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Flora of a Sand Prairie in Black Hawk County, Iowa

GLENN H. CRUM

Before Iowa was settled, the original vegetation was mostly tall-grass prairie on the uplands with woodlands along the drainageways. Few samples of the prairie biome are left except for those in unsprayed right-of-ways, publicly owned preserves, and on private land unsuitable for cultivation (Eilers, 1966). Most of these remnant prairies are on a soil of a loam nature. No large tract of sand prairie has been preserved in eastern Iowa.

In late summer of 1969 a 14.6 ha (36 acre) natural area, which includes marshes, sandy prairie, and a swale, was found 16 km (10 miles) northwest of the University of Northern Iowa, Cedar Falls. According to Mr. H. H. Siepert (Pers. Commun.), who is familiar with the history of the prairie, it has never been plowed. It had been grazed periodically by cattle until about five years ago, but the vegetation appears to be relatively undisturbed. Bobolink, yellow-headed blackbird, upland plover, and several more common species of birds nest within the boundaries of the Sand Prairie during the summer of 1970. Ducks were present on the southern marsh from the time the ice went out until mid-May. There was abundant evidence of the activities of mice, voles, pocket gophers and other mammals, although the animals themselves were rarely seen. Reptiles and amphibians were frequently encountered during the cooler hours of the day. In late August thousands of migrating monarch butterflies flew among the flowers.

LOCATION, TOPOGRAPHY AND SOILS

The Sand Prairie is located in the SW ¼ of the NW ¼ Section 19, T-90N, R-14W, Black Hawk County, Iowa. It is near the eastern edge of a low band of hills which lie between the west fork of the Cedar River, 4 km (2.5 miles) to the north, and Beaver Creek, 3 km (1.8 miles) to the south. Both of these streams join the Cedar River, which flows towards the south, 5 km (3 miles) east of the prairie. The elevation of these streams is 262 m (860 ft), while the elevation of the prairie is slightly over 275 m (900 ft).

A ridge of Hagenor loamy sand changes to Chelva sand from the northwestern to the southeastern corner. These soils consist of excessively-drained eolian sand which has not changed appreciably since deposition during the Iowan sub-stage of the Wisconsin glaciation (U. S. Department of Agriculture, 1967). A well defined depression about 2 m deep, in the Chelsa sand, is probably a wind blow-out. An organic seal on the bottom of the blow-out has caused a perched water table, creating an intermittent pool with water standing until mid-June and after rains. Three less well defined blow-outs without perched water tables lie to the southeast of the first blow-out. If the vegetation were removed, the entire ridge would be subject to severe wind erosion.

Dark-colored Lawler loam with moderate to high moisture supplying capacity surrounds the marshes near the western boundary and adjoins the western edge of the big marsh on the southern boundary. In the marshes, where water stands all year, the black upper horizon of the soil is a humic gley. An organic layer of decaying plant residue is on the surface. The transition from the moist loamy soils to the dry sandy soils is quite abrupt and reflected by the vegetation changes.

The wet swale with seepy side slopes has a surface layer of humic gley and a high water table. In the spring, and after rains, water stands in small depressions between Carex hummocks on the side slopes and even on top of the northern side of the swale. Although a certain amount of hummocking is natural with some species of Carex, it appears that cattle's hooves have penetrated the wet sod, accentuating the hummocks. Most of the water which seeps out of the northern slope is probably derived from subsoil water flowing downward from the higher elevations at the north. Several large boulders at the surface near the bottom of the swale may indicate the erratic top of the underlying glacial till.

THE VEGETATION

The most prominent habitats on the Sand Prairie are marshes; moist, mesic and dry prairie; and wet to moist swale (Fig. 1). Hair-cap moss, Polytrichum commune L., occurs over almost the entire length of the transition zone between the prairie and the southern side of the swale. Within the swale and on the northern rim there are small patches of unidentified Sphagnum moss. Carex stricta Lam. is the dominant species of the swale, forming dense hum-

1 This work was carried out in partial fulfillment of the Master of Arts degree at the University of Northern Iowa, Cedar Falls. I wish to express my gratitude to the Iowa Chapter of the Nature Conservancy, and to Dr. L. J. Eilers, who directed this project.

