's Woods, 1981, Lammers 4054, ISTC. Lester Township RR Prairie, 1982052416. Brustkern's Woods, 1983052305.  
SW SW 18 90-14, 1983063029.
- Smilax ecirrhata (Engelm. ex Kunth) S. Watson Carrion flower. Infrequent; moist woods.  
Hartman Reserve Nature Center, 1980, Lammers 3266, 3267, ISTC. E E 23 90-11, 1982060414. Brustkern's Woods, 1983052306.
- Smilax herbacea L. {incl. var. lasioneuron (Hooker) A. DC.} [S. lasioneuron Hooker] Carrion flower. Frequent; roadsides, woodlands, woodland borders.  
NLC, 1929, Burk 850, ISTC. Hartman Reserve Nature Center, 1941, McIlrath 21, ISTC. SE SE 9 90-14, 1982060324. S SW SW 12 89-12, 1982060407. SW NW NW 36 88-11, 1983060713. Cooper's Woods, 1983081111.

Smilax hispida Muhl. [S. rotundifolia L., misappl.] [S. tamnoides L. var. hispida (Muhl.) Fern.] Greenbrier. Frequent; alluvial woods, moist woods.

Cedar Heights, 1953, Grant 12076, ISTC. Cooper's Woods, 1982060305.

Trillium cernuum L. Nodding trillium. Infrequent; moist wooded slopes.

NLC, 1898, Page 4, ISTC. Brustkern's Woods, 1980, Lammers 3895, ISTC. Brustkern's Woods, 1981, Lammers 4051, ISTC. SE SE 9 90-14, 1982060319.

Trillium flexipes Raf. [T. declinatum (Gray) Gl.] [T. gleasoni Fern.] Nodding trillium. Rare; moist wooded slopes.

Cedar Falls, NDC, Ries, ISTC. Hartman Reserve Nature Center, 1974, Ib-kit Wong 1, ISTC. Hartman Reserve Nature Center, 1980, Lammers 3263, ISTC. Hartman Reserve Nature Center, 1983051607.

Uvularia grandiflora Small [U. perfoliata L., misappl.] Bellwort. Infrequent; moist upland woods, wooded slopes.

NLC, 1929, Burk 222, ISTC. Hartman Reserve Nature Center, 1941, McIlrath 22, ISTC. NLC, 1941, Phelps 15, ISTC. Hartman Reserve Nature Center, 1969, Heuer, ISTC. 2 89-14, 1970, Green 118, ISTC. Hartman Reserve Nature Center, 1972, Kirchhoff, ISTC.

Uvularia sessilifolia L. Sessile-leaved bellwort. Rare; moist upland woods.

Cedar Falls, 1898, Newton, ISTC. NLC, 1929, Burk 224, ISTC. Hartman Reserve Nature Center, 1973, Haman, ISTC. Hartman Reserve Nature Center, 1980, Lammers 3262, ISTC.

Zigadenus elegans Pursh [Z. elegans Pursh ssp. elegans] White camas. Rare; prairies.

NLC, 1929, Burk 384, ISTC.



## ORCHIDACEAE (Orchid Family)

Coeloglossum viride (L.) Hartman var. virescens (Muhl. ex Willd.)  
Luer [Habenaria bracteata (Muhl. ex Willd.) R. Br.] [Habenaria  
viridis (L.) R. Br. var. bracteata (Muhl. ex Willd.) Gray]  
Bracted orchid. Rare; upland woods.

Cooper's Woods, 1982, Watson, ISTC.

Cypripedium calceolus L. var. pubescens (Willd.) Correll [C.  
pubescens Willd.] Yellow lady's-slipper orchid. Rare; moist  
upland woods.

Cedar Falls, NDC, Webber, ISC. Cooper's Woods, 1982060501.

The Cooper's Woods collection is a photograph of the only plant  
found; photo taken by D. D. Smith. Sighted at Hartman Reserve  
Nature Center.

Cypripedium candidum Muhl. ex Willd. Small white lady's-slipper  
orchid. Rare; moist prairies, prairie swales.

Waterloo, NDC, Chamberlin, ISTC. Cedar Falls, 1897, Newton,  
ISTC. NLC, NDC, Webber, ISC.

Field identified by Zager in 1987 at one location.

Galearis spectabilis (L.) Raf. [Orchis spectabilis L.] Showy  
orchid. Infrequent; moist woods.

NLC, NDS, Webber, ISC. Hartman Reserve Nature Center, 1981,  
Lammers 3261, ISTC. Brustkern's Woods, 1981, Lammers 4050,  
ISTC. Brustkern's Woods, 1982051435.

Liparis loeselii (L.) L. C. Rich. Bog twayblade. Rare; wet  
habitats.

Raymond, NDS, Hitchcock, ISC.

- \* Platanthera praeclara Sheviak & Bowles [P. leucophaea (Nutt.) Lindley in part] [Habenaria leucophaea (Nutt.) Gray] Western prairie fringed orchid. Rare; wet prairies and prairie swales.

Cedar Falls, 1929, Burk 590, ISTC. Bannington Township, 1929, Cedar Falls, 1894, Carver, ISC. Mt. Vernon Township, 1929, Burk, ILL.

The Burk collection is at the University of Illinois, Urbana.

- Spiranthes cernua (L.) L. C. Rich. Nodding ladies tresses. Infrequent; moist prairies.

9 89-13, 1952, Grant 11774, ISTC. 6 90-12, Barnett, ISTC. Bailey's Lake, 1982081847. Goose Lake, 1983082629.

#### POACEAE (Grass Family)

- \* Agropyron repens (L.) Beauv. Quack grass. Common; dry, disturbed soil.

Dry Run Creek, west of Hudson, 1955, Pierson, ISTC. Waterloo, 1965, Gilbert 10, ISTC. Raymond Prairie, 1982062312, 1982062314.

- Agropyron smithii Rydb. Wheatgrass. Frequent; prairie remnants, open sandy areas.

Mt. Vernon Township, 1929, Burk 774, ISTC. Between Waterloo and Cedar Falls, 1930, Shimek, IA. 1/4 mile north of U.S. Highway 20 on Butler County Line Road, 1955, Pierson, ISTC. Cedar City Sand Prairie, 1982062405. George Wyth State Park, 1982072487. Highway 175 RR Prairie, 1983070323.

- Agropyron trachycaulum (Link) Malte {incl. var. unilaterale (Vasey) Malte} [A. caninum (L.) Beauv.] [A. subsecundum (Link) Hitchc.] Slender wheatgrass. Rare; openings in woods, prairies, along railroads.

Washburn, 1921, Shimek, IA. George Wyth State Park, 1955, Pierson, ISTC. Illinois Central & Gulf RR Prairie, 1983070429.

- \* Avena sativa L. Cultivated oats. Rare; field edges, disturbed ground.

M.C., 1912, M.C., ISTC. Cedar Falls, 1947, Schmidt F. J.P.S.



- \* Agrostis gigantea Roth [A. alba L., misappl.] [A. stolonifera L. var. major (Gaudin) Farw.] Redtop. Common; roadsides, prairies, marsh edges, disturbed areas.

Cedar Falls, 1929, Burk 390, ISTC. Bennington Township, 1929, Burk 813, ISTC. Washington Union Bridge, 1929, Burk 835, ISTC. 27 88-14, 1963, Eilers 4377, IA. 9 89-13, 1963, Eilers 4456, IA. Cedar Hills Sand Prairie, 1970, Crum 160, ISTC. Ackerson's Marsh, 1982071726, 1982071727. Martinson's Dunes, 1982072508.

- Agrostis hyemalis (Walter) BSP. Ticklegrass. Rare; sandy open areas.

Elk Run, 1921, Shimek, IA. Cedar Falls, 1929, Burk 285, ISTC. NLC, 1929, Burk 758, ISTC. Between Waterloo and Cedar Falls, 1930, Shimek, IA.

- Agrostis perennans (Walter) Tuckerman [A. schweinitzii Trin.] Upland bent. Rare; open woods.

