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Flora of Island Grove and Adjacent Iowa Prairies before 1908¹

B. O. WOLDEN

B. O. WOLDEN. Flora of Island Grove and Adjacent Iowa Prairies Before 1908. *Proc. Iowa Acad. Sci.*, 78(1):2-8, 1971.

SYNOPSIS. A posthumously published description of the landscape and vegetation (537 species) of an area near the northern

boundary of Iowa before 1908, before the native plants were seriously reduced by agriculture. The entire herbarium of Mr. Wolden is now at the Iowa State University.

INDEX DESCRIPTORS: 1908 prairie flora, Iowa prairie.

The stretch of woodland formerly called Island Grove lies in the southern part of Emmet County and occupies an area of probably not more than a half section. With the exception of a few marshes nearly all of this was originally covered with forest growth, but much has been cleared and it is now fields and some is pastured. The greater part, however, is not yet enclosed or pastured, and the native flora has not as yet been destroyed.

While the forest growth is still fairly dense and the large, decaying stumps, which are so numerous all through the grove, show that in former years it was much more so, yet, while a few woody plants characteristic of the more heavily wooded regions eastward, and such as have not been observed at any other place in the country, do occur, yet their number is not great, which is very natural considering the isolated situation, and the distance from streams, which are among the important natural agencies for seed distribution. However, some plants that occur sparingly or rarely in the woods of other parts of the country are very common in Island Grove.

Island Grove owes its existence to the lakes and ponds which the retreating ice of the Wisconsin period left in its path and which are arranged so as, at least in former years, to form nearly an island. Hence the name of the grove.

Similar protection as that which has shielded this area from the devastation of the prairie fires is also in evidence in the vicinity of this main grove. The many ponds and marshes have afforded protection to many necks of woodland and groves of mostly young oak that have sprung up in the course of time. These, however, are mostly pastured and the original, herbaceous, wood flora is for a large part extinct.

The surface of the locality is rather uneven and the lake banks are often quite high and at some places rather precipitous, or at least were so formerly (being very much affected by the erosion of the last two or three decades). From High Lake southwestward towards the Des Moines river and south toward the county line the country is especially rough and uneven. There are, however, no very high hills.

The area occupied by hydrophytic vegetation is very large, but very likely some of the rarer species became extinct during the dry years of twelve-thirteen years ago when all ponds were entirely dry and large parts of the lakes were dry or had taken the appearance of vast marshes.

¹ For a copy of this valuable manuscript I am indebted to Mrs. B. O. Wolden (Ida Iverson), a long time member of the Academy, as was her husband. Such early records as this are far too few. It will be of permanent value to have them preserved in the Proceedings of the Iowa Academy of Science.

Henry S. Conard, *Honorary Life Fellow*
April 1970

On account of the large area of lowland being utilized for pasture and meadowland, nearly all of the high prairie land is under cultivation, thus confining the dry prairie flora mostly to the roadsides and odd corners, except in the southern and southwestern part of the township east of the Des Moines river, where not a little of the high prairie land yet exists in its original state.

This being merely a preliminary list of 537 taxa, the number of plants can certainly be increased by continued observation and study. Especially is this the case with the aquatic phanerogams and the Cyperaceae, which are but poorly represented in this list.

This may well be considered a flora of the whole of High Lake township, as, while most observations have been made in the vicinity of Island Grove, yet the flora of other places in the township has also been given some attention.

In the following catalogue the synonymy used is mainly that of Britton and Brown, *Illustrated Flora*, second edition.

The author is indebted to Mr. R. I. Cratty of Armstrong, Iowa, for the determination of several difficult forms, and for much kind advice and information which has been freely given.

PTERIDOPHYTA: OPHIOGLOSSACEAE

Botrychium virginianum (L.) Sw. In rich woods. Frequent in Island Grove, otherwise rare. Has been found by Professor B. Shimek and Professor T. J. Fitzpatrick in woods near Estherville.

POLYPODIACEAE

Adiantum pedatum L. Woods. Very rare. *Asplenium Filix-foemina* (L.) Bernh. Infrequent in woods. *Filix fragilis* (L.) Underw. Very rare in woods. *Onoclea sensibilis* L. Rare in Island Grove.

EQUISETACEAE

Equisetum arvense L. Common in low ground. *Equisetum fluviatile* L. Common in marshes and along wet banks. *Equisetum hyemale* L. Infrequent on banks. *Equisetum laevigatum* A. Braun. Frequent on dry prairie.

SPERMATOPHYTA: GYMNOSPERMAE

PINACEAE

Juniperus virginiana L. In early days infrequent along banks of High Lake and Mud Lake. Now occurs only on high banks east side of Mud Lake.

ANGIOSPERMAE: MONOCOTYLEDONES

TYPHACEAE

Typha latifolia L. Common in marshes.

SPARGANIACEAE

Sparganium eurycarpum Engelm. Common. Marshes and along edges of ponds.

Editor's note. No attempt has been made to correct obsolete nomenclature. To save space, common names of families and species have been deleted. A section on medicinal plants has also been omitted because the species discussed there are also in the general list.

NAIADACEAE

Potamogeton natans L. "Johnson Slough" near High Lake. *Potamogeton perfoliatus richardsonii* A. Benn. Common in lakes. *Potamogeton pectinatus* L. Very common in lakes and ponds. *Najas flexilis* (Willd.) Rostk. and Schmidt. Slender Naias. Common in shallow water. Lakes and ponds.

ALISMACEAE

Alisma plantago-aquatica L. Common in shallow water, mud and ditches. *Sagittaria latifolia* Willd. (*S. variabilis* Engelm.) Common in mud and shallow water. *Sagittaria arifolia* Nutt. Frequent in bogs and margins of ponds.

VALLISNERIACEAE

Vallisneria spiralis L. Infrequent in ponds and lakes.