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3 Field maps covering the prairie, to be used in the preparation of this publication, were photographed by W. L. Foots, Soil Conservation Service. They were printed by the Iowa State University Press, and are available for inspection. This project was partially supported by the U. S. Department of Agriculture, and was made possible through the use of a grant from the American Society of Agronomy.
Fig. 1. The most prominent habitats on the Sand Prairie.

Sedges of the previous years on the upland in August. The purple of blazing star, _Liatris aspera_ Michx., and the gold of goldenrod, mainly _Solidago missouriensis_ Nutt., is striking. Ladies' tresses orchids, _Spiranthes cernua_ (L.) Rich., are almost hidden among the sedges of the moist marsh edges. Bottle gentian, _Gentiana andrewsii_ Griseb., is among the last flowers to bloom in the fall.

Twayblade orchid, _Liparis loeselii_ (L.) Rich., rattle-snake master, _Eryngium yuccifolium_ Michx., and New Jersey tea, _Ceanothus americanus_ L., are three common prairie species, each represented by only one specimen in 1970. Speedwell, _Veronica scutellata_ L., and _Juncus casyei_ Engl. were not collected previously in the Iowan area of the Wisconsin glaciation in Iowa (Eilers, 1971).

A few strands of _Carex leptalea_ Wahl., appearing in a collection of fowl meadow grass, _Glyceria striata_ (Lam.) Hitchc. were overlooked at the time of collection, but as _Sphagnum_ moss was being removed from the roots of the _Glyceria_ in preparation for pressing, the _C. leptalea_ was found. This represents the first reported collection of _C. leptalea_ in Iowa, although Gilly (1946) indicated it should be expected in eastern Iowa. Later attempts to collect _C. leptalea_ were unfruitful, even though the original site of collection was known within a few meters.

Collections were made at frequent intervals from mid-April until early October. An attempt was made to collect and identify as many vascular plants as possible. Within the major groups, families are arranged alphabetically as are genera and species within families. The nomenclature usually follows that of Gleason and Cronquist (1963) or _Fernald_ (1950). _Fernald_ (1966) was used as the authority for the Gramineae.

The common names come from a number of sources, primarily _Aikman_ and _Thorne_ (1956). The habitat refers to the micro-environmental conditions under which most plants of a given species grow, but distinct boundaries cannot be established. Relative abundance is even more difficult to define. Large or showy plants may be over-estimated while small or inconspicuous plants may be under-estimated.

"Abundant" means that the species was found nearly everywhere in the habitat indicated. "Common" indicates the species was well represented, but more scattered. "Frequent" occurrence was 12-20 locations and "infrequent" was from 4-11 stations within a habitat. "Rare" species were never seen less than four times. The month in which the species was first seen in flower is given, although flowering may have persisted into the following months. Voucher specimens of most species will be deposited in the University of Northern Iowa Herbarium.

**Annotated List of Vascular Plants Collected on the Sand Prairie**

**Pteridophyta**

_Equisetaceae_ (Horsetail Family)

_Equisetum arvense_ L. Common Horsetail. Moist to dry prairie; common; May.
_Equisetum laevigatum_ A. Br. Prairie Scouring-rush. Dry prairie; infrequent; June.
_Equisetum sylvaticum_ L. Swale; rare; June.

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Polypodiaceae (Polypody Family)
Onclea sensibilis L. Sensitive Fern. Marsh edges and swale; common; June.

Thelypteris palustris Schott. Marsh Fern. Marsh edges and swale; common; June.

Spermatophyta
Gymnospermae
Cupressaceae (Cypress Family)
Juniperus virginiana L. Red Cedar. Moist prairie; infrequent.

Angiospermae
Monocotyledoneae
Alismataceae (Water-plaintain Family)
Alisma subcordatum Raf. Water-plantain. Shallow water in swale; rare; July.

Sagittaria cuneata Sheldon Arrowhead. Shallow water in swale; rare; July.

Sagittaria latifolia Wildl. Arrowhead. Marsh; infrequent; Aug.

Sagittaria rigida Pursh Arrowhead. Marsh; infrequent; July.

Amaryllidaceae (Amaryllis Family)
Hypeoxis hirsuta (L.) Coville Yellow Star-grass. Moist prairie; frequent; June.

Commelinaceae (Spiderwort Family)
Tradescantia bracteata Small Spiderwort. Mesic prairie; infrequent; June.

