
A NEW-COMER'S IMPRESSIONS OF THE BOTANY OF ILLINOIS

G. NEVILLE JONES

University of Illinois, Urbana, Illinois

AN ABSTRACT

During the present academic year study of the flora of Illinois has been directed chiefly toward work in the Herbarium of the University of Illinois and the collection of herbarium specimens of vascular plants in the eastern and central parts of the State. The University herbarium consists of approximately 260,000 specimens of vascular plants, bryophytes, and thallophytes, kept in standard herbarium-cases. It includes the collections from Illinois of the pioneer botanists Brendel, Welsch, Schneck, Andrews, Mrs. Agnes Chase, Virginius Chase, E. J. Hill, and many others, as well as abundant material from nearly every part of the United States, and many other regions of the world. This material, assembled for the purpose of scientific study, and supplemented by recent personal collections, furnishes an adequate datum plane for the investigation of the flora of the Upper Mississippi Valley. The accumulation of these specimens is the result of

the labor of more than fifty local botanists, many of them amateurs, who have devoted a considerable part of their lives to the study of the flora of Illinois.

After a century and a quarter of botanical work, it might be supposed that the flora of Illinois has been thoroughly studied and that nothing now remains to be done. This is not an original idea. As long ago as 1870, W. H. Leggett, the founder of the *Bulletin of the Torrey Botanical Club*, referred to systematic botany as follows: "...this field has been so well worked, and is so full of workers, that there is little room for any new comer to add much to our knowledge of this department of botany." Yet, during the thirty-year period from 1889 to 1929, the journal of the New England Botanical Club, *Rhodora*, under the editorship of B. L. Robinson, published nearly 2,200 novelties chiefly from northeastern North America, a region that had been botanized for nearly 300

years.¹ In addition there were, of course, innumerable records of newly-arrived weeds, and extension of ranges of species already well known. It is probable that opportunities for increasing the knowledge of the flora and vegetation of Illinois are at least equally great.

One of the most colorful characters among the pioneers of Illinois botany, and the one who made the most durable studies, was Frederick Brendel of Peoria. Brendel's *Flora Peoriana* is an 89-page book published [English edition] in Peoria in 1887. As stated in the preface, it is the result of thirty-five years' work on the flora of the vicinity of Peoria. It includes a chapter of general remarks on the distribution of plants, one on topography, soil, climate, and discussions of the prairie, forest, and several other habitats. Most of the book is filled with a list of the species of plants, including the flowering plants, ferns, mosses, liverworts, fungi, and algae of the region. The total number of vascular plants attributed to the state of Illinois by Brendel is 1,355.

At the present time, on the basis of preliminary studies, I have been able to increase this number by almost 900 species or, to a total of 2,243. If this number of native and naturalized species is analyzed it is found to consist of the following:

| | Families | Genera | Species |
|----------------------------|----------|--------|---------|
| Ferns and fern-allies..... | 8 | 23 | 78 |
| Gymnosperms..... | 2 | 8 | 12 |
| Monocotyledons..... | 28 | 158 | 620 |
| Dicotyledons..... | 129 | 556 | 1533 |
| Total..... | 171 | 745 | 2243 |

The ligneous plants, trees and shrubs, belong to 35 families, 80 genera, and 285 species. Herbaceous plants belong to 136 families, 665 genera, and 1,958 species. *Carex* is the largest genus with 130 species. Of the grasses there are 65 genera and 210 species. *Panicum* is the largest genus of grass with 30 species. There are 17 genera and 37 species of orchids

recorded for Illinois. *Salix* has 19 species, and *Quercus* 21. There are 75 genera of Compositae and a total of 275 species. *Aster* is the largest genus in this family with 34 species, and *Solidago* next largest with 18 species.

These statistics are merely approximate and tentative. They are, however, based chiefly on herbarium records and therefore are reasonably accurate, although a good deal of additional study will be necessary to bring the subject of the systematic botany of the vascular plants of Illinois to a satisfactory level of scientific accuracy. From the summaries previously mentioned, certain peculiarities stand out clearly: (1) the total number of species of vascular plants known to occur in Illinois is almost one-half the number included in the current edition of Gray's Manual, (2) there is a surprisingly large number of ferns and fern-allies, and (3) for a "prairie state" the proportion of ligneous species is astonishingly high.

It is almost certain that additional species will be listed for the flora of Illinois. These are to be sought especially near the state boundaries where species already recorded from adjacent regions may be found to actually occur within the limits of this state. Then, of course, there are always new weeds appearing here and there, and likewise those plants that Asa Gray quaintly designated as "fugitives from cultivation". And it is entirely possible that there may be a few undiscovered and undescribed native species awaiting scientific investigation, although in a region as well worked as Illinois, the number of these is not likely to be very large. However, the chief opportunities for botanical work on the local flora lie not so much in the discovery of new species as in the renewed study of some of those species that are already partly known. There is plenty of fascinating and profitable work along these lines awaiting all interested students for a great many years to come.

¹ M. L. Fernald, *Rhodora* 31: 4. 1929.