Cedar Heights, 1929, Burk 652, ISTC. 1/2 mile west of U.S. Highway 63 and junction of IA Highway 57, 1955, Pierson, ISTC.

- Alopecurus aequalis Sobol. Foxtail. Rare; edge of spring.

Cedar Hills Sand Prairie, 1970, Crum 135, ISTC.

- Andropogon gerardii Vitman [A. furcatus Muhl.] Big bluestem. Common; prairie remnants, roadsides.

NLC, 1912, NCC, ISTC. NLC, 1929, Burk 679, ISTC. North of Waterloo, 1955, Pierson, ISTC. 6 90-12, 1960, Barnett, ISTC. Cedar Hills Sand Prairie, 1979, Lammers 3040, ISTC. Cedar Hills Sand Prairie, 1980, Lammers 3897, ISTC.

- Aristida oligantha Michx. Three-awned grass. Rare; dry prairie remnants.

Raymond Prairie, 1980, Lammers 3983, ISTC.

- \* Avena sativa L. Cultivated oats. Rare; field edges, disturbed ground.

NLC, 1912, NCC, ISTC. Cedar Falls, 1947, Schmidt 2, ISTC.

Bouteloua curtipendula (Michx.) Torrey Side-oats grama. Frequent; dry sandy prairies.

North of Washburn, 1921, Shimek, IA. Island Park, 1929, Burk 592, ISTC. Raymond Prairie, 1980, Lammers 3745, ISTC.

Bouteloua hirsuta Lag. Hairy grama. Infrequent; sand dunes, sandy prairies.

Snag Creek, 1929, Burk 684, ISTC. Cedar Hills Sand Prairie, 1978, Lammers 2118, ISTC. SE SE 15 90-14, 1980, Lammers 3826, ISTC. Martinson's Dunes, 1981, Lammers 4406, ISTC.

Bromus inermis Leysser Smooth brome. Common; roadsides, disturbed areas.

NLC, 1929, Burk 356, ISTC. North of Cedar Falls, 1932, Shimek, IA. Snag Creek, 1955, Pierson, ISTC. Cedar Hills Sand Prairie, 1970, Crum 107, ISTC. George Wyth State Park, 1982072404, 1982072419.

Bromus japonicus Thunb. ex Murray Japanese brome. Frequent; roadsides, disturbed areas.

Cedar Falls, 1939, Grant 8419, ISTC. 17 89-13, 1963, Eilers 4430, IA. Fall's Access, 1982061904. Cedar Township RR Prairie, 1982062904. George Wyth State Park, 1982072425.

Bromus latiglumis (Shear) A. S. Hitchc. [B. altissimus Pursh] [B. purgans L., misappl.] Brome grass. Rare; low prairies.

Mt. Vernon Township, 1929, Burk 722, ISTC.

Bromus pubescens Muhl. ex Willd. [B. purgans L., misappl.] Canada brome. Rare; upland woods.

Cedar Heights, 1929, Burk 630, ISTC. Hartman Reserve Nature Center, 1963, Eilers 4399, IA.

NLC, 1929, Burk 331, ISTC. Cedar Hills Sand Prairie, 1970, Crum 108, ISTC. East Waterloo Prairie, 1982052405. SW NE 27 34-14, 1982052404.



- \* Bromus tectorum L. Downy chess. Frequent; roadsides, waste places, along railroad tracks.

Elk Run, 1921, Shimek, IA. Mt. Vernon Township, 1929, Burk 302, ISTD. Dargon's Marsh, 1982051512. Cedar City Sand Prairie, 1982051609. Lester Township RR Prairie 1982052423. Cedar Township RR Prairie, 1982052604. SE SW 12 90-14, 1982052721.

- Calamagrostis canadensis (Michx.) Beauv. Bluejoint. Frequent; wet prairies and shallow marshes.

NLC, 1929, Burk 747, 755, ISTD. Cedar Hills Sand Prairie, 1970, Crum 121, ISTD. Dargon's Marsh, 1982062206. Newgard's Pasture, 1982070127. Ackerson's Marsh, 1982071727.

- Calamovilfa longifolia (Hooker) Scribner Sand reed-grass. Rare; dry, sandy prairie.

Cedar Hills Sand Prairie, 1970, Crum 224, ISTD. Cedar Hills Sand Prairie, 1975, Roosa 718, ISTD. Cedar Hills Sand Prairie, 1980, Lammers 3837, ISTD.

- Cenchrus longispinus (Hackel) Fern. [C. pauciflorus Bentham, *Festuca* misappl.] Sandbur. Frequent; roadsides, disturbed sandy soil.

Waterloo, 1893, Newton, ISTD. Island Park, 1929, Burk 593, ISTD. George Wyth State Park, 1953, Grant 12006, ISTD. Bremer-Black Hawk County Line, one mile east of Finchford, 1955, Pierson, ISTD. Cedar Hills Sand Prairie, 1970, Crum 217, ISTD. Cedar Township RR Prairie, 1982072444. Martinson's Dunes, 1982072516.

- Cinna arundinacea L. Wood reed. Rare; upland woods.

Hartman Reserve Nature Center, 1963, Eilers 4390, IA.

- Dactylis glomerata L. Orchard grass. Common; fields, lawns, roadsides, waste places.

NLC, 1929, Burk 331, ISTD. Cedar Hills Sand Prairie, 1970, Crum 108, ISTD. East Waterloo Prairie, 1982052405. SW NE 27 88-14, 1982052504.

Diarrhena americana Beauv. var. obovata Gl. Rare; moist woods.

Cedar Heights, 1929, Burk 629, ISTC. Cooper's Woods,  
1983081108.

Dichanthelium acuminatum (Sw.) Gould & Clark var. implicatum  
(Scribner) Gould & Clark [Panicum implicatum Scribner]  
[Panicum lanuginosum Ell. var. implicatum (Scribner) Fern.]  
[Panicum meridionale Ashe] Panic grass. Infrequent; open  
sandy woods and prairies.

Bennington Township, 1929, Burk 400, ISTC. ISTC Campus, 1955,  
Pierson, ISTC. Cedar Hills Sand Prairie, 1970, Crum 161, ISTC.  
Myszka Prairie, 1980, Lammers 3491, ISTC. Cedar Hills Sand  
Prairie, 1980, Lammers 3583, ISTC. Dorothy's Prairie,  
1983070114.

Dichanthelium acuminatum (Sw.) Gould & Clark var. villosum (Gray)  
Gould & Clark [Panicum praecocius A. S. Hitchc. & Chase]  
Panic grass. Rare; upland prairies.

Bunchflower Meadow, 1982063014.

Dichanthelium boreale (Nash) Freckm. [Panicum boreale Nash] Panic  
grass. Rare; edge of prairie swale.

Cedar Hills Sand Prairie, 1981, Lammers 4249, ISTC.

Dichanthelium depauperatum (Muhl.) Gould [Panicum depauperatum  
Muhl.] Panic grass. Rare; sandy prairies.

Cedar City Sand Prairie, 1980, Lammers 3585, ISTC. Fischels'  
Prairie, 1981, Lammers 4255, ISTC.

Dichanthelium linearifolium (Scribner) Gould [Panicum perlongum  
Nash] [Panicum linearifolium Scribner] Slim-leaved panic  
grass. Rare; upland prairie on limestone outcrop.

Raymond Prairie, 1980, Lammers 3522, ISTC.

Dichanthelium oligosanthos (Schultes) Gould [Panicum oligosanthos  
Schultes] Panic grass. Rare; sandy alluvial flat.

North of Cedar Falls, 1932, Shimek, IA.



Dichanthelium oligosanthos (Schultes) Gould var. scribnerianum (Nash) Gould [Panicum helleri Nash] [Panicum oligosanthos Schultes var. helleri (Nash) Fern.] [Panicum oligosanthos Schultes var. scribnerianum (Nash) Fern.] [Panicum scribnerianum Nash] Panic grass. Frequent; dry prairies, sandy areas.