Tradescantia ohiensis Raf. Spiderwort. Mesic prairie; infrequent; June.

Cyperaceae (Sedge Family)
Carex annectens (Bickn.) Bickn. Marsh edges; common; June.

Carex aequalis Spreng. Marshes; common; June.

Carex bicknellii Britt. Dry prairie; infrequent; June.

Carex caroliniana Wahl. Marsh edges and swale; frequent; May.

Carex conjuncta Boott Swale; infrequent; June.

Carex conoides Schkuhr. Moist prairie; common; May.

Carex gracilis Bailey Dry prairie; infrequent; June.

Carex haydenii Dew. Marsh edges; infrequent; June.

Carex interior Bailey Swale; frequent; June.

Carex luctuosa Willd. Marshes; locally abundant; May.

Carex lasiocarpa Ehrh. Marsh edges and swale; frequent; May.

Carex leptalea Wahl. Swale; rare, new Iowa record; June.

Carex meadii Dew. Mesic prairie; infrequent; June.

Carex mulleri Britt. Dry prairie; infrequent; June.

Carex sartwellii Dew. Marsh edges; infrequent; June.

Carex scoparia Schkuhr. Marsh edges and swale; frequent; June.

Carex stricta Lam. Swale; abundant; May.

Carex osearica L. Marshes; abundant; May.

Carex sulpinoidea Michx. Swale; frequent; June.

Cyperus esculentus L. Yellow Nut-grass. Marsh edges; infrequent; August.

Cyperus scirpoideus Torr. Dry prairie; infrequent; July.

Cyperus strigosus L. Swale; infrequent; July.

Dulichium arundinaceum (L.) Britton. Tree Grass. South marsh; rare; June.


Eleocharis compressa Sulliv. Spike Rush. Swale; infrequent; June.


Erigeron annuus L. Common daisy. Common daisy; infrequent; May.


Scirpus cyperinus (L.) Kunth. wool Grass. Marsh edges and swale; infrequent to locally abundant; July.


Gramineae (Grass Family)
*Agrostis alba L. Redtop. Marsh edges and moist prairie; frequent; June.

*Plants not indigenous to North America.
Iridaceae (Iris Family)
Iris virginica L., var. schreeri (Small) E. Andres. Blue Flag. Marsh edges; infrequent; May.

Juncaceae (Moss Family)
Juncus canadensis L. Gay Spring and marsh in the blowout; rare; Aug.
Juncus greenei Oakes & Tuckerm. Moist to mesic prairie; common; May.
Juncus vaseyi (Small) E. Andres. Marsh; locally common; May.

Typhaceae (Cat-tail Family)
Typha latifolia L. Cat-tail. South marsh; infrequent clones; June.

Liliaceae (Lily Family)
Lilium canadense L. Purple Lilium. Marsh edges; infrequent; July.

Scrophulariaceae ( Snapdragon Family)
Asclepias viridiflora (L.) Cronq. Swamp edges; infrequent; May.

Campanulaceae (Bellflower Family)
Campanula persicifolia L. Starflower. Marsh edges; frequent; Aug.

Iscarbaceae (Weeds Family)
Bidens cernua (L.) Cronq. Swamp edges; infrequent; Aug.
Cirsium arvense (L.) Scop. Canada Thistle. Marsh edges and swale; infrequent; Aug.

Lobelia (Piper Family)
Lobelia siphilitica L. Great Blue Lobelia. Marsh edges and swale; common; May.
Lobelia spicata Lam. Pale-spike Lobelia. Moisst prairie; frequent; June.

Cannabinaceae (Hemp Family)
*Cannabis sativa L. Marijuana. Disturbed area near the south-western boundary; infrequent; July.

Cappariaceae (Honeysuckle Family)
*Lonicer a lactea L. Tartarian Honeysuckle. Moisst prairie; only one plant was seen; May.

Sambucus canadensis L. Elderberry. Swale near northern boundary; only one plant was seen; May.

Viburnum lantana L. Nannyberry. Swale near northern boundary; rare; June.

Caryophyllaceae (Pink Family)
*Cerastium vulgatum L. Mouse-ear Chickweed. Swale; infrequent; June.

Stellaria longifolia Muhl. Chickweed. Swale; frequent; June.

