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## Spermaphyta of the Flora of Fayette, Iowa

Bruce Fink

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*Cladophora fracta* var. *gossypina* Kg.(?) Common in West Lake Okoboji.

*Cladophora fracta* Kg. var. In West Lake Okoboji.

*Hydrodictyon utriculatum*. Very common in Lime creek, at Forest City.

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## SPERMAPHYTA OF THE FLORA OF FAYETTE, IOWA.

BRUCE FINK.

### INTRODUCTION.

A considerable amount of work has been done on the flora of the vicinity of Fayette since the early settlement, and during the last five years the writer has explored the region thoroughly. Nearly 200 of the plants of this list have been carefully compared by the writer and other persons at the herbaria of the University of Minnesota and Harvard university. I have also had the aid of specialists on five difficult genera, and altogether the list of a few more than 700 species and varieties has been carefully worked out.

The early work was done by Dr. C. C. Parker who, previous to 1876, had collected and preserved nearly 500 specimens of our herbaceous plants. Dr. Parker's herbarium contains twenty-eight plants not found by the writer, which are listed. They may be known, as he is given credit for the collecting. I am also indebted to him for the use of his herbarium in preparing this record, and for valuable aid in finding several rare plants.

As to territory covered, the list is approximately complete for the region within five miles of Fayette. A few plants are included which were collected ten or fifteen miles away, but the work is doubtless quite incomplete for some portions of Fayette county. This region furnishes a good field for the study of the higher plants, as the topographical features are quite varied. Prairies, woods, rivers, springs, marshes, ponds, hills and limestone ledges all abound. The woods, even after so much clearing has been done, are a more inviting field for study than the limited amount of unbroken prairie. Twenty years ago the prairie grasses and sedges were surely much more abundant than now, but unfortunately they were not

studied till quite recently, after the prairies had been largely brought under cultivation. This accounts for the small number of grasses and sedges listed, after I have collected them as carefully as other genera—except the genus *Carex*, which needs more study.

I wish to express my thanks to Dr. B. L. Robinson, and to Prof. Conway MacMillan, for the use of the herbaria mentioned above, in comparing plants. The late Mr. M. S. Bebb named the species of *Salix*, Mr. M. L. Fernald those of *Carex* (except four species collected by Mr. A. S. Skinner and Miss Ona M. Rounds in 1896, which were determined by Mr. R. I. Cratty), Prof. C. S. Sargent those of *Quercus*, and Mr. R. I. Cratty those of *Sagittaria* and *Potamogeton*. Mr. A. A. Heller and Mr. J. W. Blankinship also aided in the determination of a number of species. To all of these gentlemen I am greatly obliged for the aid freely given.

That the unrest in botanical synonymy is to continue for some time is certain, if, indeed, all features of it can be permanently settled. I have used the arrangement and synonymy of Gray's Manual, sixth edition, which doubtless is not to stand long without radical change. The work has grown up under this system, and it will serve its purpose so that this record can be used in the future study of this vicinity or a somewhat larger one. Furthermore, this manual has commonly been used in Iowa in making general lists.

The plants herein recorded will be found in the herbaria of the persons who are credited with the collections. The herbarium of the Upper Iowa university contains nearly all the species also, and the writer has collected 640 of them for the United States National Herbarium. These last were delivered in 1894.

Nearly all the species listed were collected by the writer. Other collectors are given credit for the plants collected by them. Besides, Dr. C. C. Parker, Mr. J. R. Gardner, Mr. A. S. Skinner, Mr. R. B. Wylie, Miss Gem E. Rounds, Miss Ona M. Rounds, Miss Etna Burette and Mr. W. F. Baker have each added to the work by their collecting. I am under obligations to all of them for this help.

Several species are herein reported for the first time in Iowa, as is indicated with the names of these plants. Further study of this vicinity will bring out new information regarding the families here treated. If this list shall aid in such investiga-

tion or prove helpful to the botanists of other parts of Iowa, I shall feel well rewarded for the many days spent in collecting and studying the plants and in the final preparation of this paper.

## LIST OF SPECIES.

## RANUNCULACEÆ.

*Clematis virginiana* L. Banks and low thickets, infrequent.  
*Anemone patens* L., var. *nuttalliana* Gray. High prairies, common

*A. caroliniana* Walt. Prairies, rare.

*A. cylindrica* Gray. Woods, frequent.

*A. pennsylvanica* L. Low prairies, common.

*A. nemerosa* L. Dry woods, common.

*Hepatica acutiloba* D. C. Woods, common. *H. triloba* Chaix is frequently reported here, but does not occur.

*Anemonella thalictroides* Spach. Woods, abundant.

*Thalictrum dioicum* L. Woods, common.

*T. purpurascens* L. Low prairies, infrequent.

*Ranunculus circinatus* Sibth. Ponds, probably rare. The leaves are sessile or nearly so, have stipules and are more rigid than those of the next.

*R. aquatilis* L., var. *trichophyllus* Gray. Ponds, infrequent. Coll. Mr. R. B. Wylie.

*R. multifidus* Pursh. Ponds, rare.

*R. rhomboidens* Goldie. Prairies, frequent.

*R. abortivus* L. Low open woods, common.

*R. fascicularis* Muhl. High prairies and open woods. Common.

*R. septentrionalis* Poir. Borders of swamps; infrequent.

*R. hispidus* Hook. Woods, apparently frequent; but probably

*R. repens* L. or *R. pennsylvanicus* L. occurs and has been confused with the above. Not before reported in Iowa.

*Isoopyrum biternatum* Torr. and Gray. Low woods, frequent.

*Caltha palustris* L. Wet ground, infrequent.

*Aquilegia canadensis* L. Along bluffs, frequent.

*Delphinium exaltatum* Ait. Low prairies, rare.

*D. ajacis* L. Sparingly escaped.

*Actea spicata* L. var. *rubra* Ait. Woods, frequent.

*A. alba* Bigel. Woods along bluffs, rare.

*Hydrastis canadensis* L. Rich woods, rare.

MENISPERMACEÆ.

*Menispermum canadense* L. Along sandy river banks, rare.

BERBERIDACEÆ.

*Caulophyllum thalictroides* Michx. Woods, frequent.

*Podophyllum peltatum* L. Woods, common.

NYMPHÆACEÆ.

*Nymphaea odorata* Ait. Ponds, infrequent.

*Nuphar advena* Ait. Ponds, infrequent.

PAPAVERACEÆ.

*Sanguinaria canadensis* L. Woods, common.

FUMARIACEÆ.

*Dicentra cucullaria* Torr. Woods, common.

*D. canadensis* Gray. Woods, rare. Fruit collected here in 1894 by Miss Etna Burrette. Only reported elsewhere in Iowa by Mr. E. W. D. Holway, at Decorah. Single spot a few rods square known here.

CRUCIFERÆ.

*Dentaria laciniata* Muhl. Woods, common.

*Cardamine rhomboidea* D. C. Wet ground, common.

*C. hirsuta* L. Wet ground, frequent.

*Arabis laevigata* Poir. Wooded hillsides, rare. Leaves usually entire except those at the base.

*A. canadensis* L. Open woods, frequent.

*A. dentata* Torr. and Gray. River banks, frequent.