GRAMINEAE

Andropogon scoparius Michx. Common on dry prairies. *Andropogon furcatus* Muhl. Common on prairies. *Sorghastrum avenaceum* (Michx.) Nash. Frequent in dry prairie. *Syntherisma sanguinale* (L.) Nash. Infrequent in waste ground. *Syntherisma linearis* (Krock) Nash. Very common in pastures. *Echinochloa crus-galli* (L.) Beauv. Very common in low fields and in waste ground. *Panicum capillare* L. A common and useless grass in cultivated ground. *Panicum virgatum* L. Common on prairies. *Panicum scribnerianum* Nash. Frequent on dry prairies. *Panicum liebergii* (Vasey) Scribn. In meadow, High Lake grove. *Chaetochloa glauca* (L.) Scribn. A troublesome introduced weed in cultivated ground. *Chaetochloa viridis* (L.) Scribn. Introduced in fields. *Zizania aquatica* L. Infrequent in marshes. *Homalocenchrus virginicus* (Willd.) Britt. Very common. Moist woods. *Homalocenchrus oryzoides* (L.) Poll. Very common in marshes. *Phalaris arundinacea* L. Infrequent in wet ground. *Savastana odorata* (L.) Scribner. Common in low ground. *Stipa viridula* Trin. Infrequent, banks of High Lake. *Stipa spartea* Trin. Common on high prairies. *Oryzopsis melanocarpa* Muhl. Frequent in woods. *Muhlenbergia mexicana* (L.) Trin. Common, woods and prairies. *Muhlenbergia racemosa* (Michx.) BSP Common in low ground. *Muhlenbergia sylvatica* Torr. Common in dry open woods. *Brachyelytrum erectum* (Schreb.) Beauv. Frequent in Island Grove. Not reported from any other place in the county. *Phleum pratense* L. Escaped from cultivation. *Alopecurus fulvus* Smith. Frequent in marshes. *Sporobolus neglectus* Nash. Frequent in dry soil. *Sporobolus heterolepis* A. Gray. Frequent on high prairie. *Cinna arundinacea* L. Wet places in woods. Frequent. *Agrostis alba* L. Naturalized and common in low ground. *Agrostis hyemalis* (Walt.) BSP Common on low prairies. *Calamagrostis canadensis* (Michx.) Beauv. Common in wet ground. *Spartina cynosuroides* (L.) Willd. Common around sloughs and on low prairie. *Buteloua hirsuta* Lag. Frequent on dry knoll sec. 33 High Lake township. The nearest place from which previously reported is in Humboldt county. *Buteloua oligostachya* (Nutt.) Torr. Rare; sec. 17 High Lake township. *Atheropogon curtispendus* (Michx.) Fourn. Common on upland prairies. *Phragmites phragmites* (L.) Karst. Our tallest grass. Common around ponds and in marshes but much less so than formerly. *Eragrostis Purshii* Shrad. Common along roadsides and in cultivated ground. *Eragrostis major* Host. Very common. Introduced in cultivated ground. *Eragrostis hypnoides* (Lam.) BSP Common on river banks but not observed near Island Grove. *Eatonia obtusata* (Michx.) A. Gray. Common on dry prairie. *Eatonia pennsylvanica* (DC.) A. Gray. Common. Low ground. *Koeleria cristata* (L.) Pers. Common on dry prairies. *Dactylis glomerata* L. Introduced in open places in Island Grove. *Poa flava* L. Infrequent in meadows. *Poa pratensis* L. A common pasture grass. *Poa compressa* L. Perhaps frequent; west bank of "Long Island." *Poa sylvestris* A. Gray. Frequent in woods. *Scolochloa festucacea* (Willd.) Link. Very common in marshes. *Panicularia nervata* (Willd.) Kuntze. Very common in low meadows. *Panicularia americana* (Torr.) MacM. Common in marshes. *Festuca nutans* Willd. Common in low woods. *Bromus ciliatus* L. Common in woods. *Bromus ciliatus purgans* A. Gray. Frequent in woods. *Agropyron caninum* (L.) R. and S. Rare on dry prairie. *Agropyron tenerum* Vasey. Common,

woods and prairies. *Agropyron occidentale* Scribner. Common on dry prairies. *Hordeum jubatum* L. A troublesome and very common weed. *Elymus striatus* Willd. Very common in rather open woods. *Elymus virginicus* L. Quite frequent in open woods and also along banks. *Elymus canadensis* L. Quite common, woods and prairies. *Elymus robustus* Scribner and Sm. Robust Wild Rye. Woods and prairies. Frequent. *Hystrix hystrix* (L.) Millsp. Common in woods.

CYPERACEAE

Cyperus rivularis Kunth. Very common, banks and wet places. *Cyperus inflexus* Muhl. Frequent along sandy lake shores. *Cyperus Schweinitzii* Torr. South shore of High Lake. *Cyperus erythrorhizos* Muhl. Common in wet ground. *Cyperus strigosus* L. Very common in wet ground. *Eleocharis palustris* (L.) R. and S. Very common in low ground. *Eleocharis acicularis* (L.) R. and S. Common in wet ground. *Scirpus lacustris* L. Very common in marshes. *Scirpus fluviatilis* A. Gray. Common in marshes and shallow lakes. *Scirpus atrovirens* Muhl. Common on low prairies. *Carex monile* Tuck. Low ground, Northwest corner sec. 14. *Carex retrorsa* Schwein. Swampy woods. Infrequent. *Carex comosa* Boott. Infrequent. Marshes and lake borders. *Carex longirostris* Torr. Frequent in woods and on shaded banks. *Carex vulpinoidea* Michx. Very common on low prairies. *Carex trichocarpa* Muhl. In wet meadow. High Lake grove. *Carex aristata* R. Br. Abundant, marshes around and in High Lake grove. *Carex riparia* W. Curt. Marshes. Frequent. *Carex lanuginosa* Michx. Frequent. Marshes. *Carex assiniboensis* W. Boott. Frequent near banks of Mud Lake. The range given to this sedge in Gray's Manual is Man. and n. Minn. Has been found in only one other place in state near Iowa Falls. *Carex Meadii* Dewey. Common; woods and prairies. *Carex stricta angustata* (Boott.) Bailey. Wet ground, meadows. Frequent. *Carex pennsylvanica* Lam. Common on upland prairies. *Carex gravida* Bailey. Frequent, woods and prairies. *Carex rosea* Schkuhr. Frequent in woods. *Carex cristatella* B. Frequent; low woods. *Carex straminea* Willd. Open woods; infrequent. *Carex festucacea* Willd. Common in meadows. *Carex Bicknellii* Britton. Common on prairies. *Carex sycnocephala* Carey. Shores of Mud Lake. A rather rare plant in this locality.