NLC, 1929, Burk 315, ISTD. Myszka Prairie, 1980, Lammers 3464, ISTD. Raymond Prairie, 1980, Lammers 3521, ISTD. Dunkerton Prairie, 1981, Lammers 4204, ISTD. Cedar Township RR Prairie, 1982060701. George Wyth State Park, 1982060733, 1982070806. Fall's Access, 1982061905. Raymond Prairie, 1982062310. Martinson's Dunes, 1982072504. Goose Lake, 1983082631.

- \* Digitaria ischaemum (Schreb. ex Schweig.) Schreber ex Muhl. [D. humifusa Pers.] Smooth crabgrass. Frequent; lawns, yards, disturbed soil.

Waterloo, 1965, Gilbert 59, ISTD.

- \* Digitaria sanguinalis (L.) Scop. Common crabgrass. Common; lawns, yards, disturbed soil.

NLC, 1929, Burk 853, ISTD. Cedar Falls, 1938, Grant 8375, ISTD. Snag Creek, 1955, Pierson, ISTD. George Wyth State Park, 1963, Eilers 4296, IA. 33 88-14, 1963, Eilers 4362, IA.

- \* Echinochloa crusgalli (L.) Beauv. Barnyard grass. Common; moist disturbed soil, fields, marshes.

NLC, 1929, Burk 558, ISTD. 17 89-13, 1963, Eilers 4429, IA. Waterloo, 1965, Gilbert 58, ISTD. V-37 Prairie, 1982072469. Goose Lake, 1982081827. Fall's Access, 1982082605.

Echinochloa muricata (Beauv.) Fern. {incl. var. microstachya Wieg.} [E. pungens (Poiret) Rydb., misappl.] Barnyard grass. Frequent; moist disturbed soil.

South of Cedar Falls, 1955, Pierson, ISTD. 6 90-12, 1960, Barnett, ISTD. George Wyth State Park, 1963, Eilers 4331, IA. Goose Lake, 1982081824. Newgard's Pasture, 1983091405.

Elymus canadensis L. Canada wild rye. Common; prairies and roadsides.

NLC, 1929, Burk 606, 674, ISTC. Between Waterloo and Cedar Falls, 1930, Shimek, IA. Southwest of Cedar Falls, 1955, Pierson, ISTC. George Wyth State Park, 1963, Eilers 4317, IA. Cedar Township RR Prairie, 1982072435, 1982082806. Dorothy's Prairie, 1983080117.

Elymus villosus Muhl. ex Willd. Slender wild rye. Rare; moist woods.

Cedar Heights, 1929, Burk 653, ISTC.

Elymus virginicus L. Virginia wild rye. Frequent; roadsides, prairies, alluvial woods.

Cedar Falls, 1929, Burk 570, 572, ISTC. Bennington Township, 1929, Burk 617, 848, ISTC. George Wyth State Park, 1955, Pierson, ISTC. Black Hawk County Park, 34 90-14, 1963, Eilers 4242, IA. 33 88-14, 1963, Eilers 4359, IA. George Wyth State Park, 1982072423, 1982072427.

\* Eragrostis cilianensis (All.) E. Mosher [E. megastachya (Koeler) Link] Stinkgrass. Common; roadsides, waste grounds, lawns.

Cedar Falls, 1955, Pierson, ISTC. George Wyth State Park, 1963, Eilers 4297, IA. Cedar City Sand Prairie, 1980, Lammers 3820, ISTC.

Eragrostis hypnoides (Lam.) BSP. Pony grass. Frequent; wet soil along streams.

Fall's Access, 1982082609.

Eragrostis pectinacea (Michx.) Nees [E. purshii Schrader] Love grass. Common; roadsides, fields, wet sands, waste grounds.

Cedar Falls, 1929, Burk 575, ISTC. Washington-Union Bridge, 1929, Burk 703, ISTC. 27 88-14, 1963, Eilers 4380, IA. 9 89-13, 1963, Eilers 4466, IA. Fall's Access, 1982082606.

Eragrostis pilosa (L.) Beauv. Love grass. Rare; fields and disturbed soil.

North of Cedar Falls, 1955, Pierson, ISTC.



Eragrostis spectabilis (Pursh) Steudel Purple love grass.  
 Infrequent; sandy areas, prairies, roadsides.  
 George Wyth State Park, 1963, Eilers 4319, IA. SE SE 15 90-14,  
 1980, Lammers 3827, ITC. George Wyth State Park, 1982072486,  
1983081001. Bailey's Lake, 1982081853.

Festuca obtusa Biehler Nodding fescue. Frequent; moist woods.

Cedar Heights, 1929, Burk 631, ITC. Hartman Reserve Nature  
 Center, 1963, Eilers 4414, IA. Brustkern's Woods, 1982062318,  
1983061310.

Festuca octoflora Walter var. tenella (Willd.) Fern. [Vulpia  
octoflora (Walter) Rydb.] Six-weeks fescue. Rare; along  
 railroads, sandy alluvial areas.

Elk Run, 1921, Shimek, IA. South of Washburn, 1932, Shimek,  
 IA.

Festuca paradoxa Desv. Fescue grass. Rare; prairies.

Steimel's Prairie, 1980, Lammers 3791, ITC.

Glyceria grandis S. Watson [G. maxima (Hartm.) Holmb. ssp. grandis  
 (S. Watson) Hulten] American manna grass. Frequent; marshy  
 ground and shallow water.

Cedar Falls, 1929, Burk 366, ITC. George Wyth State Park,  
 1963, Eilers 4333, IA. Cedar Hills Sand Prairie, 1970, Crum  
 145, ITC. Bailey's Lake, 1982062121. Newgard's Pasture,  
1982070113. Ackerson's Marsh, 1982071725.

Glyceria septentrionalis A. S. Hitchc. Eastern manna grass. Rare;  
 marsh.

Cedar Hills Sand Prairie, 1970, Crum 146, ITC.

Glyceria striata (Lam.) A. S. Hitchc. Fowl manna grass.  
 Infrequent; marshes, prairie swales, damp woods.

Cedar Heights, 1929, Burk 628, ITC. Cedar Hills Sand Prairie,  
 1970, Crum 162, ITC. Steimel's Prairie, 1980, Lammers 4254,  
 ITC. Martinson's Dunes, 1982072538.

Hierochloa odorata (L.) Beauv. Holy grass. Rare; moist prairie.

Cedar Hills Sand Prairie, 1970, Crum 046, ISTC.

Hordeum jubatum L. Squirrel-tail barley. Common; disturbed ground.

Washburn, 1921, Shimek, IA. Cedar Hills Sand Prairie, 1970, Crum 158, ISTC.

Hordeum pusillum Nutt. Little barley. Rare; dry, open sandy areas.

Cedar City Sand Prairie, 1982062402. George Wyth State Park, 1983061615.

Hystrix patula Moench [Elymus hystrix L.] Bottlebrush grass.

Infrequent; moist woods.

Cedar Falls, 1929, Burk 508, ISTC.

Koeleria macrantha (Ledeb.) Schultes [K. cristata (L.) Pers., illeg. name] [K. pyramidata (Lam.) Beauv.] June grass.

Infrequent; dry prairies, sandy plains.

NLC, 1929, Burk 327, ISTC. Between Waterloo and Cedar Falls, 1930, Shimek, IA. Cedar Hills Sand Prairie, 1970, Crum 097, ISTC. Cedar Hills Sand Prairie, 1979, Lammers 2890, ISTC. Myszka Prairie, 1980, Lammers 3492, ISTC. East Waterloo Prairie, 1982062301.

Leersia oryzoides (L.) Sw. Rice cut-grass. Infrequent; marshes, muddy lake margins.

NLC, 1929, Burk 739, ISTC. 33 88-14, 1963, Eilers 4351, IA. Goose Lake, 1982081815.

Leersia virginica Willd. Whitegrass. Infrequent; moist alluvial woods, moist wooded slopes.