Chenopodiaceae (Goosefoot Family)
Chenopodium album L. Lamb's-quarters. Disturbed areas near road and southwestern boundary; infrequent weed; July.

Cistaceae (Rockrose Family)
Helianthemum bicknellii Fern. Frostweed. Mesic to dry prairie; frequent; June.

Lochea stricta Lag. Pinweed. Dry prairie; frequent; Aug.

Compositae (Sunflower Family)
Achillea millefolium L. Yarrow. Mesic to dry prairie; frequent; June.

Ambrosia artemisiifolia L. Common Ragweed. Disturbed areas along fence-lines; infrequent; Aug.

Ampelopsis pyelocephala DC. Perennial Ragweed. Dry prairie; abundant; Aug.

Ambrosia trifida L. Giant Ragweed. Disturbed area near the entrance on northwestern corner; rare; Aug.

Antennaria neglecta Greene Pussy-toes. Dry prairie; common; May.

*Artemisia ludoviciana Nutt. White Sage. Mesic to dry prairie; frequent to locally abundant; Sept.

Aster azureus Lindl. Bright Blue Aster. Moisst prairie; infrequent; Aug.

Aster ericoides L. Heath Aster. Moisst to mesic prairie and swale; common; Aug.


Aster puniceus L. Red-stem Aster. Moisst prairie and swale; frequent; Aug.

Aster simplex Willd. Moisst prairie and swale; infrequent; Aug.

Aster umbellatus Mill. Flat-topped White Aster. Swale; common; Aug.

Bidens cernua L. Stick-tight. Marsh edges and swale; infrequent; Aug.


*Circium arvense (L.) Scop. Canada Thistle. One clone near the northeastern corner, apparently absent elsewhere; July.

Cirsium discolor (Muhl.) Spreng. Field Thistle. Moisst to mesic prairie; infrequent; July.

Conyza canadensis (L.) Cronq. Horseweed. Disturbed areas on mesic to dry prairie; infrequent; July.

Coreopsis palmatia Nutt. Tickseed. Moisst to dry prairie; frequent to locally abundant; June.

Erechtites hieracifolia (L.) Raf. Fireweed. Marsh edges; infrequent; Aug.

Erigeron annuus L.annual. Moisst prairie; infrequent to locally abundant; June.

Eupatorium maculatum L. Joe-Pye Weed. Swale; frequent; July.

Eupatorium perfoliatum L. Boneset. Marsh edges and swale; common; July.

Helianthus grosseserratus Martens Sunflower. Swale; frequent; Aug.

Helianthus laetiflorus Pers. Sunflower. Mesic to dry prairie; infrequent; Aug.

Krigia biflora (Walt.) Blake Dwarf Dandelion. Moisst prairie; frequent; June.

Kuhnia euvatorioides L. False boneset. Mesic to dry prairie; frequent; Aug.
Lactuca canadensis L. Wild Lettuce. Moist to mesic prairie; frequent; July.
Liatris aspera Michx. Blazing Star. Mesic to dry prairie; abundant; late July, with peak in mid-Aug.


Rudbeckia hirta L. Black-eyed Susan. Moist to mesic prairie; common; June.
Rudbeckia subtomentosa Pursh Sweet Coneflower. Swale; infrequent; Aug.

Senecio pauperulus Michx. Groundsel. Mesic to dry prairie; locally abundant to frequent; June.

Solidago canadensis L. Pasture Goldenrod. Moist to mesic prairie; frequent; Aug.
Solidago gigantea Ait. Large Goldenrod. Moist to mesic prairie; infrequent; Aug.
Solidago graminifolia (L.) Salsib. Bushy Goldenrod. Swale; frequent; Aug.

Solidago missouriensis Nutt. Mesic to dry prairie; abundant; late July, with peak in mid-Aug.
Solidago nemoralis Ait. Field Goldenrod. Mesic to dry prairie; frequent; Aug.
Solidago rigidia L. Stiff Goldenrod. Mesic to dry prairie; infrequent; Aug.
Solidago speciosa Nutt. Slender Showy Goldenrod. Mesic to dry prairie; Aug.

*Larix arborescens* Weber Dandellion. Weed of mesic to dry prairie; infrequent, except, common along the southern boundary; May.

*Larix arborescens* (Willd.) DC. Red-seeded Dandellion. Mesic to dry prairie; infrequent; May.