*Draba caroliniana* Walt. Waste ground, infrequent.

*D. caroliniana* Walt., var. *micrantha* Gray. Waste ground, common.

*Nasturtium officinale* R. Br. Streams and springs, rather rare.

*N. palustre* D. C. Wet ground, frequent.

*N. armoracia* Fries. Escaped, rare.

*Hesperis matronalis* L. Escaped, rare.

*Erysimum cheiranthoides* L. Low ground, infrequent.

*Sisymbrium canescens* Nutt. A single spot known here in a sandy opening.

*S. officinale* Scop. Waste ground, common.

*Thelypodium pinnatifidum* Watson. River banks, rare.

*Brassica nigra* Koch. Waste ground, common.

*Capsella bursa-pastoris* Moench. Waste ground, common.

*Lepidium intermedium* Gray. Waste ground, common.

## CAPPARIDACEÆ.

*Polanisia graveolens* Raf. (?) Probably *P. trachyspermum* Torr. and Gray. Sandy ground, rare.

## CISTACEÆ.

*Helianthemum canadense* Michx. Dry hills, infrequent.

*Lechea minor* L. Dry prairies, infrequent.

## VIOLACEÆ.

*Viola pedata* L. Prairies and open woods, common.

*V. pedatifida* Don. Prairies, frequent.

*V. palmata* C., var. *cucullata* Gray. Low prairies, common.

*V. sagittata* Ait. Found only in the first railroad cut two miles south of Fayette.

*V. blanda* Willd. Moist prairies, rare. Mr. W. F. Baker, coll.

*V. pubescens* Ait. Woods, common.

*V. tricolor* L. Rarely escaped.

## CARYOPHYLLACEÆ.

*Saponaria officinalis* L. Frequently escaped.

*Silene stellata* Ait. Woods, frequent.

*S. nivea* Oth. Low prairies and woods, frequent.

*S. antirrhina* L. Dry ground, frequent.

*S. noctiflora* L. Rarely escaped.

*Lychnis githago* Lam. In fields, rare.

*Arenaria michauxii* Hook. Dry prairies, infrequent.

*A. lateriflora* L. Low prairies, rather infrequent.

*Stellaria media* Smith. Low woods, infrequent.

*S. longifolia* Muhl. Borders of swamps, rare.

*Cerastium vulgatum* L. Dr. C. C. Parker, coll. Marked in herb. *C. viscosum* L.

*C. arvense* L., var. *oblongifolium* Britt and Hall. Dry woods, rare.

## PORTULACACEÆ.

*Portulaca oleracea* L. Cultivated and waste ground, abundant.

*Claytonia virginica* L. Moist woods, common.

## HYPERICACEÆ.

*Hypericum ascyron* L. Banks of streams, infrequent.

*H. maculatum* Walt. Wet prairies, frequent.

*H. canadense* L., var. *majus* Gray. Banks and low prairies, common.

*Elodes campanulata* Pursh. Borders of swamps, infrequent.

MALVACEÆ.

- Malva rotundifolia* L. About yards, frequent.  
*M. sylvestris* L. About yards, rare. Also collected by Dr.  
C. C. Parker.  
*Napæa dioca* L. Low sandy soil, very rare.  
*Abutilon avicennæ* Gærtn. Waste ground, frequent.  
*Hibiscus trionum* L. Waste ground, rare.

TILIACEÆ.

- Tilia americana* L. Woods, frequent.

LINACEÆ.

- Linum sulcatum* Riddell. Dry prairies, frequent.  
*L. usitatissimum* L. Occasionally escaped.

GERANIACEÆ.

- Geranium maculatum* L. Woods, common.  
*G. carolinianum* L. Waste ground; only two plants have  
been collected here.  
*Oxalis violacea* L. Waste ground, etc., abundant.  
*O. corniculata* L., var. *stricta* Sav. Woods and waste  
ground, common.  
*Impatiens pallida* Nutt. Wet shady places, frequent.  
*I. fulva* Nutt. With the last, frequent.

FUTACEÆ.

- Xanthoxylum americanum* Mill. Woods, common.

CELASTRACEÆ.

- Celastrus scandens* L. Wooded river banks, infrequent.  
*Euonymus atropurpureus* Jacq. Woods, rare.

RHAMNACEÆ.

- Ceanothus americanus* L. Open woods, common.

VITACEÆ.

- Vitis riparia* Michx. River banks and low woods, common.  
*Ampelopsis quinquefolia* Michx. Woods, infrequent.

SAPINDACEÆ.

- Acer saccharinum* Wang. Woods, common.  
*A. saccharinum* Wang., var. *nigrum* Torr. and Gray. A single  
tree known in low woods.  
*A. dasycarpum* Ehrh. River banks, infrequent.  
*Negundo aceroides* Mœench. Low woods, infrequent.  
*Staphylea trifolia* L. Woods, infrequent.

## ANACARDIACEÆ.

*Rhus typhina* L. Common five miles east of Fayette. Probably rare further west in Iowa.

*R. glabra* L. Woods, common. The form with lacinate leaves is represented by a specimen (herb. Dr. C. C. Parker) marked *var. laciniata*.

*R. toxicodendron* L. Rocky river banks, common. The climbing form, *R. radicans* L., has been noticed but once.

## POLYGALACEÆ.

*Polygala senega* L. Woods, common.

*P. incarnata* L. Dry ground, rare. Dr. C. C. Parker, coll.

*P. sanguinea* L. Prairies, common.

*P. verticillata* L. Prairies, probably rare. Dr. C. C. Parker, coll.

## LEGUMINOSÆ.

*Baptisia leucophœa* Nutt. Prairies, frequent.

*B. leucantha* Torr and Gray. Prairies, frequent.

*Trifolium pratense* L. Cultivated and spontaneous, common.

*T. repens* L. Cultivated and spontaneous, common.

*T. procumbens* L. Rare. Dr. C. C. Parker, coll.

*Melilotus officinalis* Willd. Waste ground, rare.

*M. alba* Lam. Waste ground, infrequent.

*Amorpha canescens* Pursh. Prairies, infrequent.

*A. fruticosa* L. River banks, frequent.

*Petalostemon violaceus* Michx. Prairies, common.

*P. candidus* Michx. Prairies and open woods, common.

*Tephrosia virginiana* Pers. Rare. Collected by Miss Gem E. Rounds near Clermont.

*Robinia pseudacacia* L. Cultivated and rarely escaped.

*Wistaria frutescens* Poir. (?) Rare. Miss Gem E. Rounds, coll., whose specimen was too fragmentary for certain determination. Whether this or not, the plant is no leguminous plant ever reported in Iowa.

*Astragalus caryocarpus* Ker. Prairies, frequent.

*A. canadensis* L. Borders of woods, infrequent.

*Desmodium acuminatum* D. C. Woods, common.

*D. illinoense* Gray. Prairies, frequent.

*D. paniculatum* D. C. Low prairies, rare. Approaches

*D. dillenii*, Darl.

*D. canadense* D. C. Woods and prairies, common.

*D. sessilifolium* Torr. and Gray. Prairies, infrequent.



*Lespedeza leptostachya* Engelm. Dry woods, a single specimen collected.

*L. capitata* Michx. Prairies, frequent.