Cedar Falls, 1929, Burk 700, ISTC. Hartman Reserve Nature Center, 1963, Eilers 4413, IA. Fall's Access, 1982082607, 1982090907.



Leptoloma cognatum (Schultes) Chase [Digitaria cognatum (Schultes) Pilger] Fall witch grass. Rare; sandy prairies.

Ackerson's Marsh, 1982080732. Goose Lake, 1983082658.

\* Lolium perenne L. Perennial rye grass. Rare; roadsides, along railroads, waste grounds.

3 88-14, 1963, Eilers 4386, IA.

Muhlenbergia frondosa (Poiret) Fern. [M. mexicana (L.) Trin., misappl.] Muhly. Rare; moist alluvial woods, moist prairies.

Waterloo, 1955, Pierson, ISTE. 6 90-12, 1960, Barnett, ISTE. Black Hawk County Park, 34 90-14, 1963, Eilers 4265, IA.

Panicum capillare L. Witchgrass. Common; fields, roadsides, waste places, prairies.

Washington-Union Bridge, 1929, Burk 698, ISTE. NLC, 1949, Classick, ISTE. 6 90-12, 1960, Barnett, ISTE.

Panicum dichotomiflorum Michx. Panic grass. Infrequent; fields, roadsides, disturbed soil.

Waterloo, 1929, Burk 901, ISTE. NLC, 1929, Burk 975, ISTE. 23 89-13, 1960, Barnett, ISTE.

Panicum virgatum L. Switchgrass. Common; prairie remnants.

NLC, 1929, Burk 658, ISTE. Cedar Falls, 1929, Burk 683, ISTE. West of Cedar Falls, 1955, Pierson, ISTE. Hartman Reserve Nature Center, NDC, Eilers, ISTE. Cedar Hills Sand Prairie, 1970, Crum 192, ISTE. Myszka Prairie, 1980, Lammers 3805, ISTE. Cedar City Sand Prairie, 1980, Lammers 3814, ISTE. Fischels' Prairie, 1980, Lamm 3823, ISTE. Cedar Township RR Prairie, 1982072457. Martinson's Dunes 1982072524, 1983080906. N NW 3 90-13, 1983080308. Highway 175 RR Prairie, 1983081324.

- \* Paspalum setaceum Michx. var. ciliatifolium (Michx.) Vasey [P. ciliatifolium Michx.] Bead grass. Frequent; prairies, dry sandy soil.

Waterloo, 1929, Burk 686, ISTC. Between Cedar Falls and Waterloo, 1930, Shimek, IA. George Wyth State Park, 1953, Grant 12009, ISTC. George Wyth State Park, 1963, Eilers 4313, IA. Cedar Hills Sand Prairie, 1970, Crum 213, ISTC. Myszka Prairie, 1980, Lammers 3809, ISTC. Martinson's Dunes, 1982072517. Ackerson's Marsh, 1982080735.

- \* Phalaris arundinacea L. Reed canary grass. Frequent; marshes, lake shores.

Cedar Falls, 1929, Burk 313, ISTC. 9 89-13, 1963, Eilers 4478, IA. Bailey's Lake, 1982062106. Lester Township RR Prairie, 1983070432.

- \* Phleum pratense L. Timothy. Common; fields, open disturbed habitats.

NLC, 1929, Burk 775, ISTC. 23 89-13, 1960, Barnett, ISTC. Cedar Hills Sand Prairie, 1970, Crum 140, ISTC. Fall's Access, 1982061902. Newgard's Pasture, 1982082313.

- \* Phragmites australis (Cav.) Trin. ex Steudel [P. communis Trin.] Reed. Rare; marshes, moist roadsides.

9 89-13, 1963, Eilers 4460, IA. NW NW NE 2 90-13, 1980, Lammers 3804, ISTC. Dargon's Marsh, 1982062208.

- \* Poa compressa L. Canadian bluegrass. Common; dry prairies, roadsides.

Between Cedar Falls and Waterloo, 1930, Shimek IA. Cedar Hills Sand Prairie, 1970, Crum 120, ISTC. Lester Township RR Prairie, 1982052425. Cedar Township RR Prairie, 1982060724.

- \* Poa palustris L. Fowl meadow grass. Rare; moist prairie remnants, prairie swales, marshes.

Waterloo, 1929, Burk 528, ISTC. Cedar Heights, 1929, Burk 632, ISTC. NLC, 1929, Burk 810, ISTC. Cedar Hills Sand Prairie, 1970, Crum 157, ISTC.



- \* Poa pratensis L. Kentucky bluegrass. Common; disturbed habitats, roadsides, along railroads.

NLC, 1929, Burk 293, ISTC. North of Waterloo, 1929, Shimek, IA. North of Cedar Falls, 1932, Shimek, IA. 6 90-12, 1960, Barnett, ISTC. Cedar Hills Sand Prairie, 1970, Crum 110, ISTC. Cedar City Sand Prairie, 1982051604, 1982051613. NE 20 89-11, 1982052411. Lester Township RR Prairie, 1982052414, 1982052424. SE SW 12 90-14, 1982052720. Bailey's Lake, 1982062108. George Wyth State Park, 1982072485, 1983061609. Cedar Township RR Prairie, 1983052002. Ackerson's Marsh, 1983052409. Dorothy's Prairie, 1983060121, 1983061402.

- Schizachyrium scoparium (Michx.) Nash [Andropogon scoparius Michx.] Little bluestem. Common; upland prairies.

Waterloo, 1929, Burk 927, ISTC. Goose Lake, 1956, Cooper 7, ISTC. 6 90-12, 1960, Barnett, ISTC. Cedar Hills Sand Prairie, 1979, Lammers 3039, ISTC. Myszka Prairie, 1980, Lammers 3951, ISTC. Cedar Township RR Prairie, 1982082809. Dorothy's Prairie, 1983100706.

- \* Secale cereale L. Cultivated rye. Infrequent; roadsides, waste ground.

NLC, 1929, Burk 314, ISTC.

- \* Setaria faberi Herrm. Giant foxtail. Infrequent; fields, roadsides, waste grounds.

6 90-12, 1960, Barnett, ISTC. 33 88-14, 1963, Eilers 4363, IA. Cedar Township RR Prairie, 1982072445.

- Setaria glauca (L.) Beauv. [S. lutescens (Weigel) Hubb.] Yellow foxtail. Common; fields, roadsides, moist disturbed soil.

NLC, 1929, Burk 665, ISTC. NLC, 1955, Pierson, ISTC. 6 90-12, Barnett, ISTC. Goose Lake, 1983082662.

- \* Setaria viridis (L.) Beauv. Green foxtail. Common; roadsides, fields, disturbed ground.

North of Washburn, 1921, Shimek, IA. NLC, 1929, Burk 557, ISTC. George Wyth State Park, 1963, Eilers 4295, IA. Cedar Township RR Prairie, 1982072461.

Sorghastrum nutans (L.) Nash [S. avenaceum (Michx.) Nash] Indian grass. Common; prairies, roadsides.

Waterloo, 1929, Burk 880, ISTC. Junction of Beaver Valley Road and County Road K, 1955, Pierson, ISTC. 6 90-12, 1960, Barnett, ISTC. Cedar Hills Sand Prairie, 1979, Lammers 3041, ISTC. Goose Lake, 1983082673. Highway 175 RR Prairie, 1983100420. Dorothy's Prairie, 1983100710.

Spartina pectinata Link Slough grass, cord grass. Frequent; prairie swales, wet roadsides, marsh edges.

NLC, 1929, Burk 532, ISTC. 6 90-12, 1960, Barnett, ISTC. Cedar Township RR Prairie, 1982072458. Frost Prairie, 1982080742.

Sphenopholis obtusata (Michx.) Scribner var. obtusata Wedge grass. Rare; prairies.

Bennington Township, 1929, Burk 751, ISTC.