ARACEAE

Arisaema triphyllum (L.) Torr. Very common in woods. *Acorus calamus* L. Infrequent in marshes and margins of ditches.

LEMNACEAE

Spirodela polyrhiza (L.) Schleid. Very common floating on stagnant water. *Lemna trisulca* L. Ponds and marshes.

COMMELINACEAE

Tradescantia virginiana L. Very common in open woods and prairies.

PONTEDERIACEAE

Heteranthera dubia (Jacq.) Macm. Infrequent in shallow water.

JUNCACEAE

Juncus tenuis Willd. Very common in low and especially tramped ground. *Juncus torreyi* Coville. Infrequent in low ground.

MELANTHACEAE

Zygadenus elegans Pursh. Common on prairies. *Uvularia grandiflora* J. E. Smith. This graceful plant is quite frequent in Island Grove. *U. sessilifolia* L. (*Oakesia* Wats.) Rare.

LILIACEAE

Allium tricoccum Ait. Rich woods. Very common in Island Grove. *Allium cernuum* Roth. Common on prairies and frequent on open or shady banks. *Allium canadensis* L. Frequent on low prairies. *Lilium philadelphicum* L. Frequent on prairie. *Lilium superbum* L. Very common in Island Grove, otherwise rare. The above has not been satisfactorily identified as *L. superbum* and may possibly be *L. canadense*. Mr. Cratty of Armstrong writes regarding it, "It seems to be a transition in our territory between *L. canadense* and *L. superbum*" and says that the fruit pods would probably decide which. Matured fruit pods however could not be found during past season. *Erythronium albidum* Nutt. Frequent in woods.

CONVALLARIACEAE

Asparagus officinalis L. Our common garden species is escaped from cultivation in a few places. *Vagnera racemosa* (L.) Morong. Common in woods. *Vagnera stellata* (L.) Morong. Common in woods. *Salomonina commutata* (R. and S.) Britton. Common. *Trillium erectum* L. In woods. Quite common in Island Grove.

SMILACEAE

Smilax herbacea L. Woods and thickets, common especially along borders and banks. *Smilax hispida* Muhl. Frequent in woods.

AMARYLLIDACEAE

Hypoxis hirsuta (L.) Coville. Very common on low prairies.

IRIDACEAE

Iris versicolor L. Common in marshes and wet meadows. *Sisyrinchium angustifolium* Mill. Common on low prairies and meadows.

ORCHIDACEAE

Cypripedium hirsutum Mill. Very rare in Island Grove. Observed in only two places and one of the stations has been destroyed lately by pasturing. *Galeorchis spectabile* (L.) Rydb. Frequent in part of Island Grove and rare through-out. A pretty plant. Has not been observed any other place in county. *Coeloglossum bracteatum* (Willd.) Parl. Rare along south bank of Mud Lake and also in grove. Only place known in the county. *Blephariglottis leucophaea* (Nutt.) Rydb. Infrequent on low prairies. *Grostachys cernua* (L.) Kuntze. Probably very rare on prairies. Locally frequent in a low meadow in Island Grove.

ANGIOSPERMAE: DICOTYLEDONES

SALICACEAE

Populus alba L. Infrequently escaped from cultivation. *Populus deltoides* Marsh. Common along lake banks. Some large trees still standing but the largest have long since been cut down. *Populus tremuloides* Michx. Not common. Occurs in clumps near lake banks and rarely on prairie. *Salix nigra* Marsh. Frequent along banks. *Salix amygdaloides* Anders. With the preceding. *Salix alba vitellina* (L.) Koch. Common in cultivation and sometimes escaped. *Salix fluviatilis* Nutt. Common in low ground. *Salix humilis* Marsh. Rare. Dry hills south part of High Lake township. *Salix discolor* Muhl. Infrequent, marshes and low places. *Salix cordata* Muhl. Common in low ground.

JUGLANDACEAE

Juglans nigra L. Frequent in and around Island Grove. Largest trees have been cut for cabinet lumber. *Hicoria minima* (Marsh.) Britton. Frequent in woods.

BETULACEAE

Ostrya virginiana (Mill.) Willd. Common, especially on western slopes. *Corylus americana* Walt. Common in woods.

FAGACEAE

Quercus rubra L. Common in Island Grove. A very handsome tree. *Quercus macrocarpa* Michx. The most valuable tree in the vicinity and also the commonest.

ULMACEAE

Ulmus americana L. Rather common. *Ulmus fulva* Michx. Frequent. *Celtis occidentalis* L. Infrequent.

CANNABINACEAE

Cannabis sativa L. Introduced.

URTICACEAE

Urtica gracilis Ait. A common weed in low rich ground. *Urticastrum divaricatum* (L.) Kuntze. Very abundant in woods. *Adicea pumila* (L.) Raf. Common in cool and moist shaded ground. *Parietaria pennsylvanica* Muhl. Common. Dry banks and also shaded places around dwellings; in orchards.

SANTALACEAE

Comandra umbellata (L.) Nutt. Frequent on dry prairies.