*Vicia caroliniana* Walt. River banks, rare. Dr. C. C. Parker, coll.

*V. americana* Muhl. River banks, rare.

*Lathyrus ochroleucus* Hook. Prairies along borders of woods, rare.

*L. venosus* Muhl. Wooded hillsides, frequent.

*L. palustris* D. Borders of swamps, infrequent.

*Amphicarphe monoica* Nutt. Woods, probably rare. Dr. C. C. Parker, coll.

*A. pitcheri* Torr. and Gray. Woods, probably common, first reported in 1892 by Prof. B. Shimek, Bull. Lab. Nat. Hist, State University 3: 202. F. 1896. Mr. R. B. Wylie showed me the same species from Jackson county.

*Cassia chamæcrista* L. Sandy ground, frequent.

*Gymnocladus canadensis* Lam. Woods, rare. Dr. C. C. Parker, coll., who has a tree in his yard transplanted from the woods.

*Gleditschia tricanthos* L. Woods, rare.

#### ROSACEÆ.

*Prunus americana* Marsh. Thickets and woods, frequent.

*P. pennsylvanica* L. Woods, rare.

*P. virginiana* L. Woods, frequent.

*P. serotina* Ehrh. Woods, infrequent.

*Spiræa salicifolia* L. Low prairies, frequent.

*Physocarpus opulifolius* Maxim. Rocky banks, frequent.

*Rubus strigosus* Michx. Woods, infrequent.

*R. occidentalis* L. Woods, frequent.

*R. villosus* Ait. Woods, infrequent.

*Geum album* Gmelin. Woods, frequent.

*G. virginianum* L. Woods and borders, infrequent.

*G. triflorum* Pursh. Dry hills, rare.

*G. strictum* Ait. Low ground, rare. Dr. C. C. Parker, coll.

*Fragaria virginiana* Mill., var. *illinoensis* Gray. Low prairies and woods, common.

*F. vesca* L. Rocky ground, infrequent.

*Potentilla arguta* Pursh. Prairies, frequent.

*P. norvegica* L. Low ground near streams, common.

*P. rivalis* Nutt. Sandy ground, probably rare.

*P. canadensis* L. Waste ground and open woods, common.

*Agrimonia eupatoria* L. Woods, common.

*Rosa blanda* Ait. Prairies and open woods, common.

*R. arkansana* Porter. Prairies, rare.

*Pyrus coronaria* L. Woods, frequent.

*Crataegus coccinea* L. Woods, common. Varieties may occur.

*C. punctata* Jacq. Woods, frequent.

*C. tomentosa* L. (?) Woods, infrequent. Plant collected not satisfactory.

*Amalanchier canadensis* Torr. and Gray. Along streams, frequent.

*A. canadensis* Torr. and Gray, var. *oblongifolia* Torr. and Gray. With the last, infrequent.

## SAXIFRAGACEÆ.

*Saxifraga pennsylvanica* L. Low prairies, common.

*Mitella diphylla* L. High woods, common.

*Heuchera hisrida* Pursh. Prairies, common.

*Prnassia caroliniana* Michx. River banks, rare.

*Ribes cynosbati* L. Woods, frequent.

*R. gracile* Michx. Woods, frequent.

*R. floridum* L'Her. Woods, infrequent.

## CRASSULACEÆ.

*Penthorum sedoides* L. Wet ground, frequent.

## UMAERLLIFERÆ.

*Lythrum alatum* Pursh. Low ground, common.

## ONAGRACEÆ.

*Ludwigia polycarpa* Short and Peter. Borders of swamps, infrequent.

*L. palustris* Ell. Swamps, common.

*Epilobium lineare* Muhl. Bogs, rare.

*E. coloratum* Muhl. Low ground, common.

*Oenothera biennis* L. Waste ground, frequent.

*Oe. rhombipetala* Nutt. Dry soils, infrequent.

*Oe. serrulata* Nutt. Dry prairies, frequent.

*Circea lutetiana* L. Woods, common.

## CUCURBITACEÆ.

*Echinocystis lobata* Torr. and Gray. Banks of streams, infrequent.

## FICOIDEÆ.

*Mollugo verticillata* L. Sandy ground, common.

UMBELLIFERÆ.

*Daucus carota* L. Occasionally escaped.  
*Heracleum lanatum* Michx. Woods and openings, frequent.  
*Pastinaca saliva* L. Occasionally escaped.  
*Thaspium aureum* Nutt. Low prairies and woods, frequent.  
*Pimpinella integerrima* Benth. and Hook. Rocky hills, rather rare.

*Cryptonania canadensis* L. Woods, common.  
*Sium cicutifolium* Gmelin. Low prairies, frequent.  
*Carum carui* L. Frequently escaped.  
*Cicuta maculata* L. Borders of ponds, infrequent.  
*Osmorrhiza brevistylis* DC. Woods, frequent.  
*O. longistylis* DC. Woods, frequent.  
*Eryngium yuccifolium* Michx. Low prairies, common.  
*Sanicula marylandica* L. Woods, common.

ARALIACEÆ.

*Aralia racemosa* L. Woods, infrequent.  
*A. nudicaulis* L. Woods, frequent.  
*A. quinquefolia* D. and Planch. Woods, rare.

CORNACEÆ.

*Cornus circinata* L'Her. Woods, frequent.  
*C. sericea* L. Low woods, infrequent.  
*C. stolonifera* Michx. Low grounds, rare.  
*C. paniculata* L'Her. Wooded river banks, frequent.  
*C. alternifolia* L. Wooded river banks, infrequent.

CAPRIFOLIACEÆ.

*Adoxa moschatellina* L. Growing about old stumps, rare. Only other locality known in Iowa is at Decorah, where Mr. E. W. D. Holway finds it.

*Sambucus canadensis* L. Low woods and clearings, frequent.  
*S. racemosa* L. (?) Dr. C. C. Parker says this plant has occurred here, but I have not seen a specimen.

*Viburnum opulus* L. River banks, rare.  
*V. pubescens* Pursh. Rocky woods, infrequent.  
*V. lentago* L. Woods and clearings, frequent.  
*Triosteum perfoliatum* L. Woods, common.  
*Symphoricarpos occidentalis* Hook. Borders of woods and prairies, infrequent.  
*Lonicera tartarica* L. Two or three plants along the Volga river.

*L. sullivantii* Gray. Woods, common.

*L. glauca* Hill. Woods, common.

*Diervilla trifida* Mœench. A single plant was collected along the Volga river by Mr. A. S. Skinner. Elsewhere reported in Iowa only at Decorah by Mr. E. W. D. Holway.

## RUBIACEÆ.

*Galium aparine* L. Low woods, common.

*G. boreale* L. Low prairies and banks of streams, common.

*G. trifidum* L. Low ground, common.

*G. trifidum* L., var. *latifolium* Torr. Low ground, infrequent.

*G. triflorum* Michx. Woods, frequent. May be *G. asprellum* Michx. instead.

## VALERIANACEÆ.

*Valeriana edulis* Nutt. Wet prairies, common.

## COMPOSITÆ.

*Veronica fasciculata* Michx. Low ground, frequent.

*Eupatorium purpureum* L. Low ground, common.