Sphenopholis obtusata (Michx.) Scribner var. major (Torrey) K. S. Erdman [S. intermedia Rydb.] Wedge grass. Infrequent; prairie swales, low moist grounds.

Cedar Hills Sand Prairie, 1970, Crum 130, ISTC.

Sporobolus asper (Michx.) Kunth Dropseed. Rare; dry prairie slopes, pasture.

Cedar Falls, 1929, Burk 939, ISTC. West of La Porte City, 1955, Pierson, ISTC. Cedar Falls, 1952, Grant 11775, ISTC, IA.

Sporobolus cryptandrus (Torrey) Gray Sand dropseed. Rare; sandy prairies.

George Wyth State Park, 1963, Eilers 4307, 4314, IA. Cedar Township RR Prairie, 1982072455.

Sporobolus heterolepis (Gray) Gray Prairie dropseed. Rare; dry prairies.

6 90-12, 1960, Barnett, ISTC.



Sporobolus vaginiflorus (Torrey ex Gray) Wood {incl. var. inaequalis Fern.} Poverty grass. Rare; dry sandy soil.

Cedar Falls, 1929, Burk 897, ISTC. frequent; shallow marshes, ponds, lakes.

Stipa spartea Trin. Porcupine grass. Frequent; prairie remnants, sandy open soil.

North of Washburn, 1921, Shimek, IA. NLC, 1929, Burk 370, ISTC. Cedar Hills Sand Prairie, 1970, Crum 098, ISTC. Cedar Hills Sand Prairie, 1980, Lammers 3493, ISTC. Myszka Prairie, 1980, Lammers 3572, ISTC. Raymond Prairie, 1982062311.

Triplasis purpurea (Walter) Chapman Sand grass. Rare; dry sandy soil.

Myszka Prairie, 1980, Lammers 3950, ISTC.

Zizania aquatica L. var. interior Fassett Wild rice. Rare; shallow marshes.

Cedar Falls, 1929, Burk 657, ISTC. One mile south of Finchford, 1975, Roosa 716, ISTC. Ackerson's Marsh, 1981, Lammers 4378, ISTC. Ackerson's Marsh, 1982080706.

#### PONTEDERIACEAE (Pickerel-weed Family)

Heteranthera dubia (Jacq) Macm. [Zosterella dubia (Jacq.) Small] Water star-grass. Rare; muddy shore of pond.

NE 28 90-14, 1980, Lammers 3831, ISTC.

Pontederia cordata L. Pickerel-weed. Rare; marshy shores and shallow water.

Goose Lake, 1980, Lammers 3876, ISTC. Martinson's Dunes, 1981, Lammers 4412, ISTC. Goose Lake, 1982081805, 1983082606. Martinson's Dunes, 1983080904.

Triza latifolia L. Common cattail. Frequent; marshes, shallow standing water, wet roadsides.

Cedar Falls, 1919, Hilton, ISTC. NLC, 1929, Burk 607, ISTC. Cedar Hills Sand Prairie, 1970, Crum 143, ISTC.

## POTAMOGETONACEAE (Pondweed Family)

Potamogeton foliosus Raf. Pondweed. Infrequent; shallow marshes, ponds, lakes.

Black Hawk County Park, 34 90-14, 1963, Eilers 4288, IA.

Potamogeton natans L. Pondweed. Rare; shallow water at edges of lakes and marshes.

Goose Lake, 1980, Lammers 3874, ISTC. Goose Lake, 1981, Lammers 4258, ISTC. Goose Lake, 1982081819, 1982081821.

Potamogeton nodosus Poiret [P. americanus C. & S.] Pondweed. Rare; shallow water at edges of lakes and marshes.

Waterloo, 1894, Newton, ISTC. Bailey's Lake, 1980, Lammers 3867, ISTC.

## SPARGANIACEAE (Bur-reed Family)

Sparganium androcladum (Engelm.) Morong Bur-reed. Rare; shallow water of marshes.

Cedar Hills Sand Prairie, 1970, Crum 147, ISTC. Bailey's Lake, 1980, Lammers 3860, ISTC. Goose Lake, 1980, Lammers, 3882, ISTC.

Sparganium eurycarpum Engelm. Bur-reed. Rare; shallow water of marshes.

NLC, 1929, Burk 359, ISTC. George Wyth State Park, 1953, Hardin 6, ISTC. 9 89-13, 1963, Eilers 4468, IA. Dargon's Marsh, 1982062201.

## TYPHACEAE (Cattail Family)

Typha latifolia L. Common cattail. Frequent; marshes, shallow standing water, wet roadsides.

Cedar Falls, 1919, Hilton, ISTC. NLC, 1929, Burk 607, ISTC. Cedar Hills Sand Prairie, 1970, Crum 143, ISTC.



## APPENDIX B

Helianthus x serotinosoides Lam. 1929, Burk: incorrect identification of  
H. infernalis L. EXCLUDED SPECIES

Lactuca ludoviciana (Nutt.) DC. 1929, Burk: unable to identify.

The following are species excluded from the annotated catalog because their occurrence in the county could not be verified by correctly identified herbarium vouchers. Misidentified species have been listed under their correct names in the annotated catalog. The list follows the sequence of the annotated catalog and includes the source of the report and the reason for exclusion.

Tradescantia virginiana L. 1929, Burk: incorrectly identified; probably is T. subinae Scep. OPHIOGLOSSACEAE

Botrychium simplex E. Hitchc. Field identified by Farrar in 1986 but no voucher herbarium specimens are currently available.

Ophioglossum vulgatum L. var. pseudopodium (Blake) Farw. Field identified by Farrar and Pusateri in 1986 but no voucher specimens have been placed in any herbaria.

Brassica nigra (L.) Koch 1929, Burk: specimen in poor condition; unable to identify.

## ASTERACEAE

Radiola simplex (Nutt.) Greene 1929, Burk: specimen not identifiable.

Aster commutatus (J. & G.) A. Gray 1929, Burk: specimen is A. ontariensis Wiegand.

Aster dumosus L. 1929, Burk: specimen is A. parviceps (Burgess) Mack. & Bush.

Aster vimineus Lam. 1912, NCC: specimen is A. pilosus Willd.

Aster tradescanti L. 1929, Burk: specimen is A. lanceolatus Willd. ssp. simplex (Willd.) A. G. Jones

Cirsium altissimum (L.) Spreng. 1960, Barnett: incomplete specimen; unable to identify.

Cirsium flodmanii (Rydb.) Arthur 1960, Barnett: incomplete specimen; unable to identify.

Helianthus x doricoides Lam. 1929, Burk: incorrect identification of H. tuberosus L.

Lactuca ludoviciana (Nutt.) DC. 1929, Burk: unable to identify.

Rudbeckia triloba L. 1929, Burk: fragmented specimen; impossible to identify.

Solidago juncea Ait. 1929, Burk: incorrectly identified specimen; correct identification uncertain.

Solidago mollis Bartl. 1929, Burk: incorrectly identified; correct identification uncertain.

Solidago uliginosa Nutt. 1912, NCC: incorrect identification of S. nemoralis Aiton. 1960, Barnett: incomplete specimen; unable to identify.

Tragopogon pratensis L. 1929, Burk: incorrectly identified; probably is T. dubius Scop.

Plantago major L. 1965, Gilbert: incorrect identification of P. rugellii Greene.

## BRASSICACEAE

Barbarea integrifolia 1912, NCC: incomplete specimen; unable to identify.

Brassica nigra (L.) Koch 1929, Burk: specimen in poor condition; unable to identify.

Radicula sinuata (Nutt.) Greene 1929, Burk: specimen not identifiable.

Ranunculus repens L. 1893, CARYOPHYLLACEAE specimen; unable to identify.

Silene virginica L. 1949, Dailey: identified by Grant in 1949, but identification is questionable.

Agriscola sylvatica L. 1893, CONVOLVULACEAE correct identification of A. sylvatica Richx.

Cuscuta arvensis Beyrich. 1893, Newton: incorrectly identified specimen of C. indecora Choisy.