POLYGONACEAE

Rumex altissimus Wood. Frequent in low ground. *Rumex britanica* L. Common along borders of ponds. *Rumex crispus* L. Introduced, cultivated fields and roadsides. *Rumex persicarioides* L. Common in marshes. *Rumex acetosella* L. In dry fields. *Rumex mexicanus* Meisn. Infrequent. *Polygonum Hartwrightii*

A. Gray. Common in marshes. *Polygonum emersum* (Michx.) Britt. Common in muddy ground. *Polygonum incarnatum* Ell. Common in low fields. *Polygonum pennsylvanicum* L. Very common. *Polygonum punctatum* Ell. Common in wet ground. *Polygonum virginianum* L. Rather infrequent in Island Grove. Not recorded from any other part of the county. *Polygonum persicaria* L. Introduced in waste places. *Polygonum aviculare* L. Very common around dwellings. *Polygonum erectum* L. With the preceding. Infrequent. *Polygonum ramosissimum* Michx. Infrequent on prairie. *Polygonum convolvulus* L. A troublesome introduced weed. *Polygonum scandens* L. Common in brush and along borders of woods.

CHENOPODICEAE

Chenopodium album L. A common introduced weed in fields. *Chenopodium hybridum* L. Frequent in woods. *Chenopodium Boscianum* Moq. Common in woods. *Chenopodium ambrosioides* L. Introduced. Rare. *Salsola tragus* L. Not observed by the writer during latter years. During dry years common in sandy ground.

AMARANTHACEAE

Amaranthus retroflexus L. Common, introduced weed in fields and waste places. *Amaranthus graecizans* L. Introduced.

NYCTAGINACEAE

Allionia nyctaginea Michx. Common in dry open places and field sides. *Allionia hirsuta* Pursh. Rare. Dry ground near road, east side section 33. High Lake township.

PORTULACACEAE

Portulaca oleracea L. Introduced. Very common in cultivated ground.

CARYOPHYLLACEAE

Agrostemma githago L. An introduced plant in wheat fields. *Silene stellata* (L.) Ait. Common along borders of woods and thickets. The pretty white flowers make this a conspicuous plant along our wooded roadsides. *Silene antirrhina* L. In waste places. *Silene noctiflora* L. Infrequently introduced. *Silene armeria* L. [No information.] *Alsine longifolia* (Muhl.) Britton. Common in wet shady ground. *Cerastium vulgatum* L. Frequent in a woodland pasture. High Lake. Introduced. *Lychnis alba* Mill. Introduced in clover fields.

NYMPHAEACEAE

Nymphaea advena Soland. Once common in ponds around High Lake, but not observed since the dry year of 1894 and succeeding. Frequent, latter years, in pond east of High Lake.

RANUNCULACEAE

Caltha palustris L. Locally frequent in marsh east of Des Moines River, sec. 20, High Lake township. *Isopyrum biternatum* (Raf.) T. and G. Frequent in woods. A very pretty wood flower. *Actaea rubra* (Ait.) Willd. Frequent in woods. *Aquilegia canadensis* L. Common in woods, especially along banks. One of our prettiest wild flowers. *Delphinium albescens* Rydb. Common on dry prairies. *Anemone cylindrica* A. Gray. Frequent on prairies and in open places. *Anemone virginiana* L. Frequent in woods. *Anemone canadensis* L. Very common, open woods and prairies. *Anemone quinquefolia* L. Not infrequent in the eastern part of Island Grove, which is the only locality known in the county. *Pulsatilla hirsutissima* (Pursh.) Britton. Common on high prairies. Sometimes the first flower to appear in spring. *Clematis virginiana* L. Frequent along banks and borders of woods. *Ranunculus ovalis* Raf. Common on dry slopes. Generally the first flower of spring. *Ranunculus depphinifolius* Torr. Common in marshes. *Ranunculus abortivus* L. Very common in woods. *Ranunculus pennsylvanicus* L. Frequent in moist ground. *Ranunculus sceleratus* L. Around ponds and ditches. Common. *Ranunculus septentrionalis* Poir. A showy flower common in woods and on prairie. *Oxygraphis cymbalaria* (Pursh.) Prantl. Frequent on wet prairies. *Thalictrum purpurascens* L. Common, open woods and prairie.

BERBERIDACEAE

Caulophyllum thalictroides (L.) Michx. Very common in woods around High Lake.

MENISPERMACEAE

Menispermum canadense L. A handsome climber. Frequent in woods.

PAPAVERACEAE

Bicuculla cucullaria (L.) Millsp. Very common in woods. *Sanguinaria canadensis* L. Common in woods. This pretty flower is the first to appear in the spring in the woods. *Capnoides micranthum* (Engelm.) Britton. Infrequent, fields and dry woods.

CRUCIFERAE

Lepidium virginicum L. Waste ground. *Lepidium apetalum* Willd. A common weed. *Sisymbrium officinale* (L.) Scopoli. A very common weed. *Brassica nigra* (L.) Koch. An introduced weed. *Brassica arvensis* (L.) BSP A very common introduced weed in grain fields. *Rorippa palustris* (L.) Bess. Common in wet fields and in swamps. *Rorippa Armoracia* (L.) A. A. Hitchcock. An occasional escape from gardens. *Cardamine parviflora* L. Frequent in wet woods. *Cardamine bulbosa* (Schreb.) BSP Rare. Along water edges and in bogs. *Dentaria laciniata* Muhl. Very common in woods. A pretty flower. *Bursa bursa-pastoris* (L.) Britton. A common weed. *Sophia intermedia* Rydb. Infrequent in dry soil. *Arabis dentata* T. and G. Infrequent along lake bank, south side of Mud Lake. *Arabis hirsuta* (L.) Scop. Rare. Along banks and also in meadows. *Erysimum cheiranthoides* L. Frequent along banks.

CAPPARIDACEAE

Polanisia trachysperma Torr. and Gray. Locally common along sandy lake shores.

CRASSULACEAE

Penthorum sedoides L. Common in low ground.

SAXIFRAGACEAE

Heuchera hispida Pursh. Dry prairies; western part of township.

GROSSULARIACEAE

Ribes gracile Michx. Very common in woods. *Ribes floridum* L'Her. Common in low woods.