*E. serotinum* Michx. Borders of woods, rare.

*E. altissimum* L. Dry ground, infrequent.

*E. perfoliatum* L. Low ground, common.

*E. ageratoides* L. Woods, common.

*Kuhnia eupatorioides* L. Dry prairies, abundant.

*K. eupatorioides* L., var. *corymbulosa* Torr. and Gray. With the last, probably frequent.

*Liatris cylindrica* Michx. Prairies, common.

*L. scariosa* Willd. Prairies, frequent.

*L. pycnostachya* Michx. Prairies, common.

*Solidago latifolia* L. Woods, common.

*S. speciosa* Nutt. Dr. C. C. Parker, coll., probably rare.

*S. ulmifolia* Muhl. Open woods and prairies, frequent.

*S. missouriensis* Nutt. Prairies, infrequent.

*S. serotina* Ait. Prairies, infrequent.

*S. serotina* Ait., var. *gigantea* Gray. Prairies, common.

*S. nemoralis* Ait. Dry prairies, infrequent.

*S. canadensis* L. Prairies, common.

*S. rigida* L. Dry prairies, common.

*S. lanceolata* L. Low prairies, infrequent. Dr. C. C. Parker and Mr. J. R. Gardner have both collected the plant.

*Aster oblongifolius* Nutt., var. *rigidulus* Gray. Dry prairies, rare.

- A. novæ-angliæ* L. Low prairies, frequent.  
*A. sericeus* Vent. High prairies, frequent.  
*A. shortii* Hook. Prairies, rare. Has the hairy petioles of *A. azureus* Lindl., and the leaves are also slightly pubescent above.  
*A. undulatus* L. Prairies. J. R. Gardner, coll. Specimen not very satisfactory.  
*A. cordifolius* L. Borders of woods, infrequent.  
*A. sagittifolius* Willd. Borders and open woods, common.  
*A. lævis* L. Prairies and open woods, common.  
*A. multiflorus* Ait. Dry prairies, abundant.  
*A. diffusus* Ait. Low ground, common,  
*A. paniculatus* Lam. Low ground, abundant.  
*A. novi-belgii* L. (?) Dr. C. C. Parker, coll. Specimen fragmentary.  
*A. prenanthoides* Muhl. Low ground, rather rare.  
*A. umbellatus* Mill. Low woods and prairies, frequent.  
*Erigeron canadensis* L. Waste ground, abundant.  
*E. annuus* Pers. Waste ground, common.  
*E. strigosus* Muhl. Waste ground, frequent.  
*E. bellidifolius* Muhl. Moist woods, common.  
*E. philadelphicus* L. Moist woods, frequent.  
*Antennaria plantaginifolia* Hook. High woods and prairies, common.  
*Gnaphalium polycephalum* Michx. Fields and open woods, frequent.  
*Polymnia canadensis* L. Shaded moist places, infrequent.  
*Silphium laciniatum* L. Prairies, common.  
*S. integrifolium* Michx. Low prairies and open woods, frequent.  
*S. perfoliatum* L. Along streams, infrequent.  
*Parthenium integrifolium* L. Prairies and open woods, common.  
*Ambrosia trifida* L. Moist ground, common.  
*A. trifida* L., var. *integrifolia* (Muhl.) Torr. and Gray. With the last or in dry places, infrequent.  
*A. artemisiæifolia* L. Waste ground, abundant.  
*A. psilostachya* D. C. Waste ground, only two small patches known here.  
*Xanthium canadense* Mill. Waste ground, frequent.  
*Heliopsis scabra* Dunal. Prairies, frequent.  
*Echinacea angustifolia* DC. Prairies, frequent.  
*Rudbeckia laciniata* L. Low ground, common.

- R. triloba* L. Dry prairies, common.
- R. subtomentosa* Pursh. Prairies, infrequent. Dr. C. C. Parker, coll.
- R. hirta* L. Prairies, frequent.
- Lepachys pinnata* Torr. and Gray. Prairies, common.
- Helianthus annuus* L. Waste ground, infrequent.
- H. rigidus* Desf. Prairies, frequent.
- H. occidentalis* Riddell. Prairies, common.
- H. latiflorus* Pers. Prairies, rare. Dr. C. C. Parker, coll.
- H. grosse-serratus* Martens. Prairies, frequent. One plant placed here after comparison must be a very unusual form, or a different species; others are the usual form.
- H. giganteus* L. Low ground, rare.
- H. giganteus* L, var. *ambiguus* Torr. and Gray. Prairies, frequent. The plant may be *H. maximiliani* Shrad. instead.
- H. divaricatus* L. (?) Dr. C. C. Parker, coll. Specimen not certain.
- H. hirsutus* Raf. Dry prairies, frequent.
- H. strumosus* L. Low ground, frequent.
- H. tracheliiifolius* Willd. Low thickets, rare.
- H. tuberosus* L. Prairies and borders, frequent.
- Coreopsis palmata* Nutt. Prairies, common.
- Bidens frondosa* L. Low ground, abundant.
- B. connata* Muhl. Wet ground, common.
- B. connata* Muhl., var. *comosa* Gray. With the last, frequent.
- B. cernua* L. Wet ground, probably common. Dr. C. C. Parker, coll.
- B. chrysanthemoides* Michx. Wet ground, frequent.
- Helenium autumnale* L. Moist ground, common.
- Anthemis cotula* L. Waste ground, abundant.
- Achillea millefolium* L. Prairies, common.
- Tanacetum vulgare* L. Occasionally escaped.
- Artemisia caudata* Michx. Sandy soil, common.
- A. dracunculoides* Pursh. Sandy river banks, infrequent.
- A. serrata* Nutt. Low prairie, rare.
- A. ludoviciana* Nutt. Prairie, common and variable.
- A. biennis* Willd. Sandy soil, rare. Dr. C. C. Parker, coll.
- A. absinthium* L. Rarely escaped. Dr. C. C. Parker, coll.
- Senecio aureus* L. Low ground, common.
- S. aureus* L., var. *balsamitæ* (Muhl.) Tarr. and Gray. With the last, probably rare.
- Cacalia suaveolens* L. Borders of woods, infrequent.

- C. reniformis* Muhl. Open damp woods, frequent.  
*C. tuberosa* Nutt. Low prairies, frequent.  
*Erechtites hieracifolia* Raf. Moist ground, rare. Dr. C. C. Parker, coll.  
*Arctium lappa* L. Waste ground, common. Probably varieties occur.  
*Onicus lanceolatus* Hoffm. Pastures and waste ground, common.  
*C. Altissimus* Willd. Low woods, frequent.  
*C. Altissimus* Willd., var. *discolor* Gray. Waste ground, frequent.  
*C. Arvensis* Hoffm. Mr. C. F. Paine reports this plant from two places in Fayette county.  
*Krigia amplexicaulis* Nutt. Woods, common.  
*Cichorium intybus* L. Roadsides, infrequent.  
*Tragopogon pratensis* L. A single specimen collected in a street of Fayette. Not before reported in Iowa.  
*Hieracium canadense* Michx. Open woods and prairies, frequent.  
*H. scabrum* Michx. Woods, rare. Mr. R. B. Wylie, coll.  
*Prenanthes racemosa* Michx. Low prairies, infrequent  
*P. aspera* Michx. Prairies, rare. Dr. C. C. Parker, coll.  
*P. alba* L. Woods and borders, frequent.  
*Troximon cuspidatum* Pursh. High prairies, rare.  
*Taraxacum officinale* Weber. Pastures, yards, etc., abundant.  
*Lactuca scariola* L. Waste ground, rare. First collected in 1895. Will probably soon become common.  
*L. canadensis* L. Waste ground, common.  
*L. floridana* Gaertn. Rare. Dr. C. C. Parker, coll.  
*L. leucophæa* Gray. Rare. Dr. C. C. Parker, coll.  
*Sonchus oleraceus* L. Waste ground, common.  
*S. asper* Vill. Waste ground, rare or confused with the above. Dr. C. C. Parker, coll.