Crataegus portoricensis Ashe. 1929, Burk: unable to identify.



Cuscuta gronovii Willd. 1929, Burk: incomplete specimen; uncertain of identification.

## HYPERICACEAE

Hypericum canadense L. 1929, Burk: incorrect identification; possibly is H. mutilum.

Hypericum ellipticum Hook. 1929, Burk: incorrect identification of H. sphaerocarpum Michx.

## PAPAVERACEAE

Corydalis flavula (Raf.) DC. 1897, Newton: incorrect identification of C. micrantha (Engelm.) Gray.

## PLANTAGINACEAE

Plantago major L. 1965, Gilbert: incorrect identification of P. rugelii Decne.

## RANUNCULACEAE

Ranunculus delphinifolius Torr. NDC, NCC: incorrect identification; correct identification uncertain.

Ranunculus recurvatus Poir. 1884, Buckingham: incomplete specimen; unable to identify.

Ranunculus repens L. 1898, Page: incomplete specimen; unable to identify.

## ROSACEAE

Agrimonia eupatoria L. 1893, Newton: incorrect identification of A. striata Michx.

Agrimonia parviflora Ait. 1970, Crum: incorrect identification of A. pubescens Wallr.

Crataegus pertomentosa Ashe. 1929, Burk: unable to identify.



Rosa prairia 1887, Ebert: incorrect identification of R. blanda Ait.

Rosa woodsii Lindl. 1929, Burk: incorrect identification of R. arkansana Porter var. suffulta (Greene) Cockerell.

Rubus flagellaris L. 1970, Crum: incorrect identification of R. hispidus L.

The following list was compiled as a checklist of native

#### JUNCACEAE

plants which have not been collected since 1970. Further recommendations

Juncus brachycarpus Engelm. 1929, Burk: incomplete specimen, but most likely is J. canaensis.

information on their frequency of occurrence. The list is in the same

sequence as the associated data. POACEAE

Bromus commutatus Schrad. 1939, Grant: specimen is possibly B. japonicus Thunb.

Bromus kalmii Gray 1929, Burk: specimen is B. pubescens Muhl. ex Willd.

#### AMARANTHACEAE

Amaranthus arifolius  
A. reticulatus  
A. intermedius

#### APIACEAE

Polytaenia nuttallii  
Sanicula perfoliata

#### APOCYNACEAE

Ipomoea androsaemifolia

#### ASTERACEAE

Aster ontariensis  
A. involutus var. simplex  
A. x anthyalus  
Helianthus tripartitus  
H. vulgata  
Crepis ruscifolia  
Rhynchosium albosium  
Helianthus divaricatus  
Liatris scariosa

#### BRASSICACEAE

Arabis canadensis  
A. frumosa  
Lepidium virginicum  
Rapistrum officinale

#### CAPRIFOLIACEAE

Diervilla lonicera  
Synthyris orbiculata

#### CARYOPHYLLACEAE

Cerastium brachypodum

#### CHENOPODIACEAE

Chenopodium hybridum  
C. stardierianum

#### CONVOLVULACEAE

Cuscuta cuspidata  
C. indica

#### ERICACEAE

Pyrola elliptica

## APPENDIX C

## RARE PLANTS NOT COLLECTED SINCE 1970

The following list was compiled as a checklist of rare native plants which have not been collected since 1970. Further reconnaissance in the field may relocate these plants and provide additional information on their frequency of occurrence. The list is in the same sequence as the annotated catalog.

## SELAGINELLACEAE

Selaginella rupestris

## ASPLENIACEAE

Cystopteris protrusa

## AMARANTHACEAE

Amaranthus arenicola

A. rudis

A. tuberculatus

## APIACEAE

Polytaenia nuttallii

Sanicula marilandica

## APOCYNACEAE

Apocynum androsaemifolium

## ASTERACEAE

Aster ontariensis

A. lanceolatus ssp. simplex

A. x amethystinus

Bidens tripartita

B. vulgata

Crepis runcinata

Eupatorium altissimum

Helianthus divaricatus

Liatris squarrosa

## BRASSICACEAE

Arabis canadensis

A. drummondii

Cardamine pensylvanica

Lesquerella ludoviciana

Nasturtium officinale

## CAPRIFOLIACEAE

Diervilla lonicera

Symphoricarpos orbiculatus

## CARYOPHYLLACEAE

Cerastium brachypodium

## CHENOPODIACEAE

Chenopodium hybridum

C. standleyanum

## CONVOLVULACEAE

Cuscuta cuspidata

C. indecora

## ERICACEAE

Pyrola elliptica



## EUPHORBIACEAE

Acalypha virginica  
Euphorbia hexagona  
E. maculata

## FABACEAE

Baptisia lactea  
Desmodium sessilifolium  
Lathyrus venosus  
Lespedeza leptostachya  
Psoralea argophylla  
Strophostyles helvola

## HYPERICACEAE

Hypericum mutilum  
H. perforatum  
H. pyramidatum

## LAMIACEAE

Agastache nepetoides  
Mentha arvensis

## LYTHRACEAE

Ammannia coccinea

## MORACEAE

Humulus lupulus

## NYMPHAEACEAE

Nuphar luteum

## ONAGRACEAE

Gaura biennis

## PAPAVERACEAE

Dicentra canadensis

## POLYGALACEAE

Polygala verticillata

## POLYGONACEAE

R. orbiculatus

## RANUNCULACEAE

Anemone caroliniana  
Ranunculus flabellaris

## ROSACEAE

Agrimonia striata  
Crataegus coccinea

## SCROPHULARIACEAE

Gratiola neglecta  
Lindernia dubia  
Tomanthera auriculata

## VALERIANACEAE

Valeriana edulis ssp. ciliata

## VERBENACEAE

Verbena x blanchardii

## DIVISION MAGNOLIOPHYTA

## CLASS: LILIOPSIDA

## ALISMACEAE

Sagittaria brevirostra

## CYPERACEAE

Carex laxiculmis  
Carex lupulina  
Carex projecta  
Carex rosea  
Cyperus esculentus  
C. odoratus var. squarrosus  
Eleocharis acicularis  
E. tenuis  
Hemicarpha micrantha  
Scirpus pendulus