ROSACEAE

Rubus strigosus Michx. Frequent in woods especially along banks. *Rubus occidentalis* L. Very common in woods. *Fragaria virginiana* Duch. Very common, meadows and prairies. *Fragaria americana* (Port.) Britt. Frequent. Wooded banks and slopes. *Potentilla arguta* Pursh. Frequent on dry prairie east of the Des Moines River, southwestern part of High Lake township. *Potentilla monspeliensis* L. Common in wet cultivated fields. *Potentilla paradoxa* Nutt. Infrequent along lake shores. *Geum canadense* Jacq. Common in woods. *Agrimonia hirsuta* (Muhl.) Bick. Common in woods. *Rosa blanda* Ait. Common in open woods, especially along banks and roadsides. *Rosa arkansana* Porter. Very common on prairie.

POMACEAE

Malus ioensis (Wood) Britton. Infrequent in woods but common along banks of ponds and sloughs. *Amelanchier alnifolia* Nutt. Frequent along rather high banks. *Crataegus mollis* (Torr. and Gray) Scheele. Frequent in woods.

DRUPACEAE

Prunus americana Marsh. Common in woods and thickets and especially along banks of large sloughs. *Prunus virginiana* L. Very common along edges and in open woods. *Prunus serotina* Ehrh. Very rare in Island Grove.

MIMOSACEAE

Acuan illinoensis (Michx.) Kuntze. Very rare in our locality. As far as known not reported before from Emmet County. Only one plant has been found on southeast side of High Lake, by the lake bank.

CAESALPINIACEAE

Cassia chamaecrista L. Common in dry sandy soil, especially along roadsides. *Gymnocladus dioica* (L.) Koch. This tree occurs locally in the eastern part of the woods here and is a very rare tree in this locality. It occurs in southern Iowa and northward to Fort Dodge, but is rare in our part of the state. Aside from those here there is said to be three of these trees found on the east side of Swan Lake.

PAPILIONACEAE

Melilotus alba Desv. Frequent. Introduced from Europe. *Trifolium procumbence* L. Infrequent. Introduced in pastures. *Trifolium pratense* L. Everywhere escaped from cultivation. *Trifolium hybridum* L. Introduced and becoming frequent. *Trifolium repens* L. A very common escape from cultivation. *Psoralea argophylla* Pursh. Very common on prairie slopes. *Psoralea esculenta* Pursh. On high prairies, not common. *Amorpha fruticosa* L. A common shrub on prairies and along open banks. *Amorpha canescens* Pursh. A common little shrub on dry prairies. *Kuhnistera candida* (Willd.) Kuntze. Common on dry prairie. *Kuhnistera purpurea* Vent. Common on dry prairie, with preceding. *Astragalus crassicaerpus* Nutt. Frequent on dry prairie. The earliest flowering species of the order. *Astragalus carolinianus* L. On open banks and borders. *Glycyrrhiza lepidota* Pursh. Frequent on prairies. *Meibomia canadensis* (L.) Kuntze. Common, borders of woods and along prairie roadsides. *Meibomia grandiflora* (Walt.) Kuntze. Very common in woods. *Meibomia longifolia* (T. and G.) Vail. Infrequent in High Lake grove. *Lespedeza capitata* Michx. Frequent on prairies. *Lespedeza leptostachya* Engelm. Frequent on dry ridges along the Des Moines River, southern part of High Lake township. *Vicia americana* Muhl. Very common. Edges of woods and on prairie. *Lathyrus venosus* Muhl. Open woods and prairies: common. *Lathyrus palustris* L. Frequent in low meadows. *Falcata comosa* (L.) Kuntze. Very common, woods and prairies. *Apios apios* (L.) MacM. Frequent along edges of woods and banks. A very handsome climber. *Strophostyles helvola* (L.) Britt. Infrequent: banks of High Lake. Locally common on banks of Des Moines River. *Strophostyles pauciflora* (Benth.) S. Watson. Quite common on banks of High Lake.

GERANIACEAE

Geranium maculatum L. In rather open upland woods. This is a rare plant in our locality, although common for the state. It occurs in one place in Island Grove, where it is quite abundant. One of our most beautiful flowers.

OXALIDACEAE

Oxalis violacea L. Common in rather sandy ground. *Oxalis stricta* L. A common weed in cultivated ground and open places.

LINACEAE

Linum sulcatum Riddell. Frequent on dry prairies. *Linum usitatissimum* L. Rarely escaped from cultivation.

RUTACEAE

Xanthoxylum americanum Mill. Frequent in woods.

POLYGALACEAE

Polygala verticillata L. Infrequent in dry soil.

EUPHORBACEAE

Acalypha virginica L. Common in woods and orchards. *Euphorbia glyptosperma* Engelm. Very common in dry prairies and in waste and cultivated ground. *Euphorbia corollata* L. Rare. Collected in gravelly knoll near the Des Moines River, south part of High Lake township. *Euphorbia nutans* Lag. Timothy fields and in sandy ground. *Euphorbia cyparissias* L. Escaped from cemetery.

ANACARDIACEAE

Rhus glabra L. Frequent along borders of woods. *Rhus diversiloba* Torr. and Gray. Very common in woods and along roadsides.

CELASTRACEAE

Euonymus atropurpureus Jacq. Formerly frequent in parts of Island Grove, but has been destroyed by the rabbits, which gnaw off the bark in winter time. It is now getting rare. *Celastrus scandens* L. Common in woods. Presents a very handsome appearance in late autumn when the berries are ripe.

ACERACEAE

Acer saccharinum L. Although small trees occur sparingly, Soft Maple is not native in Island Grove, but it is very common along the Des Moines River. Also common in cultivation. *Acer nigrum* Michx. Common in the eastern part of Island Grove. In former years there were many splendid, large trees standing, but now only a few are left. *Acer negundo* L. Very common.

BALSAMINACEAE

Impatiens biflora Walt. Common; especially along wet, shaded banks. *Impatiens aurea* Muhl. Generally in moist places in woods, but in wet years very abundant, all through Island Grove.