LOBELIACEÆ.

- Lobelia cardinalis* L. Along streams, rarely occurs in the western part of Fayette county.  
*L. syphilitica* L. Low ground, common.  
*L. spicata* Lam. Prairies, frequent.  
*L. spicata* Lam., var. *hirtella* Gray. With the last, seldom observed.  
*L. inflata* L. Open woods and borders, infrequent.

CAMPANULACEÆ

- Specularia perfoliata* A. D. C. Open woods, frequent.  
*Campanula rotundifolia* L. Rocky places, common.  
*C. aparinoides* Pursh. Borders of swamps, infrequent.  
*C. americana* L. Moist places, common.

ERICACEÆ.

- Chimaphila umbellata* Nutt. Woods, only a dozen plants known in one place.  
*Pyrola elliptica* Nutt. Woods, common.  
*Monotropa uniflora* L. Woods, rare.

PRIMULACEÆ.

- Dodecatheon media* L. Prairies, common.  
*Steironema ciliatum* Raf. Low ground, common.  
*S. lanceolatum* Gray. Low ground, common.  
*S. longifolium* Gray. Low ground, common.  
*Lysimachia stricta* Ait. Low ground, rare.  
*L. thyrsiflora* L. Swamps, rare.

OLEACEÆ.

- Fraxinus americana* L. Woods, infrequent.  
*F. viridis* Michx. Low woods, apparently rare.  
*F. quadrangulata* Michx. A single tree known to me.

APOCYNACEÆ.

- Apocynum androsæmifolium* L. Borders of woods, common.  
*A. cannabinum* L. Moist ground, common.

ASCLEPIDACEÆ.

- Asclepias tuberosa* L. Prairies, common.  
*A. incarnata* L. Low ground, common.  
*A. cornuti* Decaisne. Waste ground, common.  
*A. sullivantii* Engelm. Low ground, frequent.  
*A. phytolaccoides* Pursh. Low ground, rare.  
*A. ovalifolia* Decaisne. Prairies, rare. Dr. C. C. Parker, coll.  
*A. verticillata* L. Prairies, infrequent.  
*Acerates longifolia* Ell. Prairies, infrequent.  
*A. viridiflora* Ell., var. *lanceolata* Gray. Prairies, rare.

GENTIANACEÆ.

- Gentiana crinita* Froel. Rare. Dr. C. C. Parker, coll., who assures me that the plant was common ten years ago. Mr. J. R. Gardner collected it in 1896.



*G. quinqueflora* Lam., var. *occidentalis* Gray. Borders of woods, becoming common.

*G. puberula* Michx. Dry prairies, rare.

*G. andrewsii* Griseb. Low prairies, infrequent.

*G. alba* Muhl. Low ground, rare.

POLEMONIACEÆ.

*Phlox paniculata* L. Rare and probably escaped. Mr. J. R. Gardner, coll.

*P. maculata* L. Low ground, infrequent.

*P. pilosa* L. Low prairies, common.

*P. divaricata* L. Woods, common.

*P. subulata* L. In cemetery, probably escaped.

*Polemonium reptans* L. Woods, abundant.

HYDROPHYLLACEÆ.

*Hydrophyllum virginicum* L. Woods, abundant.

*H. appendiculatum* Michx. Low woods, rare.

*Ellisia nyctelea* L. Moist, shady ground, common.

BORRAGINACEÆ.

*Echinosperrnum virginicum* Lehm. Woods, common.

*E. lappula* Lehm. Waste ground, common.

*Mertensia virginica* (L.) D. C. Woods, abundant.

*Lithospermum officinale* L. Border of woods, one patch known. Not previously reported in Iowa.

*L. latifolium* Michx. Rare, Dr. C. C. Parker, coll.

*L. hirtum* Lehm. Prairies, infrequent.

*L. canescens* Lehm. Prairies, common.

*L. angustifolium* Michx. High prairies, common. The form formerly considered a distinct species under the name of *L. longiflorum* Spreng, occurs commonly on hillsides and is quite distinct.

*Onosmodium carolinianum* A. D. C., var. *molle* (Michx.) Gray. Waste ground, common.

CONVOLVULACEÆ.

*Ipomœa coccinea* L. Rarely escaped.

*I. purpurea* Lam. Frequently escaped.

*Convolvulus sepium* L. Low ground, frequent.

*C. arvensis* L. In yards, rare.

*Cuscuta inflexa* Engelm. On various plants, infrequent.

*C. tenuiflora* Engelm. On willows in low ground, frequent.

*C. glomerata* Choisy. Low ground, probably rare. Mr. J. R. Gardner, coll.

SOLANACEÆ.

*Solanum triflorum* Nutt. A single plant collected along the Volga river in 1895. Not before reported in Iowa.

*S. nigrum* L. Low ground, common.

*S. heterodoxum* Dunal. Growing along a street in Fayette. Doubtless introduced. Not before reported in Iowa.

*Physalis philadelphica* L. A single plant collected in a field in 1896.

*P. pubescens* L. Waste ground, common.

*P. virginiana* Mill. Waste ground, frequent.

*P. lanceolata* Michx. Waste ground, infrequent.

*Datura stramonium* L. Waste ground, infrequent.

*D. tatula* L. Waste ground, infrequent.

SCROPHULARIACEÆ.

*Verbascum thapsus* L. Waste ground, frequent.

*Linaria vulgaris* Mill. Waste ground, infrequent.

*Scrophularia nodosa* L. var. *marilandica* Gray. Low prairies, common.

*Chelone glabra* L. Wet ground, frequent.

*Mimulus ringens* L. Wet ground, common.

*Conocloea multifida* Benth. A single plant collected in 1894. Reported by J. C. Arthur from Lee county.

*Gratiola virginiana* L. Low ground, frequent.

*Ilysanthes riparia* Raf. Wet ground, common.

*Synthyris houghtoniana* Benth. Prairies, rare. Dr. C. C. Parker, coll.

*Veronica virginica* L. Woods and prairies, common.

*V. anagallis* L. About springs, infrequent.

*V. peregrina* L. Low waste ground, common.

*Gerardia auriculata* Michx. Low prairies, infrequent.

*G. purpurea* L. Low ground, common.

*G. tenuifolia* Vahl. Dry prairies, rare.

*Castilleja coccinea* Spreng. Woods and prairies, common. Flowers commonly yellow on the prairies.

*C. sessiliflora* Pursh. High prairies, infrequent.

