

**FLORA OF EMMET COUNTY,
IOWA: A LIST OF THE
NATIVE AND INTRODUCED
PLANTS, PP. 201-251**

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Flora of Emmet County, Iowa: a list of the native and introduced plants, pp. 201-251 by R. I. Cratty

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R. I. CRATTY

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COUNTY, IOWA.....**

**A LIST OF THE NATIVE
and INTRODUCED PLANTS**

By R. I. Cratty

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THE GIFT OF

B. L. Robinson.

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be clearly documented and supported by appropriate evidence. This includes receipts, invoices, and other relevant documents that can be used to verify the accuracy of the records.

In addition, the document highlights the need for regular audits and reviews. By conducting periodic checks, any discrepancies or errors can be identified and corrected promptly. This helps to ensure the integrity and reliability of the financial information being reported.

Furthermore, the document stresses the importance of transparency and accountability. All parties involved in the process should be kept informed and have access to the necessary information. This fosters trust and ensures that everyone is working towards the same goals.

Finally, the document concludes by reiterating the significance of these practices. Consistent record-keeping, regular audits, and transparent communication are essential for the success of any organization. By following these guidelines, you can ensure that your financial records are accurate, reliable, and easy to understand.

FLORA OF EMMET COUNTY, IOWA.

BY R. I. CRATTY.

Emmet county lies in the northwestern part of the state, bordering on Minnesota, and has an area of 408 square miles. Its surface waters mostly find an outlet in the east and west forks of the Des Moines river, both of which flow through the county in a southeasterly direction. A small part of the northeastern township, near Iowa Lake, lies in the drainage area of the Minnesota river, and its flora, therefore, is represented in Prof. MacMillan's admirable volume, *The Metaspermæ of the Minnesota Valley*.

This county lies entirely within the area of the Wisconsin drift and the retreating ice fields of our last glacial period left within its borders many shallow depressions, the deeper of which have become permanent lakes; while the more shallow, which undoubtedly were once lakes and ponds, have been gradually filled by the erosive agency of wind and water, aided by the decaying vegetation of mosses and other aquatic plants, until at last the water-loving sedges and grasses gradually narrowed the shore line, till in most cases the whole was converted into a quaking bog; a few of which have an area of several hundred acres, while there are a great many of less size.

The greater part of the county has a gently rolling surface, there being no very high hills. The valleys of both branches of the Des Moines river are much below the level of the surrounding country, and show the effect of extensive erosion. In the eastern part of Iowa Lake and

Armstrong Grove townships, and occasionally elsewhere in the northern half of the county, are low ranges of morainic hills, which tend somewhat to relieve the otherwise monotonous landscape.

Drainage and cultivation are rapidly changing the marshes and, in some cases, even the lakes, into pastures and cultivable fields; and, therefore, the area once occupied by a hydrophytic vegetation is being greatly diminished.

There are comparatively few xerophytic plants in the county, and these usually occupy favorable localities along the river bluffs, or on the sterile, morainic hills. The flora of the woods and prairies resembles more closely that of the adjacent territory to the east and north; only a few typical western plants coming within our borders.

There are no rock exposures within our limits, and therefore the soil is unsuited for many of the ferns and other plants common to rocky woods. The forest area is small, being confined to the banks of the lakes and streams, but since the prairie fires have ceased, the wooded area shows a tendency to increase.

So large a proportion of the county consists of cultivable or pasture land, that very many of the indigenous species of plants must eventually become extinct within our area. Some few, already, can no longer be found, and it is with the view of recording the original flora, that this paper is prepared, as the author resided many years in the county when nine-tenths of its surface was covered by the virgin forest and prairie vegetation.

Compared with the area, the number of plants listed is small, only 590, including those introduced; but this may be accounted for, partly at least, by the slight diversity in surface and soil, and by the fact that it lies near the headwaters of its drainage streams, and is thus less favored by nature for seed distribution by natural agencies.

The climate of the county, like that of all portions of the northern Mississippi valley, is subject to great variation in temperature, the annual variation occasionally being as much as 140 degrees, the yearly mean being about 45 degrees. The annual precipitation, according to rather

fragmentary data is about 25 inches, and is usually so distributed as to be sufficient for agricultural operations, though in some seasons vegetation suffers from hot, south-west winds.