RHAMNACEAE

Ceanothus americanus L. Frequent on dry prairies.

VITACEAE

Vitis vulpina L. Very common in woods and especially along low banks. *Parthenocissus quinquefolia* (L.) Planch. Very common in woods.

TILIACEAE

Tilia americana L. Very common in woods.

MALVACEAE

Malva sylvestris L. An infrequent escape from gardens. *Malva rotundifolia* L. Infrequent near dwellings. Introduced from Europe.

HYPERICACEAE

Hypericum canadense L. Frequent in low ground near High Lake.

CISTACEAE

Helianthemum canadense (L.) Michx. Rare. High Lake cemetery.

VIOLACEAE

Viola palmata L. Infrequent; meadow near High Lake and on prairie. *Viola pedatifida* Don. Common on prairies. *Viola papilionacea* Pursh. Very common in open woods and in low meadows. *Viola pubescens* Ait. Common in open woods. *Viola canadensis* L. Low woods; observed only on a small island. Has also been found by Mr. Cratty just north of county line.

LYTHRACEAE

Lythrum alatum Pursh. Common in low ground.

ONAGRACEAE

Ludwigia polycarpa Short and Peter. Low ground near High Lake; infrequent. *Epilobium lineare* Muhl. Locally frequent in low marshy places. *Epilobium coloratum* Muhl. In swampy ground; more common than the preceding. *Onagra biennis* (L.) Scop. Common in dry soil and in waste places. *Meriolix serrulata* (Nutt.) Walp. Frequent on high prairies; southern part of township. *Circaea luteiana* L. Very common in woods.

ARALIACEAE

Aralia racemosa L. Frequent in woods. *Aralia nudicaulis* L. Common on stony well shaded banks and slopes. *Panax quinquefolium* L. In woods, rare.

UMBELLIFERAE

Sanicula gregaria Bicknell. Very common in woods. *Sanicula canadense* L. Frequent in woods. *Sanicula trifoliata* Bicknell. Frequent in woods. This is probably rare for this region, as its published range is not farther west than Indiana. *Eryngium aquaticum* L. Common on prairies. *Washingtonia claytoni* (Michx.) Britton. Very common in woods. *Washingtonia longistylis* (Torr.) Britton. Very common in woods. *Zizia aurea* (L.) Koch. In moist open places and on low prairies. *Cicuta maculata* L. Common in moist meadows. *Cicuta bulbifera* L. Rare; in a marsh southeast of Mud Lake. *Deringa canadensis* L. Very abundant in woods. *Carum carui* L. Infrequent; roadsides near dwellings. *Taenidia integerrima* L. In woods, along shaded banks and slopes. *Sium ciutaefolium* Gmel. Common in sloughs. *Thaspium barbinode* (Michx.) Nutt. Common; open woods and meadows. *Pastinaca sativa* L. Infrequently escaped from gardens. *Heracleum lanatum* Michx. Locally common in moist woods. *Daucus carota* L. Introduced weed in dry pastures and along roadsides. Not yet common.

CORNACEAE

Cornus stolonifera Michx. Frequent in low woods especially around marshes. *Cornus candidissima* Marsh. Very common in woods.

PYROLACEAE

Pyrola elliptica Nutt. Rare; High Lake Grove.

PRIMULACEAE

Steironema ciliatum (L.) Raf. Common near borders of woods. *Steironema quadriflorum* (Sims.) Hitch. Frequent on low

prairies. *Naumburgia thyrsiflora* (L.) Duby. Infrequent.

OLEACEAE

Fraxinus lanceolata Borkh. Common in woods especially in low ground.

GENTIANACEAE

Gentiana puberula Michx. Infrequent on high prairies. Very handsome and showy flowers. *Gentiana Andrewsii* Griseb. Frequent; low prairies and borders.

APOCYNACEAE

Apocynum androsaemifolium L. Common in open woods. *Apocynum cannabinum* L. Common; low, open places in woods and on prairie.

ASCLEPIADACEAE

Asclepias tuberosa L. Common on dry prairies. *Asclepias incarnata* L. Common in marshes and wet meadows. *Asclepias syriaca* L. Common in waste ground and in cultivated fields. *Asclepias ovalifolia* Decaisne. Frequent on dry prairies. *Asclepias verticillata* L. Common on dry prairies. *Acerates viridiflora* (Raf.) Eaton. Infrequent on high prairies. *Acerates lanuginosa* (Nutt.) Decaisne. Frequent on high prairies.

CONVOLULACEAE

Convolvulus sepium L. In woods and in fields; common.

CUSCUTACEAE

Cuscuta paradoxa Raf. Very common in low ground in woods. *Cuscuta obtusiflora* HBK. Common in low ground on Polygonums. *Cuscuta Gronovii* Willd. Low lake banks. *Cuscuta arvensis* Beyr. [No information.]

POLEMONIACEAE

Phlox pilosa L. A beautiful flower common on prairies. Blossoming from June to September. *Phlox divaricata* L. Very common in woods. No month can show us anything more pretty than does May when the beautiful flowers of the Blue Phlox abound in our woodlands.

HYDROPHYLLACEAE

Hydrophyllum virginicum L. Very common in woods. A pretty flower. *Macrocalyx nyctelea* (L.) Kuntze. Common in low woods.

BORAGINACEAE

Lappula lappula (L.) Barst. Common in waste ground and dry pastures. *Lappula virginiana* (L.) Greene. Common in woods and in thickets. *Lithospermum latifolium* Michx. In dry open woods. Rare in this locality but frequent in woods around High Lake. *Lithospermum canescens* (Michx.) Lehm. Quite common on dry prairies. *Onosmodium carolinianum* (Lam.) DC. Frequent on dry prairies. *Lithospermum linearifolium* Goldie.* Along Des Moines River. Otherwise rare.

VERBENACEAE

Verbena urticifolia L. Common in pastures and in waste places. *Verbena hastata* L. Common in moist pastures. *Verbena stricta* L. Common on dry prairies, especially in pastures. *Verbena bracteosa* Michx. Infrequent in dry ground, pastured hillsides.