*Pedicularis canadensis* L. Prairies and open woods, common.

*P. lanceolata* Michx. Moist woods, infrequent.

LENTIBULARIACEÆ.

*Utricularia vulgaris* L. Ponds, infrequent.

VERBENIACEÆ.

- Verbena urticæfolia* L. Low ground, common.  
*V. hastata* L. Low ground, common.  
*V. stricta* Vent. Prairies, frequent.  
*V. bracteosa* Michx. Waste ground, common.  
*Phryma leptostachya* L. Low woods, frequent.

LABIATÆ.

- Isanthus cæruleus* Michx. Dry hills, frequent.  
*Teucrium canadense* L. Moist ground, abundant.  
*Mentha canadensis* L. Moist ground, abundant.  
*Lycopus virginicus* L. Moist ground, common.  
*L. sinuatus* Ell. Moist ground, common.  
*Pycnanthemum lanceolatum* Pursh. Prairies, infrequent.  
*Hedeoma pulegioides* Pers. Dry hills, rare.  
*H. hispida* Pursh. Dry ground, common.  
*Salvia lanceolata* Willd. Specimen collected in 1894, but lost.  
*S. officinalis* L. Persisting after cultivation.  
*Monarda fistulosa* L. Prairies and woods, common.  
*Blephilia hirsuta* Benth. Moist woods, infrequent.  
*Lopanthus nepetoides* Benth. Borders of woods, infrequent.  
*L. scrophularicefolius* Benth. Borders of woods, infrequent.  
*Nepeta cataria* L. Waste ground, common.  
*N. glechoma* Benth. Yards, etc., common.  
*S. versicolor* Nutt. River banks, infrequent.  
*Scutellaria lateriflora* L. River banks, frequent.  
*S. parvula* Michx. High prairies, frequent.  
*S. galericulata* L. Wet shady ground, rare.  
*Brunella vulgaris* L. Open woods and waste ground, common.  
*Physostegia virginiana* Benth. Low ground, common.  
*Marrubium vulgare* L. Probably escaped, rare. Dr. C. C. Parker, coll. Mr. R. B. Wylie also collected it in Jackson county in 1896. Not before reported in Iowa.  
*Leonurus cardiaca* L. Yards, etc., frequent.  
*Stachys palustris* L. Wet ground. Dr. C. C. Parker, coll.  
*S. aspera* Michx. Wet ground. Dr. C. C. Parker, coll.  
*S. aspera* Michx., var. *glabra* Gray. Wet ground. Dr. C. C. Parker, coll. Probably all three species of the genus are rare.

PLANTAGINACEÆ.

- Plantago major* L. Waste ground, common.  
*P. rugelii* Decaisne. Waste ground, frequent.  
*P. lanceolata* L. Yards, rare. Miss Gem E. Rounds, coll.  
*P. patagonica* Jacq., var. *gnaphalioides* Gray. Sandy ground in western part of Fayette county and common in parts of Bremer county. Hitherto only reported from western Iowa. (Proc. Iowa Acad. Science, 3:129, 1895.)

NYCTAGINACEÆ.

- Oxybaphus nyctagineus* Sweet. Sandy river banks, frequent.

AMARANTACEÆ.

- Amarantus albus* L. Waste ground, common.  
*A. blitoides* Watson. Waste ground, frequent.  
*A. retroflexus* L. Cultivated fields, etc., frequent.  
*Acnida tuberculata* Moq. Low waste ground, frequent.

CHENOPODIACEÆ.

- Chenopodium boscianum* Mcq. Waste ground, frequent.  
*C. album* L. Waste ground, common.  
*C. hybridum* L. Cultivated fields and waste ground, frequent.  
*C. bonus-henricus* L. (?) Waste ground, rare. Specimen immature, carefully compared.  
*C. botrys* L. Sandy river banks, rare.  
*Salsola kali* L., var. *tragus* D. C. Introduced along the railroad. One specimen collected in 1895 and another in 1896. Likely to become common in a few years.

POLYGONACEÆ.

- Rumex patientia* L. A single patch known. Found in 1894 by Dr. C. C. Parker and the writer. New to Iowa. Determined by Mr. John K. Small.

*R. altissimus* Wood. Moist ground, frequent. *R. salicifolius* Weinmann may occur here also. The above determined by Mr. John K. Small.

- R. verticillatus* L. Swamps, rare.  
*R. crispus* L. Waste ground, etc., common.  
*R. acetosella* L. Waste ground, common.  
*Polygonum aviculare* L. Waste ground, abundant.  
*P. erectum* L. Waste ground, common.  
*P. ramosissimum* Michx. Moist, sandy ground, frequent.

- P. lapathifolium* L. Wet ground, frequent.  
*P. pennsylvanicum* L. Moist ground, common.  
*P. muhlenbergii* Watson. Swamps, rare.  
*P. orientale* L. Escaped. Dr. C. C. Parker, coll.  
*P. persicaria* L. Waste ground, frequent.  
*P. hydropiperoides* Michx. Wet ground, infrequent.  
*P. hydropiper* L. Moist ground, infrequent.  
*P. acre* H B K Wet ground, common.  
*P. virginianum* L. Rich woods, common.  
*P. sagittatum* L. Moist ground, frequent.  
*P. convolvulus* L. Waste ground and fields, common.  
*P. dumetorum* L., var., *scandens* Gray. Moist thickets,  
infrequent.  
*Fagopyrum esculentum* Moench. Occasionally escaped.

ARISTOLOCHIACEÆ.

- Asarum canadense* L. Wooded hillsides, frequent.

THYMELÆACEÆ.

- Dirca palustris* L. Dry prairies, common.

SANTALACEÆ.

- Comandra umbellata* Nutt.

EUPHORBIACEÆ.

- Euphorbia serpyllifolia* Pers. Waste ground, frequent.  
Seems to run into *E. glyptosperma* Engelm.  
*E. maculata* L. Waste ground, common and variable.  
*E. preslii* Guss. Waste ground, infrequent.  
*E. corollata* L. Prairies and open woods, common.  
*E. heterophylla* L. Rocky river banks, rare.  
*E. cyparissias* L. Rarely escaped.  
*Acolypha virginica* L. Waste ground, common.

URTICACEÆ.

- Ulmus fulva* Michx. Woods, frequent.  
*U. americana* L. Low woods along streams, frequent.  
*U. racemosa* Thomas. Several trees known in one place in  
low woods.  
*Celtis occidentalis* L. Open woods along the Volga river,  
infrequent.  
*Cannabis sativa* L. Waste ground, frequent.  
*Humulus lupulus* L. Open woods, infrequent.  
*Urtica gracilis* Ait. Moist ground, frequent.

*Laportea canadensis* Gaudichaud. Low moist woods, common.

*Pilea pumila* Gray. Low woods, frequent.

*Behmeria cy'indrica* Willd. Low woods, frequent.

## JUGLANDACEÆ.

*Juglans cinerea* L. Woods, frequent.

*J. nigra* L. Woods, frequent.

*Carya alba* Nutt. Woods, infrequent here, but common along streams in Bremer county.

*C. amara* Nutt. Woods, frequent.

## CUPULIFERÆ.

*Betula papyrifera* Marshall. Woods, infrequent.