## LEMNACEAE

Lemna trisulca  
Wolffia columbiana  
W. punctata



## INDEX OF FAMILIES AND GENERA

## LILIACEAE

Lilium philadelphicum var. andinumZigadenus elegans

## ORCHIDACEAE

Cypripedium candidumLiparis loeseliiPlatanthera praeclara

## POACEAE

Agrostis perennansFestuca octoflora

## POTAMOGETONACEAE

Potamogeton foliosus

ADANTACEAE . . . 57

Adiantum . . . 57

Agallia . . . 154

Agastache . . . 118

Agrimonia . . . 142

Agropyron . . . 103

Agrostis . . . 106

ALICEACEAE . . . 60

Allium . . . 166

ALITHACEAE . . . 166

Allium . . . 166

Alopecurus . . . 106

AMRANTHACEAE . . . 61

Amaranthus . . . 61

Asteria . . . 48

Asteris . . . 48

Anemone . . . 122

Anemone . . . 122

Anemone . . . 106

Anemone . . . 106

ANACARDIACEAE . . . 82

Andropogon . . . 186

Andropogon . . . 136

Anemone . . . 137

Anemone . . . 69

Anemone . . . 69

APIACEAE . . . 62

APOCYNACEAE . . . 65

Apocynum . . . 65

Aquilegia . . . 138

Arabis . . . 89

ARACEAE . . . 167

Aralia . . . 65

ARALIACEAE . . . 173

Arctium . . . 69

Arimonia . . . 167

Aristida . . . 186

ARISTOLOCHIACEAE . . . 65

Artemisia . . . 69

Asarum . . . 65

ASCLEPIADACEAE . . . 57 INDEX OF FAMILIES AND GENERA

Asclepias . . . 57

Asparagus A . . . 100

Abutilon . . . 123

Acalypha . . . 103

Acer . . . 60

ACERACEAE . . . 60

Achillea . . . 68

Acorus . . . 167

Actaea . . . 137

ADIANTACEAE . . . 57

Adiantum . . . 57

Agalinis . . . 154

Agastache . . . 118

Agrimonia . . . 142

Agropyron . . . 185

Agrostis . . . 186

AIZOACEAE . . . 60

Alisma . . . 166

ALISMACEAE . . . 166

Allium . . . 180

Alopecurus . . . 186

AMARANTHACEAE . . . 61

Amaranthus . . . 61

Ambrosia . . . 68

Antennaria . . . 69

Amelanchier . . . 142

Ammannia . . . 122

Amorpha . . . 106

Amphicarpa . . . 106

ANACARDIACEAE . . . 62

Andropogon . . . 186

Androsace . . . 136

Anemone . . . 137

Antennaria . . . 69

Anthemis . . . 69

APIACEAE . . . 62

APOCYNACEAE . . . 65

Apocynum . . . 65

Aquilegia . . . 138

Arabis . . . 89

ARACEAE . . . 167

Aralia . . . 66

ARALIACEAE . . . 173

Arctium . . . 69

Arisaema . . . 167

Aristida . . . 186

ARISTOLOCHIACEAE . . . 66

Artemisia . . . 69

Asarum . . . 66



- ASCLEPIADACEAE . . 67  
 Asclepias . . 67  
 Asparagus . . 180  
 ASPLENIACEAE . . 57  
 Aster . . 68  
 ASTERACEAE . . 68  
 Astragalus . . 106  
 Athyrium . . 57  
 Avena . . 186  
 B  
 Bacopa . . 154  
 BALSAMINACEAE . . 86  
 Baptisia . . 107  
 Barbarea . . 90  
 BERBERIDACEAE . . 86  
 Berberis . . 86  
 Berteroa . . 90  
 Besseyia . . 154  
 Betula . . 87  
 BETULACEAE . . 87  
 Bidens . . 73  
 Boehmeria . . 160  
 Boltonia . . 74  
 BORAGINACEAE . . 87  
 Botrychium . . 58  
 Bouteloua . . 187  
 Brasenia . . 124  
 Brassica . . 90  
 BRASSICACEAE . . 89  
 Brickellia . . 74  
 Bromus . . 187  
 Bulbostylis . . 168  
 C  
 Cacalia . . 74  
 CACTACEAE . . 94  
 Calamagrostis . . 188  
 Calamovilfa . . 188  
 Caltha . . 138  
 Calylophus . . 125  
 Calystegia . . 101  
 Campanula . . 94  
 CAMPANULACEAE . . 94  
 Cannabis . . 123  
 CAPPARACEAE . . 95  
 CAPRIFOLIACEAE . . 96  
 Capsella . . 90  
 Cardamine . . 90  
 Carex . . 168  
 Carum . . 62  
 Carya . . 117  
 CARYOPHYLLACEAE . . 97  
 Cassia . . 107



- Castelleja . . 155  
 Caulophyllum . . 86  
 Ceanothus . . 142  
 CELASTRACEAE . . 99  
 Celastrus . . 99  
 Celtis . . 188  
 Cenchrus . . 188  
 Cephalanthus . . 148  
 Cerastium . . 97  
 CERATOPHYLLACEAE . . 99  
 Ceratophyllum . . 99  
 Chaenorrhinum . . 155  
 Chaerophyllum . . 63  
 Chelidonium . . 128  
 CHENOPODIACEAE . . 99  
 Chenopodium . . 99  
 Cichorium . . 74  
 Cituca . . 63  
 Cinna . . 188  
 Circaea . . 125  
 Cirsium . . 74  
 CISTACEAE . . 100  
 Claytonia . . 135  
 Clematis . . 139  
 Coeloglossum . . 184  
 Collomia . . 130  
 Commandra . . 163  
 COMMELINACEAE . . 167  
 CONVOLVULACEAE . . 101  
 Convolvulus . . 101  
 Conyza . . 75  
 Coreopsis . . 75  
 CORNACEAE . . 102  
 Cornus . . 102  
 Coronilla . . 107  
 Corydalis . . 128  
 Corylus . . 87  
 Crataegus . . 142  
 Crepis . . 75  
 Crotalaria . . 108  
 Croton . . 104  
 Cryptotaenia . . 63  
 CUCURBITACEAE . . 103  
 CUPRESSACEAE . . 97  
 Cuscuta . . 101  
 CUSCUTACEAE . . 183  
 Cycloloma . . 100  
 CYPERACEAE . . 168  
 Cyperus . . 174  
 Cypridium . . 184  
 Cystopteris . . 57  
 Froelichia . . 62

- D
- Dactylis . . 188
- Dalea . . 108
- Daucus . . 63
- Delphinium . . 139
- Dentaria . . 91
- Descurainia . . 91
- Desmodium . . 109
- Dianthus . . 97
- Diarrhena . . 189
- Dicentra . . 128
- Dichanthelium . . 189
- Diervilla . . 96
- Digitaria . . 190
- Dioscorea . . 177
- DIOSCOREACEAE . . 177
- Dodecatheon . . 136
- Draba . . 91
- Dryopteris . . 57
- Dulichium . . 175
- E
- Echinacea . . 75
- Echinochloa . . 190
- Echinocystis . . 103
- ELAEAGNACEAE . . 103
- Elaeagnus . . 103
- Ellisia . . 116
- Elodea . . 177
- Elymus . . 191
- Epilobium . . 126
- EQUISETACEAE . . 56
- Equisetum . . 56
- Eragrostis . . 191
- Erechtites . . 76
- ERICACEAE . . 103
- Erigeron . . 76
- Eriophorum . . 176
- Eryngium . . 63
- Erysimum . . 91
- Erythronium . . 181
- Euonymus . . 99
- Eupatorium . . 76
- Euphorbia . . 104
- EUPHORBIACEAE . . 103
- Euthamia . . 77
- F
- FABACEAE . . 106
- FAGACEAE . . 113
- Festuca . . 192
- Fragaria . . 143
- Fraxinus . . 125
- Froelichia . . 62



- Juglans G . . 117  
 Galearis . . 184  
 Galium . . 148  
 Guara . . 126  
 Gentiana . . 114  
 GENTIANACEAE . . 114  
 Gentianella . . 115  
 Gentianopsis . . 115  
 GERANIACEAE . . 115  
 Geranium . . 115  
 Geum . . 143  
 Glechoma . . 118  
 Gleditsia . . 109  
 Glyceria . . 192  
 Gnaphalium . . 78  
 Gratiola . . 155  
 Gymnocladus . . 110  
 LENTINULACEAE . . 122  
 Hackelia . . 87  
 HALORAGIDACEAE . . 116  
 Hedioma . . 118  
 Helenium . . 78  
 Helianthemum . . 100  
 Helianthus . . 78  
 Heliopsis . . 79  
 Hemerocallis . . 181  
 Hemicarpa . . 176  
 Hepatica . . 139  
 Heracleum . . 63  
 Hesperis . . 91  
 Heteranthera . . 198  
 Heuchera . . 153  
 Hibiscus . . 123  
 Hierochloa . . 193  
 Hordeum . . 193  
 Houstonia . . 149  
 Humulus . . 124  
 HYDROCHARITACEAE . . 177  
 HYDROPHYLLACEAE . . 116  
 Hydrophyllum . . 116  
 HYPERICACEAE . . 116  
 Hypericum . . 116  
 Hypoxis . . 181  
 Hystrix . . 193  
 MALVACEAE I . . 123  
 Impatiens . . 86  
 Iodanthus . . 92  
 IRIDACEAE . . 178  
 Iris . . 178  
 Isopyrum . . 139  
 MENTHACEAE . . 123  
 JUGLANDACEAE . . 117