LABIATAE

Teucrium canadense L. Frequent in moist woods. *Teucrium occidentale* A. Gray. Frequent in low ground; borders and on prairie. *Scutellaria lateriflora* L. Common around marshes, especially in shaded ground. *Scutellaria parvula* Michx. Frequent on low prairies. *Scutellaria galericulata* L. Common in marshes. *Agastache nepetoides* (L.) Kuntze. In thicket, south side of Mud Lake. *Agastache scrophulariaefolia* (Willd.) Kuntze. Quite common in woods. *Nepeta cataria* L. Introduced from Europe into waste places. *Glechoma hederacea* L. Introduced near dwellings. *Physostegia virginiana* (L.) Benth. Locally frequent in wet, shady ground in Island Grove. Common on river banks and along streams. A handsome plant with large and showy rose colored flowers. *Stachys palustris* L. In wet ground, especially along borders of prairie ponds and marshes. *Leonurus cardiaca* L. Woods south of Wallingford bridge. Introduced. *Monarda*

**L. linearifolium incisum* Lehm.? Ed.

fistulosa L. Very common along borders and on prairie. *Koellia virginiana* (L.) MacM. Common; along borders and on low prairie. *Lycopus virginicus* L. Common in wet ground. *Lycopus americanus* Muhl. Common in wet ground. *Mentha canadensis* L. Quite frequent in low ground. *Prunella vulgaris* L. Not common. In pasture east of Mud Lake. *Hedeoma hispida* Pursh. Collected in cloverfield. Most likely introduced.

SOLANACEAE

Physalis lanceolata Michx. Common on prairies and in cultivated ground. *Physalis virginiana* Mill. Common; fields and waste ground. *Solanum nigrum* L. Very common in fields and in waste ground. *Solanum rostratum* Dunal. In Twelve Mile Lake township. Introduced.

SCROPHULARIACEAE

Verbascum Thapsus L. An introduced weed locally frequent in pastures. *Scrophularia marylandica* L. Common in open woods and thickets. *Mimulus ringens* L. Frequent in wet ground. *Gratiola virginiana* L. Common in wet open places in woods and on low prairies. *Ilysanthes gratioides* (L.) Benth. In low ground. Common near High Lake, in wet, muddy places in cultivated fields. *Veronica Anagallis-aquatica* L. Along streams. South part of High Lake. *Leptandra virginica* (L.) Nutt. In woods and on low prairies; very common. *Gerardia tenuifolia* Vahl. Common on low ground especially near woods. One of our pretty early autumn flowers. *Gerardia auriculata* Michx. On prairies. Generally infrequent but locally common in a pasture, north side of Mud Lake. The handsome flowers, which are much larger than in the preceding species, are among our prettiest prairie flowers. *Gerardia aspera* Dougl. Dry ridges east of Des Moines River. SW part of township. *Castilleja sessiliflora* Pursh. Not observed around High Lake Grove. Dry hillsides, south part of township. *Pedicularis lanceolata* Michx. Common in swampy ground and along low borders. Flowering in autumn. *Pedicularis canadensis* L. Very common in low prairies. Flowering in spring. *Linaria Linaria* (L.) Karst. Waste ground; Estherville.

LENTIBULARIACEAE

Utricularia vulgaris L. var. *americana* Gray. Not common. Johnson slough.

OROBANCHACEAE

Thalesia uniflora (L.) Britt. Rare; one station in High Lake Grove and one SE of High Lake.

PHRYMACEAE

Phryma Leptostachya L. In woods and in thickets; common.

PLANTAGINACEAE

Plantago major L. A very common weed around dooryards and in waste ground. *Plantago Rugelii* Decaisne. Growing with the last and very common. *Plantago lanceolata* L. Introduced in clover field.

RUBIACEAE

Galium Aparine L. Very abundant in moist woods; especially around small clearings. *Galium boreale* L. Common on prairie hill-sides and near woods. *Galium triflorum* L. Common in woods. *Galium tinctorium* L. Low prairies; frequent.

CAPRIFOLIACEAE

Sambucus canadensis L. Frequent near woods and along banks. *Viburnum Lentago* L. Common in open woods and slopes and along banks. The black fruit, ripe in September, is considered edible. *Viburnum pubescens* (Ait.) Pursh. Rare in High Lake Grove. *Triosteum perfoliatum* L. Frequent in rather open woods. *Symphoricarpos occidentalis* Hook. Very common in open woods and along banks. *Lonicera dioica* L. Woodbine. Frequent in rather open places in woods; also along banks. A pretty vine.

CUCURBITACEAE

Micrampelis lobata (Michx.) Greene. Common in woods and along banks of lakes and streams, climbing over bushes.

CAMPANULACEAE

Campanula aparinoides Pursh. Frequent in wet grassy ground. *Campanula americana* L. Common in open woods and on moist shaded slopes.

LOBELIACEAE

Lobelia syphilitica L. Very common in low ground. Flowering through all the autumn months. *Lobelia spicata hirtella* A. Gray. Rather common on low prairies.

CICHORIACEAE

Cichorium intybus L. An introduced weed but rare in our locality. Occurs near what was once a dwelling place near banks of High Lake. *Taraxacum taraxacum* (L.) Karst. A very common weed in grassy ground. *Sonchus oleraceus* L. Introduced in waste ground. *Sonchus asper* (L.) All. Infrequent in waste ground. *Lactuca virosa* L. An introduced weed; infrequent. *Lactuca ludoviciana* (Nutt.) DC. Woods and prairies; common. *Lactuca pulchella* (Pursh.) DC. Common on prairies, in open woods, on dry banks. Introduced from the Northwest. *Lactuca spicata* (Lam.) Hitchc. Borders of woods; common. *Nothocalais cuspidata* (Pursh.) Greene. Prairie hillsides. Not very near High Lake. *Lygodesmia juncea* (Pursh.) Don. Rare. Dry knolls. *Nabalus albus* (L.) Hook. Rare; in woods south side of Mud Lake. *Nabalus racemosus* (Michx.) DC. Infrequent on prairies. *Nabalus asper* (Michx.) T. and G. Rare on prairies.