*Tragopogon dubius* Scop. Goat's Beard. Mesic to dry prairie; frequent; June.
Veronica fasciculata Michx. Ironweed. Marsh edges and moist prairie; infrequent; Aug.

Convolulus sepium L. Hedge Bindweed. Mesic prairie, along the northern boundary; infrequent; June.
Convolulus canadensis Lam. Panicled Dogwood. Moist prairie and swale; frequent; June.

Cruciferae (Mustard Family)
*Lepidium densiflorum* Schrad. Pepper Grass. Dry prairie; infrequent; June.

*Rorippa islandica* (Oeder) Borbas Yellow Cress. Spring; rare; June.

Euphorbiaceae (Spurge Family)
Euphorbia corollata L. Flowering Spurge. Mesic to dry prairie; abundant; June.
Euphorbia gruener Engl. Prostrate Spurge. Dry prairie; infrequent; August.
Euphorbia glyptosperma Engl. Prostrate Spurge. Dry prairie; infrequent; August.

Gentianaceae (Gentian Family)
Centranthus andreni Griseb. Closed Gentian. Moist prairie; infrequent; Sept.
Centranthus puberula Michx. Prairie Gentian. Dry prairie; rare; Sept.

Hypericaceae (St. John's-wort Family)
Hypericum mutilum L. St. John's-wort. Swale; common; July.
Triandrum fraseri (Spach) Gil. Marsh St. John's-wort. Swale; common; July.

Labiatae (Mint Family)
Hedeoma hispida Pursh Mock-pennyroyal. Dry prairie; infrequent; June.
Lycopus americanus Muhl. Bugleweed. Moist prairie; frequent; July.

Monarda fistulosa L. Horsemint. Moist to mesic prairie; infrequent; July.

Panicula vulgaris L. Self-heal. Moist to mesic prairie; common; July.

Pychoanthemum flexuosum (Walt.) BSP. Mountain Mint. Moist prairie and swale; common; July.

Scutellaria galericulata L. Skullcap. Swale; rare; June.
Scutellaria lateriflora L. Mad-dog. Swale; infrequent; Aug.

Scutellaria parvula Michx. Skullcap. Moist to dry prairie; frequent; May.

Stachys palustris L. Hedge Nettle. Marsh edges and swale; frequent; May.

Leguminosae (Legume Family)
Amorpha canescens Pursh Lead-plant. Mesic to dry prairie; frequent; July.

Baptisia leucophora Nutt. Wild Indigo. Moist to mesic prairie; infrequent; June.

Desmodium canadense (L.) DC. Tick Trefoil. Moist prairie and swale; infrequent; July.

Gleditsia triacanthos L. Honey Locust. One tree, about 4 m, which did not flower was near the northern boundary.


Petasites hybridus (Wild.) Michx. White Prairie-clover. Mesic to dry prairie; frequent; July.
Petasites hybridus purpureum (Vent.) Rydb. Purple Prairie-clover. Mesic to dry prairie; frequent; July.

Trifolium pratense L. Red Clover. Disturbed roadway, near northwestern corner; rare; June.

Trifolium repens L. White Clover. Disturbed roadway, near northwestern corner; rare; June.

Lentibulariaceae (Bladderwort Family)

Utricularia vulgaris L. Bladderwort. Marsh on southern boundary; frequent; June.

Linaceae (Flax Family)

Linum victoriae Riddell Grooved Yellow Flax. Dry prairie; infrequent; July.

Lythraceae (Loosestrife Family)

Lythrum alatum Pursh. Loosestrife. Swale; frequent; June.

Oleaceae (Olive Family)

Fraxinus pennsylvanica Marsh. Green Ash. One small tree was found by the abandoned roadway near the northwestern corner.

Onagraceae (Evening-primrose Family)

Epilobium coloratum Bichler Willow Herb. Swale; infrequent; Aug.

Ludwigia polycarpa Short & Peter Swale; infrequent; July.

Oenothera biennis L. Evening-primrose. Moist to dry prairie; frequent; July.

Oenothera thubombata Nutt. Dry prairie; infrequent; July.

Oxalidaceae (Wood-sorrel Family)

Oxalis stricta L. Yellow Wood-sorrel. Mesic to dry prairie; infrequent; May.

Oxalis violacea L. Violet Wood-sorrel. Moist to dry prairie; frequent; May.