- Juglans . . 117  
 JUNCACEAE . . 178  
 Juncus . . 178  
 Juniperus . . 59  
*Muhlenbergia* K . . 97  
 Koehleria . . 193  
 Krigia . . 79  
*Monstera* L . . 103  
 Lactuca . . 80  
 LAMIACEAE . . 118  
 Laportea . . 160  
 Lappula . . 88  
 Lathyrus . . 110  
 Lechea . . 101  
 Leersia . . 193  
 Lemna . . 179  
 LEMNACEAE . . 179  
 LENTIBULARIACEAE . . 122  
 Leonurus . . 118  
 Lepidium . . 92  
 Leptoloma . . 194  
 Lespedeza . . 110  
 Lesquerella . . 92  
 Liatris . . 80  
 LILIACEAE . . 180  
 Lilium . . 181  
 LINACEAE . . 122  
 Linaria . . 155  
 Lindernia . . 155  
 Linum . . 122  
 Liparis . . 184  
 Lithospermum . . 88  
 Lobelia . . 94  
 Lolium . . 194  
 Lonicera . . 96  
 Lotus . . 110  
 Ludwigia . . 126  
 Lycopus . . 119  
 Lysimachia . . 136  
 LYTHRACEAE . . 122  
 Lythrum . . 122  
*Passiflora* M . . 194  
 Malus . . 144  
 Malva . . 123  
 MALVACEAE . . 123  
 Matricaria . . 81  
 Medicago . . 110  
 Melanthium . . 181  
 Melilotus . . 111  
 MENISPERMACEAE . . 123  
 Menispermum . . 123  
 Mentha . . 119

- Mertensia . . . 89  
 Mimulus . . . 156  
 Mirabilis . . . 124  
 Mitella . . . 153  
 Moehringia . . . 97  
 Mollugo . . . 60  
 Monarda . . . 119  
 Monotropa . . . 103  
 MORACEAE . . . 123  
 Morus . . . 124  
 Muhlenbergia . . . 194  
 Myosotis . . . 89  
 Myriophyllum . . . 116  
 N  
 Napaea . . . 123  
 Nasturtium . . . 92  
 Nelumbo . . . 124  
 Nepeta . . . 119  
 Nuphar . . . 124  
 NYCTAGINACEAE . . . 124  
 Nymphaea . . . 125  
 NYMPHAEACEAE . . . 124  
 O  
 Oenothera . . . 126  
 OLEACEAE . . . 125  
 ONAGRACEAE . . . 125  
 Onoclea . . . 58  
 Onosmodium . . . 89  
 OPHIOGLOSSACEAE . . . 58  
 Opuntia . . . 94  
 ORCHIDACEAE . . . 184  
 Ornithogalum . . . 182  
 OSMUNDACEAE . . . 58  
 Osmunda . . . 58  
 Osmorhiza . . . 63  
 Ostrya . . . 87  
 OXALIDACEAE . . . 127  
 Oxalis . . . 127  
 Oxypolis . . . 64  
 P  
 Panax . . . 66  
 Panicum . . . 194  
 PAPAVERACEAE . . . 128  
 Parthenium . . . 81  
 Parthenocissus . . . 165  
 Paspalum . . . 195  
 Pastinaca . . . 64  
 Pedicularis . . . 156  
 Penstemon . . . 156  
 Penthorum . . . 153  
 Phlaris . . . 195  
 Phleum . . . 195



- Phlox . . 130  
 Phragmites . . 195  
 Phryma . . 129  
 PHRYMACEAE . . 129  
 Physalis . . 158  
 Physocarpus . . 144  
 Physostegia . . 120  
 Pilea . . 160  
 PLANTAGINACEAE . . 129  
 Plantago . . 129  
 Platanthera . . 185  
 Poa . . 195  
 POACEAE . . 185  
 Podophyllum . . 87  
 Polanisia . . 95  
 POLEMONIACEAE . . 130  
 Polemonium . . 131  
 Polygala . . 131  
 POLYGALACEAE . . 131  
 POLYGONACEAE . . 132  
 Polygonatum . . 182  
 Polygonum . . 132  
 Polytaenia . . 64  
 Pontederia . . 198  
 PONTEDERIACEAE . . 198  
 Populus . . 150  
 Portulaca . . 135  
 PORTULACACEAE . . 135  
 Potamogeton . . 199  
 POTAMOGETONACEAE . . 199  
 Potentilla . . 144  
 Prenanthes . . 81  
 PRIMULACEAE . . 136  
 Prunella . . 120  
 Prunus . . 146  
 Psoralea . . 111  
 Pulsatilla . . 140  
 Pycnanthemum . . 120  
 Pyrola . . 103  
 Q  
 Quercus . . 113  
 R  
 RANUNCULACEAE . . 137  
 Ranunculus . . 140  
 Raphanus . . 92  
 Ratibida . . 81  
 RHAMNACEAE . . 142  
 Rhus . . 62  
 Ribes . . 153  
 Robinia . . 111  
 Rorippa . . 93  
 Rosa . . 146



- ROSACEAE . . 142  
 RUBIACEAE . . 148  
 Rubus . . 147  
 Rudbeckia . . 81  
 Rumex . . 134  
 RUTACEAE . . 150  
~~Thalictrum~~ S . . 140  
 Sagittaria . . 166  
 SALICACEAE . . 150  
 Salix . . 150  
 Salsola . . 100  
 Sambucus . . 96  
 Sanguinaria . . 128  
 Sanicula . . 64  
 SANTALACEAE . . 152  
 Saponaria . . 97  
 Saxifraga . . 154  
 SAXIFRAGACEAE . . 153  
 Schizachyrium . . 196  
 Scirpus . . 176  
 Scleria . . 177  
 Scrophularia . . 157  
 SCROPHULARIACEAE . . 154  
 Scutellaria . . 120  
 SELAGINELLACEAE . . 57  
 Senecio . . 82  
 Setaria . . 196  
 Sicyos . . 103  
 Silene . . 98  
 Silphium . . 82  
 Sinapsis . . 93  
 Sium . . 65  
 Sisymbrium . . 93  
 Sisyrinchium . . 178  
 Smilacina . . 182  
 Smilax . . 182  
 SOLANACEAE . . 158  
 Solanum . . 158  
 Solidago . . 83  
 Sonchus . . 85  
 Sorghastrum . . 197  
 Sparganium . . 199  
 Spartina . . 197  
 Sphenopholis . . 197  
 Spiraea . . 148  
 Spiranthes . . 185  
 Spirodela . . 180  
 Sporobolus . . 197  
 Stachys . . 121  
 Stellaria . . 99  
 Stipa . . 197  
 Strophostyles . . 111

Symphoricarpos . . . 96	U
<del>Zanthoxylum</del> T . . . 158	ULMACEAE . . . 159
Tanacetum . . . 85	Ulmus . . . 159
Taraxacum . . . 85	Urtica . . . 161
Tephrosia . . . 112	URTICACEAE . . . 160
Teucrium . . . 121	Utricularia . . . 122
Thalictrum . . . 140	Uvularia . . . 183
Thaspium . . . 65	V
Thelypteris . . . 58	Valeriana . . . 161
Thlaspi . . . 93	VALERIANACEAE . . . 161
Tilia . . . 159	Verbascum . . . 157
TILIACEAE . . . 159	Verbena . . . 161
Tomanthera . . . 157	VERBENACEAE . . . 161
Toxicodendron . . . 62	Vernonia . . . 86
Tradescantia . . . 167	Veronica . . . 157
Tragopogon . . . 85	Veronicastrum . . . 158
Triadenum . . . 117	Viburnum . . . 97
Trichostema . . . 121	Vicia . . . 113
Trifolium . . . 112	Viola . . . 163
Trillium . . . 183	VIOLACEAE . . . 163
Triodanis . . . 95	VITACEAE . . . 165
Triosteum . . . 96	Vitis . . . 165
Triplasis . . . 197	X
Typha . . . 199	Xanthium . . . 86
TYPHACEAE . . . 199	



## Z

Zanthoxylum . . 150

Zigadenus . . 183

Zizania . . 198

Zizia . . 65