AMBROSIAEAE

Iva xanthiifolia (Fresen.) Nutt. A troublesome weed in rich ground. *Ambrosia trifida* L. A very common weed in cultivated ground. *Ambrosia artemisiaefolia* L. A very common and troublesome weed along roadsides and fencerows and in low cultivated fields. *Xanthium canadense* Mill. A common weed in low sandy ground and troublesome in cultivated fields.

COMPOSITAE

Vernonia fasciculata Michx. Frequent in low ground; especially common in alluvial soil. *Eupatorium purpureum* L. Rather frequent in woods. *Eupatorium altissimum* L. Northwest side of Swan Lake. *Eupatorium perfoliatum* L. Common in marshy open places in woods and on low prairie. *Eupatorium ageratioides* L.f. Very common in woods. *Kuhnia glutinosa* Ell. Frequent on dry prairies. *Lacinaria punctata* (Hook.) Kuntze. Probably frequent in our locality, but the writer has observed it only on dry knoll sec. 33 High Lake township. *Lacinaria pycnostachya* (Michx.) Kuntze. Very common on low prairies. *Lacinaria scariosa* (L.) Hill. Common on dry prairies. *Solidago flexicaulis* L. Frequent in woods. *Solidago rigidiuscula* (Torr. and Gray.) Porter. Infrequent on dry prairies. *Solidago serotina* Ait. Frequent along roadsides and very common in openings in woods. *Solidago missouriensis* Nutt. Common on prairies. *Solidago canadensis* L. Very common along roadsides and fencerows. *Solidago nemoralis* Ait. Frequent in dry ground. *Solidago rigida* L. Common on dry prairies and especially along roadsides. *Solidago riddellii* Frank. Frequent, at least locally, on low prairies. *Euthamia graminifolia* (L.) Nutt. Frequent on low prairies. *Boltonia asteroides* (L.) L'Her. Very common in wet ground; most abundant around prairie sloughs. *Aster cordifolius* L. Common in rather dry woods. *Aster oblongifolius* Nutt. Sec. 33 on dry knoll. *Aster novae-angliae* L. Very common on prairies and along edges of woods. Our largest flowered species. The violet-purple flowers are remarkably handsome. *Aster puniceus* L. Rare in Island Grove. Also observed on prairie. Probably rare in our locality. *Aster laevis* L. Common on rather dry prairies. This is also a very handsome species. *Aster amethystinus* Nutt. Rather low ground, north of Mud Lake. *Aster sericeus* Vent. Common on dry prairies. A most beautiful species, with silvery leaves and very handsome flowers. *Aster paniculatus* Lam. Common on low prairies and in moist open woods, the leaves resembling those of the Black Willow. *Aster lateriflorus* (L.) Britton. Frequent in open woods. *Aster multiflorus* Ait. Very common on prairies; has very numerous flowers. *Erigeron philadelphicus* L. Frequent in open woods and on prairie. *Erigeron ramosus* (Walt.) BSP. Common in meadows and around fields. *Leptilon canadense* (L.) Britton. A common weed in waste places and fields. *Leptilon divaricatum* (Michx.) Raf. Along Des Moines River. *Antennaria plantaginifolia* (L.) Richards. Common in wooded pastures. *Silphium perfoliatum* L. Common in moist open woods, meadows and

roadsides. *Silphium laciniatum* L. Still frequent on prairies. *Heliopsis scabra* Dunal. Open woods and prairies, very common. *Rudbeckia hirta* L. Common on rather dry prairies. *Rudbeckia laciniata* L. Very common along wooded roadsides and in clearings in woods. *Ratibida pinnata* (Vent.) Barnhart. Very common on dry prairies. *Brauneria pallide* (Nutt.) Britton. Common on dry prairies. *Helianthus annuus* L. Rarely introduced in waste places. *Helianthus scaberrimus* Ell. Common on dry prairies. *Helianthus Maximiliani* Schrad. Common on prairies. *Helianthus grosse-serratus* Martens. Common in moist open woods and low ground generally. *Helianthus strumosus* L. In woods; common in open places. *Helianthus tuberosus* L. Common; roadsides and fields. *Coreopsis palmata* Nutt. Common on dry prairies. *Bidens cernua* L. Common in marshes and around ponds. *Bidens frondosa* L. Common; in moist fields and waste ground. *Helenium autumnale* L. Frequent in low ground. *Achillea lanulosa* Nutt. Frequent in dry meadows and pastures. *Anthemis cotula* L. A very common weed around dwellings;

in barn-yards. *Tanacetum vulgare* L. A frequent escape from gardens. *Artemisia caudata* Michx. Infrequent on dry knolls southern part of High Lake township. *Artemisia dracunculoides* Pursh. Common on dry prairie hillsides and on banks. *Artemisia biennis* Willd. Frequent; often a weed. Especially common along gravelly lake banks. *Artemisia gnaphalodes* Nutt. Open woods and prairies; common. *Erechtites hieracifolia* (L.) Raf. Rare; shore of Mud Lake. Most likely introduced. *Mesadenia tuberosa* (Nutt.) Britton. Infrequent on prairies. *Senecio aureus* L. Rather frequent on prairies. *Senecio palustris* (L.) Hook. Frequent around marshes and lakes. *Arctium lappa* L. A common introduced weed in waste places. *Carduus lanceolatus* L. A troublesome weed in dry pastures. *Carduus arvensis* (L.) Robs. A troublesome weed fortunately not common. Has been observed on two or three farms in High Lake. *Carduus iowensis* Pammel. Low-ground; prairies and borders. Common. *Carduus discolor* Muhl. Common, woods and prairies. *Carduus canescens* (Nutt.) Pammel. Not common.