Plantaginaceae (Plantain Family)

Plantago aristata Michx. Buckhorn. Driest prairie; infrequent; July.

Plantago punctata L. & S. Woolly Plantain. Driest prairie; infrequent; July.

Plantago rugelii Dene. Common Plantain. Moist to dry prairie; infrequent; June.

Polemoniaceae (Phlox Family)

Phlox maculata L. Wild Sweet William. Moist prairie and swale; infrequent; June.

Phlox pilosa L. Prairie Phlox. Swale; infrequent; June.

Polygalaceae (Milkwort Family)

Polygala sanguinea L. Milkwort. Moist to mesic prairie; infrequent; July.

Polygonaceae (Smartweed Family)

*Polygonum convolvulus* L. Wild Buckwheat. Moist prairie; twining on other plants; rare; June.

*Polygonum hydropiper* L. Water Pepper. Marsh edges; infrequent; July.

*Polygonum pensylvanicum* L. Pinkweed. Marsh edges; infrequent; July.


*Polygonum sagittatum* L. Tear-thumb. Abundant in swale, infrequent in marshes; July.

*Rumex acetosella* L. Red Sorrel. Mesic to dry prairie; frequent to locally abundant; May.

*Rumex crispus* L. Sour Dock. Marsh edges and swale; infrequent; June.

*Rumex orbiculatus* A. Gray Great Water Dock. Swale; infrequent; July.

**Primulaceae (Primrose Family)**

*Dodecatheon meadia* L. Shooting Star. Moist to mesic prairie; infrequent; May.

*Lysimachia hybrida* Michx. Loosestrife. Marsh edges and swale; infrequent; June.

*Lysimachia terrestris* L. Marsh Loosestrife. Marsh edges; July.

**Ranunculaceae (Buttercup Family)**

*Anemonone canadensis* L. Anemone. Swale; locally abundant near western end, apparently absent elsewhere.

*Anemone cylindrica* A. Gray Windflower. Mesic to dry prairie; frequent; June.

*Caltha palustris* L. Marsh Marigold. Swale; locally abundant; April.

*Delphinium viridescens* Nutt. Larkspur. Mesic to dry prairie; frequent; June.

*Ranunculus fascicularis* Müll. Buttercup. Moist to mesic prairie; infrequent; May.

*Thalictrum danguicarpum* Fisch. & Avé-Lall. Masst prairie and swale; infrequent; June.

**Rhamnaceae (Buckthorn Family)**

*Ceanothus americanus* L. New Jersey Tea. Mesic prairie; rare, only one robust shrub was found; July.

**Rosaceae (Rose Family)**

*Agrimonia parviflora* Ait. Agrimony. Moist prairie; rare; July.

*Craetaegus mollis* (T. & G.) Scholle. Hawthorne. Moist prairie; rare, a small clump of trees was near the northern boundary, which apparently failed to flower.

*Fragaria virginiana* Duchesne. Strawberry. Moist to dry prairie; locally abundant; May.

*Potentilla arguta* Pursh Tall Cinquefoil. Mesic to dry prairie; frequent; June.

*Potentilla norvegica* L. Cinquefoil. Spring; rare; June.

*Potentilla recta* L. Five-finger. Mesic to dry prairie; infrequent; June.

*Potentilla simplex* Michx. Old-field Cinquefoil. Moist to dry prairie; common; May.

*Prunus americana* Marsh. Wild Plum. Mesic prairie; locally abundant in two small thickets; May.

*Prunus serotina* Ehrh. Black Cherry. Moist to mesic prairie; rare; May.

*Rosa carolina* L. Wild Rose. Mesic to dry prairie; infrequent; June.

*Rosa suffulta* Greene Wild Rose. Mesic prairie; infrequent; June.

*Rubus allegheniensis* Porter Common Blackberry. Swale, above the spring; locally common; May.

*Rubus flagellaris* L. Northern Dewberry. Swale; locally abundant; May.

*Spiraea alba* DuRoi Meadow Sweet. Marsh edges and swale; locally abundant, forming small thickets; June.

**Rubiaceae (Madder Family)**

*Calium obtatum* Bigel. Bedstraw. Swale; frequent; June.

*Calium trifidum* L. Bedstraw. Swale; frequent; June.

