Notes on the flora of Iowa.

A. S. HITCHCOCK.

Iowa can not boast of a flora remarkable for its diversity. It contains no mountain ranges, no arid deserts, no sea coast, extended lake shore or dreary swamp. It is essentially a prairie state, but is not included in that vast and characteristic region known as the "Great Plains." It lies on the western border of what is known as the "Manual region." Of the phænogamous plants recorded for Iowa (about 1,300 species and varieties), there are not more than forty that can not be found in Gray's Manual. Part of these have been described since the manual was written, and are found within the geographical limits covered by this most excellent book. Nearly all the remainder are to be found only in the extreme western part of the state.

Although there are no dense forests in the state, yet the wooded flora is quite diverse. With the exception of conifers, Iowa will compare favorably in this respect with other states having more varied geological characters.

Of the order Coniferæ five species are recorded by Prof. Arthur. I have seen but two, viz., *Juniperus Virginiana* L., in the northern part of the state, and *J. communis* L., which is quite common along the Iowa and Cedar rivers.

The number of species of trees, as well as individuals, increases as one goes south or east from the northwest corner of the state. The oaks increase from three to thirteen. *Populus monilifera* Ait. is replaced by *P. grandidentata* Mx. and *P. tremuloides* Mx. In the southern part are found *Quercus imbricaria* Mx., *Cercis Canadensis* L., and *Asimina triloba* Duval, which are more southern in their range; in the eastern part *Dirca palustris* L. and two species of birch, which are eastern.

The only portion of the state that shows any radical difference from the rest, as regards its flora, is the western border, the bluffs along the Missouri river.

From Hamburg, in the southwestern part of Iowa, to Sioux City, where the river leaves the Iowa line, we find the bluffs extending like a miniature range of mountains, as seen from the river, sometimes with the muddy Missouri flowing at their base, and again several miles away.

At Hamburg they are five miles back, but rise precipi-

tously to a height of 100 or 200 feet, so steep, in many places, that one could not ascend were it not for the terraces. In most places the side of the bluff is devoid of trees, although often wooded at the summit and further back.

The flora of the plains has crossed the river and obtained a firm foothold upon this narrow strip of land, not more than a few hundred feet in width. Many of the plants so plentiful on the bluffs are not found further east, except as strays.

As examples of this flora I will mention *Houstonia angustifolia* Mx., *Yucca angustifolia* Pursh., *Gaura coccinea* Nutt., *Dalea laxiflora* Pursh., *Oxytropis Lamberti* Pursh., and *Astagalus lotiflorus* Hook., var. *brachypus* Gr. The last named species has not before been recorded for the state. It was kindly determined for me by Dr. Sereno Watson.

Two aquatic plants of a more southern range, and both new to Iowa, were found in this most interesting region, *Heteranthera limosa* Vahl. and *Echinodorus rostratus* Eng.

At Sioux City we find a more typical prairie region. Trees are scarce, except on the low land near the river. The flora here is quite as interesting as at Hamburg, and several "finds" were made.

Early one morning I started out to conquer the Sioux City flora. Being in a conquering mood my first duty was to climb to the top of a steep and arid bluff which looked as if it might bear some hidden treasure to reward the first comer who should dare to scale its lofty heights, and indeed I was rewarded for my labor by finding two plants new to the state, *Linum rigidum* Pursh. of the plains, and *Stipa comata* Trin. of the Rocky Mt. region. I have Dr. Vasey to thank for the latter name. *Aplopappus spinulosus* DC., *Grindelia squarrosa* Duval, and *Liatris punctata* Hook., were also found here.

Having espied a promising sandbar in the distance I descended to the river. I had not tramped over the sand very far before I noticed, here and there, some trees with shining leaves. Thinking they were willows I prudently passed by on the other side. But finally I was brought face to face with one of the little trees and found it covered with small red berries. My willow was *Shepherdia argentea* Nutt. Not supposing it to be thorny I began boldly to capture specimens. I was quickly brought to grief, however, for although it has no true thorns, yet its sharp and stunted branchlets act just as defensively. This species has not been reported before, and undoubtedly wandered down the river from the northwest, where it abounds.

Another interesting plant here was a very woolly thistle, which was a puzzler. I sent it to Dr. Watson, who says it is *Cnicus altissimus* Willd., var. *filipendulus* Gr., remarking that it was near *C. undulatus* Gr. The range given for this in the Synoptical Flora is Texas to Colorado. According to that it had strayed a considerable distance from its home.

Another plant was found the same forenoon, which is worth mentioning, namely Salsola Kali. It was very abundant, but apparently introduced, probably from the northwest, where, I believe, it is found.

As the Spirit Lake region is pretty well known to any who would be interested in Iowa flora, I will not describe it.

At the south end of Lake Okoboji the beach runs directly to the prairie. Walking back a few rods, I came to a patch of grass which I decided was *Agropyrum violaceum* Lange. But Dr. Vasey, on seeing the specimens, decided differently. He said it was *A. unilaterale* V. & S. A. violaceum had been admitted to the Iowa flora on some specimens contributed by Mr. R. I. Cratty, of Armstrong, Emmet county. I wrote to Mr. Cratty, who has contributed largely to the Iowa flora, and he very kindly sent me a specimen of his A. violaceum, which seems to be identical with A. unilaterale, in which case the former must be expunged from the list of Iowa plants and the latter added.

In speaking of reported Iowa plants, I refer to Prof. J. C. Arthur's "Contributions to the Flora of Iowa."

Iowa City, Iowa.

BRIEFER ARTICLES.

Nonnea rosea.—Escaped from my garden, this has become rather abundant as a weed in the vicinity, and promises to be one of our earliest spring flowers. We have not had severe weather, but the thermometer has been so regularly below freezing point, that only yesterday (March 17), it was high enough to start chickweed and Draba verna into bloom. The Nonnea is also keeping company. Honey-bees are trying to glean something from all three, though, later in the season they neglect them for better fare.—THOMAS MEEHAN, *Germantown, Pennsylvania.*

Dicentra stigmas and stamens.—When a half-developed flower-bud is examined the six stamens are seen to have their anthers upon a level with the capitate stigma. Soon after this, and before the petal-tips turn down, the anthers have dehisced and the pollen is in contact with the irregular and roughened surface of the swollen tip of the style. This tip is flat, and suggests the part of a watch key which is grasped by thumb and

Hitchcock, A. S. 1889. "Notes on the Flora of Iowa." *Botanical gazette* 14(5), 127–129. https://doi.org/10.1086/326405.

View This Item Online: https://www.biodiversitylibrary.org/item/88789
DOI: https://doi.org/10.1086/326405
Permalink: https://www.biodiversitylibrary.org/partpdf/221865

Holding Institution
Missouri Botanical Garden, Peter H. Raven Library

Sponsored by
Missouri Botanical Garden

Copyright & Reuse
Copyright Status: Public domain. The BHL considers that this work is no longer under copyright protection.

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at https://www.biodiversitylibrary.org.

This file was generated 18 September 2023 at 06:50 UTC