*B. nigra* L. Woods, frequent on the Turkey river.

*Corylus americana* Walt. Thickets and open woods, common.

*Ostrya virginica* Willd. Woods, frequent.

*Carpinus caroliniana* Walter. Woods, along streams, frequent.

*Quercus alba* L. Woods, frequent ten miles northeast of Fayette.

*Q. macrocarpa* Michx. Woods, common.

*Q. muhlenbergii* Engelm. Woods on the Turkey river, infrequent.

*Q. rubra* L. Woods, frequent twelve miles northeast of Fayette.

*Q. coccinea* Wang. Woods, common.

*Q. coccinea* Wang., var. *tinctoria* Gray. Woods, infrequent.

## SALICACEÆ.

*Salix nigra* Marsh. Along streams, frequent.

*S. amygdaloides* Anders. Low ground, frequent.

*S. lucida* Muhl. Low ground, frequent.

*S. fragilis* L., *X. alba* L. Low ground, rare and probably introduced and escaped. Not before reported in Iowa.

*S. longifolia* Muhl. Low ground, common.

*S. rostrata* Richardson. Low prairies, infrequent.

*S. discolor* Muhl., var. *prinoides* Anders. Low ground, common. Perhaps not the variety.

*S. humilis* Marsh. Prairies, frequent.

*S. sericea* Marsh. Low ground, frequent. Mr. Bebb expressed surprise at finding this here, especially a "pure form," which he said replaces *S. petiolaris* Smith.

*S. sericea* Marsh, *X. cordata* Muhl. Low ground, apparently frequent. *S. sericea* with serrate leaves. Not before reported in Iowa.

*S. cordata* Muhl. Low ground, rare.

*S. cordata* Muhl., *X. sericea* Marsh. Low ground. Not before reported in Iowa. Mr. Bebb wrote that *S. myricoides* Muhl. is a synonym. Leaves nearly entire and a different plant from the second above.

*Populus tremuloides* Michx. Woods, common.

*P. grandidentata* Michx. Woods, common.

*P. monilifera* Ait. Frequently coming up from seeds of planted trees. Dr. C. C. Parker feels sure that it occurs along our streams. If so, I have failed to notice it.

#### CERATOPHYLLACEÆ.

*Ceratophyllum demersum* L. Ponds infrequent.

#### CONIFERÆ.

*Pinus strobus* L. Woods, occasionally seen about Wadena.

*Juniperus communis* L. Wooded hills along streams, common.

*J. virginiana* L. At top of wooded bluffs, frequent.

*Taxus canadensis* Willd. At the base of wooded bluffs, frequent.

#### HYDROCHARIDACEÆ.

*Elodea canadensis* Michx. Ponds, infrequent.

*Vallisneria spiralis* L. In Volga river, rare.

#### ORCHIDACEÆ.

*Aplectrum hiemale* Nutt. Woods, frequent.

*Spiranthes cernua* Richard. Prairies, rare. Mr. J. R. Gardner, coll.

*Calopogon pulchellus* R. Br. Prairies at Wadena, rare.

*Pogonia pendula* Lindl. Rich woods, rooting in decayed wood and blooming in August or September, rare.

*Orchis spectabilis* L. Woods, frequent.

*Habenaria tridentata* Hook. Prairies at Wadena, rare. First reported for Iowa by the writer. Proc. Iowa Acad. Sci., 1: 103, 1893.

*H. bracteata* R. Br. Woods, rare.

*H. hookeri* Torr. Woods, rare.

*H. hookeri* Torr., var. *oblongifolia* Paine. Woods, rare. First reported for Iowa by the writer. Proc. Iowa Acad. Sci., 1: 103, 1893.

*H. leucophæa* Gray. Woods, rare. Dr. C. C. Parker, coll.

*H. psycodes* Gray. Woods, three plants collected in 1893. First reported for Iowa by the writer. Proc. Iowa Acad. Sci., 1: 103, 1893.

*Cypripedium candidum* Muhl. Low prairies, rare.

*O. pubescens* Willd. Woods, infrequent.

*C. spectabile* Salisb. Low woods and prairies, rare.

## IRIDACEÆ.

*Iris versicolor* L. Wet prairies about ponds, frequent.

*Sisyrinchium angustifolium* Mill. Low prairies, common.

## AMARYLLIDACEÆ.

*Hypoxis erecta* L. Prairies, common.

## DIOSCOREACEÆ.

*Dioscorea villosa* L. A single plant was collected in 1894 along border of woods.

## LILIACEÆ.

*Smilax herbacea* L., var. *pulverulenta* Gray. Woods, rare.

*S. scirrhata* Watson. Woods, frequent. Apparently uncommon in Iowa as it was not reported till 1896. Prof. B. Shimek in Bull. Lab. Nat. Hist. Iowa State University, 3: 199, F. 1896. Our most common smilax.

*S. hispida* Muhl. Moist woods, infrequent.

*Allium tricoccum* Ait, woods, frequent.

*A. canadense* Kalm. Moist river banks, frequent.

*Polygonatum biflorum* Ell. A single plant collected along a wooded hillside.

*P. giganteum* Dietrich. Low open woods, infrequent,

*Asparagus officinalis* L. Occasionally escaped.

*Smilacina racemosa* Desf. Woods, common.

*S. stellata* Desf. Low prairies, infrequent.

*Mianthemum canadense* Desf. Upland woods, frequent.

*Uvularia grandiflora* Smith. Woods, frequent.

*Oakesia sessilifolia* Watson. Woods, frequent.

*Erythronium albidum* Nutt. Woods, common.

*Lilium philadelphicum* L. Low prairies, frequent.

*L. canadense* L. Low prairies, frequent.

*Trillium erectum* L. Low woods, common. The form called *T. erectum* L., var. *declinatum* Gray, occurs here and is mistaken locally for *T. recurvatum* Beck.

*T. cernuum* L. Low woods, infrequent.



*T. nivale* Riddell. Several plants were collected in 1895 by Miss Etna Burette.

XYRIDACEÆ.

*Xyris flexuosa* Muhl. Low prairies, apparently rare.

COMMELINACEÆ.

*Tradescantia virginica* L. Low prairies, common. Flowers frequently rose-colored or nearly white.

JUNCACEÆ.

*Juncus tenuis* Willd. Prairies, woods and pastures, abundant.

*J. nodosus* L. Low, sandy ground, common.

TYPHACEÆ.

*Typha latifolia* L. Sloughs, common.

*Sparganium eurycarpum* Engelm. Swamps, infrequent.

*S. simplex* Huds. Swamps, infrequent.

ARACEÆ.

*Arisæma triphyllum* Torr. Woods, common.

*A. dracontium* Schott. Low woods, infrequent.

*Symplocarpus foetidus* Salisb. One patch known near Wadena on wet ground. Apparently a rare Iowa plant.

*Acorus calamus* L. Swamps, frequent.

LEMNACEÆ.

*Spirodela polyrrhiza* Schleid. Ponds, abundant.

*Lemna trisulca* L. Ponds, infrequent.

*L. minor* L. Ponds, common.

ALISMACEÆ.

*Alisma plantago* L. Ponds, common.