**Rutaceae (Rue Family)**

*Xanthoxylum americanum* Mill. Prickly Ash, Toothache-tree. Moist prairie; a small thicket was present near the northern boundary; May.

**Salicaceae (Willow Family)**

*Populus tremuloides* Michx. Quaking Aspen. Swale; infrequent; May.

*Salix bebbiana* Sarg. Beaked Willow. Swale; infrequent; May.

*Salix candida* Fluegge Sage-leaved Willow. Swale; rare, only two shrubs were found; May.

*Salix discolor* Müll. Pussy Willow. Marshes and swale; frequent; April.

*Salix petiolaris* Sm. Willow. Marshes and swale; April.

*Salix rigida* Müll. Heart-leaved Willow. Swale; infrequent; April.

**Santalaceae (Sandalwood Family)**

*Comandra umbellata* (L.) Nutt. Bastard Toad-flax. Mesic to dry prairie; frequent; May.

**Saxifragaceae (Saxifrage Family)**

*Heuchera richardsonii* R. Br. Prairie Alumroot. Moist to mesic prairie; infrequent; June.

*Pensthorum sedoides* L. Ditch Stonecrop. Swale; infrequent; July.

*Saxifraga pensylvanica* L. Swamp Saxifrage. Swale; frequent; May.

**Sedosphorlaeaceae (Figwort Family)**

*Miimulus ringens* L. Monkey Flower. Swale; infrequent; July.

*Gerardia purpurea* L. Gerardia. Marsh edges; rare; Ang.

*Pedicularis lanceolata* Michx. Loosestrife. Marsh edges; infrequent; June.

*Veronica scutellata* L. Speedwell. Swale; rare; June.

*Veronicastrum virginicum* (L.) Farw. Culver's Root. Marsh edges and swale; frequent; July.

**Solanaceae (Nightshade Family)**

*Physalis heterophylla* Nees Ground Cherry. Mesic prairie; infrequent; June.

*Physalis virginiana* Mill. Moos to dry prairie; frequent; June.

*Solandra carolinsae* L. Horse Nettle. Mesic prairie; rare; apparently restricted to a small disturbed area near the southeastern boundary; July.

*Solandra nigrum* L. Black Nightshade. Marsh edge; apparently rare; Aug.

**Ulmaceae (Elm Family)**

*Ulmus americana* L. American Elm. Swale; infrequent, a number of small trees, mostly under 3 m, were growing on drier parts of the swale; April.

*Ulmus pumila* L. Siberian Elm. Moos to dry prairie; apparently the seed source was a wind break across the road, west of the prairie. Most of the trees are under 2 m.

**Umbelliferae (Parsley Family)**

*Cicuta maculata* L. Water Hemlock. Marshes and swale; infrequent; June.

*Eryngium yuccifolium* Michx. Rattlesnake-master. Moisit prairie; rare, only one plant was found, near the western boundary; Aug.

*Oxypolis rigidior* (L.) Raf. Cowbane. Marshes and swale; infrequent; Aug.

*Situm suave* Walt. Water Parsnip. Swale; rare; Aug.

**Verbenaceae (Verben Family)**

*Verbena hastata* L. Blue Vervain. Marsh edges and moist prairie; frequent; July.

*Verbena X rydbergii* Hedenke (V. hastata X V. stricta). Mesic prairie; infrequent; June.

*Verbena stricta* Vent. Hoary Vervain. Moos to dry prairie; frequent; June.

**Violaceae (Violet Family)**

*Viola papilionacea* Pursh Meadow Violet. Swale; infrequent; May.

*Viola pedata* L. Bird-foot Violet. Mesic prairie; locally abundant, with obvious variation between clones; May.

*Viola pedatifida* G. Don Prairie Violet. Mesic prairie; infrequent; May.
Viola sagittata Ait. Arrow-leaved Violet. Moist to mesic prairie; frequent; May.
Viola sororia Willd. Woolly Blue Violet. Swale; infrequent; May.

Vitaceae (Grape Family)
Parthenocissus vitacea (Knerr) Hitch. Virginia Creeper. Moist to mesic prairie; infrequent along boundary fence-lines; May.
Vitis riparia Michx. Wild Grape. Mesic prairie; rare.

<table>
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<tr>
<th>Summary</th>
<th>Families</th>
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<th>Species</th>
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Literature Cited