The synonymy adopted in the following catalogue is that of the *Illustrated Flora*, with such emendations as more recent publications make necessary. The names used in *Gray's Manual*, sixth edition, and the *Illustrated Flora* when different from those adopted in this list, are printed in parentheses.

The author takes pleasure in acknowledging valuable assistance in studying our native flora from numerous specialists in this and other states. Among those in our own state, whose aid has been freely given, are Prof. Thos. H. Macbride and Prof. B. Shimek of the Iowa State University; Prof. L. H. Pammel of the Iowa State College at Ames, and Prof. T. J. Fitzpatrick of Estherville, all of whom have published valuable papers treating different phases of the Iowa flora.

PTERIDOPHYTA.

POLYPODIACEÆ.

ONOCLEA L.

1. *O. sensibilis* L. Sensitive Fern. Rare in woods, Estherville; also introduced in an artificial grove in Armstrong Grove township.
2. *O. struthiopteris* (L.) Hoff. Ostrich Fern. Infrequent, Estherville and Armstrong Grove townships.

CYSTOPTERIS Bernh.

3. *C. fragilis* (L.) Bernh. Rare in woods throughout.

ASPLENIUM L.

4. *A. filix-femina* (L.) Bernh. Lady Fern. Woods, and occasionally in artificial groves; our most common species.

ADIANTUM L.

5. *A. pedatum* L. Maiden-hair Fern. Woods along West Fork of the Des Moines.

EQUISETACEÆ.

EQUISETUM L. Horse-tail, Scouring Rush.

6. *E. arvense* L. Very common in low ground.
7. *E. fluviatilis* L. (*E. limosum* L.) common in marshes; frequently much branched, especially the sterile stems,
8. *E. hyemale* L. Rare on dry banks.
9. *E. laevigatum*, A. Braun. Frequent on dry prairies.

SPERMATOPHYTA.

PINACEÆ.

JUNIPERUS L.

10. *J. virginiana* L. Red Cedar. High banks of lakes; becoming rare; our only native evergreen.

TYPHACEÆ.

TYPHA L.

11. *T. latifolia* L. Cat-tail Rush. Common throughout in marshes.

SPARGANIUM L.

12. *S. eurycarpum* Engelm Bur-reed. Frequent in marshes and along shores of ponds.
13. *S. simplex* Huds. Rare in marshes near Armstrong.

NAIADACEÆ.

POTAMOGETON L. Pond-weed.

14. *P. natans* L. West fork of the Des Moines river at Estherville. Also Spirit Lake, Dickenson county.
15. *P. amplifolius* Tuck. West Fork of Des Moines.
16. *P. lonchites* Tuck. Common, streams and lakes.
17. *P. heterophyllus* Schreb. Common in marshes throughout; a beautiful species.
18. *P. illinoense* Morong. Lake east of Armstrong, the station destroyed by the drying up of the lake. Part of the type material was from this locality.
19. *P. praelongus* Wulf. Rare; Iowa Lake.

20. *P. perfoliatus richardsonii* A. Bennett. (*P. perfoliatus lanceolatus* Robbins.) Common in lakes and quite variable; a most beautiful species.
 21. *P. zosteræfolius* Schum. Iowa Lake.
 22. *P. foliosus* Raf. (*P. pauciflorus* Pursh.) Common in lakes and slow streams.
 23. *P. foliosus niagarensis* (Tuck.) Morong. Swift running water below mill-dam, Estherville, Aug. 7, 1897.
 24. *P. friesii* Ruprecht. (*P. major* (Fries) Morong.) Iowa Lake, and probably in other lakes throughout the region.
 25. *P. pectinatus* L. Very common in lakes throughout this and adjoining counties.
- NAIAS L.
26. *N. flexilis* (Willd.) Rost & Schmidt. Common in shallow water in lakes.

SCHEUCHZERIAÆ.

TRIGLOCHIN L.

27. *T. maritimum* L. Rare in marshes. Ours is the var *elatum* of Gray's Manual.

SCHEUCHZERIA L.

28. *S. palustris* L. Very rare; bog three miles northwest of Armstrong; the only known locality in the state.

ALISMACEÆ.

ALISMA L. Water-plantain.

29. *A. plantago-aquatica* L. Very common in low ground.

SAGITTARIA L. Arrow-head.

30. *S. latifolia* Willd. (*S. variabilis* Engelm.) Frequent throughout but much less common than the next.
31. *S. arifolia* Nutt. Very common in bogs and low places. This and the preceding species present great variation in leaf forms.