*Sagittaria heterophylla* Pursh. Wet ground or in water, common and very variable. Mr. Cratty writes of the specimens sent him, "What a maze of forms."

*S. variabilis* Engelm. Wet ground or in water, probably infrequent. For the sake of uniformity I have followed Gray in synonymy here instead of Mr. Cratty's paper, Bull. Lab. of Nat. Hist., State University of Iowa 3: 136, F. 1896, though the latter doubtless offers many improvements. The same is true of all the aquatic plants.

## NAIADACEÆ.

*Potamogeton pennsylvanicus* Cham. In water, frequent.

*P. fluitans* Roth. In streams, frequent.

*P. mucronatus* Schrad. In still water, frequent. Mr. Cratty writes, "probably this, but too imperfect for correct determination."

## CYPERACEÆ.

*Cyperus diandrus* Torr. Low sandy ground, frequent.

*C. diandrus* Torr., var. *castaneus* Torr. With the last, probably rare.

*C. aristatus* Rottb. Low sandy ground, common.

*C. schweinitzii* Torr. Sandy ground, frequent.

*C. filiculmis* Vahl. Sandy soil, infrequent.

*C. esculentus* L. Low ground and cultivated fields, frequent.

*C. strigosus* L. Low, sandy ground, frequent.

*Eleocharis ovata* R. Br. Wet ground, infrequent.

*E. palustris* R. Br. Wet ground, abundant.

*E. acicularis* R. Br. Wet ground, abundant.

*Scirpus lacustris* L. Swamps, common.

*S. atrovirens* Muhl. Wet ground, common.

*Eriophorum cyperinum* L. Low ground, frequent.

*E. polystachyon* L. Wet ground, rare and variable.

*Carex lupulina* Muhl. Sloughs, frequent.

*C. retrorsa* Schwein. Miss Ona M. Rounds, coll. Determined by Mr. Cratty.

*C. stricta* Lam. Sloughs, common.

*C. stricta* Lam., var. *decora* Bailey. Sloughs, infrequent.

*C. longirostris* Torr. Low sandy ground, frequent.

*C. aquatilis* Wahl. Wet ground in mud or water, frequent.

The plants examined were young.

*C. laxiflora* Lam. Some doubt as to habit, and Mr. Cratty writes that is an unusual form of the species.

*C. pedunculata* Muhl. Shaded bluffs, infrequent.

*C. varia* Muhl. Mr. Fernald says the plant was too young to be certain.

*C. pennsylvanica* Lam. Woods and prairies, common.

*C. stipata* Muhl. Wet ground, common.

*C. vulpinoidea* Michx. Miss Ona M. Rounds, coll. Determined by Mr. Cratty.

*C. rosea* Schkuhr. Woods, common.

*C. interior* Bailey. Bull. Torr. Bot. Club, 20: 426, N. 1883. Probably common. Probably confused formerly in Iowa as some form of *C. echinata* Murray. Not before reported from Iowa.

*C. cephalophora* Muhl. Mr. A. S. Skinner, coll. Determined by Mr. Cratty,

*C. tribuloides* Wahl. Wet ground, frequent.

*C. tribuloides* Wahl., var. *reducta* Bailey. Wet ground, probably frequent.

*C. tribuloides* Wahl, var. *bebbii* Bailey. Mr. A. S. Skinner, coll. Determined by Mr. Cratty, who also saw the other two forms of the species.

*C. scoparia* Schkuhr. Low ground, frequent.

*C. straminea* Willd. Low ground, frequent.

GRAMINEÆ.

*Spartina cynosuroides* Willd. Low prairies, common.

*Panicum glabrum* Gaudin. Waste ground, frequent.

*P. sanguinale* L. Cultivated and waste ground, common.

*P. proliferum* Lam. Waste ground, infrequent.

*P. capillare* L. Waste and cultivated ground, common.

*P. virgatum* L. Low prairies, infrequent.

*P. latifolium* L. Woods, frequent.

*P. dichotomum* L. Woods and waste ground, common.

*P. crus-galli* L. Waste ground, common.

*Setaria glauca* Beauv. Cultivated and waste ground, abundant.

*S. viridis* Beauv. Cultivated and waste ground, abundant.

*S. italica* Kunth. Frequently escaped.

*Cenchrus tribuloides* L. Sandy soil, common.

*Leersia virginica* Willd. Wet ground, frequent.

*L. oryzoides* Swartz. Wet ground, frequent.

*Zizania aquatica* L. Ponds, infrequent.

*Andropogon furcatus* Muhl. Prairies, common.

*A. scoparius* Michx. High prairies, frequent.

*Chrysopogon nutans* Benth. Prairies, frequent.

*Phalaris arundinacea* L. Wet ground, infrequent.

*Stipa spartea* Trin. High prairies, infrequent.

*Oryzopsis melanocarpa* Muhl. Rocky woods, infrequent.

*Muhlenbergia glomerata* Trin. Low ground, common.

*M. mexicana* Trin. Low ground, frequent.

*M. sylvatica* Gray. Woods, frequent.

*M. diffusa* Schreber. Woods, infrequent.

*Brachyelytrum aristatum* Beauv. Rocky woods, frequent.

*Alopecurus geniculatus* L., var. *aristulatus* Torr. Swamps, infrequent.

*Sporobolus heterolepis* Gray. Dry ground, frequent.

*S. neglectus* Nash., Bull. Torr. Bot. Club, 22: 463, N. 1896. Waste grounds and probably prairies, frequent. Not before reported in Iowa, but confused with *S. vaginaeflorus* Vasey. Determined by George V. Nash.

*Phleum pratense* L. Commonly escaped.

*Agrostis alba* L. Meadows and roadsides, common.

*A. alba* L., var. *vulgaris* Thurb. Probably common as the last.

*A. scabra* Willd. Dry ground.

*Cinna arundinacea* L. Moist, wooded ravines, frequent.

*Calamagrostis canadensis* Beauv. Wet prairies, frequent.

*Bouteloua hirsuta* Lag. Sandy ground, rare. Mr. A. S. Skinner, Coll.

*B. racemosa* Lag. Dry prairies, common.

*Phragmites communis* Trin. Wet ground, rare.

*Koeleria cristata* Pers. Prairies, common.

*Eragrostis reptans* Nees. Sandy river banks, common.

*E. major* Host. Waste ground, common.

*E. frankii* Meyer. Sandy river banks, infrequent.

*E. petinacea* Gray. Sandy river banks, infrequent.

*Melica nutica* Walt. Open woods, rare.

*Dactylis glomerata* L. Yards, rare.

*Poa pratensis* L. Meadows and roadsides, common

*Glyceria nervata* Trin. Low ground, common.

*Festuca nutans* Willd. Woods, frequent.

*Bromus kalmii* Gray. Dry ground, infrequent.

*B. ciliatus* L. Woods, common.

*B. ciliatus* L., var. *purgans* Gray. Woods, infrequent.

*Agropyrum repens* Beauv. Waste ground, infrequent.

*Hordeum jubatum* L. Waste ground common.

*Elymus virginicus* L. River banks, abundant.

*E. canadensis* L. River banks and waste ground, common.

*E. striatus* Willd. Woods, common.

*Asprella hystrix* Willd. Woods, common.